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Experimental Research on Schools as Learning Organisations: The Case of Romania

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The 'learning organization' is one of the organizational models developed by the academic and business environment to provide solutions to the need for companies to adapt and survive, which knew over time numerous extensions, from being defined in relation to business organizations, to be linked to non-profit organizations – hospitals, public administration and even schools and universities. Following the 'school as leaning organization' (SLO) concept and model proposed by Kools and Stoll (2017), the present paper explores the question of to what extent the key-characteristics of learning organizations already exist in schools in Romania. It is based on previous results of a theoretical approach which showed that a slight starting baseline could be given by the performance indicators and descriptors identified as being correlated with dimensions and key-characteristics of the OECD-UNICEF's SLO model. The present approach in an experimental one, at a sample of 238 urban and rural schools externally evaluated in the first semester of the school year 2018–2019 and the results highlight that the minimum levels of incidence of several key-characteristics of SLO's varying between 30.67% and 73.10%. The limitation of this paper is given by the fact that the data were collected from the external and internal evaluation of schools, in order to determine the level of educational services offered, means not specifically devoted to identifying SLO characteristics.

Key words: school as learning organization, levels of incidence of key-characteristics, external-internal evaluation
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Introduction

In attempting to provide solutions to the need for companies to adapt and survive, in the early 90's the academic and business environment developed several theoretical new organizational models,

among which the 'learning organization.' This concept and model gained wide recognition when Peter M. Senge published in 1990 the work *The Fifth Discipline: The Art and Practice of the Learning Organization,* with five core 'learning disciplines' – personal mastery, mental models, creation of a common vision and team learning, systemic thinking.

The learning organization concept and model knew over time numerous extensions, from being defined in relation to business organizations, to be linked to non-profit organizations – hospitals, public administration and even schools and universities. The last approach on schools direction was made by Kools and Stoll (2017), which proposed a model for re-conceptualizing them as a learning organization focusing on seven action-oriented 'dimensions' (based on the model promoted by Watkins and Marsick): (1) developing and sharing a vision centered on the learning of all students; (2) creating and supporting continuous learning opportunities for all staff; (3) promoting team learning and collaboration among all staff; (4) establishing a culture of inquiry, innovation and exploration; (5) embedding systems for collecting and exchanging knowledge and learning; (6) learning with and from the external environment and larger learning system; (7) modelling and growing learning leadership. This last approach was complemented with key – characteristics (key features) for each of the seven directions of action through the guide 'What Makes a School a Learning Organisation? A Guide for Policy Makers, School Leaders and Teachers' (OECD 2016), therefore offers the possibility to be measured and established both the starting level and the degree of transformation after a certain period and a series of taken steps.

Considering that between 2009 and 2018, the following phenomena occurred at national educational level: (1) a general decrease in the school population (by 17% till 2016, compared to 2006), (2) the transfer of the last year of kindergarten to primary education (along with reshaping both their curriculum), (3) the gradual transformation of arts and crafts schools into technological high schools, followed, from 2014, by a strong return to professional schools, (4) a massive reorganization of the school network (many public schools losing their decisional and administrative independence, being transformed into structures of other schools and destroying organizational culture of both, the receiving and the received school) and (5) the constant decrease of public expenditure in education (from 5.76% of total expenditures in 2009, to 3.76% of total expenditures in 2017), a considerable pressure was felt at the Romanian educational

system, with repercussions on the efficiency of the school organizations – a research entitled 'A Study of the Evolution of Educational Efficiency: Romanian case' carried out in 2017 on a representative sample of 2956 schools, highlighted, among other things, that for the 2014–2017 period, 64.7% of them registered negative evolutions of the efficiency index, 15.6% had a steady evolution and only 19.7% had positive evolutions of the efficiency index (Paraschiva et al. 2017, 6–7).

In this context, an approach on schools al learning organizations (SLO) at the Romanian educational system level has been developed, both theoretical and experimental, aiming to provide a starting point on the necessity and opportunity of implementing it. The present paper presents the final part of the general approach on SLO model proposed by OECD (2016) and Kools and Stoll (2017), Romanian case – an experimental research developed on a sample of 238 rural and urban schools externally evaluated in the first semester of the school year 2018–2019.

Literature Review

The advantages for the implementation of the 'learning organizations' concept and model, according to Sarder (2016, 10), derive from the following:

1. The organization gets always to be supplied with new ideas and information (coming from science and technology, the environment, human resources development etc.);
2. Learning as a process of the whole organization makes new ideas and information spread and transferred to all (organizational) levels from the lowest to the top (top management) and transposes them into action;
3. Learning not only leads to the improvement of the product and/or services offered, but also to a growth/development of the working environment that adapts more easily to the challenges, responds more quickly to different situations/problems and becomes more efficient;
4. Organizational behaviour changes as a result of the development of an environment based on openness and trust, changes are perceived as part of the process of improvement and development, and organizational culture becomes one of continuous improvement;
5. The organization is more likely to attract, retain and motivate the best employees.

However, almost three decades after initiation, a modest progress has been made in the implementation of the 'learning organization' model: (1) either due to the multitude of approaches (there is not only one standard model, no single conversion path), (2) or due to the lack of measurement and assessment tools that accompanies proposed models (tools capable of diagnosing the current organizational state of art and of guiding change in his core dimensions/elements), (3) or because the proposed models addressed exclusively top management (leaving the middle management, where concrete activities are carried out, discovered), (4) or because transformation and results are not immediate (requiring time and effort at all levels, mentality changes and management commitment).

Regarding Romania, the general concept and model of learning organization have very few approaches that exceed the theoretical level, using a specific assessment methodology and measurement tools in order to determine incidence of certain key-characteristics, but none of them directed towards schools in pre-university level. Among them are:

1. One who was directed towards the public administration – an exploratory study on 26 County Councils (out of 41) for diagnosing the current state of art in relation to a learning organization, using the model and instrument proposed by Garvin, Edmondson and Gino (Giura 2012); according to the results, the 26 Romanian County Councils are learning organizations only in terms of leadership that encourages learning (for 'learning environment' and 'learning processes,' the findings revealed that the County Councils act like learning organizations in a very small degree).
2. One who was directed towards business – a survey on 20 large pharmaceutical companies controlling about 80% of the Romanian sales market and 6 SMEs pharmaceutical companies, over the elements (dimensions) that define a learning organization, using the models originally developed by Senge (1990) and later improved by Watkins and Marsick (1993) (Bordeianu et al. 2014); according to the results, large companies obtained higher scores on most dimensions ('systems thinking,' 'shared vision,' 'organizational culture and learning environment' and 'knowledge transfer') while some dimensions (such as 'teamwork and collaboration' and 'leadership and employee empowerment') have slightly higher scores in case of SMEs.

First part of the general approach on SLO model proposed by OECD (2016) and Kools and Stoll (2017), Romanian case (the theoretical

approach and its results) showed that the implementation of this model:

1. Could be on opportunity to embrace focus on students from organizational side, complementing the national project CRED ('Relevant curriculum, open education for all' – 'Curriculum relevant, educatie deschisa pentru toti,' funded by the ESF with 42 million euro, to support the reform of the current school curricula) which embrace focus on students from teachers side; these two demarches can be developed in synergy to enhance student-focus.
2. Could rely on a slight starting baseline given by the performance indicators and descriptors which were identified as being correlated with dimensions and key-characteristics of the OECD's (2016) and Kools and Stoll's (2017) SLO model (table 1 presents this correlation).

The final part of the general approach on SLO model proposed by OECD (2016) and Kools and Stoll (2017), Romanian case – the experimental research – is based on the results of the external and internal evaluation (self-evaluation) on a sample of 238 rural and urban schools in relation to 43 performance indicators (including descriptors) for quality assessment and quality assurance in pre-university education provided in the Romanian Government Decision no. 1534 (Guvernul României 2008). Both types of assessments (external and internal) are carried out on the same descriptors and indicators and on the same five-steps orderly quality scale, in order to process the data being realized their equivalence on a quantitative scale, with points: 0 – unsatisfactory (means that the minimum/basic requirements are not met), 1 – satisfactory (means that the minimum/basic requirements are met), 2 – good (means that at least one performance descriptor is reached), 3 – very good (means that all performance descriptors are reached), 4 – excellent (means that the organization has proven to achieve all performance descriptors and in addition has developed its own descriptors, in line with the context in which it operates and the specificity of its educational services, own descriptors which are shown to have been achieved).

Research Methodology

DATA COLLECTION AND SAMPLE

The data collection process for this research relies in 238 public reports from the first semester of the 2018–2019 school year (post-secondary schools – 1, colleges and high schools – 54, gymnasium

TABLE 1 Correlations between Underlying Characteristics of the OECD's (2016) and Kools and Stoll's (2017) SLO Model and Performance Indicators That Are Used at Romanian National Level in Order to Establish the Quality of the Educational Services

Dimension/characteristics		Performance indicators (and descriptors)
2nd	Professional learning connects work-based learning and external expertise	*Indicator 30: Scientific activity of teachers.* Teachers participation in the scientific research activity carried out by the school or at local, regional, national or international level it has grown in number and percentage *Indicator 31: Methodological activities of teachers.* Teachers participation in the methodological activities carried out at territorial level – with demonstration activities, presentations etc. – it has grown in number and percentage. *Indicator 36: Professional development of staff.* The application in teaching activities of the participation's results in continuous training and professional development programs is systematically monitored. The application in teaching activities of the participation's results in methodological and scientific activities is systematically monitored.
	Professional learning is based on assessment and feedback	*Indicator: 36 Professional development of staff.* Observing the current activity and the feedback received from the relevant beneficiaries are used for the review of the professional development plans. *Indicator 39: Teaching staff evaluation.* The assessment of the teaching staff is based on feedback from relevant stakeholders. The assessment of the teaching staff includes recommendations for further development.

Continued on the next page

schools – 139, primary schools – 2, kindergartens – 30, school sports clubs – 3, clubs for children – 5, inclusive education centres – 4) regarding the level of educational services provided, 124 organizations being from the urban area and 114 organizations being from rural area. The distribution of these 238 schools by type of services provided and by residence area do not reflect the situation at national level, their list being generated by the County Schools Inspectorates (due to the fact that they never went through a regular external evaluation process).

MEASUREMENTS

For the first level of the analysis, they were determined for ten performance indicators developed at national level (presented in table

TABLE 1 *Continued from the previous page*

Dimension/characteristics		Performance indicators (and descriptors)
5th	Systems are in place to examine progress and gaps between current and expected impact	*Indicator 28: Evaluation of pupils' school results.* Each teacher can describe for each group and student the strengths and weaknesses regarding the achievement of the curricular objectives.
	The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly	*Indicator 37: Revision of the educational offer and of the development plan.* The benchmarking is used to optimize the educational offer and the development plan. The staff and relevant stakeholders are involved in reviewing the educational offer and the development plan.
	The school regularly evaluates its theories of action, amending and updating them as necessary	*Indicator 34: Existence and implementation of institutional self-evaluation procedures.* The results of self-evaluation and external evaluation are used to plan, carry out and review the quality assurance and improvement activities and procedures.

Continued on the next page

1) the following: (1) the average external assessment scores (as a simple arithmetic mean of the results obtained by the 238 schools in the external evaluation), (2) the average internal assessment scores (as a simple arithmetic mean of the results provided by the 238 schools in the external evaluation) and (3) the average score's differences between internal and external prospects, to see to what extent these two are close for the ten targeted performance indicators; positive values mean that the result of self-evaluation is higher than the external evaluation (so school organizations have been overrated) and negative values mean that the result of self-evaluation is lower than that of external evaluation (so school organizations have been underestimated).

For the second level of the analysis, were introduced: (1) the dispersion for each set of values (self-evaluation and external evaluation) and for each of performance indicators (as a synthetic indicator of variance, which provides information on the degree of scattering of the elements relative's to the average, considered as a central trend) and (2) the z parameter test (two-tail) for comparing the averages of sample values (self-evaluation and external evaluation) per indicator. Therefore, parametric bilateral tests were performed to compare the means of the sample values (238 sample values for self-evaluation and 238 sample values for external evaluation), having as background: the hypothesis H0 (or the null hypothesis) – the values compared do not differ between them (in other words, the

TABLE 1 *Continued from the previous page*

Dimension/characteristics		Performance indicators (and descriptors)
6th	The school is an open system, welcoming approaches from potential external collaborators	*Indicator 3: The existence and functioning of the internal and external communication system.* The school systematically communicates with parents and other stakeholders.
	The school collaborates with parents/guardians and the community as partners in the education process and the organization of the school	*Indicator 1: The existence, structure and content of the projective documents (development plan and implementation plan).* Aims, objectives and programs established at the request of relevant stakeholders are included in the development plan and in the implementation plan. *Indicator 32: Setting up the school budget.* The school ensures the involvement of community partners and relevant stakeholders in budget planning. *Indicator 34: Existence and implementation of institutional self-evaluation procedures.* The self-evaluation procedures are carried out with the participation of relevant stakeholders.
	Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school to-school collaborations	*Indicator 30: Scientific activity of teachers.* Teachers capitalize on teaching the results of the scientific research activity carried out at local, regional, national or international level. *Indicator 31: Methodological activity of teachers.* Teachers capitalize on teaching the results of the methodological activities carried out at local level.

NOTES Authors own development, based on the theoretical approach results on correlating the dimensions provided in the OECD's (2016) and Kools and Stoll's (2017) SLO model and the performance indicators (including descriptors) for quality assessment and quality assurance in pre-university education provided in the Romanian Government Decision no. 1534 (Guvernul României 2008).

difference in the mean of the two sample values, internal and external evaluation, is not significantly different from zero); the H1 hypothesis (or the alternative hypothesis) – the values compared differ between them (in other words, the difference in the mean of the two sample values, internal and external evaluation, is significantly different from zero). In this way the reconciliation between the two evaluation processes (internal and external) can be considered and the results of the previous level of analysis can be validated.

RESEARCH RESULTS

Considering the previous quantitative scale (with points), were obtained average scores per indicator with values between 2 and 3 (table 2 presents the results of the first level of the analysis) and a gen-

TABLE 2 The Results of the First Level of the Analysis

Performance indicators	(1)	(2)	(3)
101 The existence, the structure and the content of the projective documents (development plan and implementation plan)	2.550420	2.689076	+0.138655
103 The existence and functioning of the internal and external communication system	2.705882	2.705882	0.000000
128 Evaluation of pupils' school results	2.516807	2.676471	+0.159664
130 Scientific activity of teachers	2.340336	2.361345	+0.021008
131 Methodological activity of teachers	2.752101	2.726891	–0.025210
132 Setting up the school budget	2.676471	2.726891	+0.050420
134 Existence and implementation of institutional self–evaluation procedures	2.474790	2.500000	+0.025210
136 Professional development of staff	2.630252	2.655462	+0.025210
137 Revision of the educational offer and of the development plan	2.525210	2.630252	+0.105042
139 Teaching staff evaluation	2.689076	2.710084	+0.021008

NOTES Column headings are as follows: (1) average external assessment score, (2) average internal assessment score, (3) average score's differences (internal – external).

eral over-valuation tendency on the part of school organizations (for a single descriptor the two perspectives – external and internal – are identical). The average scores show that the performance is situated between 'good' and 'very good.'

Therefore, a second level of analysis is mandatory and the results of the bilateral parametric tests outlined in table 3 led to the identification of two indicators for which the values of the parameters belong to the critical region (therefore, in their case, the null hypothesis is rejected), there being a significant difference between the average of the evaluation internal results and the average of the external evaluation results. These differences were expected, reflecting a national reality:

1. For the indicator 101, the differences are determined by different perspectives regarding the projective documents: (a) the external assessment (objective) analyses the degree to which a school organization's plan is original (non-duplicated), adapted to the context in which it operates, responding to real community needs and realistic (having associated measurable indicators); (b) the internal assessment (subjective) is particularly concerned by the existence of the document itself (respecting a certain format), although the content (targets, indicators etc.) are

TABLE 3 The Results of the Second Level of the Analysis

Performance indicators	(1)	(2)	(3)
101 The existence, the structure and the content of the projective documents (development plan and implementation plan)	0.390315	0.281477	−2.60
128 Evaluation of pupils' school results	0.308541	0.294488	−3.16
130 Scientific activity of teachers	0.577449	0.449262	−0.32
131 Methodological activity of teachers	0.270479	0.257344	0.53
132 Setting up the school budget	0.311295	0.307764	−0.99
134 Existence and implementation of institutional self-evaluation procedures	0.375415	0.350840	−0.45
136 Professional development of staff	0.300261	0.276252	−0.51
137 Revision of the educational offer and of the development plan	0.392222	0.308665	−1.93
139 Teaching staff evaluation	0.306687	0.247882	−0.43

NOTES Column headings are as follows: (1) dispersion value in external evaluation, (2) dispersion value in internal evaluation, (3) test z value. Authors own development using the significance threshold $\alpha = 0.05$ and the critical region for the test $(-\infty; -1.96) \cup [1.96; \infty)$.

not always realistic and/or adapted to the context in which the organization operates or the community it serves.

2. For the indicator 128, the differences are determined by different perspectives regarding focus of the teaching path (design, realization, evaluation) on the development of the practical – applicative side of the competences, on the students (as subject of the educational approach) and on the learning outcomes: (a) the external assessment (objective) analyses insurance/failure to develop the practical-applicative side of the competences (starting from the design of the curriculum, continuing with its realization – the development of the didactic activities – and ending with the assessment of the learning outcomes) and the systematic application/non-application of student-centered didactic methodologies; (b) the internal assessment (subjective) is particularly concerned by the designing of the new curriculum without taking into account that the overpopulation of certain student groups (as a result of the constant decrease of public expenditure in education) and the absence of new teaching practices (correlated with the new curricula) has led to an insufficient development of the practical – applicative side of competences, with effects on the participation rate and on the national exam results.

