

10 Can AI Emulate Soft Skills?

The Future of Work in the Balance

*Ricardo Murcio, Germán Scalzo,
Javier Pinto*

Introduction

The study of Soft Skills has captured the attention of researchers for centuries but particularly in the last decades (Massaro *et al.*, 2016, Lepeley, 2017, Lepeley & Alborno, 2013). To a large extent, the growing interest in Soft Skills is induced by growing demands for people with strong Soft Skills in organizations across the workforce. Worldwide, the demand has spurred by exponential attention in recruitment and selection processes (Andrews & Higson, 2008) considering that in the short term, Soft Skills contribute to improving the social environment in the organization and overtime affect results related to performance, leadership stability, growth and development of forthcoming executives (Heckman & Rubinstein, 2001).

Moreover, in Human Centered Management (HCM; Lepeley, 2017), Soft Skills objectively represent a paradigm shift embedded in the practical deployment of positive human actions required to continuously improve wellbeing at work and the workplace as a core condition to secure long-term organizational sustainability in the global VUCA (volatile, uncertain, complex, ambiguous) environment (Lepeley, 2017; Ochoa *et al.*, 2019; Lepeley *et al.*, 2020).

Increased concern for the Soft Skills of people across industries, sectors and nations worldwide is high and urgent; induced by accelerating speed of change in technology, and particularly due to the fast inception of artificial intelligence (AI) with unpredictable effects on work and people.

The greatest fear associated with AI is the potential that intelligent machines may replace human beings in operational and technical positions. This situation is reported in institutions in diverse sectors (Li & Liu, 2016; El-Namaki, 2018) as new digital applications and associated interactions make human control over these tools increasingly complex (Cao *et al.*, 2008). Fast change is accelerating the debate about the future of work (Chamberlain, 2018; Beck, 2000; Pistrui, 2018) and intensified the discussion and the growing possibility of delegating tasks to AI. Such a shift is coined by the World Economic Forum as the *Fourth Industrial*

Revolution (Schwab, 2016) that will have unique and foreseeable labor changes and major social consequences (Armstrong, 2015). It is argued that the present debate is fundamental and unavoidable and to be valid and reliable must be built on a solid understanding of the implications on human work (Bauman, 2004; Scalzo, 2018).

In the last century, management has been a discipline providing significant support to promote economic growth as the engine of change of organizations inserted in the Knowledge Economy (Lepeley, 2017). In tandem, the widespread use of technology, mobile devices, computing power and fast-growing social networks built-in *the cloud* is fostering the replacement of routine jobs by technology across organizations and industries. The substitution effect is spreading to occupations previously identified as *knowledge-intensive work*, thus reaching a new form of standardization that could be called Digital Taylorism (Piercy & Steele, 2016). These changes are impacting the work of people making it imperative to analyze the extent and effects of AI replacing work and particularly managerial tasks in organizations.

This chapter explores how people use Soft Skills in the workplace that at the present time appear to be irreplaceable by AI and overall in organizations deploying the Human Centered Management model (Lepeley, 2017) and ad hoc HC leadership styles. In this context, the chapter discusses pertinent questions identifying instances possible to replace and displace managerial functions by AI. First, the discussion centers on managerial work and practical intelligence (PI); then how distinctive activities are aligned with Soft Skills in human centered leadership. The chapter closes with arguments and details justifying why identified Soft Skills may not be replaced or displaced by technology.

Practical Intelligence and the Nature of Managerial Work

Until now, the introduction of technology in organizations in all sectors and industries has focused mainly on the substitution of operative work (Brown & Keep, 2018; Elliott, 2018), understood as actions and operations that follow rules expecting results that are mathematically and statistically correct (Llano, 1990). The overdue inquiry is this: *Can AI substitute managerial work?*

In his seminal work *The Practice of Management*, Peter Drucker pointed out that the essential features of managerial work include defining strategy and directing people (Drucker, 2011). In other words, both are related to leadership. In this sense, Bardy highlights that leaders have social power and they lead *when they use this social power in decisions they make, actions they engage in, and the ways they influence others* (Bardy, 2018). Bardy emphasizes Drucker's arguments and adds that a human centered leader is involved in the execution of every decision. However, leadership tasks are complex because most often

neither decisions nor execution follow fixed rules or have certain results (Llano, 1990).

