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Smart Organizations, New Skills, and Smart Working to Manage Companies' Digital Transformation

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13.1 The Transformation of Work Through Digital Transformation

The current transformation of work should be regarded as part of a bigger picture: the so-called "digital transformation" is giving birth to a complex intertwining of connections, involving both people and smart objects. Change is coming at a much faster pace than in the past: The web as we knew it quickly widens to wrap up common things, now able to provide, receive and elaborate information in order to perform autonomous tasks; sensors and memories enable everyday's objects to trace, react to and predict events. Men and machines interact in technologically dense environments,[1] thus enacting what has been called "sociomateriality".[2] Smart objects, smart homes, smart mobility, smart infrastructures and facilities, build up smart cities, as responsive and connected as their citizens and administrators. In such background, information is the new currency: it leverages shared networks and devices, coming over all exchanges and negotiations, whether individual or social, personal or professional, human- or machine driven,

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and producing tons of data to process and analyze in order to generate added value.

Yet the transformation of work has been an outcome of technological as well as social changes:

- On the one hand, the fourth wave of the industrial revolution[3] leads to mass customization, both through advanced digitization, the availability of big, complex, real-time data, and technologies, such as cloud computing, 3D printing and additive manufacturing. This entails more reactive, flexible, autonomous production processes all across different businesses[4]: as a matter of fact, borders separating industries are fading, and manufacturing and services are about to be considered as a unique smart industry. The "platform" business model steps forward, leveraging technology in order to achieve maximum production efficiency both from customer's and from the worker's point of view. The customer becomes an empowered "prosumer", actively contributing to provide information about his/her expectations, hence enabling platform output to immediately fit them; on the other side, the "proworker", doesn't just accomplish fixed tasks, instead fulfills his/her goals through a "fuzzy" behavior, autonomous and not reproducible. Supply and demand by now meet on the platform, far from the old-fashioned "analogic" market.
- On the other hand, the financial and economic crisis experienced all across Europe has highlighted employment threats—resulting in huge job losses and insecurity—as well as new opportunities. It has assigned a major impact to work-life balance, ranging from the need for reshaping the role of work up to downshifting trends.[5] At the same time, a new consciousness has arisen about technology and its role—both empowering and invading—in daily personal and social life. Last but not least, the shift from ownership to access[6] has involved several dimensions of social life, from housing to transportation, from tourism and travel to media consumption: the so-called "sharing economy" entails the deregulation of former branches, disrupting traditional social and legal barriers.

The balance of this essay is organized in three sections. In the next section, we explain why a new, smart organization is required to cope with companies' digital transformation. The following section then focuses on the skills called by this transformation. The final section discusses the transition to a new way of working—smart working—and concludes the chapter.

13.2 Smart Organization

In this context, a new kind of "smart" organization is rapidly developing, marked by transitory layout and agile structure. Managerial control issues lose weight,[7] while output validation becomes a major issue, basically depending on the prosumer's feedback. Traditional hierarchy therefore fades, while appointments and tasks are more and more linked to specific processes and goals which entail specific skills and seniorities. Factory workload is designed and distributed following dynamic patterns, according to prosumers' needs and expectations and to proworkers' skills and availability. According to this point of view, employees' work could become totally "on demand",[8] and could potentially be divided between multiple employers; as a consequence, loyalty and devotion to the company could be replaced by different qualities, such as the ability to integrate seamless with specific, ever-changing processes.

Such a scenario is due to have a huge impact on education and training, putting skills on the foreground and challenging organizations to enhancing, improving and reconvert workers' expertise. The new organization will most likely leverage formal as well as informal learning, treasuring personal, nonconventional training experiences and peer-to-peer education. Corporate knowledge should get ready to be built, amended and shared through open platform, according to a "wiki" model; similarly, skills assessment will be based on a peer-reviewed mechanism, yet improved in order to avoid misrepresentations. A possible way to manage the assessment issue could be a decentralized network, in which data related to workers' training, evaluation and endorsement are secured with nodes, with a Blockchain-like model.

