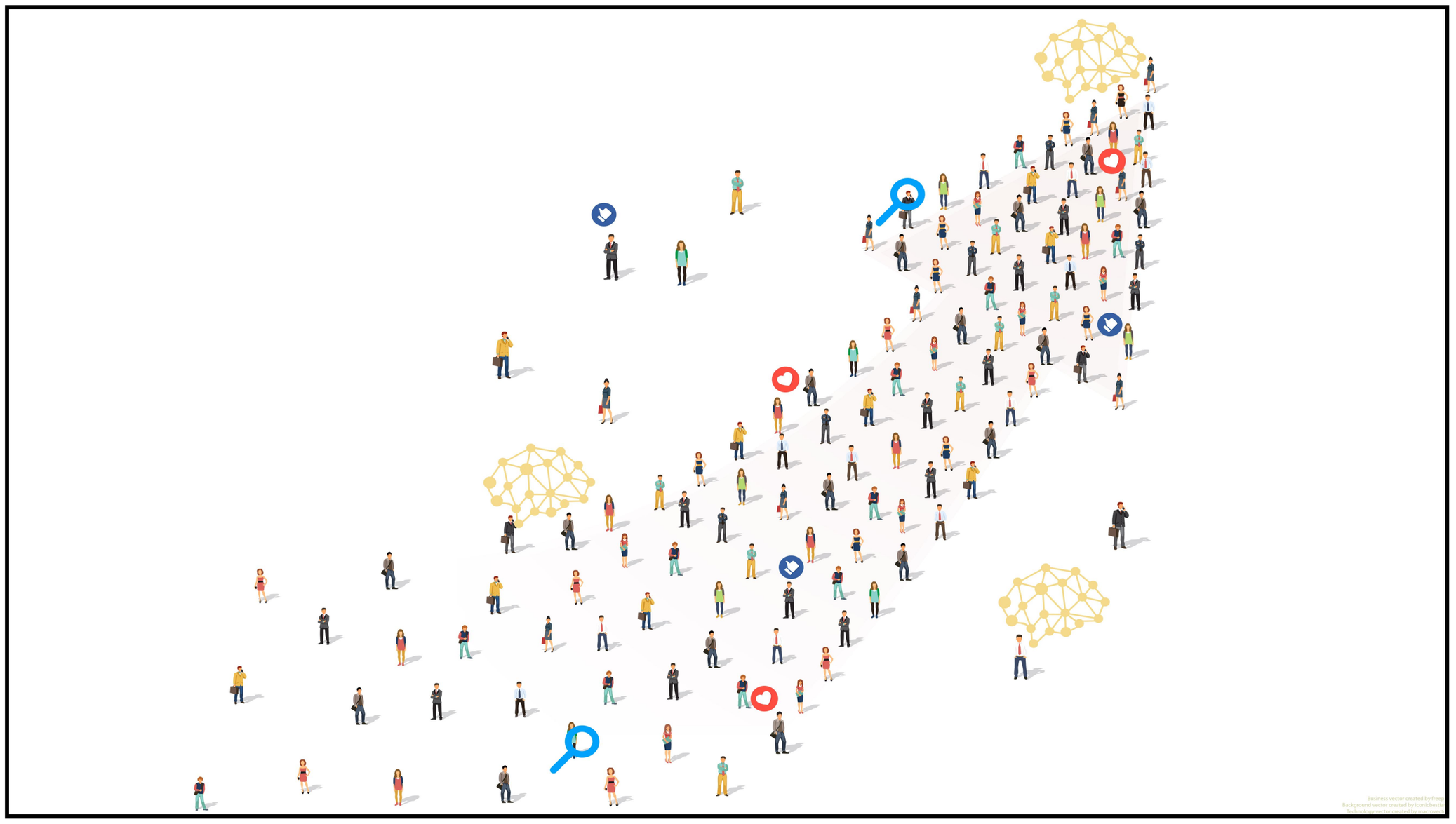

*Credit: Julie Su*

# Redefining Leadership Through AI

## by Yi Chen | BComm (BUSI) '22, BSc (ENEL) '22

As Artificial Intelligence (AI) is the primary digital disruption in the current Fourth Industrial Revolution (Schwab, 2017), experts in various professions increasingly rely on the guidance of AI-based algorithms for high-stake decision-making (Shrestha et al., 2019). For example, artificial neural networks (ANNs) are used in medicine for surgery allocation (Briceño et al., 2014). Additionally, algorithms are used in human resource management for hiring decisions, including C-suite executives (Carmichael, 2015). Artificial intelligence algorithms including ANNs and expert systems are also used in the banking industry, in efforts to build a hybrid intelligent system for credit ranking (Bahrammirzaee et al., 2009).