All leadership actions include two functions: making decisions and executing them. Whether they involve the decision-maker or are carried out by someone else. Both cases are related to important Soft Skills expressed in the creation of ideas, ability to plan, communication skills, social interactions and *communicative action*, understood as communication oriented toward shared understanding (Massaro *et al.*, 2016). All these Soft Skills are closely related to what is called *Practical Intelligence*.

Academic interest in the relationship between managerial work in organizations and PI has grown recently (Bachmann *et al.*, 2017; Sison & Hühn, 2018), in alignment with prudence (phronesis) or practical wisdom, as its most important habit and component. According to the Aristotelian tradition, practical reason is about knowledge consistent with reality (Aristotle, 2014). This means realities that may have different outcomes under specific circumstances are embedded in a type of thought oriented *toward action*.

A practical mind differs from a speculative or theoretical mind in terms of the goals pursued. Practical reason aims to transform thoughts in reality, thereby modifying reality. In contrast, theoretical reason does not intend to impact reality but merely be aware of reality. Thus, one of the main responsibilities of managers is to transform reality leading to continuous improvement achieving better than expected results (Lepeley, 2017). One important aspect to remember is that managers constantly face and are responsible for solving concrete organizational problems, therefore must have strong skills require to find and apply concrete solutions.

Managers are called to provide actions that transform the present reality into better prospects, beyond theoretical speculations about causes or effects of problems. Practical knowledge is activated by the will to act driven by practical, not theoretical, reason. PI empowers managers with the ability to optimize decisions and solve practical problems.

After leaders make decisions, they need to advance into actions where they face a second important responsibility: who should carry out that decision and how to do it. Here, the most important skills are related to effectively managing processes that impact and influence co-workers to increase understanding and to reach an agreement about the decisions; as well as who, what and how the decision should be executed (Yukl, 2010) to comply with leadership duties.

As managers of people, leaders face complex tasks, overall how to exercise power. Based on their inherent responsibilities, leaders have power and influence on co-workers who carry out their decisions. The power leaders exercise on co-workers is underlined by moral decisions and values that reflect on the ethical sense of leadership (Ciulla, 2005).

Leadership, and overall the responsibility and influence on co-workers, are deeply affected by the use of their Soft Skills and to the largest extent, this is the reason why exponential demand for Soft Skills is on the rise (Marques, 2013).

Leadership is always a moral concern that leaders live and express out of virtues (Hühn *et al.*, 2018). Especially prudence, where *acts of virtue require practical wisdom, and rational choice coupled with reasons to act in a certain way, given a set of circumstances* (Sison *et al.*, 2018). Deployment of Soft Skills in leadership promotes and develops fundamentals of ethical leadership focusing on character formation (Robles, 2012) emphasizing abilities such as integrity, communication and flexibility (Marques, 2013) as antecedents of superior performance.

How Far Can AI Emulate Soft Skills?

As AI advances applications across disciplines and fields of human activity, it is increasingly subject to an increasing number of myths. In the first place, it is necessary to find a definition for AI to make sure there is a common understanding.

The Merriam-Webster dictionary defines AI as *a branch of computer science dealing with simulation of intelligent behavior of computers and capability of a machine to imitate intelligent human behavior.*¹ Both uses have been fixed for long and since the beginning of computer science. Alan M. Turing wondered in 1950 if machines could think. To answer this question, he creatively posted the inquiry and formulated rules and a hypothesis known as the imitation game (Turing, 1950). In 1956, John McCarthy proposed the term *artificial intelligence* under the auspice of Dartmouth University's Summer Research Project. It was part of a *study to advance conjectures that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can simulate it* (Moor, 2006: 87).

The issue of whether machines can perform human tasks continues today and it has actually expanded to include tasks that leaders perform in organizations. From the mechanical point of view of thinking and learning, AI has achieved significant advances. For instance, the so-called chatbots are capable of taking orders and resolving customer doubts on a variety of questions, and robots are substituting human labor in technical and operative activities in many ways. Amazon warehouses have implemented Amazon Kiva Robotics (Li & Liu, 2016) and at Walmart, machines have started to sort out products on shelves (Morgan, 2019). However, the initial inquiry remains: *can machines replace people?*

To date, AI mainly relies on processes and algorithms executed by machine learning systems (Burrell, 2016) using databases and classifying according to instructions created by specialist designers. Depending on the mechanism used, the results can generate informative answers or

provide solutions, such as medical recommendations or routes to a destination in Global Positioning Systems.² AI can also provide recommendations based on information human interlocutors upload to the *cloud*, as is the case with autonomous processors Siri and Alexa. Other machine learning processes are behind autonomous robots, mechanical arms or simple machines used in different industries and factories (El-Namaki, 2018) yet some specialists consider them *weak* forms of AI (Searle, 1980).