Above all, in order to succeed in the new organization, a basic set of skills is required, as in Fig. 13.1.

Reframing is essential in order to understand an ever-changing organizational environment; proworkers should be able to redefine their role on-the-go, building a scalable, flexible job profile. Empowerment goes with an entrepreneurial, autonomous and mindful behavior; it implies the ability to delegate basic, routinary tasks to machines while keeping managerial, cognitive tasks, and to take advantage of personal learnings and nonconventional training experiences in a professional viewpoint. Awareness is related to technology, acknowledging its importance in organizational life and its part in facilitating work-life balance, but also to information and data management, whether personal or professional, in order to deal with them according to civil law and corporate rules. Integration is key to manage at

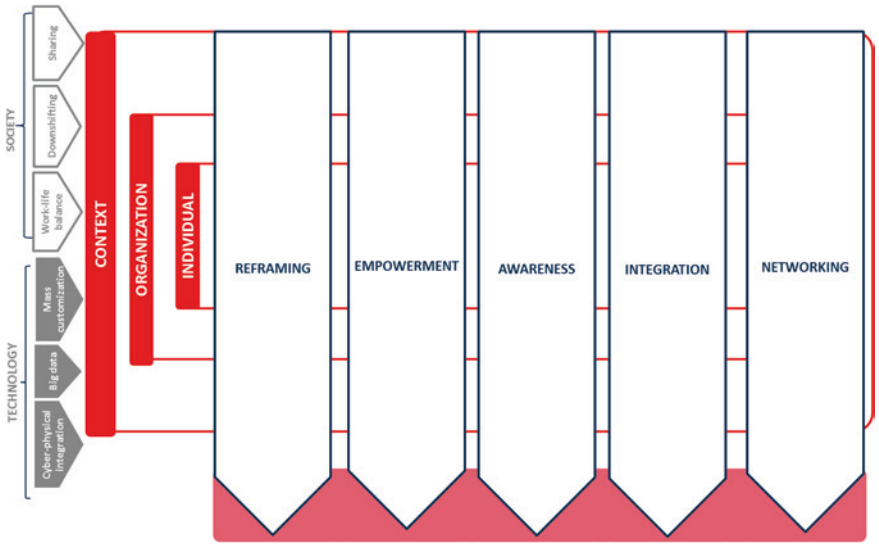

Fig. 13.1 New skills for the digitally transforming organization

once different goals, tasks and positions in the organization, entering different processes in a seamless way. Networking concerns the ability to work together in complex man-machine systems, interacting with cyber-physical networks while embracing individual, organization and context in a cross perspective.

Clarified what we mean for «digital transformation», this essay shows how TIM—as to 2016—is leveraging "knowledge management" and "smart working" to develop skills to support the digital organization.

13.3 Transition from Knowledge to New Skills: TIM Academy

We live in a "knowledge society" in which knowledge plays a central role, economically, socially and politically. This knowledge is constantly nourished through research and innovation. Therefore, universities and research centers are called to promote the enhancement and the direct application of knowledge generated through collaboration with businesses and other local stakeholders.

Here in TIM we strengthened our relationship with leading research centers and national and international universities, with whom we have activated more than 40 MOUs and agreements, in order to enhance talent,

develop new capabilities and transfer innovation in the company. It's a double path which on the one hand improves our ability to innovate and on the other hand helps to develop skills.

The development and growth of internal competences are part of the strategy and the company's success, including new and innovative ways of managing our knowledge. We engaged in lessons on Wiki platforms and Open Knowledge models, implementing a continuous learning process in which all stakeholders can provide, review and amend contributions.

TIM Academy starts its journey in 2016, by introducing new models of knowledge sharing and working closely with observatories and internal and external research and innovation centers. It is both a physical and virtual place dedicated to the entire population (approx. 53,000 employees) of T.I. Group in Italy. The faculty is composed by full-time "digital-social educators" and a large community of employees which is engaged in transferring and sharing their know-how and disseminating digital skills needed to support the transformation and evolution of the company in the new technological, business and cultural environment.

