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Human Resources Development in Times of Digitalization: A Dynamization Agenda

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Content

Digitalization turns out to be one of the most influential megatrends of the beginning 21st century. Recent empirical studies imply, however, that companies still do not prepare appropriately for digitalization, neither in their strategies nor in their HRM systems. Human resource development is called to address the digitalization readiness of employees. How can it contribute to create an overall fit between learning content, learning methods and the existing dynamization challenges? This article will follow a dynamics-oriented approach that serves to increase the preconditions for the employees' digitalization fitness, leading to an updated human resources development agenda.

Keywords: digitalization, dynamization, human resources development, digital divide

JEL classification: M12, M53, O15, O33

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1. Digitalization as Challenge

The central theme of the 7th iCOnEc Conference 2015 in Craiova/Romania is "Competitiveness and Stability in the Knowledge-Based Economy". This headline focuses on the main challenges of contemporary management, i.e. gaining and retaining competitiveness by the means of knowledge and competences. And as a matter of fact, the long history of strategic management is a history of improving the conditions for corporate success in terms of the market-based view (e.g., formulating market strategies, managing market barriers), of the resource-based view (e.g., creating sustainable competitive advantage through people, organization and networks) and of the dynamic capabilities research (e.g., ensuring competitive survival).

Nevertheless, the focus on "stability" triggers ambiguous reactions. On the one hand, there is an overall consensus that stabilizing profitability is absolutely essential. But on the other hand, it is almost a commonplace that stable conditions simply do not exist. The current situation at the beginning of the 21st century has to be characterized as non-stability. Emerging waves of technological basic innovations, well-known as "Kondratiev Waves" (e.g., *Stein* 2009), enable economic agents to re-develop or to alter their business models. In particular the "5th Kondratiev", the raise of information technology and digitalization since the 1980s, has changed unexcited national markets to highly competitive globalized markets. Companies are facing accumulative stakeholder demands such as regulation, governance and transparency. The always changing environment repeatedly requires strategic re-positioning and the ongoing prioritization of multiple objectives such as profit, goal attainment, legitimacy, securing of resources, growth, image, attractiveness as employer, survival etc. This also translates into the companies where demographics, skills shortages and the war for talent leave marks among the workforce and the management of human resources.

Taking a closer look at the digitalization, it is defined as the digital representation of signals, information, and objects in binary code (e.g., *Castells* 2010), enabling computer processing as a basic technology and fostering convergence among technological applications of diverse fields of application. Digitalization has penetrated all spheres of life (*Schmidt/Cohen* 2013; *Toygar/Rohm Jr./Zhu* 2013), for example the contemporary media world, the contemporary business world or contemporary automated production. In the sense of spillover effects, It offers benefits also for traditional spheres by making more effective and more efficient resources available (*McQuail* 2010). Industry 4.0, the internet of things or ubiquitous computing make it a digital megatrend. But digitalization has also a dark side, since it created new inequalities between individuals, social groups, organizations and nations in regard to digitalization infrastructure, investments in technological equipment, and digitalization skills – the so-called "digital divide" (*McQuail* 2010: 555).

Not every company has yet understood the wide reach of the digitalization megatrend. A recent empirical study on 1,000 German SME (*GfK Enigma* 2014) reveals that for 70 percent of German SME with turnover less than 5 million Euro, digitalization has no or next to no future relevance in the production and value creation process, and in only half of the German SME with turnover less than 125 million Euro, digitalization is part of the corporate strategy. Consequently, SME turned out to be unwilling to invest in IT significantly and do not see immediate pressure for action. This clearly shows the alarmingly low relevance of digitization in business strategy. Digitalization seems to be a blind spot to many companies, not being on the radar screen of small and medium-sized enterprises.

This behavior is dangerous, because it initiates a vicious circle: not perceiving the future relevance of digitalization leads to ignorance and inactivity that will result not only in a weak innovation capacity, but also in employer unattractiveness on the labor market. Consequently, the company fails in attracting new employees and managers with digitalization competences with that adverse selection causing even more ignorance and inactivity…

In this conceptual article, I will only focus on one single facet of this broad issue, the appropriate preparation of the employees' digitalization readiness. Employees are crucial for corporate success because they have to carry out the adjusted business strategies in the digitalized economy. Therefore, I will deal with human resource development. How has HRM to react in order to become fit for the future of digitalized competition? Which consequences does the digitalization megatrend have for corporate HRM, in particular for people development and training? I will propose a dynamics-oriented approach that serves to increase the overall digitalization fitness especially of (but not limited to) small and medium-sized companies, leading to an updated human resources development agenda.

2. Dynamization as Framework

Digitalization is not the only challenge that will decide about the future economic success of companies. Networking, automation, increase in mobility, socio-structural shifts and still the globalization – all this means a major increase in dynamics (*Virilio* 1989) as the new normalcy of and in organizations (*Farjoun* 2010: 206). Dynamics can be seen as a fundamental constant in our world.