The distinction between strong and weak AI refers to the ability of a computer program to function without a designer's help. Strong AI is comparable to humans' possession of conscience and capacity for general abstract thinking that can perform different types of tasks with the same *processor*. Weak AI relies on human programming to perform its functions (Searle, 1980) and commonly specializes in particular functions, such as Google's computer program called AlphaGo (Scott *et al.*, 2017). The human brain would be hard-pressed to achieve the level of specification, but it is a weak type of AI because children could defeat it if they had the ability to play Chinese checkers. To a certain extent, weak AI manages to pass the Turing test, but in reality, it is insufficient to test because people distinguish when playing with a person or a machine. Until now, no program has been developed that can pass the Turing test (Armstrong, 2015). Machines can execute programs with stunning capacity, depth, and accuracy just as long as they work within a specified set of functions.

None of the abovementioned technological possibilities can be compared with Soft Skills. Computer science experts doubt that such a comparison can be possible in the future. This may be due to the fact that when comparing the capabilities of technology with the Soft Skills that Massaro *et al.* (2016) deem most significant, the superiority of Soft Skills over AI is clear.

Machines cannot create ideas, make culturally appropriate decisions for specific circumstances, or draft communication that may be widely shared. All these human abilities can be designed and made similar, but they remain weak in the face of the human capacity to understand a new context, analyze it, creatively consider a solution to communicate it and share a vision with another group of people. Thinking about imitation from a human perspective, it is not about replacing people with machines, but about creating spaces for coexistence.

The COVID-19 pandemic is accelerating the integration process between technology platforms, processors and remote work. Companies have begun to implement new strategies using technology platforms. Zoom use has grown from 10 million to 200 million daily users during the pandemic (March–August 2020). At the same time, organizations have realized that establishing etiquette rules for virtual meetings is essential (Clark, 2020). Yet, although there are autonomous robots that

interact with a variety of environments and therefore must be able to *deliberate* in order to achieve objectives, these deliberated actions are motivated by external agents who program them with a view toward achieving a specific goal.

To date, no field or industry takes autonomy as an intrinsic motivation of robots. This creates significant consequences for the future of work, especially in terms of a broad and profound understanding of managerial work in organizations (Scalzo, 2018), making proposals for appropriate, harmonious interaction between people and technological use far more urgent.

The Future of Work

The future of work is unimaginable without technology. Current conditions require extensive technological knowledge with high potential that this trend will increase in near future. At the same time, studies are identifying kinds of work that are important and will be irreplaceable and all these jobs have a high component of Soft Skills and are in high demand (Anthony & Garner, 2016; Piercy & Steele, 2016).

Meanwhile, programs focused on promoting Soft Skills in training programs in companies and at educational institutions, especially in business schools, which were stubbornly reluctant to teach Soft Skills for the last decades (Lepeley & Albornoz, 2013, Lepeley, 2016) are now emphasizing Soft Skills training and education (Massaro *et al.*, 2016; Lepeley, 2017).

In spite of evidence that technology is and will be a relevant topic in the future of work, and regardless of the current pandemic crisis that forced companies to increase the use of technology, the consequences of technology on the future of work cannot yet be fully anticipated. However, it may be speculative to say that the future of managerial action would be less exposed to risks of being replaced by AI, mainly because those rely more heavily on Soft Skills where the role of humans in decision-making is irreplaceable. Of course, AI facilitates decision-making but it does not replace it. Without human will, ethical decision-making is impossible because prudential criteria always originates in human actions and depends on the will of person who designs a tool or uses it.

AI is still far removed from what prudential acts are. At the present time, AI can gather information and evaluate it exclusively according to human criteria which are predictive, instead of defining elements that may contain omissions by design, because of the agent's failure to consider all relevant circumstances and effects. The distinction between theoretical and practical reason is important for eliminating actions deteriorating into pure speculation or mindless execution, as AI would do.