"The complexity of a chip, measured for example by the number of transistors per chip, doubles every 18 months". With reference to Moore's first law, this is where companies start to face the challenge of the digital age. They must transform the "hypertrasformation" taking place in an opportunity for value growth.

To grasp the potential arising from digital transformation, companies will have to change and be able to interpret new trends. Successful companies should be ready to reconsider their views and revise their traditional business model.

With this in mind, TIM launched a new model of relationship with leading universities and national and international research centers in order to enhance talent and develop key competencies to transfer innovation into the company.

The goal is to strengthen our ability to innovate and, at the same time, contribute to the development of research and training among young people together with schools and universities thus helping to bridge the gap between skills required by the labor market and those provided by education.

Our partnerships with academias, through the cogeneration of cutting-edge research, aim at forming the future ruling class, by giving support to students and giving a real economic value to knowledge.

Our collaborations consist in funding scholarships for PhD/merit awards/internships, exchange of lectures, sponsorship of Chairs on topics of interest for the company, sponsorship of codesigned Master programs, orientation

and contributions to the design of educational programs in line with the skills required by the job market.

In a nutshell, we need new skills to enable our strategies and support change. Tim Academy is designed to satisfy this need by capturing, managing and disseminating knowledge within our company and transitioning to new contents through knowledge management.

Knowledge Management is represented by the set of tools and processes defined to build learning opportunities for people and for the company, accessible through specific tools and platforms of social collaboration.

We have defined a model and a process of Knowledge Management where knowledge spreads throughout the organization, thus making strategic knowledge available for business.

It is a model which has two fundamental characteristics: being cross-functional and innovative. In fact it is based on the involvement of multiple business functions which together generate new skills and ideas.

- Emersion and dissemination of knowledge, both tacit and explicit

The knowledge management learning model allows us to classify each of our initiatives in terms of focus and temporal horizon (see Fig. 13.2).

Furthermore, we have defined a Knowledge Management governance model which regulates the interaction of three teams:

- Strategic cross-functional team, which has the task of defining the objectives and the evolution of the knowledge management model in line with the business strategy;
- a Technological Development team aimed at implementing technological solutions;
- a support team dedicated to all activities related to creation, promotion, and communication.

The design and management of KM initiatives follows a standard consisting of the following phases: definition of strategic concept, technological solutions and governance, implementation and launch, ongoing activity and assessment & refinement.

Experiences and "lessons learned" that we are maturing and consolidating will be used to improve the implementation of the model and knowledge management initiatives.

In particular, among the Communities which are opened, we find one called Conferences Knowledge Sharing, which aims at collecting and sharing