Dynamics is opportunity because something new arises. But dynamics is also a thread because of the fallacies of complex systems (*Dörner* 1989): the uncertainty of the novelty, the vast abundance of interconnected system elements and feedback loops, the unexpected non-linear and even exponential progress of system behavior, intransparent cause-and-effect relationships, unpredictable side effects and secondary effects, and a lack of steering competence, for example oversteering without recognition of the system's internal dynamics and the system's braking behavior. It is no coincidence that people and businesses frequently try to avoid dynamics and to create order, stability and standardization instead.

Recently, dynamization started to be developed into an HRM-related research program (*Stein/Müller* 2012). In this context and in order to grasp the dynamization challenge, an operationalization is required. Applying a systematic approach that covers multiple organizational perspectives as conceptual anchors (*Scholz, C.* 2000), six connotations of dynamization are proposed (*Stein* 2012):

- *More dynamic in the sense of 'more differentiated'.* This connotation is looking at goals, tasks and structures. Internal and external stakeholders are continuously changing their demands, new stakeholders emerge over time. It is essential for a dynamic system that it is persistently able to establish and retain multiple and differentiated fits between the stakeholders' demands and the own objectives, structures and tasks.
- *More dynamic in the sense of 'faster'.* In a dynamic system, the processes have to accelerate. It is critical for the system success that the completion of a process takes place as fast as possible. Process management, process automation and process controlling are to become approximately real-time. Due to organizational inertia, such velocity has constantly to be developed and fostered.
- *More dynamic in the sense of 'more versatile'.* This connotation focuses on the long-term change of a dynamic system. Depending on the emerging situation, existing solutions that have worked for a long time may no longer be appropriate. A dynamic system must be able to develop proactively and to open itself towards creative destruction.
- *More dynamic in the sense of 'more strategically agile'.* Focusing the change culture, a dynamic system can be characterized by values such as breakup and risk appetite, but, however, oriented at the long-term rationale of strategic sustainability so that the investments and risks are worthwhile taking them. Breakups that are perceived to be necessary have to be

balanced with the requirements of long-term strategic sustainability and competitive survival.

- *More dynamic in the sense of 'more methodologically competent'.* Dynamization also affects the knowledge base and learning. Outdated knowledge becomes obsolete and new knowledge has to be learned. But it is also necessary to use methods of "thinking in dynamics", i.e. in time periods rather than in points of time, and to apply future-directed methods such as simulations.
- *More dynamic in the sense of 'more flexible'.* Regarding the conceptual anchor of cooperation and collaboration, dynamic systems with multiple resource dependencies and many interconnected partners in system-spanning networks need not only to provide resources with minimal lead time when aiming to adapt to short-term opportunities, but also at that place where the demand is urgent and resource allocation promises optimal resource effectiveness and the creation of synergies. Therefore, the demand-oriented and still transparent and accountable resource allocation has to be managed.

In business reality, these six connotations of dynamization exist simultaneously and are highly interconnected. They will serve as a framework for the further determination of human resource development advancements pointing at the digitalization challenge.

3. Updated Human Resources Development Agenda

Based on the framework introduced above, the needed update of the human resources development agenda covers new contents as well as new methods of learning. The question that arises now is: Is there an overall fit between learning content and the existing digitalization challenges?

The learning content focuses new dynamization capabilities – recently discussed in management literature (e.g., *Ali/Peters/Lettice* 2012; *Findler/Gorbis* 2013; *Lewis/Andriopoulos/Smith* 2014) – that employees need in order to work efficiently in a digitalized environment. They are to be systemized along the six dynamization connotations:

- *More differentiated:* In order to cover multiple intersections to stakeholders, the needed learning contents refer to interdisciplinary, transdisciplinary or intercultural competences and, therefore, to everything that serves to overstep one's scope of work bounds. Employees have to be trained to exceed limits, regardless if they occur between different areas of work, between various technological system worlds, between practice and science, between input logic and output logic, between cultural traditions. The learning about personal, organizational and technical interfaces has become as important as the learning within the own field of work.
- *Faster:* Learning contents capture actions related to the strengthening of employees towards faster problem solving without increasing the error rate in the processes. The robustness of solutions can be reached if computer-based process support is trained. The competence of situational adaptive thinking in connection with distributed, decentralized decision-making can lead to accelerate processes.
- *More versatile:* Learning contents take up the employees' awareness of and willingness to change. The respective motivation can be supported by learning complex systems thinking and understanding path dependency and self-organization. This removes uncertainty and leads to a reduction of past orientation and persistence. Participatory change management skills can spread not only among the change leaders but also among all employees.
- *More strategically agile:* Learning contents for a long-term sustainability of dynamics refer to the development of sense of dynamization. This implies to be able to classify activities,

events and experiences and to connect them with a reasonable long-term vision of the future development, resolving inherent contradictions between short-term flexibility and long-term strategy (*Doz/Kosonen* 2010). This also means the training of social intelligence for change and transition, of communication skills related to change dynamics and of non-tabooing of the related conflicts and team dynamics. Also the dangers and pitfalls of digitalization and the digital divide (e.g., *Yu* 2006) have to be discussed, for example IT security, data protection, legal restrictions and social consequences.

