MANAGING IN THE DIGITAL AGE:

CLAIMING OUR HUMANITY THROUGH THE POWER OF KNOWLEDGE

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"No thief, however skillful, can rob one of knowledge, and that is why knowledge is the best and safest treasure to acquire." Frank Baum, *The Lost Princess of Oz*

My thirst for knowledge began at a young age. As a reserved child, books offered a path towards discovery and knowledge became a source of empowerment. Growing up in Central Europe, I was encouraged to study and observe the world's diverse cultures, languages, music and gastronomies. Speaking four languages by the age of 12, I knew that learning would be a lifelong journey. My shortlist of career aspirations included marine biologist, cardiologist, neurologist, diplomat and environmental scientist. With Drucker's reasoning in mind, I began my journey with a degree in the liberal arts in Canada, acquiring a solid foundation in the "broad world of ideas". Specializing in political science and international development, my objective was to open my mind towards the endless possibilities of making a contribution in the world and reaching self-fulfillment. By the time of graduation, I had gained international experience working at the United Nations headquarters in New York and developing music programs for children in refugee camps. My travels across Western and Central Europe, North America, the Middle East and North Africa solidified my view that knowledge is the beginning to understanding the world—beginning with oneself.

To complement my foundation in the liberal arts with concrete skills, I decided to pursue a master's degree in project management and global engineering. This rigorous program brought together students from diverse professional backgrounds to collaborate on complex projects by adopting new perspectives. I graduated from the program with the invigorating understanding that technological innovation had the power to drive social and economic development.

"The best way to predict the future is to create it." Peter Drucker

My first years of work experience as a university research assistant reaffirmed my vocation for knowledge creation, acquisition and sharing. The changing global environment emphasized the value of knowledge and skills as the key ingredient for success in the new economy. Driven by an entrepreneurial spirit in the quest for knowledge, I decided to leverage the power of digital technologies to establish an online executive university. The mission of my entrepreneurial venture is to enable anyone, anywhere in the world to develop their skills online so that they can reach their full potential and succeed in the 21st century knowledge economy.

I. THE FUTURE OF WORK AND THE ROLE OF INDIVIDUALS WITHIN ORGANIZATIONS

In pursuit of lifelong learning

"Learning is a lifelong process of keeping abreast of change. And the most pressing task is to teach people how to learn". –Peter Drucker

Can you prepare for the type of skills required in 15 years? Drucker observed, "humans can neither predict nor control the future" (108) and any attempt to mastermind the future would be foolish. We will never know *exactly* what skills will be in demand 15 or more years from now. Can we prepare ourselves for the future? Absolutely. Adopting an open, well-informed *attitude* that embraces technological change is the first step towards success. Lifelong learning is not only a commitment towards formal education and professional training, but a persistent dedication towards understanding one's strengths and weaknesses, values and performance with the objective of consistently improving oneself, regardless of age or position. This lies at the very heart of making knowledge *productive*. As Drucker noted, the knowledge worker must find out who he is, what kind of work he is fitted for, and how he best works.[i]

Digital technologies, through online learning, offer extraordinary opportunities to diffuse knowledge, skills and professional training at a global scale. Advanced e-learning courses provide the learner with accurate, timely feedback on their performance, thereby enhancing competency development. Organizations, for instance, can provide their employees with just-in-time or on-the-go courses. Knowledge workers can enroll in targeted distance education courses to develop specific skill sets necessary for careers advancement without having to leave their jobs.

The truly successful knowledge worker of the 21st century will demonstrate a high level of flexibility and adaptability in dealing with technological change and people. Success will be determined not by what one knows but by how fast one learns new concepts and how one selects, analyses and uses information in an age of data abundance.

Strengthening human capabilities through technology

"*Computers are incredibly fast, accurate and stupid; humans are incredibly slow, inaccurate and brilliant; together they are powerful beyond imagination."* (Unconfirmed source)

In the midst of rapid technological change, it is easy to forget that the ultimate purpose of business is to respond to (human) customers. Human needs and wants can only be fully understood by other humans. Understanding this reality means taking advantage of the unique capabilities of humans to create new sources of value for organizations. For instance, many e-learning courses currently offered (MOOCs[1], in particular) have a very low course completion rate (5-10%) in large part because they fail to create an environment which motivates people to learn. I therefore made it our priority to develop a social community on our e-learning platform which encourages learners to interact and learn from each others' experiences through mechanisms such as the peer-review process.