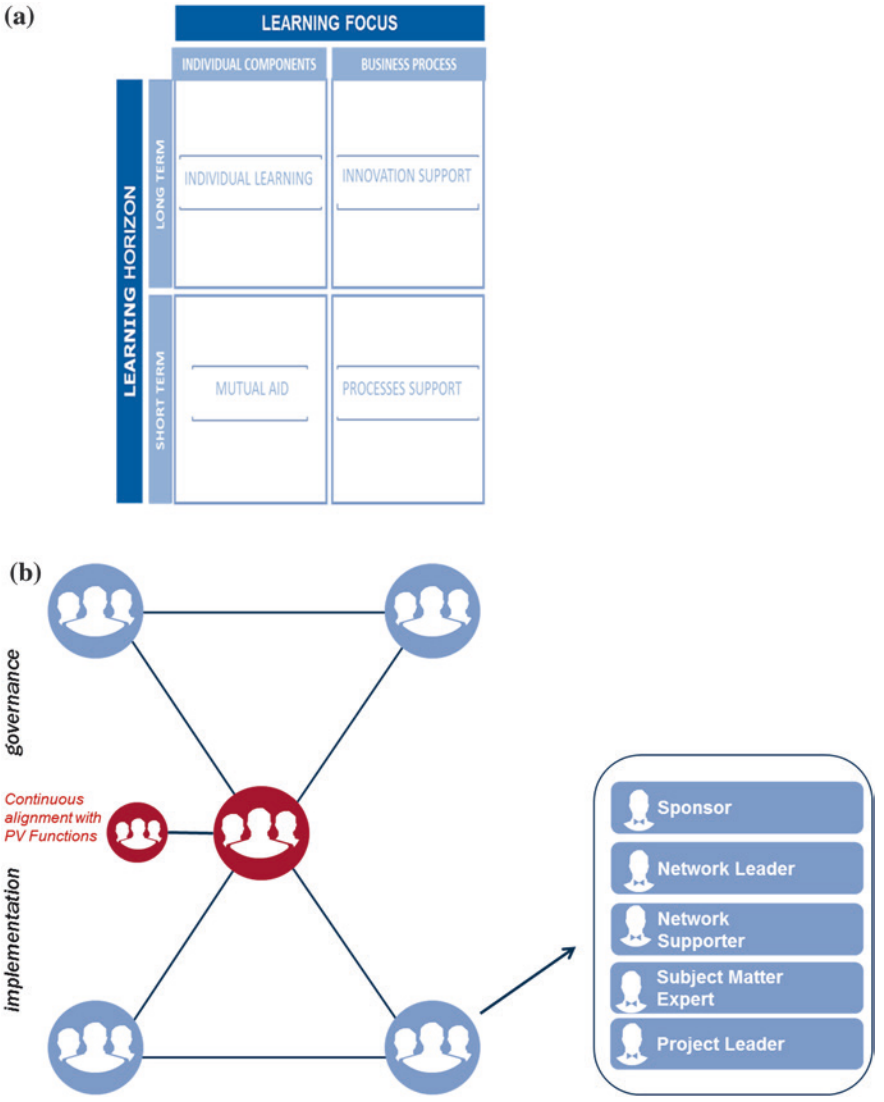

Fig. 13.2 Knowledge management model

knowledge gained by colleagues who participate in external conferences or workshops, other than defining a six month participation plan. Access to the Community is open to the entire company and also provides guidelines for the collection and publication of documentation and support for the organization of main highlights presented.

13.4 Transition to a New Way of Working: Smart Working[9]

13.4.1 TIM's Smart Working for TIM's People

Transition to new ways of working is induced by the digital transformation, which is characterized by decrease in transactional costs and increased flexibility, because supply and demand for digital jobs meet on "platforms" which compete on service prices (thus, outside of the logic of wage bargaining). This trend will also affect "traditional" work forms which will be increasingly focused on individual flexibility and autonomy in exchange for greater accountability toward results (which will replace the mere execution of tasks). Smart working has precisely these characteristics of flexibility, autonomy and accountability, and probably, for this reason, arouses growing interest and is coming out from the domain of corporate welfare instruments. In other words, the introduction of smart working is one of the enabling factors for digital transformation.

In such a scenario, in 2016 TIM is introducing smart working solutions which include the largest possible number of employees. TIM is aiming to create favorable conditions for a digital transition respectful of the company's identity and capable of making current organizational culture evolve into the new targeted digital dimension. So, people become the stepping stone for this transition, because it requires digital skills.

Consistently, TIM is leveraging the introduction of smart working solutions as a start to shape its own new digital organization giving voice to and caring for people development, evolving the intranet into a kind of platform for collaborative work, to ease (thanks to smart working) identification of new organizational paradigms and new models of management and welfare, to keep constantly aligned strategies and operations.

As a company whose organization is still analogic, TIM's approach to "organizational disruption" is based on combining new work-platforms with standard jobs without slowing the pace of change and bringing into the new digital environment those employees capable to adapting to it.

TIM's experience demonstrates that is possible achieve structural and social adjustments without slowing innovation if you engage your people to change. And smart working can generate engagement because of its win-win logic.

So TIM's Smart Working is neither a mere tactical move to gain some labor cost reduction applying for the fiscal incentives provided by Italian law, nor just a welfare choice to improve work-life balance, it is the leverage to achieve new, incremental productivity, both at "people" and "process" level.