TABLE 4 Number of Issues Tracked (Out of the Total Number of Issues Tracked by the National Standards) and Number of Schools That Have Fulfilled All of the Descriptors in National Standards

Performance indicators	(1)	(2)
103 The existence and functioning of the internal and external communication system	1, out of 2	171 (71.84%)
130 Scientific activity of teachers	2, out of 2	110 (46.21%)
131 Methodological activity of teachers	2, out of 2	174 (73.10%)
132 Setting up the school budget	1, out of 2	171 (71.84%)
134 Existence and implementation of institutional self-evaluation procedures	2, out of 8	123 (51.68%)
136 Professional development of staff	3, out of 4	158 (66.38%)
137 Revision of the educational offer and of the development plan	2, out of 2	73 (30.67%)
139 Teaching staff evaluation	2, out of 4	171 (71.84%)

NOTES Column headings are as follows: (1) number of tracked issues out of the total number of descriptors in national standards, (2) number of schools that have fulfilled all of the descriptors in national standards (percentage).

Consequently, due to the significant differences identified, these two performance indicators and their tracked descriptors were further excluded from the analysis.

However, it must be taken into account that in national standards each performance indicator has several subsequent descriptors and only some of them were find (at a theoretical level) as being correlated with key-characteristics of SLO's organizations. Therefore, at this time, with this kind of data and this type of analysis only the minimum level of incidence of the tracked issues can be determined, by calculating the percentage of schools that have met all the requirements (all descriptors), including those that are correlated with key-characteristics of SLO's organizations. Table 4 presents for each performance indicator, the number of issues tracked by this research (out of the total number of issues tracked by the national standards) and the number of schools that have fulfilled all of the descriptors in national standards.

In this way, at sample level, the minimum levels of incidence of several key-characteristics of SLO's were determined, these varying between 30.67% and 73.10% as can be seen in table 5.

Conclusion

The experimental research is providing a preliminary overview on the state of affairs at the Romanian educational system level in relation to the model of SLO developed by Kools and Stoll (2017) and

TABLE 5 The Minimum Levels of Incidence of Several Key-Characteristics of SLO's at Sample Level

Dimension/characteristics		Tracked issues (descriptors) in national standards and the minimum level of incidence
2nd	Professional learning connects work-based learning and external expertise	Teachers participation in the scientific research activity carried out by the school or at local, regional, national or international level it has grown in number and percentage – 46.21%.
		Teachers participation in the methodological activities carried out at territorial level – with demonstration activities, presentations etc. – it has grown in number and percentage – 73.10%.
		The application in teaching activities of the participation's results in continuous training and professional development programs is systematically monitored – 66.38%.
		The application in teaching activities of the participation's results in methodological and scientific activities is systematically monitored – 66.38%.
	Professional learning is based on assessment and feedback	Observing the current activity and the feedback received from the relevant beneficiaries are used for the review of the professional development plans –66.38%.
		The assessment of the teaching staff is based on feedback from relevant stakeholders and –71.84%.
		The assessment of the teaching staff includes recommendations for further development –71.84%.
5th	The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly	The benchmarking is used to optimize the educational offer and the development plan –30.67%.
		The staff and relevant stakeholders are involved in reviewing the educational offer and the development plan –30.67%.
	The school regularly evaluates its theories of action, amending and updating them as necessary	The results of self-evaluation and external evaluation are used to plan, carry out and review the quality assurance and improvement activities and procedures –51.68%.

Continued on the next page

with the key-characteristics (key features) provided by 'What Makes a School a Learning Organisation? A Guide for Policy Makers, School Leaders and Teachers' document (OECD 2016).

From an experimental point of view, resulted that the minimum levels of incidence of several key-characteristics of SLO's could be identified, these varying between 30.67% and 73.10%, but only for three action-oriented dimensions – 'creating and supporting contin-

TABLE 5 *Continued from the previous page*

Dimension/characteristics		Tracked issues (descriptors) in national standards and the minimum level of incidence
6th	The school is an open system, welcoming approaches from potential external collaborators	The school systematically communicates with parents and other stakeholders –71.84%.
	The school collaborates with parents/guardians and the community as partners in the education process and the organization of the school	The school ensures the involvement of community partners and relevant stakeholders in budget planning –71.84%. The self-evaluation procedures are carried out with the participation of relevant stakeholders – 51.68%.
	Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school to-school collaborations	Teachers capitalize on teaching the results of the scientific research activity carried out at local, regional, national or international level –46.21%. Teachers capitalize on teaching the results of the methodological activities carried out at local level –73.10%

uous learning opportunities for all staff,' 'embedding systems for collecting and exchanging knowledge and learning' and 'learning with and from the external environment and larger learning system.' At this point, it cannot be determined whether these schools act fully or not as learning organizations, but the results demonstrate that in some respects they develop key features of SLO; and this may be the foundation for a smooth implementation of the model at national level.

The limitation of this paper is given by the fact that the data were collected from the external and internal evaluation of 238 schools (in order to determine the level of educational services offered), means not specifically devoted to identifying SLO characteristics. However, another in-depth analysis, staff dedicated and focused on all action-oriented 'dimensions' is scheduled and will be provided in the next period.

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An Institutional Foundation for the Knowledge Economy in Central and East European Countries

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The purpose of this research is to provide an institutional framework – economic, legal, regulatory, educational – for the Central and East European countries aspiring to reach the levels of inclusive knowledge of economy and society known in some of the most developed regions in the world. The challenge to reach such a level of development is twofold. Even in the most developed parts of the world a growing gap can be observed between the technologically, organizationally and financially advanced firms and the rest of the economy. A strong concentration of knowledge, technologies, and organization of advanced production is taking place in only a handful of leading regions. The rest of the economy and society remains organized in traditional economic, social and managerial practices. The challenge for the policy-makers in these advanced economies and societies is how to disseminate these advanced practices to the excluded sectors of the economy and society. As shown by a recent NESTA report on knowledge economy, such a restructuring would require a major shift in institutional organization of the market economy. Strengthening of competition policy, improvements in technological policies, decentralized strategic partnership between the public and private sectors, and institutional innovations in ownership structures are necessary elements in spreading the benefits of the knowledge economy to the overall economy and society. From the perspective of developing countries, including the current and prospective EU members in Central, Eastern and Southern Europe, the task in front of the policy-makers is even more challenging: how to overcome the development gap between the developed and developing countries; how to overcome the path dependency; and how to establish an inclusive modern knowledge economy and society. Only high-quality public institutions, an accountable and proactive public sector, strategic decentralized coordination between

the public and private sectors, and institutional imagination can lead to such a path of inclusive development. The probability of climbing from the (semi) periphery appears increasingly low after several decades of missed opportunities during the period of transition, but the stakes are high. Only the successful institutional, economic and social restructuring of developing countries can lead toward a more balanced, more sustainable and more diverse development of the world economy.

Key words: Central and Eastern Europe, knowledge economy, variety of institutional financial models, institutional innovations
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Introduction

The path of Central and Eastern European (CEE) countries, towards democracy and market economy, was once widely assumed to be smooth and inevitable. It has in the event been arduous, uncertain and inconclusive. Even after three decades since the fall of the Berlin wall, and despite the efforts of several generations of reformers, countries in the region – current members and prospective members of the European Union (EU) – have been unable to reach EU average levels of socio-economic development. Although the pathways and experience with the transition, post-transition and integration with the EU have differed significantly, the fact remains that the distance to the EU-28 development average remains significant.

The purpose of this article is not, however, to discuss the successes, failures and missed opportunities of the countries in the region, but to point to one important international process of development that may offer new opportunities, if properly understood and incorporated, or new obstacles if misunderstood and ignored. Namely, the discussion in this article is going to be devoted to the rapid development of the knowledge economy in the leading global economies. The characteristics of these processes will be briefly presented, and the implications for developed economies will be considered. In the following section, the implications for developing countries will be discussed. The final section will return to developing countries, and explores the kinds of institutional innovation which might enable the reshaping of their legal, economic and social environment to underpin a more inclusive form of development.

A point of departure for the discussion is our contention that the mere institutional emulation of the advanced market economies and developed parliamentary democracies will not in itself translate into

economic, technological and social convergence with these selectively or randomly chosen exemplars. The mere mechanical process of copying and implementing institutional frameworks is unlikely to foster technological progress, socially inclusive growth democracy, or even dynamic market economies. Even the successful examples of adoption have required creativity and institutional imagination to transfer a certain set of economic, social and legal institutions meaningfully from one context to another.

A notable voice to draw attention to the shortcomings of the mere mechanical transfer of institutional solutions was Joseph Stiglitz during his terms as a vice-president of the World Bank. The World Bank itself was heavily involved in the process of transition, mass privatization, macro-economic stabilization and the establishment of social welfare as a mere residual for the citizens, unable to compete on the markets. In his critique of the mechanical approach to the large-scale institutional transformation, Stiglitz emphasized that, without clearly defined social goals, without more instruments and policy-tools, and without close cooperation between the public and private sectors, the transition process for the countries in Central and Eastern Europe would not lead to inclusive, socially cohesive and competitive economies (Stiglitz 1998). Even twenty years after this critique and set of alternative proposals for the transition process, his insights remain inadequately understood.

In one of the more comprehensive and systemic regional studies of transition Milica Uvalic and Daniel Vaughan-Whitehead, show how inadequately designed large-scale institutional reforms had a number of unforeseen consequences in the region. Their comparative study of the outcomes of privatization at the peak of this process identifies that, contrary to the expectations of reformers and international organizations, employee-owned companies were run more successfully than many other types of privatized companies (Uvalic and Vaughan-Whitehead 1997). Of course, it might be claimed that large-scale institutional transformation is a matter of time – that it takes time for new institutional framework to become established, that it takes time for actors to adjust, and that it takes time for policy-makers, regulatory authorities and the judiciary to adopt and enforce new rules, standards and conduct. Such a claim, however, is inadequate to explain the persisting gap between developed and CEE economies three decades since the beginning of the transition. The distinction between the core and periphery of Europe has indeed widened during the protracted financial crisis and its aftermath (Nikolovska and Mamucevska 2015).

The comparative literature on the variety of institutional models (Hall and Soskice 2001, Schmidt 2002) suggests there is no one single, universally valid institutional framework for a market economy, parliamentary democracy and organized civil society. Different countries developed their institutional models and their economic, technological, social and educational policies to develop prosperous, competitive economies and cohesive societies. Some countries in different historical instances even moved from one institutional setting to another to counter adverse international and domestic economics and financial and social circumstances. A notable example of such a transition was the adoption of the New Deal project with the establishment of new institutions, such as the Stock and Exchange Commission to regulate and supervise financial markets; the Federal Deposit Insurance Corporation to protect the savings of the citizens and small businesses; and the Social Security Administration to provide basic economic and social security to its citizens. These are examples of how even large, developed countries can deviate from one institutional model previously based on a 'laissez-faire' economy and the minimum role of the government to cope with comprehensive economic and social distress. Moreover, between two opposites, between the 'laissez-faire' approach and 'dirigiste' strong interventionist state, there is a broad territory in which different countries can develop different institutional models capable of various interactions between the public and the private sectors, between the financial institutions and the markets, and among education, science and research. Even in the context of European harmonization and of globalization, and despite the constraining effect of European and international economic legal order, the developed countries have retained a certain level of autonomy in steering their overall development.

To develop, advance and innovate, then, CEE countries need the opportunity to reimagine and reshape their own economic and democratic institutions (Visvizi 2018). This has not generally occurred during the period of transition and EU accession. There are important differences between the countries in the region, but the ability to develop and transform institutions has been very limited. This inability has long term implications for the entire region. Despite the scarcity of resources at the disposal and of the stock of capital inherited from previous periods, a more strategic and better implemented approach to institutional change could be decisive in securing more inclusive, transparent and competitive development throughout the region. The capacity to build distinctive and

high-quality institutions n may be decisive in marshalling limited resources toward socially inclusive, innovative and balanced overall development.

During the financial crisis, countries in the region suffered from economic recession, capital flight, and social welfare erosion. As noted by Pržiklas Družeta and Škare, a European implementation of austerity without taking into account weak economies and diversity across the EU led to the elimination of the welfare state. Without the existence of a welfare state, it is not possible 'to achieve sustainable long-term growth and decrease of the deficit' (Pržiklas Družeta and Škare 2017, 113). In other words, the opportunities for the countries in the region to reach the average EU development after the financial crisis and the period of austerity are even fewer, because the distance has widened, and the advanced European societies invest and develop new innovative models of knowledge economy and knowledge-based societies at an accelerating pace. This enables them to capture all of the benefits of innovative leaders in many segments of high value-added markets.

Therefore, the challenge for the new generation of reformers in the region is to determine how to develop institutional capacities and how to adjust towards a sectorally diverse knowledge economy before being permanently pushed into the position of supplying relatively cheap labor and remaining stuck with the traditional forms of production, industry and services. A handful of firms, entrepreneurs and experts may succeed in integrating with the advanced forms of production and innovation, while large segments of society are permanently excluded from the benefits and opportunities of the knowledge economy. In short, a European socio-economic cleavage between core and (semi) periphery risks becoming permanent. To reverse this trend, no matter how complex or challenging it may be, the economies and societies in the region need to develop institutional capacities to cooperate and support innovation, both within new high-value sectors, and established lower-value ones (in which the bulk of the population will continue to work).

The Knowledge Economy and its Implications for the Developed Countries

Before entering into the discussion on the knowledge economy in advanced economies, it is important to note out that advanced economies often pursue more elaborate, although less visible, industrial and innovation policies policies than those often recommended to developing countries. Unlike the standard repertoire of measures

for the developing countries – namely macroeconomic stabilization, privatization, liberalization, and a residual social safety net – most, if not all, advanced economies pursue many more innovative policies, and they often develop more innovative institutions beyond the traditional framework of a market economy and a traditional parliamentary democracy. As noted by Marianne Mazzucato in *The Entrepreneurial State* (2013) even the United States, the most internationally advanced liberal market economy, pursues many policies and creates many public institutions in support of technological advancement and in strengthening a competitive edge. Mazzucato (2013, Introduction, Chapter 3) extensively explored US research and technological public policies and pointed out that, 'despite common perceptions, there the State has been extremely proactive and entrepreneurial in the development and commercialization of new technologies.' In her research, she cites and analyses many examples of US federal government proactive policies, such as that public spending accounts for 57 percent of basic research, while the private sector accounts for only 18 percent of spending. The ratio changes when applied research is included (Mazzucato 2013, Chapter 5). Mazzucato also provides a detailed account of key components integrated in Apple's famous iPods, iPads and iPhones. Her study points out that 'nearly every state-of-the-art technology [...] is an often overlooked and ignored achievement of the research efforts and funding support of the government and military.' (Mazzucato 2013, Chapter 5) Her detailed research of 12 major technologies integrated in the Apple products in no way diminishes the success of Apple's inventors, managers and visionaries, but it points to the fact that very frequently only long-term strategic coordination between the public and the private sectors can ultimately lead to a technological breakthrough on the global markets. This perspective should be maintained when we are discussing the role, organizational structure, and importance of the leading global technological giants.

There are hidden differences in institutional design, structural improvements, and policy-making approaches between the advanced economies and the economies that are trying to catch up to them in terms of overall development (Rodrik and Sabel 2019). These hidden differences are often poorly understood and analyzed by the reformers in Central and Eastern Europe. Therefore, more attention should be paid to the hidden differences in the area of institutional innovations and constant structural improvement, and less focus should be made on mechanical, superficial emulation of ready-made institutional structures.

There is an ongoing discussion on the characteristics, opportunities and constraints of the knowledge economy (e.g. OECD 2019). Before going further, it is important to clarify what we mean by this term. The concept of the knowledge economy is frequently equated with the use of advanced technologies: digitization, AI, industry 4.0 or the Fourth Industrial Revolution (Roblek, Meško, and Krapež 2016). As Roberto Unger has forcefully argued, this concept focuses on the superficial signs of the knowledge economy – the 'gadgets' with which it may coincide – rather than its deeper, more radical features.

Fundamentally, the knowledge economy needs to be understood as a new mode of production. presents a radical break with Fordism. Traditional manufacturing assumes strong internal divisions of labor, narrowly defined tasks for semi-skilled workers, hierarchical division of work, and distance between task-defining and task-executing jobs. Rigid machinery assumes routine and repetitive work, where the main focus is on constant improvements of efficiency and the constant search for possible cost reductions.

In contrast, the knowledge economy is much more collaborative. It assumes teams of workers, experts and managers making constant efforts to innovate and improve processes of production and products. Multi-purpose machines require a skillful workforce capable of multiple tasks and operations. Between different layers of workers and teams of workers a constant flow of information is established, and the traditional distinction between task-defining and task-executing jobs is blurred. The aim of production is not primarily to minimize costs per unit of work hour but to improve the quality of a tailor-made product for the known customer. Instead of a high volume of standardized products, small volumes of high-quality tailor-made products are produced. Rapid changes in the process of production require cooperation of workers and constant adjustments and improvements that are best described as a constant learning process. Production comes, in short, to approximate the workings of the human imagination.