The introduction of new technologies in organizations is an opportunity for augmenting human capabilities by putting forward the areas in which humans will likely maintain an advantage—such as creativity, critical thinking, interpersonal skills and judgment. The search for complementarities between automation and knowledge workers, "augmentation strategy," will enhance the value of an individual's

[1] Massively Open Online Courses (MOOC).

unique skills and competencies[ii]. Diversity of thought, in all its forms, will be a strategic differentiator and driver of creativity, innovation and productivity. Highly innovative companies such as IBM and SAP are hiring employees with autism due to their exceptional abilities to test software. Rather than seeing autistic people as unemployable, these companies create a working environment which maximizes their ability to contribute.[iii]

Talented human capital is a prime ingredient of success. Human skills that complement technology strengthen business models, adaptability, and ultimately building stronger competitive advantages. The truly successful organization will therefore leverage the power of technology and unique human capabilities to combine external and internal value propositions, responding to customer demands by attracting the world's top talent and minds to its organization.

"Social capital" as a driver of innovation

Solving problems is critical to the survival of organizations, especially in an environment where the greatest threat of disruption is driven by a failure to innovate. As technology advances, the knowledge worker and her field of expertise will be increasingly specialized. Innovation and solving complex problems where no one individual has sufficient expertise requires interdisciplinary team efforts. Learning *how* to work together will be essential.

Digital technologies also provide a powerful tool for creating a culture of innovation and breathing new life into how employees work. The rise of social networking, for instance, is providing a new platform for collaborations. Companies such as General Electric and Ericson are developing internal innovation platforms were employees can suggest solutions, propose new ideas and initiatives. Cloud, social and collaboration technologies are enabling organizations to tap into vast pools of human resources across the world. This transforms a company's workforce to a highly agile one. Channeling these efforts will drive business goals and performance.

II. THE CHALLENGES AND CHANGING ROLE OF MANAGEMENT

Making knowledge productive

"*The most important contribution management needs to make in the 21st century is to Increase the productivity of knowledge work and the knowledge worker."* –Peter Drucker

As we shift towards the knowledge society, Drucker believed that an organization's greatest asset—if managed correctly—is the knowledge worker. Knowledge workers own the means of production — their brains—and it is the role of management to adapt an organization to respond to the needs and aspirations of its individuals in order to drive their intellectual potential. The power of digital technologies—instant communication—can be used to drive productivity and maintain work-life balance. For instance, the decision by Telus Corp., one of Canada's largest telecommunications providers, to encourage telecommuting options[2] for their employees resulted in an increase in productivity of about 20%[iv] and worker morale. Similar results have been observed in other companies[v]. Today, Telus' telecommuting policy is a major source of attraction for the brightest knowledge workers. My own experience working with an international organization that introduced flexible working

[2] Telecommuting is also known as working from home.

arrangement is that telecommuters generally make a more positive contribution to the workplace's environment, because they want to be seen as "good colleagues" in order to justify their flexible work arrangement.

Making knowledge productive entails a shift away from the traditional, intrusive approach on the manual worker towards *valuing* and *managing* quality rather than quantity of output as the productivity of the knowledge worker. Management of the future will consistently search for new ways of harnessing the power of knowledge creation and joint performance to reach common objectives.

Empowering the knowledge worker

Drucker was a believer in decentralization of management. He once observed that he is "not comfortable with the word manager anymore, because it implies subordinates." As we enter the knowledge economy, the days of top-down management will quietly disappear. Flatter, decentralized organizations will emerge as the winners in navigating complexity and, more importantly, empowering the knowledge worker. Idea generation cannot follow hierarchical channels or else it will not survive. The new organization will rest upon a business model that favors decision-making at all levels, including at the frontlines where the expertise lies. This structure not only allows for greater flexibility and adaptability, it motivates the knowledge worker to take ownership and responsibility for her actions.

Take the example of the successful web development company, Automattic, the firm behind WordPress (which now runs about 20% of the world's websites). Automattic employs a few hundred people, all of which work remotely in a highly autonomous flat management structure. GitHub, a collaboration platform for software developers, is another company whose "super-lean management strategy" is a driver of innovation.[vi] Github allows its employees to work on an "open allocation" basis in which they can work on any projects they want without any formal requests or managerial interference. These working conditions are rapidly becoming a key aspect for attracting the world's talents.

Of course the ideal degree and type of decentralization will depend on the organization. Decentralization that produces desired results requires a proper framework. Management must set clear objectives, maintain strategic focus and vision of the organization and align individual and corporate goals. Increasing the autonomy of the knowledge worker also requires a fundamental redefinition of how knowledge workers are evaluated and a system where they are held accountable for their contribution.