From this last standpoint smart working is a «perpetual beta» change management journey, capable of improving productivity by increasing welfare and accountability for results (Fig. 13.3).

Along such a journey TIM deploys the three leverages of a typical Smart Working Project, those commonly known as Bricks Bits and Behaviors, enriched by two more company specific enablers, these are Business (going in alignment with the service offered to Customers) and Social (engaging People by empowering them to contribute and cooperate).

How the Business enabler works will be shown in the last part of this chapter, the following lines describe the Social dimension.

TIM assumes that ability to cooperate will be a must for the new ways of working brought by digital transformation; thus TIM pays special attention to the social dimension of working because considers it the cultural environment to develop the ability to cooperate. With this in mind, since the very beginning of the deployment of the Smart Working Project (May 2015), the company's intranet had a section on the matter. The early mission of this section was "communicate and engage". The development of the Project is transforming it in a platform for cooperating. On this platform information about Smart Working is available, and also is possible to apply directly to the smart working pilot with no need for a hierarchical intermediation, furthermore, people can support people having troubles with smart working technologies and can give feedback on Project's deployment and development.

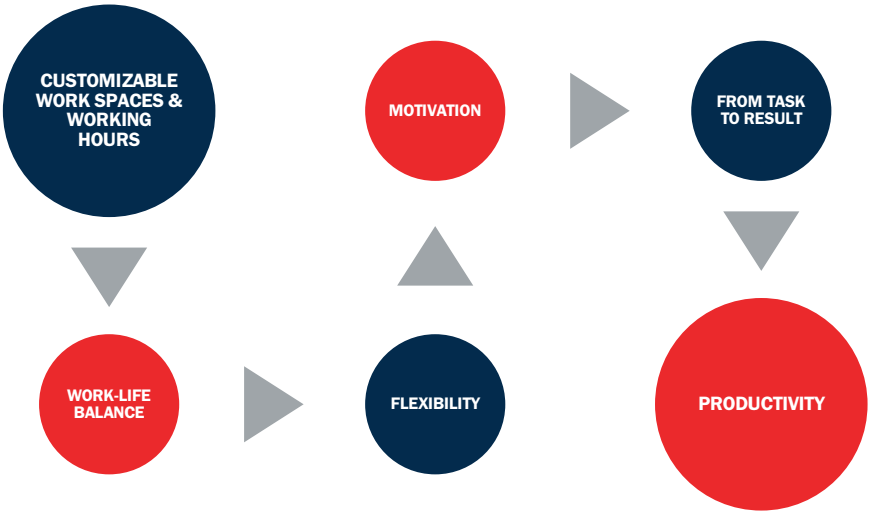

Fig. 13.3 Smart working as a "perpetual beta" change management journey

Such a company's intranet platform role and the parallel shift of personal equipment from plain tools to a system of services aiming to create a kind of personal technology platform for personal productivity are the whole realm of digital technologies inside TIM's approach to smart working, that is hinging on the transformation of individual behaviors both of managers and coworkers. To ignite the change of their attitudes TIM is working on behavioral training and on direct experience through different pilots gradually increasing how and how many people are involved by the smart working approach.

It is worth describing the solution adopted for training because it is consistent with the general purpose of digital transformation. Firstly TIM selected which skills are required for smart working and then clustered them into those for managers and those for coworkers. The result was that knowledge sharing, virtual communication, digital awareness, creativity, social collaboration, performance management, enterprise contribution are valid for both, while just empowerment and leadership styles for managers and self-empowerment and engagement for coworkers mark the difference between the two kinds of players. Then, TIM designed two training courses with these contents, which have been run in digital classrooms instead of physical classrooms. These lessons have been "taped" in order to be available on the training platform of the company's academy (TIM Academy) allowing employees to actively organize their own training on this subject.