Furthermore, despite the possibility of developing Soft Skills in a system, the dedication and service that human work implies, and are required to make context-appropriate decisions that include creativity and human freedom, cannot be replaced.

The future of work is unimaginable without humans at its center. And this requires a common effort to discover what specifically distinguishes human nature (Bertolaso & Rocchi 2020). As technological advances intrude further in the human dimension and direction of substitution, human beings should aim to secure their space in the future of work putting technology in its appropriate place. And this task calls for intensive and extensive research about interactions of Soft Skills and AI.

Notes

- 1 Retrieved from: <https://www.merriam-webster.com/dictionary/artificial%20intelligence>
- 2 <https://www.gps.gov/>

References

- Andrews, J., & Higson, H. (Dec. 2008). Graduate employability, 'Soft Skills' versus 'hard' business knowledge: A European study. *Higher Education in Europe*, 33(4), 411–422.
- Anthony, S., & Garner, B. (2016). Teaching Soft Skills to business students: An analysis of multiple pedagogical methods. *Business and Professional Communication Quarterly*, 79(3), 360–370.
- Aristotle. (2014). *Nicomachean Ethics*, Reeve, C. D. Trans. Indianapolis: Hackett Publishing.
- Armstrong, A. (2015). I-programmer. Retrieved September 15, 2019, from <https://www.i-programmer.info/babbages-bag/297-artificial-intelligence.html>
- Bachmann, C., Habisch, A., & Dierksmeier, C. (2017). Practical wisdom: Management's no longer forgotten virtue. *Journal of Business Ethics*, 153(1), 147–165.
- Bardy, R. (2018). *Rethinking Leadership. A Human Centered Approach to Management Ethics*. New York: Routledge.
- Bauman, Z. (2004). *Work, Consumerism and the New Poor (Issues in Society)*. London: McGraw-Hill Education.
- Beck, U. (2000). *The Brave New World of Work*. Cambridge: Polity Press.
- Bertolaso, M., & Rocchi, M. (2020). Specifically human: Human work and care in the age of machines. *Business Ethics: A European Review*, 1–11. <https://doi.org/10.1111/beer.12281>; <https://onlinelibrary.wiley.com/action/showCitFormats?doi=10.1111%2Fbeer.12281>
- Brown, P., & Keep, E. (Fall 2018). Rethinking the race between education & technology. *Issues in Science and Technology*, 35, 31–39.
- Burrell, J. (2016). "How the machine 'thinks': Understanding opacity in machine learning algorithms". *Big Data & Society*, 3, 1–12.
- Cao, M., Stewart, A., & Leonard, N. (2008). Integrating human and robot decision-