The advantages of the described radical break with the traditional production are flexibility as a response to uncertain market fluctuation, an environment conducive to permanent innovation, and a workplace that rewards creativity, innovation and cooperation. A knowledge economy in which many could take part holds the promise of advancing human wellbeing and self-realisation, through much broader access to creative and fulfilling work.

One of the crucial distinctions between fordism and the knowl-

edge economy is a paradigm shift which was deemed conceptually impossible to achieve within the normative and institutional context of the traditional mode of production. There is growing empirical and theoretical evidence that the traditional economic principle of diminishing returns no longer strictly applies to the context of the knowledge economy. The constant experimentation in production and continuous innovations, as opposed to episodic innovations and scientific breakthroughs in the realm of traditional mass production, can, according to Unger, 'translate scientific discovery and technological invention more directly and continuously into productive activity than it ever could before.' (Mangabeira Unger 2019, 30–31). Researchers, policy-makers, managers, workers and other stakeholders in the most developed countries in the world are gradually becoming aware of the immense potential that the knowledge economy might bring to their societies conceptually, institutionally, normatively and practically.

There is, however, a major obstacle in disseminating the opportunities and benefits of the knowledge economy. It relates to the insufficient understanding of opportunities and the insufficient changes in the conceptual, institutional and educational environment that would enable broad dissemination of advanced technologies, know-how, and skills to the society at large. The new mode of production is not limited to high-tech manufacturing, and can be observed in a wide range of sectors, including services and agriculture. As Mangabeira Unger (2019, 1) notes, however, 'in every sector of the economy [...] it remains a narrow fringe, excluding the vast majority of the labor force.' It is confined and insulated from the large segments of backward economies. Without a proper institutional framework, a handful of the most competitive and innovative companies is dominating global markets in many segments of the economy, whereby a majority of firms lack incentives to invest due to their inability to achieve expected returns on their investment. The gap between this handful of dominant large corporations and the rest of the economy is immense. An OECD study of the world's 2,000 largest corporate investors in R&D found that the top 5 percent of these companies accounted for 55 percent of their total R&D expenditure (OECD 2017).

The confinement of the tiny segment of dominant large corporations – a modern version of the kingdoms within kingdoms, as succinctly described by Roberto Mangabeira Unger – presents an organizational and spatial concentration of cutting edge technologies, finance, research and know-how in the hands of the few largest com-

panies, which have all of the necessary resources and possibilities to grow, innovate and develop even further. For them, the laws of constant returns do not apply. Instead, due to their constant innovations and improvements, their competitive edge created and maintained through large investments in R&D, and takeovers that were largely unchallenged by the authorities, a law of increasing returns applies. Due to the insular character of the present form of the knowledge economy in the most developed countries in the world, the new principle of 'the winner takes all' comes closest to the practice than ever before. While benefits and opportunities are consequently highly limited to the narrow circles of economy and society, the overall social benefits, beyond the benefits of being consumers of advanced products and services, are much less tangible. The aggregate level of investments remains low, overall productivity remains stagnant, and social and regional inequalities increase.

The confined character of the knowledge economy, its potential and its constraints are gradually receiving more attention from policy-makers and international organizations in developed countries. Proposals such as the rigorous implementation of the competition policy, improved technological policies beyond the entrenched circles of recipients, high quality education and skills systems, and new types of modern industrial policies increasingly discussed. To exploit the opportunities of the knowledge economy for society as a whole and to overcome its confined character, the theoretical and practical discussions are moving beyond standard models of the market economy, of the role of government, of representative democracy and of the role of organized civil society. A whole new set of institutions should be envisaged to reorganize the market economy, representative democracy and civil society to be capable of exploiting the opportunities and benefits of the knowledge economy while overcoming the constraints and confinements of the knowledge economy in the current institutional framework. The current institutional framework, which is skewed toward the concentration of benefits and opportunities in the hands of a handful of the largest corporations in the world, is too narrow to allow a necessary transformation toward an inclusive knowledge economy – or a knowledge economy 'for the many.'

Significant institutional innovations are increasingly being proposed, discussed and sometimes implemented (especially at municipal level) by thinkers and political actors in developed countries around the world. Examples include new public institutions for industrial policy, new financial institutions capable of providing long-

term finance to SMEs, new forms of property regimes and competition regimes, new labor market institutions to support life-long learning and the ongoing re-skilling of workers, new approaches to corporate governance moving away from shareholder value maximization as the guiding principle, and new forms of innovation to improve conditions, job quality and pay in the 'foundational economy' (including many everyday, low-value sectors). The extent of institutional innovations and their scope and speed may determine the ability of these advanced countries to broaden and widen benefits of the knowledge economy from insulated minorities to the many other participants and stakeholders.

The Implications for the Developing Countries and CEE Countries

The previous evoked some of the challenges faced by highly developed countries in addressing the implications of knowledge economy context for society at large. Some of the challenges require comprehensive structural rethinking of the standard model of the market economy, of traditional legal institutions supporting the standard model of a market economy, such as property rights, contracts, and forms of corporations, and the redefined role and relation between the public and private sectors. These challenges are immense and are in parallel with the immense opportunities and constraints of the rapidly evolving knowledge economy.

What then are the implications for developing countries? How can the middle-income countries in Central and Eastern Europe face the challenge of transforming their economies and societies in the context of opportunities and constraints of the knowledge economy (Nahtigal 2004)?

The developing countries, including the CEE countries even after joining the EU, face many additional challenges in comparison with the advanced economies. To name just a few of their additional hurdles, many industrial sectors are insufficiently competitive, investments in R&D, education and technological progress are insufficient, generally poorer quality of infrastructure, lack of public funding, relatively poorer quality of governance, lack of transparency and accountability of public institutions, and difficulties with access of their products to the world's leading markets.

Policy space for the developing countries in the context of globalization and the international legal order has become very narrow. Only a handful of developing countries in the recent decades were able to find a pathway from the socio-economic periphery. For the

majority of developing countries, climbing the ladder of industrial, social and overall development appears to remain an unattainable goal, sometimes due to domestic conditions, sometimes due to international conditions and most often as a consequence of normative, conceptual and practical constraints at both domestic and international level. These described constraints do not mean that, even in the poorest and deprived regions around the world, domestic governance and high-quality public institutions cannot be established. Comparative studies have shown that, even in some of the poorest and remote regions in the developing world, such as Ceara in Brazil and Kerala in India, the quality, transparency and accountability of public institutions can secure relatively inclusive development and offer opportunities even to the very poor segments of society and the economy (Evans 1995, 235–40; Tendler 1997).

As a significant complicating factor the contemporary context of globalization and the international legal order, the rise of China as the largest of the fast-developing countries in the world must also be mentioned. Its economic rise in the last few decades deserves special study and focus far beyond the present contribution. On one hand, it serves as an example of a large developing country capable of successful integration with the world economy. On the other hand, it is certain that, without the trade openness of the Western world, its path of development would look substantially different. At present, China is as much an example of a successful pathway from the periphery as it is a source of uncertainty about the extent to which it will contribute to the current and future global imbalances in terms of trade, financial flows, labor and environmental standards.

The rise of China complicates our discussion, because its success overshadows the difficulties, constraints and stagnation of many other developing and middle-income countries around the world. Among them are the countries of Latin and Central America, Central Asia, Mediterranean and sub-Saharan countries and the countries in Central and Eastern Europe.

Despite three decades of large-scale institutional reforms and despite the fact that many of the countries in CEE have become member states of the EU in 2004, none of the countries have reached the average level of development in the EU-28. The slow process of convergence with the average EU development is a source of concern, and it should be also an object of comprehensive analysis. The protracted financial crisis in the Eurozone and the subsequent slow, uneven recovery only contributed to the entrenchment of the cleavages in the EU-28.

Similar to the constraints of many developing countries, the CEE countries are facing so many imminent economic and social challenges that the rapid evolvement of the knowledge economy in the leading parts of the world is escaping their proper attention. Policymakers in the CEE countries are insufficiently aware of the opportunities and new set of constraints that the knowledge economy presents in its current form.

Just to cite one piece of empirical evidence to illustrate better this claim in the European context, we can take a closer look at the *Eurostat Regional Yearbook 2018* in a chapter on R&D. This chapter reveals considerable regional disparities from the current perspective, and it offers a glimpse of the most probable future regional trends across the EU-28. The report points to the present and future imbalances, as relatively few regions recorded high levels of R&D intensity, and a much higher number of regions have relatively low levels of R&D intensity: '208 out of 272 NUTS 2 level regions recorded an R&D intensity that was below the EU-28 average of 2,04 percent' (European Union 2018, 118).

To put this empirical observation in the current European context, we understand better that the current and future developments lead to rigid hierarchical segmentation and concentration of economic development in a selected number of core European regions. To reverse this trend, a coordinated effort by supra-national, national and regional actors would be necessary to shift the trends toward more dissemination of knowledge, skills and all other necessary resources to capture the benefits of the knowledge economy for the many (Mazzucato 2018).

This is not to say that one single indicator, irrespective of its importance, presents firm evidence of persistent regional divergences. Moreover, this empirical indicator does not imply uncritical call for more R&D investments in stagnant and backward regions across the EU-28. Theoretical and empirical research teaches that there is no automatic and guaranteed link between increased R&D investments and inclusive growth. Without simultaneous and coordinated efforts to build the capabilities of firms, especially small and medium sized firms, newly created knowledge, technologies and re-skilled workers will not be put to productive use (Mangabeira Unger 1997, 12; Mangabeira Unger et al. 2019). Without attention to firms working across a wide range of sectors – including the lower-value foundational and neglected sectors in which the majority in *all* economies work, the benefits of innovation will inevitably be confined to a small minority (Foundational Economy Collective 2018).

The challenge ahead of policy-makers and CEE countries in general is at least twofold: first to grasp the importance and characteristics of the rapidly changing contemporary knowledge economy, and to reimagine institutional framework to ensure that economic and social participation in the knowledge economy is as broad as possible. In the previous section, we saw that the latter presents a major, almost insurmountable challenge even for the most advanced countries in the world. An additional handicap for the new generation of reformers in CEE countries stems from the period of transition, when large-scale mass privatization often led to systemic fraud, widespread corruption and the general erosion of trust among citizens, entrepreneurs and civil society (Reinsberg et al. 2019; Pavlovic 2019).

In such a highly constraining context, a redirection of the general pattern of socio-economic would require the following the CEE countries to stop mechanically emulating the standard/ideal model of market economy. It is not possible to catch up with the advanced economies and societies by merely emulating their institutional framework at a very superficial level. Each of the advanced economies has developed its own distinctive model of socio-economic development with its own achievements and deficiencies. None of these models are static and unchangeable. Even the most advanced economies and societies are constantly trying to develop further and innovate their models with a variable degree of success and also failure. Therefore, from the perspective of CEE reformers and from the broader international perspective of the developing countries, more important than emulating a presupposed ideal type of market economy model is to identify and carefully select the most inspiring and innovative development models from around the world and then use their own imagination and creativity to develop their own innovative developmental models. Such embedded developmental models should primarily capture productive potential and comparative advantages of their own local communities, regions and countries before becoming fully integrated with the common European market and global markets.

On the path of redirection of CEE economies and societies, a trust between public institutions, policy-makers, entrepreneurs, experts and independent stakeholders must be restored. The best way to restore trust among key social actors from the public and private sectors is to have a clear sense of redirection of development, to reach a commonly articulated development strategy, and to have transparency and accountability. In so doing, a decentralized and strategic

coordination of public and private development plans can present a first step toward an inclusive knowledge economy.

The ability to analyze, understand and disseminate the best practices, technologies, know-how, and organizational improvements from the advanced companies to the rest of the economy is one of the most important abilities of the proactive public sector. A set of decentralized institutions, such as regional support centers, centers for retraining and re-skilling, new regional financial institutions providing long-term support for start-ups, for small and medium size companies should be established. These decentralized institutions should retain a sufficient level of professional autonomy to impose financial discipline and competition among networks of small and medium sized companies. It should not be imagined, however, that the task of promoting innovation among SMEs will always be a question of disseminating advanced technologies and raising productivity through increased output; in many increasingly important foundational economy sectors, such as social care, it is *social* innovation to improve business models, service models and ultimately dignity in work that will be the priority (Burns et al., 2016; Foundational Economy Collective 2018).

New forms of competition at the regional level among small and medium sized companies should be developed to spur competition and ability to cooperate at the same time. Networks of small and medium sized companies can combine decentralized initiative, constant innovations and improvements with scale under coordination with the public institutions. In such a way, regional networks of small and medium sized companies can be sufficiently robust to counter market uncertainties, instabilities and competition with large, Fordist companies in regional and international markets.

Decentralization, redirection and restructuring of regional economies by activating and reinventing local potential cannot be complete without further institutional innovations in property and ownership regimes. Contrary to the traditional, unified and increasingly concentrated property regime, a spread of property rights to the large parts of the local and regional populations to the variety of stakeholders (public pension funds, local governments, workers ...) can lead to new forms of ownership structures, cooperation and institutional innovations. Overlapping property regimes can open access to more participation, more entrepreneurship, and more initiatives than the currently rigid and concentrated forms of ownership presuppose.

Redirection of the knowledge economy for the many is primarily

a redirection from the current development of the economy and society in its hierarchical segmentation, concentration of knowledge, finance, technology and skills toward the dissemination of these resources to the stagnant and backward regions. It is a challenge in the context of advanced economies, and it is an even more demanding challenge in the context of developing and middle-income countries, such as the CEE countries.

Conclusion

Understanding the characteristics, opportunities and constraints of the knowledge economy presents one of the most crucial theoretical and practical discussions at of our time. How this discussion will be addressed and resolved will depend on future socio-economic development in many parts of the world, developed and developing. Advanced economies, experts and international organizations took a lead, although with currently few tangible structural improvements. Inertia, vested interests and the tendency toward maintaining the status-quo all present obstacles to innovations in economic policies, education, innovation policies, and competition policies let alone institutional innovations of the market economy toward democratized access to the necessary resources and support for inclusive, sustainable and balanced knowledge economy in the future. Nevertheless, there are some encouraging regional examples that confirm the possibilities of alternative futures beyond stagnation, exclusion and inequality.

In contrast, the situation in the developing parts of the world, including the middle-income CEE countries, is more complicated. There is even greater need to discuss new possibilities, new opportunities and real constraints. After decades of internalizing a belief that there is one single, universally valid and universally applicable model of market economy that needs to be introduced their economies and societies and decades of mere emulation that apparently does not lead to more inclusive and more balanced development, the time has come for deep consideration of new ways based on more creativity and institutional imagination. Even in the most demanding circumstances of the developing world and in the most deprived areas, certain exceptional examples of good, transparent and accountable governance show that a restructuring toward more inclusive and more sustainable development is possible. Successful examples of transformation from the developing parts of the world and from some of the most developed parts of the world should be viewed as a source of inspiration, information and encouragement

that structural transformation toward an inclusive knowledge economy is the next possible pattern of development for many other developing and CEE countries.

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Competence Development in Theory and Practice: Competence, Meta-Competence, Transfer Competence and Competence Development in Their Systematic Context

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This work raises the question, why the contents of trainings in further education are often not applied in operational and everyday business. The authors do not want to leave it at that but rather focus on the transfer of what has been learned in a training and how trainings should be structured after all so that transfer can indeed take place. For this purpose, the term 'competence' is introduced at first, which should not be confused with 'knowledge.' Competences rather are 'applied knowledge.' Then the concept of meta-competence is introduced. Meta-competence means a competence of using competences which is of interest especially to leaders. Finally we look at transfer competence, which is the ability to apply acquired knowledge in practice. Classic trainings fail to make knowledge relevant for practice because only little or no transfer competence is activated. Therefore, towards the end of this work, we introduce a training measure, which systematically activates transfer competence and focuses on competences. For this reason, the correct name of this type of training should be 'competence development.'

Key words: competence, meta-competence, transfer competence, competence development
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Introduction

This paper aims to address a problem that many, if not all, face in adult education: After the training, the participants (especially in leadership seminars) have gained knowledge about behaviour in

companies. They would now have to become better leaders. However, it is often stated in practice that this is not the case, or if so, only to a very limited extent.

From a conceptual perspective, especially with regard to competence development among managers, the above problem can be narrowed down to the following terms: competence, competence development and competence development programmes, meta-competence and transfer competence.

Against the background of these terms, it can be said that the failure of training is related to transfer competence (or its inactivation). Also of great importance in this context is the so-called 'inert knowledge,' that is, knowledge that exists in an abstract sense but is actually not applied in practice.

After these concepts will have been presented in context, the main focus of this paper will be on investigating the question of how failure of transfer can be counteracted in practice. It will turn out that volition, a term that goes back to Pelz, is of great importance.

Following this, transfer competence will be analysed again in more detail. In particular, it should be noted that, unlike many other competences, transfer competence cannot be developed in a conventional sense, rather, it must be aroused. The two concluding chapters then focus on activating transfer competence in trainings: First, the focus is on failure in traditional further education. Following this, a competence development programme will be presented which enables transfer competence to be activated.

Competences

At first it seems important that the paper approaches the concept of competence. Competences are not skills, knowledge or qualifications, but rather a higher-order ability, namely to act creatively and self-organised in unexpected and often chaotic situations (see Heyse, Erpenbeck, and Ortmann 2015, 13). However, competency-based action does not mean it is 'theory-free.' Competences form a kind of bridge or hinge between theory and practice. In a sense, they could be said to be manifestations of applied theory.

In the modern world of work, with its many challenges, of which globalisation is not the least important, competences seem to be enormously important. Although every employee of a company must have specific competences, it is clear that managers in particular have to acquire specific skills.