Coming to direct experiences, the first move was (on September 2015) to run an extensive survey involving more than 30% of TIM's employees about their current ways of working; then (on October and December 2015) two stress tests measured impacts on both work-life balance and productivity when you work from home or from company's offices different from yours; finally, based on the results of October and December tests, on March 2016 TIM launched an agile working pilot with special working hours set to improve work-life balance (e.g. if you work from home, you can work between 8 a.m. and 8 p.m. and have a lunch-break up to three hours). This pilot in two months engaged roughly 8500 volunteers and had been designed to be gradually accessible to all employees that can operate outside their office. Such a progressive approach will generate, gather and analyze all adaptive reactions inside company's organization so to write down the policy for smart working capable to satisfy expectations for welfare improvement, productivity increase and processes digital transformation at the same time.

By Project design the largest transformation will be achieved where work spaces will change too. The new offices will break with "framed" spaces, cubicles that become a status symbol by dimension and furniture. New offices will be open plans of collaboration, real physical platforms for

knowledge sharing where "solo" tasks and cooperative tasks will be both performable making possible moving from "Personnel" to "personal contribution". To achieve this condition TIM has a plan that probably is going to change the way the word "office" is intended in Italy.

Furthermore, such a sharp focus on digital transformation makes TIM able to choose new technologies and services by criteria consistent with the transformation for itself avoiding solutions that are not up to the target or beyond it.

The same sharp focus enables TIM to align the content of its digitalization with the solutions for smart working offered to Customers.

13.4.2 TIM's Smart Working for TIM's Customers

In Italy smart working or, as we call it, agile working is being a hot topic of organizational development since 2014. Companies' curiosity is evolving to benchmarking and quest for suitable applications based on digital communication and collaboration.

A specific market segment is born. In it because benefits are not granted by the mere adoption of technology, but are driven by behaviors change management, prospect customers prefer partners with real expertise achieved throughout direct experience to plain purveyors.

Then in this market you succeed if you can be a "role model". So for TIM adopting agile working is a competitive advantage because makes TIM the customer's partner of choice for digital transformation.

TIM by its approach to smart working is making a virtuous transition to digitalization. In this transition phase TIM can improve its smart working services by a "use what you sell" attitude and at the same time gains a positive visibility on media as an enabler of Italy's modernization.

So TIM's organizational development choice for smart working is a threefold hit impacting on productivity factors, contributing to a better liveability in cities, being a B2B solution for digital transformation in a somehow "blue ocean" Italian market segment.

13.5 Conclusion

In this chapter, we discussed digital transformation with regard to its implications for organizations and the future of work. First, we described digital transformation analysing its drivers, both social and technological; we

thereby focused on the profile of the new, "smart organization" and on the related skills called by this transformation. Then, we explained TIM's way, as to 2016, to enact the transition from knowledge to skills, through the TIM Academy initiative and the Knowledge Management process, and toward a new way of working, through the Smart Working project.

In TIM we think that digital transformation can be a serious opportunity to achieve future wealth for the company as a whole if it will be managed throughout people's skills and engagement.

Given the magnitudo of the desired transformation we are concentrating our effort on developing our capability to nurture new knowledge and ability to cooperate for innovation.

Along this journey we expect ourselves to be successful in digitally transforming not only our existing processes, but, as always, also in implementing a vision capable to enable future transformation thus allowing us to go beyond all our stakeholders' expectation.

Notes

1. Bruni, A. et al. (2013).
2. Orlikowski, W.J. et al. (2008).
3. Forschungsunion, Acatech (2013).
4. Global Challenge Insight Report—World Economic Forum (2016).
5. Drake, J. (2000). As to Italy, see also *49° Rapporto sulla situazione sociale del paese*, CENSIS (2015).
6. Rifkin, T. (2000).
7. Zammuto, R. et al. (2007).
8. De Stefano, V. (2000).
9. A variant of this paragraph was published by Andrea Iapichino as "L'esperienza del lavoro agile in TIM" in "People management", edited by Mauro Tomè, S. Deiana, D. Patruno, and L. Redaelli. Wolters Kluwer, 2017, Milan, Italy, p. 211.

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