



Revista de Administração de Empresas

ISSN: 0034-7590

ISSN: 2178-938X

Fundação Getúlio Vargas, Escola de Administração de Empresas de S.Paulo

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INTELIGÊNCIA ARTIFICIAL, TRABALHO E PRODUTIVIDADE

Revista de Administração de Empresas, vol. 60, núm. 5, 2020, Setembro-Outubro, pp. 378-379

Fundação Getúlio Vargas, Escola de Administração de Empresas de S.Paulo

DOI: 10.1590/S0034-759020200508

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BOOK REVIEWS

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DOI: <http://dx.doi.org/10.1590/S0034-759020200508>

ARTIFICIAL INTELLIGENCE, WORK AND PRODUCTIVITY

HUMAN + MACHINE: REIMAGINING WORK IN THE AGE OF AI

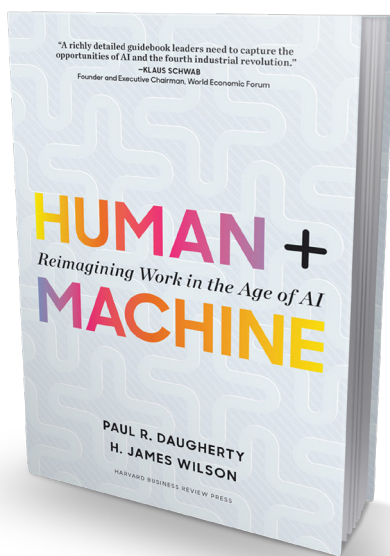
Paul R. Daugherty & H. James Wilson. Boston, USA: Harvard Business Review Press, 2018.
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Recent advances of new technologies promise to shift different dimensions of society, particularly the labor market. Especially in this area, several researchers have focused on the possibilities of broadening automation and job destruction it may cause (Frey & Osborne, 2013). Without ignoring such risk, Paul R. Daugherty and H. James Wilson, senior executives at global consulting company Accenture, explore an alternative possibility: creating work tasks or even fully new jobs linked to Artificial Intelligence (AI), understood as “[...] systems able to expand human capacity for detecting, understanding, acting and learning” (position 5%).

In a global study involving 1,500 companies using or testing AI, researchers found these types of tasks and jobs in about 9% of the sample. These companies include technology giants, as well as companies from other segments, such as Coca-Cola and Rio Tinto, thus providing evidence of the pervasive impact of the new technologies. A common characteristic of the members of this select group is their concern for the missing middle.

The word *middle* refers to the work dynamics where humans and machines collaborate with each other very closely, an almost symbiotic situation. In such organic partnerships, humans enable machines to do what they do best: doing repetitive tasks, analyzing significant volumes of data, and dealing with routine cases. Due to reciprocity, machines enable humans to have their potentialities “strengthened” for tasks such as resolving ambiguous information, exercising judgment of difficult cases, and contacting dissatisfied clients. On the other hand, the word *missing*, indicates that despite its being indispensable, companies hardly ever discuss the *middle*, and very few pay heed to it. New occupations and tasks include, for example, the “explainers”, those in charge of explaining decisions and recommendations made by machines to members of their organization once the operation of the algorithms sustaining these decisions and recommendations has become hazy even for those who work with them directly.

By promoting such strong connection between their employees and AI-linked technologies, the companies in question are able to meet floating demands and customized orders placed by their clients. Hence, the authors conclude that the organizations studied herein are using AI to increase the potential of human-machine relationships (and thus increasing productivity), instead of promoting massive rounds of automation. It is therefore argued that companies that use AI only to substitute workers will obtain only circumstantial gains.



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Daugherty and Wilson also observed new and successful types of human-machine interactions in occupations and tasks in various areas. In other words, even in activities and abilities deemed simpler, new technologies do not represent an imminent danger to workers. In the case of General Electric, “[it] and the buyers of its equipment will always need maintenance workers, and they’ll need those workers to be able to work well with new systems that can fuse their skills with advanced technologies in novel ways” (position 15%). In this case, employees’ good performance depends on their capacity for formulating questions for the software they work with to obtain the information they need, such as service history and wear-and-tear rates of the product they are supposed to fix; the authors refer to this as intelligent interrogation ability. In cutting-edge companies, so-called fusion skills are among the capacities that organization leaders have been developing among their employees with the aim of “filling up” the missing middle.

However, the authors do not clarify how the abilities in question have been developed by the companies studied, and they do not investigate the process of creating new tasks and new jobs. Filling these gaps is vital for research agendas in other areas. As an example, consider the task-based model, which assumes the activities that, taken together, constitute the different occupations, as the unit of analysis. Manyika, Chui, Miremadi, Bughin, George, Willmott, and Dewhurst (2017) is one of its main representative studies. This study analyzed 2,000 work tasks in 800 different occupations globally, and concluded that half (totaling US\$ 15 trillion in salaries) could be automatized by adapting already existing technologies. Less than 5% of occupations could be fully automated and 60% have at least 30% automatable tasks.

An in depth-examination of work tasks has two advantages:

(i) it allows parsimonious analyses of the number of jobs to be created and destroyed by new technologies, thus discouraging dystopic visions of a jobless future; (ii) it stimulates investigation of changes in the nature of work. For example, as in Daugherty and Wilson, how maintenance employees perform their role. For the task-based model to advance, other incursions within the production units are necessary. As highlighted by Acemoglu and Restrepo (2018), creating and destroying tasks “[...] is not an autonomous process advancing at a predetermined rate, but one whose speed and nature are shaped by the decisions of firms, workers and other actors in society” (p. 2).

In spite of its gaps, Daugherty and Wilson’s study is important to understanding that process, mainly because of the questions it poses:

(i) When tasks are eliminated, what is the decision to retrain or fire employees based on? When tasks are created, have companies been able to find qualified employees in the market? If not, has the strategy of qualifying labor been more in-house training or in partnership with technical education institutions? In other words, have those strategies varied according to the structure of the labor relations in each country (as in the sociological literature regarding varieties of capitalism, linked to Hall & Soskice [2001])?

(ii) Even when a certain company understands investments in new technologies as investment in human talents, the risk of shutting down jobs is always a possibility. Powered by anxiety, which strategies have employees adopted to prevent the adoption of such technologies and how have organization leaders tried to circumvent them?

As can be seen, *Human + Machine: Reimagining work in the age of AI* is a thought-provoking book. Moreover, it is strategic for defining interdisciplinary research agendas concerned about investigating the oncoming paths of work and productivity.

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AUTHOR’ CONTRIBUTIONS

The author declare that they participated in all stages of development of the manuscript. From the conceptualization and theoretical-methodological approach, the theoretical review (literature survey), and finally, writing and final review.