At this point, not all competences should be examined, but specific ones, namely the so-called leadership competences should be

explained. In order to be able to approach this, a classification of competences frequently used in literature is presented first (Schäfer 2006, 17):

- Professional competences
- Methodological competence
- Social competence
- Self-competences

Professional competences are those that are necessary for coping with typical problems in the respective profession. For the most part, they are closely linked to one's expertise. Methodological competences go beyond these: they include the ability to solve problems or to acquire knowledge. Social competences are competences aimed at social interaction: communicative competences are to be mentioned here first but also conflict management competences should be mentioned in this connection. Self-competences could be understood as reflexive competences: The individual uses them to refer to him- or herself: values, general attitudes but also self-perception are to be mentioned in this context.

It is easy to see that within this categorisation all possible competences can be located so that they constitute each other: Professional competences constitute methodological competences and social competences establish self-competences. Furthermore, it is obvious that the first two competences are directly work-related, for example, the production of particular goods, while the last two relate to people and, ultimately, how to lead them. In this sense, these last two competences, social and self-competence, seem to be typical of leadership skills while the first two appear to be types of competences that should be typical of subordinates.

If, however, the actual competence is to act creatively and self-organised in chaotic situations it becomes clear that all four types of competence are needed: The person acting in this sense requires professional, methodical, social and ultimately also self-competences. In this sense, acting competently means using all competence resources available. Action competence can be understood as the competence of all competences insofar as it refers to the entire person in the working world. It is a leadership competence. If, on the one hand, action competence is based on professional competences at its core then, on the other hand, it should be stressed also that competent leaders always starts by using their own self-competences and thus lead and guide themselves. Based on these self-competences they can lead others because of their social com-

petence. But in order to lead others, it requires methodological competence, which in turn leads to professional competence. Hence, the different types of competences are ultimately so intertwined that one can hardly speak of one type of competence being more important than the other.

COMPETENCE DEVELOPMENT PROGRAMMES

According to Erpenbeck and Sauer (2001, 294), competence development means 'a process of expanding, restructuring and updating a person's professional, methodical, social and personal options for action.' As a result, competence development cannot emerge from knowledge or skills taught in trainings, even though both are necessary prerequisites for successful competence development.

Classic trainings, however, provide exactly this: a certain knowledge or certain skills. The disadvantage of this type of training is that it is not always immediately obvious to the participants how, when and where the acquired knowledge has to be applied. Therefore, the central problem is the practical relevance, that is, putting into action what has been learned. In other words: no competences are developed in these types of trainings.

Instead of relying on classic training programmes, there has been an emphasis in recent years to focus on so-called competence development programmes. These differ from trainings in that practice is the main focus. Above all, these programmes are meant to actually apply what has been learned. It should be emphasised here that theory is by no means neglected, it is rather about the interplay of theory and practice, while classic training programmes have often relied only on theory.

In a first step, it can be stated that successful competence development programmes should try to help people implement the transfer of the acquired knowledge into practice. But this leads to the question of how to do this. So what distinguishes a competence development programme from a classic programme, where there is always the danger that skills are developed and knowledge is generated but that they might not be relevant for practice?

META-COMPETENCE

To answer this question, the concept of meta-competence must be addressed at first. Although the term is not particularly prominent in organisational, management and competence research, it is certainly not re-introduced at this point. It ultimately goes back to Burgoyne, who first used it in 1988. According to him, it is a special compe-

tence that allows to adapt or even develop skills in specific situations (Burgoyne 1988). In this respect, the above statement that all competences can be found in the four categories must be modified. Meta-competences – insofar as they are ultimately to be understood as a competence of using competences – cannot just be classified under the above mentioned.

The relationship of meta-competence to others is formally comparable to the relationship of competences to actions. In this sense, Erpenbeck (2006, 8) defines meta-competences 'as initial dispositions which first substantiate and facilitate the development of basic and derived self-organisation dispositions, namely competences.' So they are competences insofar as they have an impact on actions and unlike the other competences, they have an effect on actions but not immediately and directly. In this respect, it makes sense to understand meta-competences as indirect ones and classic competences as direct ones.

From what has been said, it becomes clear that the first meta-competence has already been presented: it is action competence which is to be understood as a meta-competence because it refers precisely to direct competences, steering and leading them to make the action successful.

TRANSFER COMPETENCE

It may not be unimportant to approach the problem of transfer first from a purely formal perspective. In order to do so, let us look at the pure and formal logic, as it is for instance taught in philosophy and also computer science. One of the best-known final forms is the so-called syllogism, which has the following format:

All S are P.
R is an S.
Hence: R is P.

For example, this formal conclusion may take the form:

All humans are mortal.
Socrates is a human.
Hence: Socrates is mortal.

The decisive proposition is not the actual conclusion as one might perhaps assume; this necessarily results from the antecedents. The second sentence is decisive: that is, the classification of Socrates among humans. In other words, the ability to recognise that Socrates is a special case of what is stated in general (that is, a human) is central. Now the connection to transfer becomes clear, because here the

same problem exists: learners should realise that the concrete problem they are facing (or will be faced with) is interpreted as a special case of a general problem. Although this general problem has been discussed in the training, however, there is often no real practical relevance for the participants: a transfer does not take place.

From this formal clarification of the actual problem we now must come to the central meta-competence: As it should have become clear from the formal perspective, transfer competence in this context is perhaps the most important meta-competence. Transfer describes the action of transferring skills from one situation or context to another situation or context (Schulte 2014, 17). In her own definition, Seidel (2012, 18) has a slightly different focus:

> The term transfer refers to the changed workplace behaviour of an employee in situations in the workplace that are either characterised by modified or completely new work tasks or in which routine tasks dominate that one [could not handle before but] is able to handle now (meaning: more efficiently) by means of transfer.

Both definitions make it clear that, especially in the context of further education and competence development, the transfer of what has been learned is of crucial importance since the application in the professional context is the decisive factor of any training measure. Against this background, transfer competence – the ability or ability to transfer knowledge that has been learned – can be understood as a way of achieving and implementing the acquired knowledge in the workplace. Transfer has many aspects to be considered. For example, Schulte (2014, 20) emphasises that learning plays a central role in this context: 'Successful transfer is a desired, observable behavioural change of individuals in an application context due to learning processes in a learning context, considering subjectively both internal and external (in particular: social and organisational) transfer conditions.'

Consequently, if the concept of transfer is to be considered, a difference must be made between workplace situations and the specific conditions prevailing there and the actual learning situation. Learning usually takes place in a protected atmosphere while in the workplace usually more complex situations are encountered. The atmosphere there, for the most part, is not protected.

This is where the real problem lies: in classic learning processes, specific, clearly defined situations are specified. The key here is complexity reduction: only the essentials come into consideration.

Anything that could distract from this is not brought into focus. It becomes clear that on the one hand the place of learning can by no means be compared with concrete situations in the workplace; on the other hand, what is learned and by which means, that is, the setting of learning, can be described as formal. Both aspects of learning are justified. On the one hand, a specific learning atmosphere must be created if training is to succeed in an efficient and effective way. On the other hand, the formal focus on a problem offers the opportunity to present it without situations that distract from the problem. Nevertheless, these two factors make the transfer difficult.

FAILURE OF TRANSFER

Perhaps the best approach to transfer competence is to first have a look at why transfer fails. In research, three explanatory models are discussed, all of which are connected with the concept of 'inert knowledge' (Renkl 1996, 78):

- Meta process explanation: Assumes that although the 'right' knowledge is available but the fact that one cannot resort to it, is due to deficient meta-cognitive control processes.
- Structural deficit explanation: There are gaps in knowledge that prevent it from being used.
- Situation explanation: The traditional concept of knowledge and transfer is called into question. The basic assumption is that knowledge is always bound to specific situations.

It can be assumed that all three models explain how inert knowledge arises. In that sense, the different approaches do not compete with each other, but rather complement each other. Against the background of inert knowledge, a further definition of the concept of competence can now be cited: Competences are not just inert knowledge, but rather active or dynamic knowledge; a knowledge that in itself steers an action.

It must be the central task of competence development programmes to prevent the emergence of inert knowledge. Against the background of the above models, this means that knowledge must be sized down in case of doubt, i.e. any existing gaps in knowledge must be found and then filled. Furthermore, the provided knowledge must be as close to reality as possible. The trainee or participant must at least have a rough idea of which concrete situations this knowledge is useful for. Competence development programmes, however, find it difficult to address this first point: meta-cognitive steering processes are very unlikely to be influenced.

Volition, Transfer Competence and Competence Development

From what has been said, competence development programmes must work with particular emphasis on preventing the development of inert knowledge. Inert knowledge is prevented by requiring specific knowledge in practice to solve a specific problem.

At this point, however, a problem arises: while the transfer of the acquired skills is relatively easy, since learning is always based on practice within the training, this is much more difficult for competences. Since they are designed for the ability to act, but no abstract learned situation is identical with those encountered in business reality, it quickly becomes clear that competences are much more difficult to develop. Inert knowledge can quickly establish itself.

VOLITION AS A META-COMPETENCE

Before discussing the actual concept of activation of transfer competence, a further meta-competence, which is of central importance in the context of interest here, must first be addressed: volition. To begin with, volition can be understood as the conscious and intentional implementation of goals or the motivation to achieve results. Pelz understands it as will power but also self-regulation and ultimately even implementation competence (Pelz 2017, 106). Although volition is a necessary condition for a successful implementation, it is not the sufficient condition. But precisely because it is a necessary condition (and certainly the most important one), it needs to be briefly discussed here. Pelz defines volition more as an ability to control motives, thoughts, feelings, impulses, and actions so that people achieve their goals in an efficient manner (Pelz 2017, 106). Accordingly, volition can be understood as the relationship between volitional effort and the result of that effort (Pelz 2017, 106). It becomes clear that implementation in this context is by no means just transfer. Rather, implementation means that, based on a goal, a plan is designed that leads to actions that turn into results. Volition is crucial here because it controls feelings, thoughts, knowledge and ultimately actions.

Therefore, it is not transfer competence that is related to implementation competence but rather action competence. If action is understood as the achievement of goals or purposes by using certain means, then it becomes clear that action competence and implementation competence have a large overlap. One should, however, be aware of differences between these two competences. Action com-

petence, as presented above, was the set of professional, methodical, social and self-competence. One could say that here the view on humans is made from the 'outside' so-to-speak. Implementation competence, on the other hand, insofar as it is related to volition, is more of a look from the 'inside.'

Acting competently cannot be attributed only to external causes. Just because someone has professional, methodological, social and self-competence, this does not mean they act competently. The actual competent act is to make a purposeful action. At the same time, however: volition alone is not enough for successful actions. From the perspective of action competence, volition is always already presupposed and therefore not specifically addressed. From the perspective of volition, on the other hand, the ability to act is always required, which does not have to be specifically addressed here either. But here too, having a large volition alone, but not having the above-mentioned ability to act is not enough for successful actions.

This difference makes it clear why Pelz comes to speak of completely different competences in his observations. These are (Pelz 2017, 106):

- Steering one's attention and focusing on the essentials
- Emotional and self-management
- Self-confidence and assertiveness
- Predictive planning and creative problem solving
- Goal-oriented self-discipline due to a deeper meaning of the task to

These competences differ significantly from those that constitute action competence. While the latter is more akin to action in a narrower sense, these competences revolve around focusing on a problem.

It becomes clear that volition does not only mean intensity of will but goes beyond that. In a sense, it represents the link between personal will and the real world; it means the ability of the person to influence the world according to his/her wishes. Therefore, it is also to be distinguished from motivation which merely indicates the reason for an action or the willingness to act but in no way looks to the success of the action.

With the term volition also the success of an action comes into focus. It could be said that people with a high degree of volition are more successful in overcoming problems than others because they have a higher degree of efficiency than those (resulting from the relationship between the will used and the degree of achievement

of the goal). At the same time, this is not yet transfer competence, because this means that something learned is successfully implemented in everyday business. This in turn means (in the context of competence development) that the person now has specific competences that he/she did not have before and now applies in everyday life.

The term volition, on the other hand, assumes that a person possesses it right from the start. Pelz rightly says that the concept of motivation alone cannot explain why it is above all the CEOs of medium-sized global market leaders who cannot explain why they are capable of using modest resources successfully in an often adverse environment without external motivation despite many defeats and setbacks. He quite rightly points out that these individuals often have a strong capacity for self-control and self-regulation. However, this is not transfer competence.

It also becomes clear from what has been said why volition is a meta-competence. Because it does not affect actions directly it rather can be regarded as the reason why and in what context specific actions are carried out.

However, how these actions are performed has no meaning in this context. When translating a goal into a result, different competences are used (such as attentional control, self-confidence or assertiveness, problem-solving skills etc.) that are controlled by volition.

VOLITION AND TRANSFER

Volition is therefore the central competence in the implementation of a plan. In this sense, on the one hand, it is a condition of the possibility for transfer. Because a successful transfer in the context of a competence development measure cannot be carried out without will power. On the other hand, it is also necessary if the newly acquired competence is used in the implementation of a plan.

Volition, however, does not have any influence on transfer itself. Rather, Pelz assumes that competences are available but that these actions must be implemented in such a way that they are 'consistent.' Therefore, the focus of Pelz's considerations is not transfer but rather successful actions, which is reflected in the achievement of the goal.

A CLOSER LOOK AT TRANSFER COMPETENCE

The short presentation of transfer competence given above can and must now be supplemented and thus clarified. Transfer is, as stated above, the transfer of knowledge and skills from one situation or

context to another situation or context. Especially in the context of education and training in general, this competence is very important. One of the most important works in this field is *Transferkompetenz und Transfer: Theoretische und empirische Untersuchung zu den Wirksamkeitsbedingungen betrieblicher Weiterbildung* [Transfer Competence and Transfer: Theoretical and Empirical Study on the Conditions of Effectiveness of Corporate Training] by Seidel (2012). In her model of competence development, which she presents in this work, she puts transfer competence at the centre. It is based on the assumption that the transfer success of a training is significantly influenced by the individual transfer competence. This depends on situational and personal factors of influence, in addition to procedural and declarative expertise, intrinsic and extrinsic transfer motivation and self-control (the latter factors make it easy to recognise volition as described by Pelz 2017). The transfer itself as well as the results have a feedback effect on transfer competence.

It is important that it is foremost personal qualities such as cognition, motivation etc. that have an impact on a successful transfer performance. Organisations, however, have less influence on transfer performance. It follows that transfer competence itself cannot be developed because personal qualities, above all cognitive ability but ultimately also volition, can only be increased within a very limited framework. Successful competence development therefore requires transfer competence. But if this cannot be developed, and it is further assumed that not all people have a comparable potential in terms of transfer competence, then this means that not everyone is suitable for a competence development programme. Furthermore, this means for competence development programmes that they can only activate transfer competence. Metaphorically, one could say that it was 'asleep' or 'buried' before participating in the programme. It follows that, since not everyone has this competence, not everyone is suited for a competence development programme, and therefore employees that one wants to develop further must be selected before the actual programme starts.

FROM THEORY TO PRACTICE I: PROBLEMS WITH TRADITIONAL TRAININGS

It has been known for some time that the usual training and support measures for managers and prospective executives do not always achieve the desired results. Many such trainings do not only fail to recognise that the participants have different gaps within their range of competences but moreover that transfer competence is not or only

partially activated. The consequence is that individual competence development is neither goal-oriented nor does it have a lasting effect.

In this respect it is justified to ask whether the classical approaches, which also include follow-up or impulse days, webinars, chats etc. result in a high transfer into daily business routine. It has to be stressed though that just concentrating on modern media, like the Internet with all its possibilities, does not guarantee transfer success. Furthermore, it should be noted here that for this type of training push orientation is characteristic: participants get a large amount of information, of which, however, only a relatively small amount is useful for the them. This form of training is quite problematic. It resembles a common type of teaching in didactics: *Frontalunterricht* (teacher-centred teaching). Even though *Frontalunterricht* could be better than its reputation, it should not be concealed that there are also a number of problems linked to it. For example, a homogeneous learning group is a pre-condition (Merkens 2010, 56). It should be noted here, however, that the problem faced by teachers in schools also arises in adult education: the homogeneity of learners is by no means the norm. Rather, it can be assumed that in each traditional training course the trainees are structured in a heterogeneous way: this applies both with regard to age, experience but also with regard to the position that the respective person occupies or is supposed to occupy in his/her company. Even school teachers often have their problems in offering a good quality teacher-centred teaching which is why this type of teaching might also be problematic in the further education sector.

On the side of the trainers and their institutes, it can be stated that they can confirm the (apparent) success of the training by measuring the participants' satisfaction, but a look at everyday business life does not take place. Whether an actual transfer success can be observed is usually not considered.

