

Digital Leadership: Game Changers of New Age^{1, 2}

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Industry 4.0 or 4th Industrial Revolution, replaces the traditional industry concept with a world of many technological systems and components, including cyber physical systems, intelligent robots (co-robots, collaborative robots), and Internet of Things (IoT, Internet of Things), to increase productivity, quality and flexibility in industry. In summary, Industry 4.0 is the concept of “intelligent production” in which the traditional production approaches change radically through the collective use of technological developments. This revolution gains enterprises the ability of networking with the use of cyber-physical systems.

Thanks to the industrial revolution, the physical and biological worlds are already beginning to unite with the digital world. Many new technologies are emerging and these technologies will be included in every aspect of life. Digitalization is the main reason for collapse of more than half of the companies in Fortune 500 since 2000. This new and dynamic commercial ecosystem, completely different from the current business and market models, is expected to affect nearly 46% of the global trade volume in the next 15 years. According to the Gartner Predicts 2018 Report, by 2020, it is estimated that the Internet of Things technology will be used in 95% of electronic designs, and by 2020 the value of the Internet of Things technologies is expected to exceed \$ 3 trillion. In 2025, this value is estimated to exceed \$ 11 trillion. Gartner predicts that the number of devices connected to each other in the world will reach 20.8 billion by 2020, which means that nearly 5.5 million new objects are linked together almost daily.

At the corporate level, the impact of the digital revolution will not only be limited in terms of technology and infrastructure, but this change will support the development of new professional groups, new organizational structures and a new management style. The constantly evolving technology world directs its business model approach to rapid adaptation, to get the most accurate decision in the fastest way and to gain continuous change. In this sense, it is an inevitable fact that company employees need new competencies to adapt to this unusual digital world. For this reason, 16 new jobs are expected to occur in only just a few years.

The human dimension of the digital world will be as compelling as its technological dimension. In this new industry model, the huge burden of knowledge, the interconnection of systems, the radically changing of traditional business models, new technologies that overwhelm the old ways of doing business, and increasing globalization are just a few of the challenges that will emerge. Such a working environment, that constantly changes shape makes it necessary for all employees, especially the leaders, to change the way they do business. Technology alone is unlikely to change our world. However, adopting changes that create value according to the

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requirements of the new age is the most important factor and this makes the role of the project leader even more important.

While some traditional leadership capabilities are still critical to successfully lead in the digital age, new requirements for leaders at all levels of organizations are needed. More free, more flexible and more agile leaders embracing change will be tomorrow's "game-changer" leaders.

Identifying qualified leaders is the primary source of concern in the 4th Industrial Revolution. But who are these leaders and what are the required qualifications? What are the basic skills that leaders need in managing the increasingly complex projects in the digital age?

1. **Traditional Skills:** Although recent research and published articles on leadership reveal the need for a new leadership style and approach, this does not mean that previous leadership skills are no longer necessary. On the contrary, traditional leadership skills are considered as a minimum requirement in the digital age as well as today.
2. **Digital Communications:** The digital age will add a whole new dimension to the leader and the project team relationship: the technology dimension. Industry 4.0 technology allows machines to interact with the environment. These machines will plan and adapt their own behaviour, optimize themselves, learn new patterns and strategies. They will no longer be a tool in organizations, but become part of the teams. In the case of self-controlling systems, the close relationship between people and advanced technology will require managing human-machine interaction. Organizations will need talented leaders who know how to discover, how to use, and maximize digital communication.
3. **Transformational - Visionary:** In the digital world, leaders must take the companies away from their former motivations and prepare them for changing conditions and encourage companies to believe in the vision of the industrial revolution through the placement of competition. In the light of this shared vision, leaders will identify the need for change and lead the institutionalization of change and institutionalization of change. Such leaders will be leaders who transform the Industry 4.0 transformation, motivating employees to do things, setting goals, and combining employees with these goals.
4. **Knowledge Management:** Many employees in the digital world will have to cope with extreme information. According to Gartner, more than 50% of the information we reach in 2020 will not include the accuracy. In near future, the ability to in-depth analysis of this and the ability to filter out the relevant ones are among the indispensable skills for leadership. In particular, considering how quickly information can change, knowledge management and sharing will be the priority of project leaders.
5. **Collaborative:** One of the main challenges of leadership in the digital world is how to create a suitable environment that facilitates a sustainable level of innovation and team communication. In such an environment, which is constantly changing and transforming, the prerequisite for the existence of modern companies goes through internal and external cooperation and solidarity. It will be critical for the leaders to encourage the creation of a collaborative environment to solve problems and make decisions in real time. Leaders can collaborate with all stakeholders, including competitors, in a digital world connected with

networks within or beyond institutional boundaries; they should aim to create a new solution or add more value to all parties. Shortly, leaders are responsible for creating a collaborative culture in companies. In this sense, the leaders of Industry 4.0 should lead in such a way to eliminate the barriers to inter-company cooperation, and create a culture of transparency and trust within and outside the organization.

6. **Innovation:** A new world is formed in which technology rapidly develops and gradually takes up more space in our lives. All these developments shorten the distances and increase the speed of all kinds of communication and production. In such an environment, which is constantly changing and transforming, the precondition for being a leader will be to adapt to the new fastest. What's more, this new ever-changing world expects the leaders to continuously produce and adopt new approaches. That's why innovation skills will be the essential talent of future leaders.
7. **Critical Thinking:** In the digital world, companies must be able to continuously develop products, processes and services in order to exist and compete. To be able to do this, companies will need leaders who can think critically and ask the right questions to root out the problems.

Digital change has already begun. The echoes of change are evident in almost every sector and industry, regardless of size and maturity. The business world has already begun to search for the “**game-changer**” leaders who will successfully lead this change. So, do you have the necessary leadership qualities to ensure transformation in the digital world and to be a pioneer in your industry?

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