- *More methodologically competent:* The needed learning contents mainly concern the consistent orientation of human resources development towards digitalization skills. Key competences are skills in understanding computer-based process model design, programming and simulation. Moreover, each employee must be able to handle the newer social media that increasingly replace traditional media, and be able to deal with them effectively in the sense of a digital and new media literacy (e.g., *Littlejohn/Beetham/McGill* 2012), for example coping with information overload and critical information selection. Finally, also meta-learning skills on dynamic capabilities learning within a dynamic system can be trained.
- *More flexible:* Employees need to learn virtual cooperation and collaboration skills – from distributed value creation to the factual and communicative reintegration of process results. Representing dynamic capabilities of resource allocation, further learning contents are the management of network-related resource constraints in terms of a multi-project management, the allocation of slack resources (*Stein/Klein* 2010) and cloud working.

These updated learning contents in the sense of dynamization capabilities will be raising awareness of digitalization-related problems and opportunities. They have to be mirrored by respectively digitalization-oriented learning methods, in particular by those that apply the advancements that digitalization has brought – and still brings – along for teaching and education:

- *More differentiated:* Learning methods need to provide for a diagnosis of as well for an orientation towards individual competence gaps, since a more differentiating behavior is only possible if the employee can act in her/his specific context and overcome individual restrictions. Learning methods aiming at digital creativity also need a transdisciplinary learning environment (*Hugill/Smith* 2013).
- *Faster:* In order to accelerate learning itself and prepare for digitalization, learning methods are appropriate if they integrate pedagogical advancements in computer-based learning (e.g., *Vandewaetere/Vandercruysse/Clarebout* 2012) and imply the simultaneity and parallelization of various learning situations and learning contents.
- *More versatile:* The appropriate learning methods cover experimental learning that can help to anticipate and develop different scenarios of change and assess its consequences, learning simulations as well as gamification (e.g., *Simões/Redondo/Vilas* 2013) in order to support user engagement. Moreover, human resources development has to cover the younger executives of the company strategically, sending them for example to Executive MBA programs of university business schools, to prepare them for the competent representation of the changing environmental challenges and for a substantial leadership.
- *More strategically agile:* Learning methods are supposed to give room for critical discourse and collective sense-making on dynamics and on digitalization and support the decoding of the social construction of digitalization (e.g., *Selwyn* 2012).
- *More methodologically competent:* There is a need for learning tools that apply digitalization and new media, for example e-learning platforms, digital learning success monitoring and mobile learning apps (e.g., *Sha et al.* 2012). At a meta-level, big data-analysis of learning necessities can help to identify patterns of competence gaps.

- *More flexible:* Employees need to learn cooperatively in social groups, for example issue-specific learning clusters, that partly exceed the boundaries of single companies.

This requires that also the human resource developers and trainers will become experts in digitalization, new media and the understanding of dynamization.

4. Conclusion

It is forseeable that companies will benefit from dynamization capabilities and digitalization fitness of their employees. Updating the human resources development towards digitalization leads to more anticipation, more proactivity and more modernity in order to break the vicious circle of missing the future. Overall, this new agenda will be able to contribute to the professionalization of the HR function (*Stein* 2010), making it less static and supporting it to cope with the increasing complexity of systems and of control (*Scholz, T. M.* 2013).

In general, dynamization has influenced and will even stronger influence research. This is not primarily due to the fact that everything is becoming more dynamic, but due to the fact that technological progress allows us to cope with dynamization and to make up for lost time. Digital information systems are big and fast enough to deal with the big amount of data that accompanies the dynamic view.

The focus on the dynamic future of the digitalized economy is expected to raise the success of companies: Human resources development as well as further signals of future viability can make the difference if applicants decide between alternative employers. And it can make a difference, whether and how a company with all its change prepares employees for the digitalization megatrend (e.g., *Rafferty/Jimmieson/Armenakis* 2013). The very list of new digitalization-related professions such as Social Media Manager, Community Manager, Chief Experience Officer, Online Reputation Manager, Gamification Designer, Augmented Reality Architect, Crypto-Currency Banker and Telecop (*Pein* 2014) indicates the upcoming changes in the corporate world. Companies have the opportunity to shape this dynamic future now.

Addressing implications for future research, due to the conceptual nature of this article, validation of the proposed human resources development agenda will become necessary. Empirical longitudinal analysis will be able to assess the long-term qualitative advancements of a human resources development that focuses on digitalization. Furthermore, it will be interesting to see how big data can be used in that process. Many of the underlying dynamics even of human resources development are still hidden but can eventually be discovered by linking data that has not been linked before. Although this calls for an inductive research method, big data will sooner or later infiltrate the HRM function.

In the case of Germany, companies have to decide whether to take the lead in Industry 4.0 or being left behind. In the case of Romania as a target country of relocation of production from Western Europe, companies have to decide whether to remain attractive for the relocation of production from Western Europe and, therefore, to meet the high transformation dynamics or to drop behind the foreign quality demands (*Krill* 2014).

But no matter in which country they are located: Companies should be alerted not to miss the digitalization megatrend in human resource development.

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