FROM THEORY TO PRACTICE 2: A SUCCESSFUL COMPETENCE DEVELOPMENT PROGRAMME

Against the background of obvious problems, which have just been briefly presented, one of the authors of these lines and a colleague of his' has had considerable doubts about the effectiveness of traditional training measures a few years ago. They decided to develop a competence development programme that does not only contain push elements but also pull elements (Bach and Kring 2015). As a result, training is done together with the person to be developed and

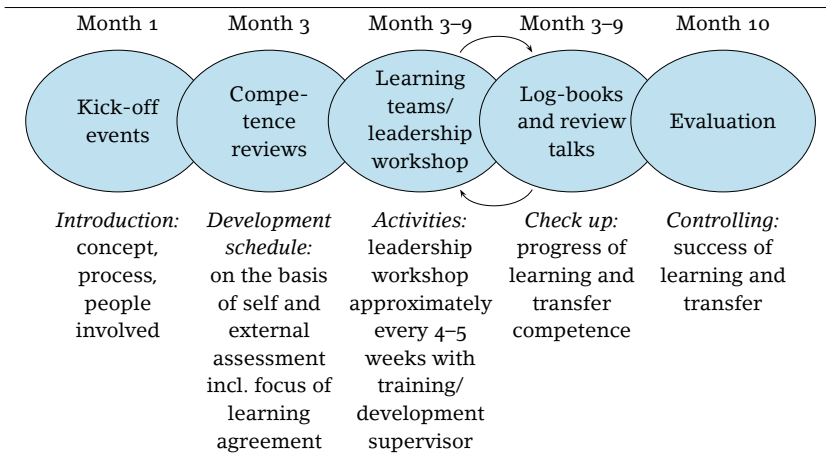

FIGURE 1 Programme Elements of the *Praxistransfer* System (adapted from Bach and Kring 2015, 6)

in a demand-oriented way, that is, in his/her essential fields of optimisation.

In addition to a few other questions that this new programme had to answer positively, the focus was on the question of transfer into everyday business. This lead to some features that the new competence development programme had to fulfil: the transfer of what one has learned into everyday business has to be significantly increased compared to conventional trainings. Furthermore, the programme focuses on individual development in key competences.

The result of these considerations and targets is the programme *Praxistransfer* (transfer into practice) which consists of five elements:

- Kick-off event
- Competence reviews
- Learning teams/Leadership workshop
- Log-books and review talks
- Evaluation

Figure 1 illustrates the actual process.

Finally, the central elements that activate transfer competence are presented in the following.

The second step after the introduction and kick-off is a competence review: in the review an assessment of the individuals' needs and development planning are in focus. It is important in this context that not only a participant's self-assessment is focused on but

also their supervisor's assessment comes up for discussion. The aim of this conversation is to elaborate people's learning and development goals. It must be emphasised here that this is not about acquiring knowledge. It is about building a set of behavioural competences. This results in an agreement of learning priorities.

The actual centrepiece of the programme is the leadership workshop. The participants work in learning teams on their key competences (four to five participants all of whom are on the same level and who are not colleagues). Working on competences is organised in a self-responsible way by the participants even though the management workshop is hosted by a trainer. After the leadership workshop, the participants go back to their companies and try to implement what they have learned in everyday life. In a subsequent meeting, experiences are shared and critically reflected in the group.

Lastly and in addition to the leadership workshop the log-book must be mentioned. Participants are invited to submit their experiences in writing. The participants should try to get to know themselves better in terms of their weaknesses and thus analyse their needs regarding competence development, but also assess their progress and improvement. This point essentially serves to review one's own progress in learning and, at the same time, to find out in which areas no progress has been made. With these results in mind, the participants meet again and work on these weaknesses autonomously.

In conclusion, *Praxistransfer*2 has actually proven to be able to develop various competences. Among many other reasons the main reason for this may well be the process of activating transfer competence and avoiding inert knowledge. Above all, the leadership workshop plays a decisive role in this: the fact that the participants report on their experiences and give each other tips, which in turn stem from their experience, prevents them from drifting off into a purely theoretical discussion. The practical relevance of what has been taught becomes obvious. By this, the formation of inert knowledge is prevented. Likewise, the explicit request for transfer, which prevents the formation of inert knowledge, should at the same time activate transfer competence. Transfer competence and the prevention of inert knowledge ultimately are two sides of the same coin.

Conclusion

The programme presented here is noticeably different from classic training programmes. The activation of transfer competence should primarily be effected by focusing on the specific person with his/her

strengths and weaknesses, but above all the review talks, in which the successes and failures are discussed and an attempt is made to find out the reasons – especially for the failures, are likely to account for the largest share of this activation. By uncovering the reasons, the participant is immediately shown why he/she has failed and can therefore later adapt his/her behaviour. Overall, the concrete procedure therefore resembles a cybernetic cycle: the individual measures are continued until the competence development has aligned itself with the given success indicators. Even if this cycle is the core of the programme, yet another feature distinguishing this programme from classic programmes should not be concealed: the teacher or trainer is not the actual person who communicates knowledge to the learners by means of *Frontalunterricht* (teacher-centred learning). Rather, the learners teach themselves.

The function of the learning tutor is seemingly simple: he/she gives inputs, facilitates and sets the framework – the actual learning content is largely conveyed by the participants themselves. This has many advantages: because the learners learn from themselves, a connection to their daily business life is made. It immediately becomes clear to them that the matters discussed in the workshop are not theoretical, which has little or no significance in everyday life, but rather, precisely because of this, the significance of what has been learned becomes clear to everyone. Furthermore, in this way the concrete problems of each individual are discussed and the participants search for possible solutions together. Not only does this address the problems of each person, but above that everyone is involved in solving the problems of others.

If it is assumed that the problems of others could be one's own problems of tomorrow, then this strategy can also be seen as preventive. However, and above all, even if this is not true, each participant will be provided with problem-solving strategies by actively helping to solve other peoples' problems. In this sense, the participants do not only learn to improve their competences, but also how to improve them independently.

Finally, this is a list of the three success factors of the aforementioned competence development programme:

- There is a focus on the individual.
- Transfer competence is activated by means of a cycle process.
- The members of the learning team learn from each other and not from a teacher or trainer. The tutor is in the background most of the time and intervenes only when absolutely necessary.

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Early Warning Systems: A Risk of Increasing Managerial Myopia?

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The Italian legislator has recently approved a new Insolvency and Crisis Code (Legislative Decree 14/2019), introducing a compulsory *Early Warning System* to detect occurring crises. The new provisions are in accordance with the EU policies that require Member States to develop national insolvency frameworks, which force enterprises in financial difficulties to restructure at an early stage of the crisis (EU Directive COM(2016) 723). The aim of the new rules is to prevent, as far as possible, insolvencies, and therefore to maximise the total value to creditors, employees, owners, and the economy as a whole. Since the new rules imply more encompassing responsibilities for corporate supervisory bodies, these provisions are generally perceived as having the ability to induce a significant impact on Italian SMEs' management control systems. This is certainly to be welcomed, because this is an area where there is still room for much-needed improvements. Nevertheless, some concerns should also be expressed. As a matter of fact, possible misunderstandings and misuses of different sets of control could derive from this new focus on early warning indicators. Notably, a bureaucratic and formal approach in the design and use of companies' control structure could prevail, since generally, among practitioners, there is not enough knowledge and understanding of the rationale of management control systems. Different kinds of control, such as post-action controls, steering controls, and yes-no controls, could therefore be confused, with an almost assured negative effect on firm's ability to pursue its strategic aims. Another area of potential misconstruction could arise from the confusion between managerial control systems on one hand, and internal auditing on the other: their roles and aims should be clearly understood and kept separated, although within an integrated framework. This distinction is of a paramount importance because, with the new law, the monitoring of the occurring crisis is no longer a responsibility of the sole directors, but

it involves other subjects: the board of statutory auditors (or the single statutory auditor). These subjects will therefore have a set of incentives that make them focus all their attention on avoiding insolvency risks, with no or little interest in the pursuing of long-term goals, possibly leading to short-termism and a lack of strategic action. Early warning indicators are certainly useful, as they can be employed both as a diagnostic form of control, and as a strategic tool to detect in advance the evolutions of the environment and the competitive arena. Clearly, different sets of parameters should be adopted in the two instances, and, more importantly, different logics and ways of interpreting them. Regrettably, the new rules concerning early detection of crises could determine a too narrow focus on the short term, therefore causing managerial myopia. Building on previous literature, this article aims to develop a set of indications that could lead to a better understanding of the purposes and rationales of different kinds of managerial controls, and therefore to help practitioners to design their managerial control systems in a more informed and balanced way.

Key words: early warning systems, crisis, management control systems, diagnostic and strategic measurement of performance, risk management, managerial short-termism
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Introduction: Crisis and Insolvency

Crises in businesses are preceded by warning signals, sometimes ignored or not recognised by managers (Scherrer 1988). When promptly detected and addressed, however, these signals can stop the degenerative process, or even lead to a turnaround. Situations of decline or crisis may typically arise from inefficiency, overcapacity, from marketing errors, from the inability to programme, from errors in strategy, and from a lack of innovation (Riva et al. 2018). In some cases, especially in some legal frameworks, and in management practice, the concept of crisis is the same as that of insolvency (Quagli 2016). On the other hand, a generic decline or deterioration in a business' performances is not always enough to lead to a crisis. Since it is difficult to define a crisis, and even more difficult to detect it, it is sometimes comforting identifying insolvency as the defining event of a crisis. In fact, insolvency is an objective event, verifiable by external parties, which could be described as a systematic default on the firm's obligations. This almost tautological equivalence of crisis with insolvency, however, is not very helpful when the purpose of the warning signals of a crisis is to prevent the very insolvency that

would be detrimental to the interest of creditors and other stakeholders. For this reason, current EU policies[1] require Member States to develop national insolvency frameworks, with the aim to prevent, as far as possible, insolvencies, and therefore to maximise the total value to creditors, employees, owners, and the economy as a whole.

The challenge, therefore, is to identify a system of early warning indicators that can allow determining the moment when a business faces a crisis, before this situation deteriorates into insolvency. However, since the ultimate goal of the framework devised by the EU is to detect crises before they turn into insolvencies, it is inevitable that these indicators will be skewed toward short-term liquidity and long-term solvency, rather than focusing on the firm's profitability. Following Quagli (2016), we can list three approaches to identifying a crisis: (1) external; (2) internal – backward-looking; (3) internal – forward-looking. The external approach relies on the impact of the crisis on third parties, namely the creditors. Signals of financial distress are delays in the settlement of debt, default on some particularly relevant obligations, such as those toward tax authorities and social security entities, and so on. This approach can be relatively simple to implement, given the consequences on the economy of the creditors, but it is too close to a generalized condition of insolvency to be useful in detecting crises early and reverting them.

The internal – backward-looking approach is based on accounting information prepared by the firm itself, i.e. on financial statement analysis. Besides the problem of defining a set of financial indicators that can be used for this purpose, and the necessity of determining the thresholds that allow the analyst to declare a state of crisis, the main shortcoming of this approach is that it may not be timely. Financial statements, in fact, provide backward-looking information by definition, and by when the data become available and are subject to analysis, the crisis could have already degenerated into insolvency. This leaves the third approach, based on forward-looking information (plans and programs) prepared by the firm itself. This approach is not without limits, as we will illustrate in this article, but it is consistent with the goals of preventing a state of insolvency, and not just confirming it. Given the nature of the goal, special attention should be given to the capability of the firm to generate in the future enough cash flows to meet the firm's obligations.

In this article, we describe the new Italian framework for the early detection of crises and for the prevention of insolvencies. The new law, issued before the relevant EU directive was finalised, offers the opportunity to comment on the impact of the new provisions on the

management control systems of firms, especially those of small and medium-size. We also highlight the inherent risks in the way the EU requirements are implemented, since they could hinder the flexibility that would be instead required to face a crisis context, eventually leading to an additional layer of checks and controls that could 'bureaucratise' business crises, and eventually providing a strong incentive for the management to focus on the short-term.

Financial Ratios and Insolvency Prediction Models

Starting from the late 1960s, there has been considerable research into the use of ratios and cash flows to predict bankruptcy. Beaver (1966) examines 29 ratios in the five years preceding bankruptcy for a sample of firms, adopting a univariate approach, i.e. each ratio is considered alone in predicting bankruptcy. The cash flow/total liabilities ratio proved to be the best predictor. Later studies however employed a multivariate approach: Altman (1968) developed the well-known Z-score, based on five ratios: working capital/total assets, retained earnings/total assets, operating income/total assets, market value of equity/book value of debt, and sales/total assets. Altman, Haldeman, and Narayanan (1977) subsequently refined the model, including, among other improvements, several adjustments to the accounting information reported in the financial statements. Ohlson (1980) assigns to each firm a probability of bankruptcy, using logit analysis, leaving to the user of the model the choice of an acceptable level of probability to separate bankrupt firms from non-bankrupt firms. The lower the level, the higher the chance of misclassifying solvent firms as insolvent (false positive), while the greater the probability cutoff, the higher the chance of misclassifying insolvent firms as solvent (false negative). For bankruptcy prediction models, false negatives tend to be more costly than false positives. In fact, in case of a false negative, when the model predicts solvency, the creditor will extend a loan, and potentially lose 100% of the investment. In the second case, a false positive, the creditor will not extend a loan, but then the loss can be measured by the spread between the interest rate the incorrectly rejected firm would have paid and the rate actually earned (White, Sondhi, and Fried 1994, 1047). Casey and Bartczak (1985) show that operating cash flows aid in the prediction of bankrupt companies, but that accrual accounting measures are better predictors of non-bankrupt firms, because the use of operating cash flows tends to generate too many false positives (solvent firms misclassified as bankrupt). Zmijewski (1984), using a probit analysis, studies three ratios (net income/total assets, total debt/total

assets, and current assets/current liabilities) to develop a model that predicts the probability of default. Lau (1987), instead of using the solvent/insolvent dichotomy, identifies five different stages of financial distress, predicting the probability that a firm will enter each of the five stages. The relative merits of different statistical approaches to bankruptcy prediction have been discussed extensively over the years, and although more advanced methods (such as neural networks) have been developed in the meantime, less complex techniques (such as probit, logit and linear discriminant analysis) still perform reasonably well in bankruptcy prediction (Jones, Johnstone, and Wilson 2017).

The new Italian Framework for Crisis Management

Italy introduced in 2019 a 'Crisis and insolvency code' (legislative decree No. 14/2019) aimed at regulating insolvency procedures with the intent to safeguard the *going concern* principle (i.e. avoiding judicial liquidation), in order to achieve a better satisfaction of the interests of the creditor. The law, fully effective from August 15 2020, was approved before the EU Directive crisis and insolvency directive (Directive (EU) 2019/1023 of 20 June 2019) was finalised. The early application of the EU Directive in Italy offers a the opportunity to comment on the provisions devised for the early detection of crises that eventually all EU Member States will have to introduce in their regulatory framework.

The new framework introduces an early detection system for crises, to prevent insolvencies and encourage turnarounds. The provisions of the new law do not apply to banks, insurance companies, investment funds, pension funds, and other financial services, (article 12 of the legislative decree), because insolvency prevention is one of the tasks entrusted to the industry regulators to which these companies are subjected. The new framework, however, applies also to small companies and agricultural activities. In this section, we explain the main features of the new legal framework for crisis and insolvency, without the intent to cover all the details and intricacies of the new procedure, and of the (pre-existing) Italian bankruptcy law.

The new crisis and insolvency code provides precise definitions of crisis and insolvency: a crisis is a state of financial difficulty that makes a debtor's insolvency probable and that consists in the inadequacy of prospective cash flows to meet planned obligations regularly. It is clear that the definition provided by the new law is consistent with the 'internal – forward looking' approach, as described in

section 1. A debtor is defined as insolvent when it is no longer able to meet its obligations on a regular basis, as evidenced by defaults or other external factors (article 2). The external and internal corporate supervisory bodies, i.e. the external auditors and the internal board of statutory auditors (*collegio sindacale*), have the obligation to verify that the board of directors ensures that the company has an adequate organisational structure, and a functioning system of internal controls, included a reliable and effective dashboard of indicators that monitors all the parameters and thresholds identified by the new law (Riva et al. 2018). This should allow the directors to detect the early signals of a crisis, and the supervisory bodies to informally alert the directors of deficiencies in the managerial control system.

In case the crisis reaches maturity, and the corporate supervisory bodies identify strong indications of a state of crisis, they must send an official written notice to the board of directors, to which the board is expected to reply within 30 days. In their reply, the directors should list the actions that they will take in order to address the issues raised by the supervisory bodies (article 14). If the board of directors provides an inadequate answer, or in case of inertia, the corporate supervisory bodies must inform a specific third party, called the OCRI (from the Italian *Organismo di composizione della crisi d'impresa*), or Crisis settlement body for companies, that must be established by every Chamber of Commerce. At this stage, the crisis is considered to be in full development, and it is important to highlight that the timely reporting to the body responsible for the settlement of the crisis constitutes a cause for exemption from liability for the corporate supervisory bodies for actions or omissions taken by the board of directors after the initial communication. The Crisis settlement body for companies appoints a board of three independent professionals who summon the directors and identify the possible measures to be taken to remedy the crisis, setting a deadline by which the directors must report with regard to their implementation (article 18). The goal is to identify a specific route for the settlement of the crisis, by means of out of court agreements with the creditors, within three months (extensible to six months in case of positive responses from the creditors) from the date when the directors reported their plan of actions to the three professionals.

The law also introduces the position of 'qualified public creditor,' to which it attributes significant powers and obligations in the early stage of detection of the crisis. They are the Italian Internal Revenue Service (*Agenzia delle entrate*), the National Social Security

Institute (INPS), and the tax collection agent (article 15). When the company exceeds the critical thresholds of unpaid payables specified by the law itself,[2] the qualified creditor must send a notice to the debtor (i.e., the board of directors, not the corporate supervisor bodies). If the debtor does not comply with the requests of the creditor, the qualified creditors must send an alert to the Crisis Settlement Body for Companies. This procedure is external and separated from the internal procedure envisaged for the corporate supervisory bodies. It is also automatic, since it is triggered by an objective event (exceeding the thresholds), and there are penalties for the qualified creditors if it fails to act. They consist, for the Internal Revenue Service and the National Social Security Institute, in the loss of the right of pre-emption in case of insolvency procedure, and, for the tax collection agent, the unenforceability of the receivables for collection charges and expenses.