Leadership at all levels

The role of management in the future will, in many ways, resemble an orchestra maestro: bringing together talented, highly skilled, headstrong people to work together and produce a desired result. Learning to make existing organizations capable of rapid, systematic innovation will be at the heart of management.

The current thinking in many organizations is that talent should be encouraged through competition. This, however, often leads to costly internal rivalries. My experience working in teams is that rivalry and distrust can have significant negative impacts on productivity and quality of work. Solving the complex problems of tomorrow therefore requires a redefining of talent management. Talent should be viewed as an asset whose value and productivity multiplies through social connectiveness. The function of management is to create a trusted environment that fosters collaboration, in which people motivate each other and where everyone is a leader. In short, in the age of the knowledge economy, leadership is no longer confined to a few. By accepting that everyone has value, leadership is instilled throughout the

organization, encouraging every individual to lead in pursuit of reaching their full potential and biggest contribution. As Drucker believed, "managing oneself demands that each knowledge worker think and behave like a chief executive officer".

III. MANAGING ONESELF IN THE DIGITAL AGE

Beyond technology: The power of human interactions

An overreliance on digital technologies also has its pitfalls. We are flooded with an abundance of data. More and more organizations consider explicit knowledge, in the form of data, as reliable and accurate—the beginning and end all. This is not always true, however. In age of information overload we must remain critical by asking: where does the data come from and how reliable is it? Data is only truly valuable if it is representative of the truth and if we have the tools to interpret it in insightful ways (Clayton Christensen, CBC interview).

At the same time, the value of knowledge beyond the numbers must not be underestimated. Tacit knowledge cannot be completely codified or scientifically measured, but lies at the heart of innovation. Innovation "is a process in which the organisation creates and defines problems and then actively develops new knowledge to solve them."[vii] In other words, knowledge management is not only about information management but about *how to manage the way people share and apply knowledge.*

Interactions among knowledge workers have a significant positive impact on performance and, consequently, innovation. Businesses such as Facebook and Google are redesigning their work offices to encourage personal interactions. Emerging evidence is showing that face-to-face interactions—even "chance encounters" with colleagues at the office—are by far the most important activity in an office and spurs innovation.[viii] The case of the introduction of "strategic" coffee machines in Telenor, the Norwegian telecommunications company, is an illustrative example. The company invested into redesigning the workspace to encourage employees to meet and share information around coffee machines. The change led to a remarkable increase in sales of 20%, representing $200million.[ix]

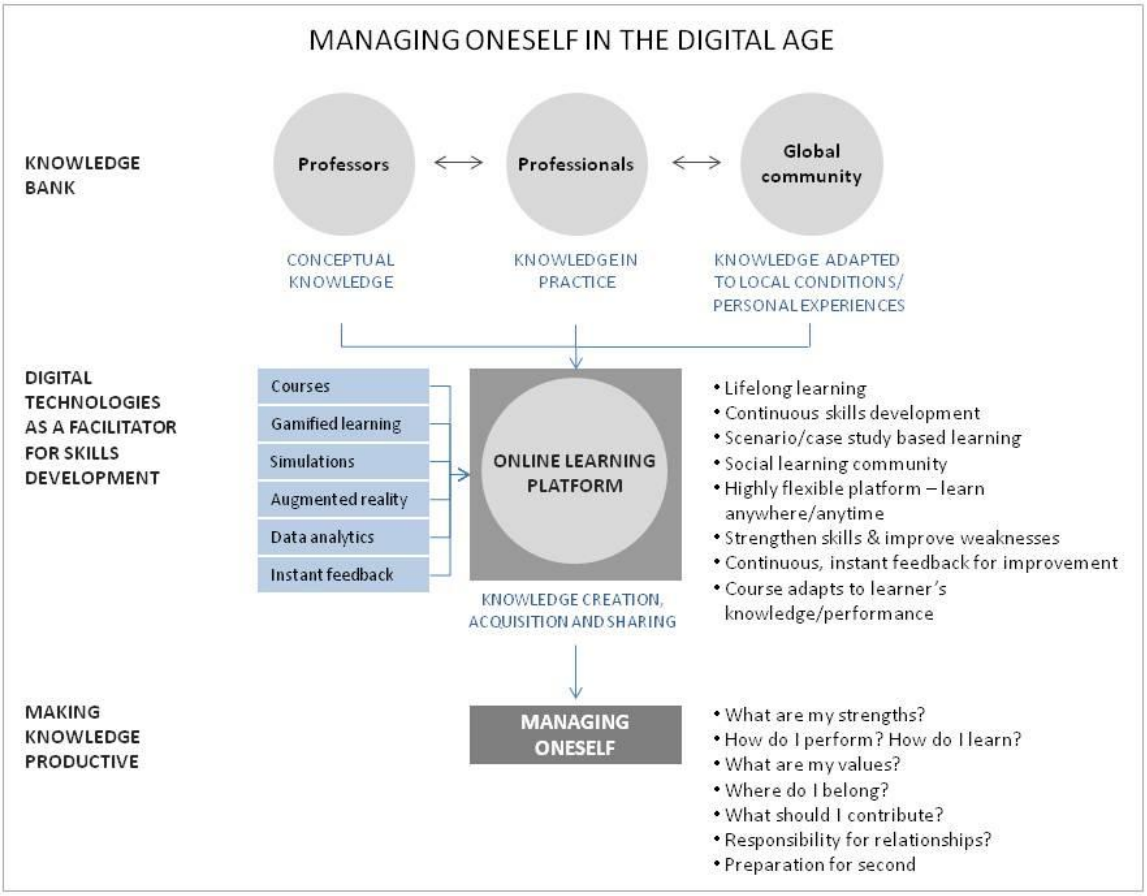
Using digital technologies to enhance and diffuse knowledge

