



FUTURE(S) OF WORK AND LEARNING

➤ **A report for Management Curriculum
in the Digital Era (MaCuDE) project**



UNIVERSITY
OF TURKU



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Dr. Milla Unkila

Future of Work / Learning
Task Force Leader,
MaCuDE Project
Turku School of Economics
University of Turku
Finland



This report is part of the Management Curriculum for the Digital Era (MaCuDE.org) project aimed at ensuring that business education continues to hold value to their students and whole society. A collaborative effort among faculty and deans at more than 100 business schools, the project is sponsored by AACSB International and PWC, and led by Stevens Institute of Technology.

2. CONTENTS OF WORK

Our project unearthed five themes that shape the contents of future work. In short, versatile people in flat organizations will work in integrative roles within the context of environmental issues. In the realm into which the business schools prepare their students, few people will have single expertise professions that prevail unchanged for the duration of their career.

The five themes, described in more detail in the next subchapters are:

- 1. Everything integrated**
- 2. New distribution of power and responsibility**
- 3. Emerging fields**
- 4. It's not all about technology**
- 5. Everlasting change**





"People Happiness Officer"

"Supervisor of Quality and Environment"

"Geeks that can speak"

"Hence, it is not any one occupation, it is about making organization equipped with individuals capable of making sense, judgments, decisions and actions when facing the unknown future."

"The need for more boundary-spanning work across... We will likely see boundary spanners not only connecting geographies but also tech-human interfaces across space."

"Innovation positions which bring together market and technology dimensions."

"More and more to be able to connect different areas or fields together, observe, experiment, create, co-create, plus also to be able to analyse large sets of materials and discussions to find the relevant aspects, fast and reliable enough, plus at the same time with good visual and emotional (motivational) flavouring."

"Roles to assist users understand how to determine and ask for data analytics from unstructured data and the skill necessary to understand both IT and business processes. Roles that understand how to seamlessly integrate automation/robots and people."

"Regional culture, it is a very difficult matter to overcome. You need to understand it."



2.1. Everything integrated

AS THE DIGITAL TECHNOLOGIES ADVANCE, THE DISTRIBUTION OF WORK BETWEEN HUMANS AND MACHINES IS A CRITICAL THEME.

Routine manual and cognitive work are already done with machines to a notable degree, however with the advances of AI, building on the volume of accumulating data, also the non-routine work is becoming automated. However, as the developing technology may make some jobs redundant, it simultaneously creates new needs – not the least of which is the ability to assess where the technology is best put to use, and where human expertise is needed. In addition to such experts that can work alongside machines (to design and maintain the machines, or to further process the output data into useful forms), also the leadership and management of such human-machine teams will become its own expertise. These new positions require both advanced digital literacy and mature human resource savviness, emotional intelligence.

As there is an increasing amount of data available to both boost the productivity of the firm and to assess the market, boundary-spanners be-

tween the traditional siloes of production and marketing become valuable. With the increasing awareness of the environmental issues, and the transparency driven by social media, aligning the internal activities with the external image and espoused values aspired to becomes its own field of expertise. This is especially important in the context of international activities: the so-called negative externalities of business, including its environmentally destructive and socially unequal impacts, have predominantly materialized in different areas of the globe than where the material benefits have been harvested. The business practitioner has to be able to view the effects of their actions holistically, understand the systemic nature of not only the entangled economy, but the very global nature of the decisions pertaining the finiteness of the natural resources.

In sum, roles requiring holistic or systemic views, the ability to discern patterns and see big pictures will be of increasing importance regardless of the field, industry or organizational position.

2.2. New distribution of power and responsibility

As the manual and cognitive routine and low-level operational jobs are taken over by machines, the reason for employing humans is the fact that they have capabilities that exceed what machines can currently do. **IN OTHER WORDS, HUMANS ARE HIRED FOR THEIR EXPERTISE.** By definition, experts have expertise that enables them to use judgment, make decisions pertaining to the areas within which they use their expertise. Therefore, it would make little sense to hold on to strict hierarchies where decision-making is limited to the individuals on the top of the feeding chain: decision-making, and by implication, responsibility of their effects becomes therefore distributed resulting in flatter organizations. Naturally this means that the topic-specific expertise on the grounds of which an expert gains or retains their decision-making rights has to be complemented with strategic acumen – the ability to see the whole picture the individual decisions contribute to creating, and the understanding of the desirable and less-desirable directions.

DATA CAN BE WORTHLESS OR A SOURCE OF POWER: the deciding factor in between is the ability to process it. While the resources of the behemoths like Alphabet (Google) mean the coalescence of power to the digital giants, simultaneously the theoretical connectedness and accessibility of all digital data together with the growing amount of open source software redistributes power to individuals and small teams with the abilities to make use of them.