In case the out of court negotiations with the creditors, assisted by the professionals appointed by the Crisis settlement body for companies, are not successful, the crisis enters the stage of reversible insolvency. Italian bankruptcy law regulates this passage, with several court-assisted restructuring reorganisation procedures devised according to the principle that a debtor with a potentially profitable business should be given the opportunity to demonstrate that there is a greater benefit for the creditors in the long term in avoiding judicial liquidation (Riva et al. 2018).

If the above-mentioned measures do not have the desired outcome, or if the directors do not access them, the insolvency becomes overt and irreversible, leading to judicial liquidation, i.e. bankruptcy.

Early Warning Indicators in Italy's Crisis and Insolvency Code

The new Italian crisis and insolvency law states that situations of imbalance in a firm's profitability, solvency, and liquidity are signal of a crisis. Appropriate indicators to detect a crisis are (article 13):

1. those that allow to offer an insight on the sustainability of debt for at least the following six months, and;
2. those that allow to assess the existence of the going concern principle for the current reporting period (or for the following six months, if the remaining part of the current reporting period is shorter than six months).

All indicators should be adjusted to consider the specific characteristics of the firm, i.e. the industry in which it operates, and its age.

The law only mentions explicitly two financial ratios: financial sustainability of interest expenses (cash flows/interest expense), and the financial leverage ratio (total debt/equity).

Besides the two ratios described above, the law also mentions that 'repeated' and 'significant' delays in the settlement of debt are indicators of a crisis. Considering, as we described above, that the new crisis and insolvency framework chooses an 'internal – forward-looking' approach in defining a state of crisis, we can observe that the indicators mentioned are mostly, but not exclusively, consistent with this definition. Indicators listed under (1) and (2) are based on the firm's financial plans, and can be therefore considered 'internal' and 'forward-looking.' Financial ratios, however, can also be calculated with reference to an 'internal – backward-looking' approach to financial information (i.e. on financial statements). Finally, delays in the settlement of debt are certainly external indicators of crisis. In a summary, the law explicitly considers all the three approaches in order to identify a crisis (Quagli and Panizza 2019).

In addition to the indicators mentioned above, the law requires the Italian National Council of Chartered Accountants and Accounting Experts (CNDCEC) to develop a set of indicators, capable of identifying, when considered together, a state of crisis. These indicators should be differentiated by industry (as identified by the Italian National Institute of Statistics, or ISTAT), and reviewed at least every three years. The professional body should identify separate indicators for special cases, such as 'innovative' start-ups, small and medium-sized firms, firms founded by less than two years, and companies undergoing liquidation. The CNDCEC published a draft proposal in October 2019, listing a set of seven indicators, along with their thresholds, divided by industry, with a precise internal hierarchy (CNDCEC 2019). According to the proposal, the first indicator that should be considered is a situation of deficit, i.e. the presence of a negative equity, when the liabilities are greater than the assets.[3] The proposal considers this situation, regardless of the actual liquidity of the firm, as a threat to the going concern of the business. Although it is true that a deficit is a signal of a deep imbalance in the long-term solvency of the firm, the implication is not immediate on the liquidity of the firm, defined as the capacity of the business to generate enough cash to meet its short-term obligations, without compromising its profitability. It is possible, however uncommon, for businesses to remain liquid even in a situation of negative equity, if, for example, most of the liabilities are noncurrent, or if the business holds or generates enough cash to meet at least its most pressing short-term

obligations. Italian company law, however, requires companies with losses that decrease their share capital (par value of common and preferred stock issued) below the minimum level[4] to recapitalise, or, if it is not possible, to undergo liquidation or to transform into partnerships (articles 2447 and 2482-ter of the Italian Civil Code). A deficit is without doubt a situation when the losses are so large that the share capital has fallen below its acceptable legal minimum, therefore it is effectively a threat to the company's very survival, in case the shareholders cannot or do not intend to recapitalise.

If the equity is positive, a debt service coverage ratio (DSCR, i.e. the ratio of cash flows over total debt service) lower than one for the following six months is considered an indicator of crisis. The document prepared by the CNDCEC prescribes two methods for calculating this ratio:

1. cash and cash equivalents + inflows of cash – outflows of cash (with the exclusion of debt repayments), divided by outflows of cash for financial debt repayment (excluding interest);
2. cash and cash equivalents + available lines of credit + free cash flow from operations (operating cash flow – investing cash flow), divided by outflows of cash for financial debt repayments (including interest), payments for tax and social security payables, and payments for accounts payable to suppliers overdue by more than a 'physiological' threshold.

The choice of using, in its more complex formulation (method 2), the so called 'free cash flow from operations,' i.e. the operating cash flow less the investing cash flows, seems commendable. It is a more readily computable measure than the probably more appropriate 'free cash flow to the firm,' calculated as operating cash flows less outflows for the investments necessary to maintain the current level of operational capability. In fact, if capital expenditures necessary to sustain the operations were excluded from the numerator, a ratio equal to one could signal a situation in which the firm can service its debt, but at the expense of its future profitability. Future earnings (and cash flows) would be compromised by the impossibility to make indispensable capital expenditures, as the entire cash flow generated by the operations would be absorbed by servicing the debt. In such a case, the firm could not be said to possess a healthy liquidity position.

Another issue arises in relation to the consistency between the numerator and the denominator of the DSCR, when it is calculated using the second approach listed above. The distinction between

the operating cash flows used in the numerator and the financing cash flows reported at the denominator of the ratio should be clear, to avoid double-counting. The separation of operating and financial items is a requirement can be traced back to the seminal work of Modigliani and Miller (1958), whose model, under the assumption of perfect financial markets and fixed capital expenditures in each period, shows how the value of the firm is not affected by its capital structure. Accounting standards generally require the separate reporting in financial statements of flows and obligations arising from the provision of finance to the firm, from those, called (in a broad sense) 'operating,' deriving from all the other activities (Barker 2010). However, operating cash flows in financial reporting are often calculated *after* and not *before* interest expenses.[5] Since the cost of debt is part of the cash flows necessary to its service, reporting at the numerator an operating cash flow after interest payments leads to a double count of this component in the debt service coverage ratio. A necessary adjustment, therefore, is not to include payments of interests in the operating cash flow (White, Sondhi, and Fried 1994, 1030; Nurnberg and Largay 1998), contrary to what Italian accounting standards require, but consistently with the options offered by the International Financial Reporting Standards.

It is worth observing, moreover, that calculating this forward-looking ratio implies the existence of a structured managerial accounting system and of reliable financial planning capabilities, areas where not all companies, especially small and medium-sized enterprises, currently excel (Quagli and Panizza 2019). If the equity is positive, and if the DSCR is not available, or if the financial information on which it is calculated is not reliable (for example, due to the shortcomings of the managerial accounting system of the firm), the accounting professional body requires to refer to five ratios reported in table 1. Since, at the time of writing, these indicators are still under development by the national accounting professional body, they could differ from the final version of the document.

If *all the five* indicators are, depending on the ratio, below or above the thresholds defined by the document, a state of crisis can be inferred. Since the five ratios represent an alternative course of action in case the debt service coverage ratio cannot be reliably calculated (because the firm's plans and forecasts are not deemed reliable), they are intended to be applied to the most recent financial statements. They are therefore consistent with an 'internal – backward-looking' approach to crisis detection.

The Italian accounting profession, in developing this proposal,

TABLE 1 Early Warning Indicators of Crisis

Industry	(1)	(2)	(3)	(4)	(5)
Agriculture, forestry and fisheries	2.8	9.4	92.1	0.3	5.6
Extracting activities; manufacturing; production of gas and energy	3.0	7.6	93.7	0.5	4.9
Transmission of gas and electricity; water supply, waste disposal, wastewater treatment	2.6	6.7	84.2	1.9	6.5
Constructions	3.8	4.9	108.0	0.4	3.8
Specialized constructions; civil engineering	2.8	5.3	101.1	1.4	5.3
Wholesalers; sale of vehicles; distribution of gas and electricity	2.1	6.3	101.4	0.6	2.9
Retailers; bars and restaurants	1.5	4.2	89.8	1.0	7.8
Transportation and storage; hotels	1.5	4.1	86.0	1.4	10.2
Services to firms	1.8	5.2	95.4	1.7	11.9
Services to persons	2.7	2.3	69.8	0.5	14.6

NOTES Column headings are as follows: (1) interest expenses/total revenues, (2) equity/total debt, (3) current assets/current liabilities, (4) cash flow/total assets, (5) tax and social security payables/total assets. In percent.

tried to minimize the number of false positives, i.e. the errors consisting misclassifying healthy firms as in a state of crisis, accepting instead a higher chance of false negatives (i.e., crises not detected by the model). This choice, which is contrary to what the theory normally dictates,[6] can be explained with the intent to minimize the exposure to the potentially serious consequences for firms in case of activation of the new early warning system. In fact, highlighting a situation of crisis when the firm in reality does not run the risk of being insolvent, could hinder the firm's access to credit, or even induce banks to revoke existing credit lines, thus enhancing the risks of *creating* a crisis.

It is outside the scope of this article commenting the adequateness of indicators and their thresholds, and on their calculation methods, as described by the accounting professional body in its draft proposal. It is however clear that what emerges, in application of the new crisis and insolvency code, is a deterministic approach to the early warning detection of crises.

Impact of the New Provisions on Management Control Systems

In this section, we aim to devise some initial reflections about the possible effects of the requirements established by the new insolvency and crisis code on Italian SMEs' Management Control Systems.

In order to establish properly the boundaries within which these considerations are developed, one needs to select a specific framework of Management Control Systems used as a reference. As a matter of fact, the same concept of Management Control Systems (MCS) has not been unquestionably stated yet, and the process of analytical conceptualizations of this area of knowledge could be described as in a constant flux. The reason for this level of ambiguity is probably due to the fact that 'the control needs of the current environment are significantly different from those developed in an earlier period' (Nixon and Burns 2005, 260). Moreover, different types of significant contingent factors are held responsible nowadays, by a vast majority of Authors, for the existence of structural differences between distinct control systems.

Although we are well aware of the criticism expressed by some to Simons' (1995) Levers of Control framework (Ferreira and Otley 2009), we are going to use this structure as the basis for our considerations. Our perspective, based also on direct field experience, is that this framework has ability to provide an outstanding reference for the design and the enhancement of real control systems. Part of this adequateness is linked, in our opinion, to the fact that Simons conceive MCSs as the effect of the interplay of four distinct 'levers' that managers can use to influence people behaviour, and therefore achieve and develop business strategies.

The stress, here, is not on the single components of the system, but on the interactions between each of them: 'The power of these levers in implementing strategy does not lie in how each is used alone, but rather in how they complement each other when used together. The interplay of positive and negative forces creates a dynamic tension between opportunistic innovation and predictable goal achievement that is necessary to stimulate and control profitable growth' (Simons 1995). As a matter of fact, there is a clear distinction between the idea of a Management Control *System* and that of a Management Control *Package*. Managers are normally inclined to set up different control mechanisms, in different times, under the pressure of different interest groups. One of the causes that normally leads to the implementation of new forms of control is undoubtedly represented by changes in legal environment following economic recessions and financial scandals. Malmi and Brown (2008) have correctly stated that the collection of these control mechanisms should not be called a system unless its components are designed and coordinated intentionally.[7] Since in real life the assembly of different control mechanisms is, nonetheless, usually referred as a Management

Control System, this has led the two Authors to define the collection of these different sets of controls and control systems as 'a package of systems.'

In our opinion, one of the main functions of a theoretical framework in this field is to serve to practitioners as an 'ideal' reference for the designing and developing real Management Control Systems. The main idea behind the Levers of Control framework is that the components of the system must be designed and managed as a whole, using a holistic approach. In order to be able to apply such an approach, it is important to correctly understand and properly appreciate the aims of different 'levers' as well as the extension and depth of the possible interplays between them. If the linkages between the components are not adequately managed, then the system has a whole may not fulfil its intended functions and work badly, destroying value instead of maintaining and increasing it.

In this regard, we would like to stress that an early warning system as the one devised by the new Italian Insolvency and Crisis Code has to be classified within what Simons defines as a 'boundary system.' In his view, these systems are set up by manager in order 'delineate the acceptable domain of strategic activity for organizational participants.' Their aim is, therefore, to prevent that members of the organization, even while acting in the pursue of business strategy, can engage in activities that could potentially jeopardize the integrity of the business and dissipate resources (both tangible and intangible) through projects or actions that are not perfectly in line with the company's strategic intentions. At first glance, what differentiates the early warning systems required by the new law from those that could be spontaneously designed and implemented by managers, is their specific focus on the interests of creditors and other external parties, rather than on the sake of the company itself. Nonetheless, it is obvious that being able to fulfil the legitimate request from lenders and other investors is a prerequisite to survival, and therefore to the achievement of strategic goals in the long terms.

More specifically, the early warning systems described in this article pertain to a specific subset of 'boundary systems' that Simons defined as 'business conduct boundaries.' They are normally stated in proscriptive terms, and their specific aim is to ban those activities that could jeopardize the well-being of an organization by exposing it to loss of assets, loss of reputation or legal liabilities. Their effect is therefore 'to block action' or, more properly, 'to avoid that inopportune or wrong actions could be performed.' They keep the system under control, limiting the sets of activities that could be executed.

In this sense they could be metaphorically associated to brakes in a car, if it is agreed that the 'without them, cars (or organizations) cannot operate at high speeds' (Simons 1995).

The problem is that in order to have this 'drive for inaction' adequately compensated, control systems acting in the opposite direction must be implemented. The Levers of Control framework explicitly contemplates this point: as a matter of fact, two of the levers (the beliefs and interactive control systems) are responsible for providing positive energy to the system, while the remaining two (the boundary and diagnostic control systems) determine what could be called 'negative energy.' These two drives in opposite direction have to be adequately considered and managed by managers. As an example, Simons (1995) consider the interplay between Belief System and Boundary Systems in the second part of his book. Both systems aim to motivate employees' opportunity seeking; however, the beliefs systems do that in a positive way through inspiration, whilst the boundary systems do that in a negative way, through the demarcation of the opportunity domain. 'Beliefs and boundaries, if they are to be living systems, must be reinforced continually within the organization. Working together, these two levers create forces of yin and yang. The warm, positive, inspirational beliefs are a foil to dark, cold constraints. The result is a dynamic tension between commitment and punishment. Senior managers drive both processes' (Simons 1995).

One of the problems that could emerge from the adoption of an early warning system required by the Italian Insolvency and Crisis Code could be linked to the fact that these systems are likely to be designed and implemented using a 'package approach' instead of a 'system approach.' This could lead to an underestimation and a lack of understanding of the behavioural effect normally linked to these mechanisms of control. In the absence of a countervailing drive towards actions, these systems could determine a lack of initiatives and therefore provoke a diminished ability to innovate and compete.

Another significant risk is that a bureaucratic and formal approach in the design and use of companies' control systems could prevail. Since many provisions of the new law are directed to Statutory Auditors and give great importance to financial indicators, there is a likelihood that an over emphasis on accounting issues could follow. While formal controls are undoubtedly a core element in the structure of a Management Control System, informal controls as well are important in a system that should be designed to influence organizational performance. Time has passed from when there was no distinction between management accounting and managerial con-

trol (Flamholtz 1996; Merchant 1982). In the meanwhile, the focus of a management control system has clearly shifted from satisfying the needs of the accounting profession to satisfying the information demands of managers, in order to foster rational behaviour. Unfortunately, this fact is not necessarily always understood by Italian SMEs, and sometimes even by some fringes of the accounting profession. In that context, the prevailing idea of control is that of post-action (financial) controls. There is consequently a lack of attention and knowledge on steering and *yes-no* controls, that is to say on forms of control that pursue different aims and work with different logics. These deficiencies in understanding the rationale and the complexity of management control systems could determine confusion between different mechanisms of controls, with an almost assured negative effect on firm's ability to pursue its strategic aims.

One typical example of misunderstanding concerns the differences between Internal Auditing and Managerial Control. According to Simons (1995), internal controls are 'designed to safeguard assets from misappropriation and ensure reliable accounting records and information systems.' They are 'different from boundary systems, which specify risks to be avoided.' Internal controls specify instead the detailed procedures and safeguards for information handling, transaction processing, and recordkeeping. Staff groups typically install and maintain internal controls, which are then evaluated periodically by internal and external auditors. Internal controls are essential to ensure the integrity of the other systems that managers use to implement strategy.

Conclusions

Changes in the legal environment can represent significant opportunities for improving the level of efficacy of Managerial Control Systems. This increase in performance may arise from an increase in the coverage of the systems (so that they put under control a broader set of phenomena or actions) or from an improvement of the functioning logic of existing control mechanism (so that the organizational behaviour prompted by the mechanism itself is closer to the one desired). Such an enhancement, however, is anything but certain, since even the correct implementation of a component of the system could decrease the performance of the systems as a whole, if its relations with other components are not adequately taken into consideration. Therefore, the design and implementation of early warning systems required by the new Italian insolvency and crisis code will determine an increase of the control capability of Italian SMEs only if these sys-

tems are set up using a holistic approach. If this will not happen, chances will turn in missed opportunities, and a series of inappropriate organizational behaviours could emerge.