"Teaching is the only major occupation of man for which we have not yet developed tools that make an average person capable of competence and performance. In teaching we rely on the 'naturals', the ones who somehow know how to teach." Peter Drucker

The new age of the knowledge economy will usher in demands for new skills. Online learning is an example of how digital technology can serve as a tool for humans to stay ahead of technological change. My entrepreneurial venture is founded on a personal vocation for the pursuit of knowledge and driven by a desire to contribute to the success of the knowledge economy.

I truly believe that, by democratizing skills development, online learning has the power of rendering Drucker's concept of a "second—or even—third life" a reality for a majority. Online learning allows people to discover new passions and hidden talents, while building their competencies. Ultimately, online learning empowers people with the tools to build a career based on self-fulfillment. The mid-level manager in desire of new challenges, for instance, can prepare herself online and leave her company for new industry. "In a society in which success has become so terribly important, having options will become enormously vital" (Drucker, Managing Oneself).

Based on my education, professional experience and view of the world, I built a model for my e-learning entrepreneurial venture. The model, which builds on Drucker's Managing Oneself for the 21st century, uses digital technologies as a means to enhance one's knowledge, skills and ability to manage oneself.



The idea is to use the power of digital technologies as a facilitator of skills development, with the ultimate objective of making knowledge productive. Online learning enables an individual to identify his/her strengths and weaknesses and to continuously improve on them. In an age of self-qualifications, the model underlines how digital technologies can be used to facilitate the "managing of oneself" to achieve one's aspirations. It is in this context that I launched by entrepreneurial e-learning venture with the following objectives:

- **Build a global knowledge bank** based on conceptual, professional and local knowledge. Our e-learning courses (which target professionals) allow the learner to apply conceptual knowledge in real-life case studies, thereby developing concrete skills that can be applied in a professional environment.

- **Position real-life simulations at the heart of professional education:** Digital technologies allow us to present knowledge using real-life, engaging and interactive simulations.
- **Motivation through gamified learning:** Future e-learning courses will resemble an interactive video game rather than a traditional lecture. Our objective is to attract an individual's attention for only 15-30 minutes of a day to play a game in which they *actually learn something* and can apply it to their professional lives.
- **Provide learners with immediate feedback**: Drucker observed that receiving feedback is one of the most effective ways to improve oneself. Through online courses, performance is received and processed immediately. This allows the learner to find out her strengths/weaknesses and to relate the results directly to their performance in the workplace.
- **Use the power of big data:** The data collected on how learners digest and learn information enables us to adapt courses to the learner's individual needs.

Each wave of technology challenges our understanding of the world. Humanity's strength and creativity in reinventing our role within organizations will be tested with the rise of advanced technologies.

Digital technologies are enabling humans to focus on the areas in which their strengths lie, while allowing technologies to take on remaining tasks. Leveraging the power of technology, through online learning, facilitates the managing of oneself. Leadership and creativity has the power to ensure that the old jobs replaced by technology will also create the jobs of the future. As history since the industrial revolution has shown, embracing technological change is not always easy, but with the right policies and intentions it will enable us to build the future we want, a future based on global knowledge, peace and prosperity.

Word count (excluding endnotes and references): 2,973.

END NOTES

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