As data and expertise have the possibility of transporting power from the hands of the few individuals at the top of hierarchies to individuals in the middle or outside organizations, it is not enough to focus only on the abilities that enable having that power. With power comes responsibility, which in turn requires a holistic view, an understanding of the consequences and a moral compass; the ability wield judgement and discern the desirable outcomes. In teaching students to access power they must also be taught the accompanying responsibility.

2.3. Emerging fields

The converging trajectories of advancing digitalization, environmental crises and sociopolitical turbulence create new needs and fields of expertise. **FIRST**, there is already a surge of demand in “green” professionals: sustainability officers, circular economy experts, clean energy savants are examples of the roles already on the rise. As businesses realize that sustainability is no longer a potential source of competitive advantage but a condition for survival, the race to become green – either for real or at least as perceived by the customers – is accelerating. This calls for a whole new and emerging field of professionals.

SECONDLY, due to the proliferation of digital technology which, in addition to its perks, has also its dangers, cybersecurity wizards and resilience managers are crucial. Not only is there an avalanche of digital crime and terrorism to counter, but also as the connectedness of everything digital creates fragility in terms of one mistake having the potential to effect large systemic issues, experts who know how to increase the resilience of a system are in big demand.

THIRDLY, the ubiquitous mobile devices have increased the demand of content: few are happy to wait for a bus without tinkering with their

mobile phones – people are used to having a continuous access to content. This means both the social media and what is traditionally dubbed as entertainment. Bloggers, vloggers and other social media influencers are new professions, but also certain older professions are increasing in demand: video (be they full movies, TV-series or adverts) producers, directors and scriptwriters, actors, narrators, composers, musicians, stage designers, make-up artists – all fields necessary for creating entertaining and engaging content in video or audio form are becoming highly wanted.

As an interesting counterpoint to everything digital and remote, also the events where people actually can engage in social interaction will, at least when the pandemic situation allows it, become important. Event industry was globally on the rise already before the pandemic, and the years spent connecting remotely have two impacts: the more people have spent time in isolation the more they yearn for opportunities to physical social interaction, and the easier it is to have remote meetings the more value add is needed in exchange of the effort of actually going somewhere in person. This creates new expectations and need for expertise in meeting them.



AS BUSINESSES REALIZE THAT SUSTAINABILITY IS A CONDITION FOR SURVIVAL, THE CALL FOR GREEN PROFESSIONALS INCREASES.

2.4. It's not all about technology

As anyone familiar with Information Systems Science would vouch, there is a notable gap between what would in theory be possible with technology and how that technology is actually accepted and adopted. This pertains equally to individual organizations and to the shape of overall business, and will not likely change: what the AI would in theory be able to do in the future will most likely be at a distance of what it will actually be doing.

On the organizational level the factors impacting the rate of technology adoption include sociopolitical elements, such as change resistance and unwillingness to give up the pursuit of status, economic elements (as long as it is cheaper to produce T-shirts by having small fingers sew them in a distant corner of the

world, building a 3D-printing factory remains the unwanted option), and contextual elements (is it acceptable for the customers in a certain location to use self-service or not).

The professionals, strategists, that can identify the technological, social, political, environmental, economic and contextual elements pertaining to the endeavor at hand, and creating suitable constellations of work as relevant within their sphere of influence will be as much in need as they have always been. This constellation of work will most likely continue being colorful, with pockets of successful actors doing things the "old way" or with all technological trinkets possible, and failures likewise not being accountable to the rate or ratio of technological adoption.



**WHAT THE AI WOULD IN THEORY BE ABLE TO DO IN THE FUTURE
WILL MOST LIKELY BE AT A DISTANCE OF WHAT IT WILL ACTUALLY BE DOING.**

2.5. Everlasting change

As a bridge to the next themes (task skills and metaskills), what seems to be the most certain thing is the fact that life will continue being at least as uncertain, flux and ambiguous as it has always been. The most sought-after professional revealed by our data was change manager. Whatever that role consists of depends on the context, but the individuals that are able to manage and guide change, create resilience (also beyond the needs of technological systems), handle crises and foresee upcoming challenges and opportunities will always be valued.

There are two sides to handling change we here dub change management and change leadership. We take change management as internally oriented action that aims at inspiring, catalyzing and overseeing

change within an organization. Some new titles like “digitalization evangelist” or “chief transformation officer” reflect this need of individuals who can get the others within an organization to move along, to counter the internal resistance to change.

In turn, we use change leadership as an outward-looking capability. The ability to detect weak change signals, to anticipate the upcoming fluctuations in the business environment, and first and foremost the acumen to understand the strategic choices necessary for the success of the organization within the turbulence, will become immensely important. The chief decision-makers of the organization should have both agility and long-termism – the reflexes of a prey with the horizon-spanning gaze of a predator.



**CHANGE IS THE NORMAL,
STABILITY THE EXCEPTION.
DEAL WITH IT.**



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