One of the possible negative effects is that the new rules concerning early detection of crises could determine too narrow a focus on the short period, therefore causing short-termism and a lack of strategic action. The new regulatory framework extends the responsibility for the crisis to the board of statutory auditors (or the single statutory auditor). Therefore, these subjects will have a set of incentives that make them focus on avoiding insolvency risks, with no or little interest in the pursuit of long-term goals. If this drive to short-termism is not properly counter-balanced, the management control systems will probably induce a sort of management myopia.

Another possible negative effect is that a bureaucratic and formal approach in the design and use of companies' control structure could prevail, since generally, among practitioners, there is not enough knowledge and understanding of the rationale of management control systems.

To decrease the probability of these effects is nevertheless possible: one must remember that organizations require complex control systems and that these systems are composed by different parts linked together by different logics in different environments. There is no easy, one-fits-all, way of designing a control system of any kind.

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Notes

1 We refer to the 'Proposal of a Directive of the European Parliament and of the Council on Preventive Restructuring Frameworks, Second Chance and Measures to Increase the Efficiency of Restructuring, Insolvency and Discharge Procedures and Amending Directive 2012/30/EU' (EU Directive COM(2016) 723). At the time of writing, the proposal was finally approved as Directive (EU) 2019/1023 of 20 June 2019.

2 The thresholds for considering a debt exposure as significant are: (a) for the Internal Revenue Service, when the total amount of expired debt for value added tax is equal to at least 30% of the total sales revenue of the same period, and in any case if the debt is greater than an additional threshold differentiated by total sales (more than €25,000 for companies with total sale revenues up to €2 million; more than €50,000 for companies with total revenues up to €10 million; and more than

€100,000 for companies with total sale revenues greater than €10 million); (b) for the National Social Security Institute, when the debtor is overdue by more than 6 months in the payment of national insurance contributions of an amount greater than half of those due in the previous year, and in any case, greater than €50,000; (c) for the tax collection agency, when the sum of the receivables assigned for collection from the debtor and expired by more than 90 days exceeds the threshold of €500,000 for individual businesses, and that of €1 million for partnerships and corporations (article 15).

3 It is interesting to observe that any receivables from shareholders for partly paid shares should be deducted from the equity. Moreover, equity should not include the reserve for cash flow hedge, and, for company adopting IFRS, any equity components deriving directly from 'other comprehensive income' (OCI) items. They include: changes in the fair value of financial instruments (IFRS 9), changes in the fair value of non-monetary assets measured according to the revaluation model (IAS 16), and actuarial gains and losses on employee benefits (CNDCEC 2019).

4 Minimum share capital for corporations in Italy is €50,000, while for limited liability companies it can be as low as €1 or as high as €10,000, depending on the cases.

5 IAS 7 *Statement of Cash Flow* states that interest paid and received 'are usually classified as operating cash flows for a financial institution' but that there is 'no consensus on the classification of these cash flows for other entities' (IAS 7.33). The standard thus allows firms to report cash flows from interest paid in the operating, investing, or financing section of the cash flow statement (IAS 7.31). Other accounting standards, such as US GAAP (ASC 230) and Italian national accounting standards (OIC 10.41) prescribe instead a more rigid classification of cash flows, requiring reporting cash flows from interest paid as operating cash flows.

6 In bankruptcy prediction models, false negatives tend to be more costly than false positives, because in case of a false negative the creditor will extend a loan, and potentially lose 100% of the investment.

7 'As a general conception, a management control systems (MCS) package is a collection or set of controls and control systems. The individual control systems may be more traditional accounting controls such as budgets and financial measures, or administrative controls, for example organization structure and governance systems, along with more socially based controls such as values and culture. Organisations may have numerous controls present, and they all may be used to some extent to align individual's activities with organisational goals' (Malmi and Brown 2008, 287).

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The Role of Venture Capital in the Commercialization of Cleantech Companies

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Venture Capital (vc) plays an important role in the success of their portfolio companies. Small- and medium-sized companies often struggle with the resources required to succeed in the market. vc not only helps companies with the required financing but also provides the knowledge, understanding and expertise required to excel in the market. The study explores vc non-financial value-added contributions in the commercialization of clean technologies. Cleantech is a term associated with the companies involved with technologies, products, processes or services that seek to lower the negative environmental impact by improving efficiencies, reducing waste, encouraging the use of sustainable sources and environmental protection. However, the success of companies operating in this sector, at times, becomes challenging since these technologies are often disruptive in nature, contest business-as-usual practices by inducing efficiencies in the current processes or radically transforming the existing infrastructures. This qualitative case study is based on five companies operating in the Finnish clean technology sector. Data is collected in the form of semi-structured interviews whereas within the case and cross-case analysis approach is adopted to gain a comprehensive understanding of the studied phenomena. This study delineated vc's contribution to technology development, corporate governance, mentoring & industry expertise, recruitment, collaboration & internationalization, acquiring additional financing and certification effect. The findings of this research provide important insights for the industry specialists, managers as well as the scientists involved in this field of research.

Key words: venture capital, non-financial value addition, clean technology, commercialization
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Introduction

Venture capital (vc) can play an important role in assisting companies in successfully commercialize their technologies (Samila and

Sorenson 2010). Klofsten (1999) states that bringing new technologies to the market is a challenging and resource-intensive process requiring a huge amount of money, knowledge, skills and understanding of the market. The evidence suggests that a number of disruptive solutions have failed to become successful in the market due to their inability to cope up with the challenges and complexities faced during the process of commercialization (Bocken 2015). Venture capital can help companies in addressing these challenges by providing necessary financing, knowledge, understanding and expertise required to excel in the market (Hellmann and Puri 2002). The contribution becomes even more important for start-ups and small- and medium-sized enterprises (SMEs) as these are often characterized by limited human and financial resources (Hsu 2006). There is plentiful evidence to support the proclamation that VC involvement was a critical factor in ensuring the effective commercialization of various business initiatives across the globe (Kerr Lerner, and Schoar 2014). However, the having VC on board is not always an assurance for success as there are many examples where collaborating with VC have led to the less desired results, often in the form of failures and bankruptcies of the incumbent companies (Busenitz, Fiet, and Moesel 2004; Gaddy et al. 2017). Research conducted by Popov and Roosenboom (2012) and Hsu (2007) found that collaborating with venture capital has helped companies in developing core technology, finding collaboration partners and improving the legitimacy of the company. On the other hand, authors such as Dimov and de Clercq (2006) and Anokhin, Wincent, and Oghazi (2016) have presented cases where collaboration with VC has adversely affected companies' performance. Ghosh and Nanda (2010), Guler (2007) and Anokhin (2006) studied the causes of the failure and identified that lack of industry-specific specialization, high technology risk, accelerated exit plans or opting for less suitable deals are some of the causes of these failures.

Kaplan and Strömberg (2000) state that the level of VC's involvement and the type of input towards its portfolio businesses may differ in distinctive perspectives and industries. The existing studies have explored VC's contribution in the conventional industries (Dushnitsky and Lavie 2010; Maula, Autio, and Murray 2010; Bertoni, Colombo, and Grilli 2011), however, the literature concentrating on the contributions of VC in the Cleantech is rather limited (Bürer and Wüstenhagen 2009; Marcus, Malen, and Shmuel 2013; Cumming, Henriques, and Sadorsky 2016) and has scarcely been studied in the context of Finland. The novelty of this research, therefore, is that

it seeks to explore VC value-added contributions in Finnish-based Cleantech companies.[1] Finland offers a unique case to study venture capital's value-added contribution in the Cleantech companies for two reasons. Firstly, the country is ranked as one of the leading countries when it comes to innovating new technologies. According to the latest Bloomberg Innovation Index (Jamrisko, Miller, and Lu 2019) and The Consumer Technology Association ranking (2019), Finland is the third most innovative country in the world, while it ranked at number two when it comes to clean technologies (*The Global Cleantech Innovation Index 2017* 2017). The innovation input, public R&D and innovation culture are some of the driving factors, however, the country is found to be lagging behind when it comes to commercialization (Shakeel, Takala, and Zhu 2017). Secondly, the country is considered as a great start-up hub (Business Finland 2019) attracting substantial investments in conventional as well as environmentally friendly technologies (European Chamber 2019; Näyhä 2019). Therefore, it offers an interesting case to explore venture capital's value-added contributions in the Cleantech companies operating in Finland. The remaining parts of this article are structured as follows. The second section presents a literature review, the third section details the methods adopted whereas the fourth section presents analysis followed by the fofth section presenting discussion and conclusion.

Literature Review

VC's non-financial value-added contribution has grown as an important field of research. A number of studies have explored VC contribution to technology development (Chen 2009; Lahr and Mina 2016). The literature on VC is rather rich and comprehensively explains certain types of possible VC input. The review of the literature reveals that collaborating with venture capital can have a mixed result i.e. it can help companies in ensuring success or can also cause companies to struggle. Nevertheless, a vast stream of research concludes that the influence is positive (Samila and Sorenson 2011; Sørheim 2012). Gorman and Sahlman (1989) classify the value-added contributions of VCs and point out that VC support can be observed in finding supplementary financing, strategic development, operational planning, management recruitment presentation to potential customers and suppliers and resolving compensation concerns (Gorman and Sahlman 1989). In their analysis of 20 peer-reviewed articles on studying VCs value-adding performances Large and Muegge (2008) recognize ten different value-adding services

provided by VCs. Contributions made on the external fronts are legitimation and outreach, whereas internal ones deal with recruitment, strategy, consultation, operation, mentoring and mandating.

Burt (1992), Aoki (2000), Gans, Hsu, and Stern (2002) and Lindsey (2002) state that venture capital can also serve their portfolio companies as information intermediaries, ensuring privileged business networking information access and decreasing exploration expenses during the process of pursuing proper cooperation partners. A study conducted by Sapienza, Manigart, and Vermeir (1996) found that relevant industry experience is vital to be able to add more value since their findings have shown that VC investors with experience from the venture's industry provided significantly more value-added than VCs without such specific industry know-how. VCs guru entrepreneurs, using their connections and knowledge, often contribute as referring points and participate in strategic planning (MacMillan, Kulow, and Khoylian 1989; Kaplan and Schoar 2005). Moreover, this reputational effect can be critical in encouraging potential stakeholders to participate in the venture's further development (De Clercq et al. 2006). Additionally, VC's informational advantages could improve timing in realizing the collaboration process as well as start-up patent productivity (Kortum and Lerner 2000). Fried and Hisrich (1995), in addition to the elements mentioned before, included moral support and discipline as a significant aspect of VC's contribution provided to the portfolio companies. Moreover, start-ups are often not yet satisfactorily developed to the extent that they could attract partners for collaboration on its own. Collaborating with VC can help in establishing contacts and finding partners. Major literature on the role of VCs has highlighted their capability to professionalize employment customs and human resources management (Cyr, Johnson, and Welbourne 2000; Hellmann and Puri 2002) as well as corporate governance (Lerner 1995; Baker and Gompers 2003).

Though, innovative technology solutions often struggle with a so-called 'valley of death' between research supported by the government and commercialization (Frank et al. 1996). To overcome this obstacle and to find a way to capitalize on the early stages of commercialization, characterized by a high level of risk, entrepreneurs usually seek to partner with VCs (Gompers and Lerner 2004). It is important to note that the interest of the venture company usually comes from the so-called 'exit' procedure (Megginson and Weiss 1991; Lerner 1994), which is generating a return through an initial public offering (IPO) or even a merger and acquisition by another

company. Therefore, VC often enhances this procedure. Hsu (2006) argues that VC support is positively correlated with the probability of a portfolio company obtaining an IPO.

In general, VC as a financing institution improves start-up performance (Kaplan and Strömberg 2003). Kelly and Hankook (2013) in their empirical study found out that VC's financial support fosters both accelerated company's development as well as processes of innovation and commercialization of a given initiative. Moreover, it is important to note that VCs are not just passive investors (Samila and Sorenson 2010). Many studies concluded that VCs are critical contributors not only in filling the financial gap but also in providing value-adding services such as technological, managerial and financial support or industry-specific networking as well as understanding of foreign markets (Florida and Kenney 1988; von Burg and Kenney 2000; Caselli, Gatti, and Perrini 2009; Bertoni and Tykvova, 2012; Dubocage, Rivaud-Danset, and Redis 2012). As can be observed, VC's contribution is of various and wide-range forms, and in the rapidly changing environment it is difficult to determine and put them all together, which simply means that any list of such types cannot be treated as exhaustive.

Methods of the Study

The aim of the study i.e. to explore venture capital value-added contribution in the commercialization of Cleantech companies and to study the phenomenon in the natural setting makes qualitative case study a suitable research approach. The case study approach is an appropriate strategy in the studied context as it provides researchers with an opportunity to study the phenomenon in detail to address the questions at hand. The purposive sampling technique was implemented to identify cases (Ritchie et al. 2013). We have studied five firms operating in the Cleantech sector in Finland, each accounting for an individual case. The incorporation of multiple cases not only provides an opportunity to enhance the validity and reliability of this research but also allows studying the cases in detail and identifying similarities and differences between each case (Eisenhardt and Graebner 2007). The details of companies and their operations are provided in table 1.

The data collection was done in the form of semi-structured interviews. The approach provides researchers with the luxury of obtaining rich information while being focused on the studied context. The respondents were either founder/CEO/board of the directors of the companies, thus had solid knowledge about the firm's history,

TABLE 1 Case Companies Details

Company*	Core technology	Founded
A	Ceramic anode-supported solid oxide cells and stacks	2002
B	Dynamic compensation solutions for power quality, energy efficiency, and grid connections	2010
C	Solid oxide fuel cell (SOFC) systems for distributed power generation	2012
D	Wave energy converters generating direct-to-grid electricity	2008
E	Auxiliary wind propulsion for ships	2012

NOTES *The names of the companies are replaced with letters to ensure anonymity.

operations, and strategic plans. The companies were asked to provide detailed account of contributions the venture capital has made on different fronts, the concerns they had and the challenges faced. The interviews were transcribed and the summary was shared with the interviewees to avoid any misunderstanding as well as to ensure that their viewpoint is well understood and presented.

The data triangulation technique was implemented to enhance reliability and ensure the accuracy of the findings. The sources of supplementary data include case companies' websites, press releases, news articles, and industry analysis. Within case analysis and cross-case analysis methods have helped in scrutinizing each case as well as to perform a comparative analysis of case companies.

Analysis – VC Contribution Categories

The VC firm's value-added contribution can be observed in various forms. Table 2 presents the VC value-added contributions observed in the case companies. We have grouped each VC contribution category into three levels based on venture capital's contributions. To recognize the extent of contribution and the amount of engagement, we have scaled the contribution from insignificant, to moderate, and high. Insignificant refers to minimal to no contribution, while high means that the VC has contributed significantly. Moreover, we have developed a Venture Capital Contribution Matrix (figure 1), taking into account both the extent and engagement levels. Engagement refers to whether a VC has been directly involved in the process, contributed indirectly, or not played any role in the investigated aspect at all. In order facilitate the analysis and ensure the readers' understanding of our research outcomes, we have indicated a representative capital letter for each contribution category in the first place, and they are following: T – Technology Development, R – Recruitment, I – Internationalization and Cooperation, F – Financing, G – Corporate

TABLE 2 Venture Capital's Contribution Categories

High	Moderate	Insignificant
Corporate governance, monitoring & industry expetise	Certification, recruitment, cooperation & internationalization	Techology development, additional financing

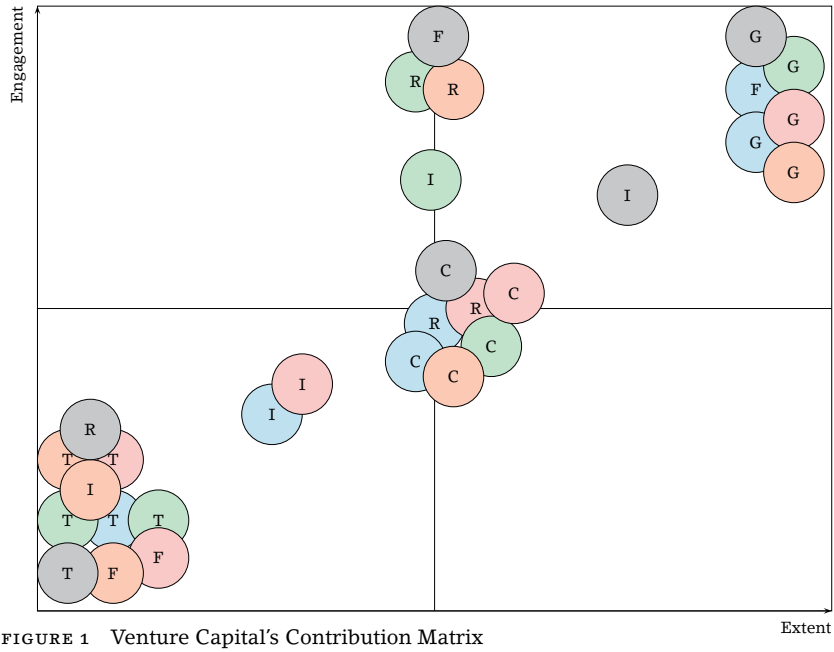

FIGURE 1 Venture Capital's Contribution Matrix

Governance, Mentoring & Industry expertise, and C – Certification effect. After that, we presented the findings in the context of each Case Company by grouping them by colors, which are the following: A – green, B – blue, C – pink, D – orange, E – gray.

TECHNOLOGY DEVELOPMENT

Technology development can be one of the value-added benefits that VC brings to the company as suggested by (Pradhan et al. 2019). However, in our study, we have hardly seen any VC activity attributing to the direct development and shaping of the technology. Due to the complex nature of the technologies, the valuable input that can help in shaping the technology can only come up from someone who is either an expert in the field, has been working with the technology or knows the technical aspects.