In the last few decades, leadership scholars have been trying to monitor the effects of digitalization processes, where AI plays an integral part in it (Cortellazzo et al., 2019). Part of the academic debate has been focused on a leader's ability to integrate the digital transformation into their companies and, at the same time, inspire employees to embrace the change, which is often perceived as a threat to the current status quo. Despite the increasing interest in discussing the relationship between digital technology and leadership, contributions have accumulated in a fragmented fashion across various disciplines. While most existing reviews and meta-analyses focus on studies from a specific field, such as computer-human interaction (Wesche & Sonderegger, 2019) or human factors (Oberer & Erkollar, 2018), this article will provide a comprehensive view by offering a systematization of the literature on AI and leadership through an interdisciplinary lens. In addition, recommendations concerning the future of AI and leadership will be provided.

There are two main perspectives concerning the role of AI and its effect on leadership that exist among scholars. The first perspective suggests that while AI assumes more cognitive tasks, there is an emerging "feeling" economy in which the "feeling" tasks of jobs, such as communicating with others and establishing interpersonal relationships, are becoming more important for human workers than the cognitive nature of tasks of jobs (Huang et al., 2019). Leaders should think of AI and human workers as a cohesive unit, transform jobs to be more people-oriented, and emphasize the hiring of individuals with strong soft skills. The other perspective, however, argues that leaders should be more digitally literate. Leaders should understand technology and augment some of their core skills to navigate the digital world, while their core leadership skills (i.e., transformative vision and forward-looking perspective) remain the

same (Kane et al., 2019). Additionally, the rationale of this perspective is validated by the joint study of MIT Sloan Management Review and Deloitte.

So... how can leaders capitalize on AI to optimize their decision making? To answer this question, one should first consider several factors. Machine learning AI systems are designed to accomplish specific tasks (i.e., prediction), by accessing and analyzing enormous volumes of data and providing intelligence so that humans can draw insights to make quicker and much more efficient decisions (Metcalf et al., 2019). Wesche and Sonderegger (2019) suggest that computers have begun to dominate leadership functions, guiding and commanding human workers. They further suggest that computers not only assist humans with specific allocated tasks (as in the past decades) but will also determine their working routine (i.e., guide them through their day, allocate tasks, and influence the working pace). However, it must be acknowledged that computers are not fully capable of experiencing human emotions yet. Therefore, leaders should employ proper judgment when making the high-stake decisions. When introducing AI to organizational decision making, leaders should also build internal capabilities to decide on the inputs to the algorithm, the algorithm themselves, and the interpretation of predictions (Shrestha et al., 2019). Finally, when making decisions regarding the tasks to be outsourced to AI, leaders should consider not only the available technological capabilities but also the human participants, their interests, and methods to gain their trust via potential incentives.

AI and leadership have coexisted for years. For this mutual relationship to prosper in the upcoming years, leaders must be willing to be adaptive and build a dynamic skillset. Mike Walsh, CEO of Tomorrow, suggested that leaders need not only a deep understanding of human complexity (i.e., how to motivate people and empathize with clients), but also a flair for computational thinking and the ability to take a structured approach to decision-making. Understanding at a high level how technology does (and does not) work will enable leaders to make informed decisions in times of uncertainty. Leaders with an agile mindset and digital savvy will be able to pivot when necessary.

In summary, AI will best benefit those leaders who study, understand, and use it. In the near future, leaders will be expected to manage machine–machine, human–human, and human–machine teams. Only leaders who understand AI well will successfully lead the company through periods of technological disruption and increase the Digital Quotient of the company (a single metric of digital maturity of a company) (Catlin, Scanlan & Willmott, 2015), and improve organizational effectiveness and long-term sustainability.