- making dynamics with feedback: Models and convergence analysis. In *47th IEEE Conference Decision and Control*, 2008. CDC 2008, pp. 1127–1132.
- Chamberlain, J. A. (2018). *Undoing Work, Rethinking Community. A Critique of the Social Function of Work*. Ithaca and London: ILR Press.
- Ciulla, J. B. (Oct. 2005). The state of leadership ethics and the work that lies before us. *Business Ethics: A European Review*, 14(4), 323–335.
- Clark, P. (2020, April 25). A guide to modern manners in the age of Zoom. The etiquette of video conferencing is sadly a work in progress. *Financial Times*.
- Drucker, P. (1955 2011), *The Practice of Management*. New York: Routledge.
- El-Namaki, M. S. (2018). How companies are applying AI to business strategy formulation. *Scoledge International Journal of Business Policy & Governance*, 5(8), 77–82.
- Elliott, S. W. (Fall 2018). Artificial intelligence, robots, and work: Is this time different? *Issues in Science and Technology*, 35(1), 40–44.
- Heckman, J. J., & Rubinstein, Y. (May 2001). The importance of noncognitive skills: Lessons from the GED testing program. *The American Economic Review*, 91(2), 145–149. Retrieved from <http://www.jstor.org/stable/2677749>.
- Hühn, M. P., Meyer, M., & Racelis, A. (2018). Virtues and the common good in leadership. In A. J. Sison, I. Ferrero, & G. Guitián, *Business Ethics. A Virtue Ethics and Common Good Approach*. New York: Routledge.
- Lepeley, M. T. (2016). Introduction: Why Human Centered Management in executive education?. In M. T. Lepeley, E. v. Kimakowitz, & R. Bardy, *Human Centered Management in Executive Education. Global Imperatives, Innovation and New Directions*. UK: Palgrave MacMillan.
- Lepeley, M. T. (2017). *Human Centered Management. The 5 Pillars of Organization Quality and Global Sustainability*. UK: Routledge.
- Lepeley, M. T., & Albornoz, C. (2013). Innovation in business education in emerging markets. In I. Alon & J. V. McIntyre (Eds.), *Advancing People Skills in Business Education*. UK: Palgrave Macmillan.
- Lepeley, M. T., Kuschel, K., Beutell, N., Pouw, N., & Eijdenberg, E. (Eds). (2020). *Wellbeing of Women in Entrepreneurship. A Global Perspective*. UK: Routledge.
- Li, J.-T., & Liu, H.-J. (2016). Design optimization of amazon robotics. *Automation, control and intelligent systems*, 4(2), 48–52.
- Llano, C. (1990). *El trabajo directivo y el trabajo operativo en la empresa* (Vol. 9). Pamplona: Cuadernos de Empresa y Humanismo.
- Marques, J. (2013). Understanding the strength of gentleness: Soft-skilled leadership on the rise. *Journal of Business Ethics*, 163(116), 171.
- Massaro, M., Bardy, R., & Garlatti, A. (2016). A Soft Skills Training Model for executive education. In M.-T. Lepeley, E. v. Kimakowitz, & R. Bardy, *Human Centered Management in Executive Education. Global Imperatives, Innovation and New Directions* (pp. 222–234). UK: Palgrave Macmillan.
- Moor, J. (2006). The Dartmouth College artificial intelligence conference: The next fifty years. *AI Magazine*, 27(4), 87–91.
- Morgan, Blake (2019), Slow your roll robots: Not everyone is excited about walmart's robots, Forbes. Retrieved September 23, 2019, from: <https://www.forbes.com/sites/blakemorgan/2019/09/03/slow-your-roll-robots-not-everyone-is-excited-about-walmarts-robots/#6d1430233b3b>.

- Ochoa, P., Lepeley, M. T., & Essens, P. (Eds). (2019). *Wellbeing for Sustainability in the Global Workforce*. UK: Routledge.
- Piercy, G., & Steele, Z. (2016). The importance of social skills for the future of work. *New Zealand Journal of Human Resources Management: Special Issue: 'The Future of Work'*, 16(1), 32–42.
- Pistrui, J. (Jan. 2018). The future of human work is imagination, creativity, and strategy. *Harvard Business Review*, 1(18), Digital Articles.
- Robles, M. M. (2012). Executive perceptions of the top 10 Soft Skills needed in today's workplace. *Business Communication Quarterly*, 75(4), 453–465.
- Scalzo, G. (2018). Virtue ethics and the common good in production and manufacturing. In A. Sison, I. Ferrero, & G. Guitián, *Virtuous Business for the Common Good* (pp. 82–98). New York: Routledge.
- Schwab, K. (2016). *The Fourth Industrial Revolution*. (First U.S. edition) New York, NY: Crown Business.
- Scott, R., Beck, A. H., Papke, & D. J. Jr. (2017). AlphaGo, deep learning, and the future of the human microscopist. *Archives of Pathology & Laboratory Medicine*, 141(5), 619–621.
- Searle, J. R. (1980). Minds, brains, and programs. *Behavioral and Brain Sciences*, 3(3), 417–457.
- Sison, A., & Hühn, M. P. (2018). Practical wisdom in corporate governance. In A. J. Sison, I. Ferrero, & G. Guitián, *Business Ethics: A Virtue Ethics and Common Good Approach*. New York: Routledge.
- Sison, A. J., Ferrero, I., & Guitián, G. (2018). Virtues and the common good in business. In A. J. Sison, I. Ferrero, & G. Guitián (Eds.). *Business Ethics. A Virtue Ethics and Common Good Approach*. New York: Routledge.
- Turing, A. M. (1950). Computing machinery and intelligence. *Mind*, 49, 433–460.
- Yukl, G. A. (2010). *Leadership in Organizations*. Upper Saddle River, NJ: Prentice-Hall.