The characteristics of the technology and the extent of technical

understanding needed to make valuable contributions in technology development is the key reason why we have seen very little to no value added contribution by the VC.

CORPORATE GOVERNANCE, MENTORING & INDUSTRY EXPERTISE

Improving the strategy and setting strategic orientation right is found to be one of the key contributions by the VC firm. The technology-based start-ups are formed by a team of technical experts, generally found to be lacking understanding of the business know-how. The portfolio companies have ranked VC contribution in this domain as of high importance. Mostly the fact of having a VC representative on the board of directors is highly appreciated by its companies. The companies which are in the early stages of development are usually running low on resources and success is often connected to supportive policies and infrastructure support. The VC companies being well connected to the industry and having knowledge of the market can provide valuable information that can help mitigate the effect of such asymmetries. The market knowledge of the VC encouraged its portfolio companies to fasten the process and develop the technology quicker and better than the competitors. Access to the resources necessary to perform various tasks is also a valuable contribution that VC brings to the table. Moreover, a fact of having past experience of working with a firm ensures that the portfolio company can immediately find the required resources without needing to go through an extensive market search process and finding a reliable partner. It reduces the time, efforts and associated transactional costs.

RECRUITMENT

Team building is one of the domains where VC tends to contribute. The contribution may come in the form of recruiting new people, making changes in the top management or restructuring of the core team. The VC is mostly active in assisting with profiling and suggesting what sort of person could be suitable, which sectors to look at, how much resources should be dedicated and how the compensation plan should be. However, in the example of one case company, VC was directly involved in the recruitment process, as there came a time when they needed to establish an office in Finland. The VC helped the company in setting up the office, building a competent team and discussing on setting compensation packages. Similarly, in the situation of another firm the suggestion was made that the company should look to hire a new CEO. At the same time, the existing

CEO, an engineer knowledgeable in technology development could have more time to spend on improving the technology, reducing the cost and making it more efficient. The new CEO was proposed by the VC.

COLLABORATION & INTERNATIONALIZATION

Working with VC can offer an excellent opportunity to collaborate with the portfolio companies who are in a relatively similar stage of development and operating in similar markets. In the case of its two companies, the VC firm provided an opportunity to collaborate with each other to develop the technology further, share their experiences and learn from each other. Nevertheless, the collaboration should be a voluntary act and firms involved in partnership should decide by themselves whether or not they wish to establish such type of cooperation.

Moreover, internationalization is an important area where VC can assist companies (Lutz and George 2012). Due to the small local market, technology companies have very little choice apart from looking for customers and projects in the international market. VC has used its connections to find partners to expand its portfolio companies' operations.

ACQUIRING ADDITIONAL FINANCING

VC supports companies in fulfilling their financial needs through an investment. However, in most of the cases, VC is not the only investor in a portfolio company. The company may need additional financing from different sources such as bank loans, business angels, crowdsourcing, and grants. VC can help companies in finding this additional financing, as witnessed in the situation of one case company, which acquired financing from two VCs. The second VC firm was involved in the process through the connection initiated by the first VC. In the instance of another company, VC assisted the company in applying for an EU grant. Similarly, in one case company, the VC used its connections and involved a multinational business entity to invest in its portfolio company.

CERTIFICATION EFFECT

Improving the company's image and the legitimization is similarly an essential aspect that VCs contribute. Having VC on board, in itself, signals the company has a potential and the technology may offer a unique value proposition. In such situations, having a VC on board

is certainly helpful. However, in some cases, it may not have the expected outcome. This is no secret that VCs' investments in the portfolio company are for profit-oriented and thus they are constantly looking for the exit procedure. This situation might be concerning for prospective allies if they are seeking for a long-perspective partnership.

Discussion and Conclusion

This section concisely presents the extent to which VCs have provided a benefit to the portfolio companies. The analysis highlights that shaping the strategic orientation right is one of the contributions that has been valued highly, both by the case companies and the VCs. The understanding required keeping the business operations running optimally, taking care of business, marketing, and management related issues often seemed lacking within the core teams, comprising mostly of technical experts. The VCs' experience and expertise in working with such projects can bridge this gap. The additional challenge that companies face in Finland is a small domestic market (de Jong et al. 2015). The companies often feel a need to go international from a very early stage to thrive and gain access to a large customer base. VC can provide market knowledge, network, and contacts needed to make these big steps in the foreign markets.

The analysis reveals the importance of having open communication between the portfolio companies and the VCs regarding how the business should be taken further. A company having a VC on board may leave the business-related activities like financing, finding partners and strategy setting for the VC so that the core team could focus on the technology development aspects. Moreover, when it comes to creating trust, collaborating with VC has a dual consequence. A VC can help in establishing sureness with the prospective partners who are fearful of companies' resources; however, it can also result in uncertainties for those who wish to form long-lasting business alliances with a VC-backed firm.

Notes

1 Cleantech is a term associated with the companies involved with technologies, products or services that seeks to lower the negative environmental impact by brining efficiencies, reducing waste, encouraging the use of sustainable sources and environmental protection. Cleantech companies can be characterized by high investments ventures, usually operates in rapidly changing business environment, have relatively longer payback time and often require adaptive changes in the existing infrastructure.

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Abstracts in Slovene

Eksperimentalno raziskovanje šol kot učečih se organizacij: primer Romunije

Gabriela Alina Paraschiva in Anca Draghici

»Učeča se organizacija« je eden izmed organizacijskih modelov, ki so ga razvili v akademskem in poslovnem okolju, da bi podjetjem zagotovili ustrezno pomoč pri reševanju potreb po prilagajanju in preživetju. Doživel je številne dopolnitve – od preoblikovanja glede na določene poslovne organizacije, do povezav z neprofitnimi organizacijami – bolnišnicami, javno upravo in celo šolami in univerzami. V skladu s konceptom »šole kot učeče se organizacije« (ŠUO) in modela, predlaganega s strani OECD-UNICEF, prispevek išče odgovor na vprašanje, v kolikšni meri ključne značilnosti učečih se organizacij v Romuniji že obstajajo. Temelji na predhodno pridobljenih rezultatih teoretičnega pristopa, ki je pokazal, da je približno izhodišče mogoče opredeliti s pomočjo kazalnikov uspešnosti in deskriptorjev, dokazano povezanih z dimenzijami in ključnimi lastnostmi ŠUO modela OECD-UNICEF. Sedanji pristop je eksperimentalen in temelji na vzorcu 238 mestnih in podeželskih šol, ki so bile zunanje ovrednotene v prvem semestru šolskega leta 2018–2019. Rezultati so pokazali, da se minimalne stopnje pojavnosti številnih ključnih značilnosti ŠUO nahajajo v območju med 30,67 % in 73,10 %. Dejstvo, da so bili podatki pridobljeni s pomočjo zunanjega in tudi notranjega ocenjevanja šol, katerega namen je bil določanje stopnje ponujenih izobraževalnih storitev, predstavlja določeno oviro, saj pomeni, da ocenjevanje ni bilo posebej namenjeno prepoznavanju značilnosti ŠUO.

Ključne besede: šola kot učeča se organizacija, stopnja pojavnosti ključnih značilnosti, zunanje-notranje vrednotenje
Management 14 (4): 257–270

Institucionalni okvir za ekonomijo znanja v državah Srednje in Vzhodne Evrope

Matjaž Nahtigal in Isaac Stanley

Namen te raziskave je opredeliti institucionalni okvir – ekonomski, pravni, regulatorni, izobraževalni – za države Srednje in Vzhodne Evrope, ki si prizadevajo doseči raven vključujočega in na znanju temelječega gospodarstva ter družbe, kot je poznana v nekaterih najbolj naprednih predelih po svetu. Izziv doseči takšno raven razvoja je dvojen. Celo v najbolj naprednih delih sveta je možno opazovati naraščajoč razkorak med tehnološko, organizacijsko in finančno naprednimi podjetji ter preostalim delom gospodarstva. Močna koncentracija znanja, tehnologij in organizacije napredne proizvodnje poteka le v maloštevilnih

vodilnih regijah. Preostali del gospodarstva in družbe ostaja organiziran v skladu s tradicionalnimi ekonomskimi, družbenimi in managerskimi praksami. Izziv za odločevalce v teh naprednih gospodarstvih in družbah je, kako razširiti te napredne prakse na izključene sektorje gospodarstva in družbe. Kot prikazuje nedavno poročilo NESTA o ekonomiji znanja, bi takšno prestrukturiranje zahtevalo velik preobrat pri institucionalni organiziranosti tržnega gospodarstva. Krepitev politike konkurence, izboljšave pri tehnoloških politikah, decentralizirana partnerstva med javnimi in zasebnim sektorjem ter institucionalne inovacije lastniških struktur so nujni elementi pri razširjanju dobrobiti ekonomije znanja na celotno gospodarstvo in družbo. Z vidika razvijajočih se držav, vključno z državami Srednje, Vzhodne in Južne Evrope, je izziv pred odločevalci še toliko večji: kako preseči razvojni razkorak med razvitimi in razvijajočimi se družbami, kako preseči pot odvisnosti ter kako vzpostaviti vključujočo moderno ekonomijo znanja in družbe. Le visoko kakovostne javne institucije, odgovoren in proaktiven javni sektor, strateško decentralizirana koordinacija med javnim in zasebnim sektorjem ter institucionalna imaginacija lahko vodita v smer vključujočega razvoja. Verjetnost vzpona iz (pol)periferije postaja vedno manjša po več desetletjih zamujenih priložnostih, toda zastavki so visoki. Le uspešno institucionalno, ekonomsko in družbo prestrukturiranje razvijajočih se držav vodi k bolj uravnoteženem, bolj trajnostnem in bolj raznolikem razvoju svetovnega gospodarstva.

Ključne besede: Srednja in Vzhodna Evropa, ekonomija znanja, raznoliki institucionalni finančni modeli, institucionalne inovacije
Management 14 (4): 271–287

Razvoj kompetenc v teoriji in praksi: kompetenca, meta kompetenca, prenos kompetenc in razvoj kompetenc v njihovem sistematičnem kontekstu

Christoph Bach in Rozália Suliková

V prispevku se postavlja vprašanje, zakaj se znanje, pridobljeno z nadaljnjim izobraževanjem le redko uporablja pri operativnem in vsakodnevnem poslovanju. Avtorji se ne želijo omejiti le na to vprašanje, temveč se osredotočajo na prenos znanja, pridobljenega med usposabljanjem in na to, kako naj bodo usposabljanja strukturirana, da bi do prenosa sploh lahko prišlo. V ta namen je sprva uporabljen izraz »kompetenca«, ki pa ga ne kaže zamenjati z izrazom »znanje«. Bolj ustrezen izraz za kompetenco bi bil »uporabno znanje.« Sledi koncept meta kompetence. Meta kompetenca je sposobnost uporabe kompetenc, kar je še posebej v interesu vodstvenih delavcev. Na koncu sledi še opis prenosa kompetenc, oziroma sposobnosti uporabe pridobljenega znanja v praksi. Klasična usposabljanja ne omogočajo povezovanja znanja s prakso, ker prenosa kompetenc skorajda ni. Zato je proti koncu tega dela predstavljen učni ukrep, ki sistematično aktivira pre-

nos kompetenc in se nanj tudi osredotoča. Bolj ustrezno poimenovanje tovrstnega usposabljanja bi bilo »razvoj kompetenc«.

Ključne besede: usposobljenost, meta kompetenca, prenos kompetence, razvoj kompetence
Management 14 (4): 289–304

Sistemi zgodnjega opozarjanja: tveganje za povečanje vodstvene kratkovidnosti?

Michele Bertoni, Bruno De Rosa in Laura Peressin

V Italiji je bil pred kratkim sprejet nov Zakonik o plačilni nesposobnosti in krizi (zakonodajni odlok 14/2019), ki uvaja obvezen sistem zgodnjega opozarjanja za odkrivanje nastalih kriz. Nove določbe so v skladu s politikami EU, ki od držav članic zahtevajo razvijanje nacionalnih okvirjev plačilne nesposobnosti, ki naj bi podjetja v finančnih težavah usmerili v prestrukturiranje že v v samem začetku krize (Direktiva EU COM (2016) 723). Cilj novih pravil je v največji možni meri preprečiti plačilno nesposobnost in s tem povečati skupno vrednost upnikom, zaposlenim, lastnikom in gospodarstvu kot celoti. Nova pravila pomenijo večjo odgovornost za nadzorne organe korporacij, zato na splošno velja, da je njihov vpliv na italijanske sisteme nadzora upravljanja MSP izjemno velik. To je vsekakor treba pozdraviti, saj je na tem področju potrebnih še mnogo izboljšav. Kljub temu pa se pojavlja tudi nekaj pomislekov. Obstaja možnost, da bi lahko zaradi osredotočanja na podatke, pridobljene s pomočjo kazalnikov zgodnjega opozarjanja prihajalo do nesporazumov in celo zlorab. Prevlada lahko birokratski in formalni pristop pri oblikovanju in uporabi kontrolne strukture podjetij, saj v praksi pogosto ni dovolj znanja in razumevanja utemeljenosti sistemov vodenja nadzora. Pri uporabi različnih vrst nadzora, kot so nadzorni ukrepi, krmilni mehanizmi in da/ne preverjanje, zlahka pride do nesporazumov, kar ima skoraj zagotovljeno negativen učinek na sposobnost podjetja, da sledi svojim strateškim ciljem. Nesporazumi in nepravilnosti lahko nastajajo tudi zaradi nedorečenega razmerja med upravljavskimi nadzornimi sistemi na eni strani in notranjo revizijo na drugi: njihove vloge in cilje je treba jasno razumeti in jih ločevati, čeprav v skupnem okviru. To razlikovanje je izrednega pomena, saj z novim zakonom spremljanje nastale krize ni več le odgovornost vodilnih, temveč tudi nekaterih drugih subjektov: sveta zakonitih revizorjev (ali enega samega zakonitega revizorja). Pričakovati je torej mnogo spodbud za preusmeritev pozornosti na izogibanje tveganju plačilne nesposobnosti, zmanjšal pa se bo interes za zasledovanje dolgoročnih ciljev, kar lahko vodi k kratkoročnosti in pomanjkanju strateških ukrepov. Kazalniki zgodnjega opozarjanja so gotovo koristni, saj jih je mogoče uporabiti kot diagnostično obliko nadzora, pa tudi kot strateško orodje za vnaprejšnje odkrivanje razvoja okolja in konkurence. Jasno je, da je treba v obeh primerih upoštevati različne sklope parametrov in – kar

je še pomembneje, različne logike in načine njihove razlage. Na žalost je mogoče, da se nova pravila glede zgodnjega odkrivanja kriz kratkoročno osredotočajo na preozko področje, zato lahko vodijo do kratkovidnosti pri upravljanju. Prispevek želi na podlagi uporabljene literature razviti nekaj napotkov za boljše razumevanje namenov in utemeljitev različnih vrst vodstvenega nadzora, zato bi lahko bil v pomoč izvajalcem pri načrtovanju sistemov vodstvenega nadzora na bolj informiran in uravnotežen način.

Ključne besede: sistemi zgodnjega opozarjanja, kriza, upravljalni nadzorni sistemi, diagnostično in strateško merjenje uspešnosti, obvladovanje tveganj, kratkoročni menedžment upravljanja
Management 14 (4): 305–323

Vloga tveganega kapitala pri komercializaciji podjetij Cleantech

Shah Rukh Shakeel in Oskar Juszczyk

Tvegani kapital (TK) igra pomembno vlogo pri uspehu portfeljskih podjetij. Mala in srednje velika podjetja se pogosto spopadajo s pomanjkanjem sredstev, potrebnih za uspeh na trgu. TK podjetjem ne pomaga le pri potrebnem financiranju, temveč zagotavlja tudi znanje, razumevanje in strokovno znanje. Študija raziskuje nefinančne prispevke TK z dodano vrednostjo pri komercializaciji čistih tehnologij. Cleantech je izraz, povezan s podjetji, ki se ukvarjajo s tehnologijami, izdelki, postopki ali storitvami za zmanjševanje negativnih vplivov na okolje z izboljšanjem učinkovitosti, zmanjševanjem količine odpadkov, spodbujanjem uporabe trajnostnih virov in varstvom okolja. Vendar pa se uspeh podjetij, ki delujejo v tem sektorju, včasih spremeni v izziv, saj so tovrstne tehnologije pogosto moteče in izpodbijajo običajne prakse s spodbujanjem učinkovitosti v obstoječih procesih, ali s korenitim preoblikovanjem obstoječe infrastrukture. Ta kvalitativna študija primera je bila izvedena na primeru petih podjetjih, ki delujejo v finskem sektorju čistih tehnologij. Zbiranje podatkov je potekalo v obliki polstrukturiranih intervjujev, medtem ko je bil v okviru primera in pristopa k analizi primera uporabljen pristop celovitega razumevanja. Študija predstavlja prispevek TK k razvoju tehnologije, korporativnemu upravljanju, mentorskemu in industrijskemu strokovnemu znanju, zaposlovanju, sodelovanju in internacionalizaciji; prisoten je tudi vpliv na financiranje in certificiranje. Ugotovitve raziskave omogočajo pomemben vpogled v tematiko tako strokovnjakom v industriji, vodstvenim delavcem, kot tudi znanstvenikom, ki delujejo na tem raziskovalnem področju.

Ključne besede: tvegani kapital, dodatek nefinančne vrednosti, čista tehnologija, komercializacija
Management 14 (4): 325–339