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Grasping the Multiple Facets of Intelligence

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"Alexa, What Can We Do Today?"

Abstract

Artificial Intelligence, Collaboration Tools, and new leadership practice will take over many of today's managers' tasks, and then their jobs. What remains of their roles will be taken over by "Key Players" – on a short-term basis.

Together with other apps and tools, Artificial Intelligence will soon begin to transform our workplace. In parallel, in many companies, new practice is taking hold which effectively distributes authority and strengthens employees' autonomy. As a result of these developments, the jobs of many full-time managers, especially at lower and middle levels[1], will probably soon disappear. What remains of their roles will be taken over by a group I call "Key Players".

1 Introduction

After several years of announcements, the first AI solutions are now entering our work environments. While their use is extremely diverse, some of these programs directly affect the way companies are run by their managers. This also holds true for the rapidly expanding field of so-called collaboration tools which enhance communication and collaboration, in project settings and elsewhere.

At the same time, we are experiencing widespread organizational change which aims to reduce the role and importance of hierarchy. New practice effectively allows employees to assume responsibilities previously reserved

1 For the classical three managerial levels, see Jones and George 2006.

for leaders. Will managers maybe be replaced by IT AND by their own employees?

In this article, I will briefly examine first the overall environment and then the developments described above. I will then elaborate on four areas and assess their potential disruption of business leadership as we know it: decision making, people analytics, self-organization and administration. Finally, I will envision how the reduction of current management will play out and describe the rising class of "Key Players" who might become the heirs of today's middle and first line managers.

2 The Law, and a Devil's Bargain

Before we go further, let's briefly discuss the law. One way or another, the solutions we are discussing involve some degree of employee surveillance. Is there a chance the new European GDPR (General Data Protection Regulation) will stop internal AI in its tracks? I remain skeptical, not only because developments in the US, China and most other big markets rather go in the opposite direction[2].

To make my point, allow me a short reminder. There is a powerful offer that most of us have accepted in our private lives: even though we could sense that social media were probably using our data for their own purposes, only a few of us have renounced the convenience that Facebook, WhatsApp, Twitter and others offer.

This is why I assume the following: when AI becomes very advantageous for employers, and at the same time very convenient for employees, neither current legal barriers nor trade unions nor public opinion will be strong enough to effectively prevent AI from entering our workspaces.

2 For the US, see privacyrights.org; for China, see: Grenoble 2017; Houser 2018.

A deal companies would offer to their workforce, and which might be difficult to reject, might read as follows: "Your work will be much less controlled by superiors than today. Transparent systems, and no longer subjective and potentially biased bosses, will monitor your work. The systems will give early warning, advice and training when performance slows down. You all will regularly rate these systems' accuracy and fairness, and you will be asked for your input for the systems' ongoing updates."

3 Three Trends Which Question Management's Role

Artificial Intelligence solutions[3] are taking hold in an increasing number of industries around the globe. They help companies cut costs, gain speed, and – paradoxically! – provide more personalized customer experiences. The solutions employed are as diverse as the challenges these companies are facing. Examples include customer monitoring and profiling; automated recruitment pre-selection; "digital twins" for the maintenance of physical equipment; and all the playlists and chatbots which are fast becoming part of our everyday life[4]. Further expansion of business AI seems guaranteed: as Davenport, Libert and Beck (2018) point out, the "costs of AI-enabled tools are falling, and availability is rising."

Additionally, there are now a number of apps and other tools which facilitate cooperation and coordination. Collaboration tools, advanced databases, smart calendars; and cutting-edge project support tools, like Slack, Trello, Asana or monday, all enhance transparency on priorities, capacities, and progress. While these programs – at their current state of development! – are

3 When talking about AI, we primarily refer to deep learning, i.e. series of algorithms that recognize patterns and their deviations through a multi-layered procedure. See Copeland 2016 for a short, well-explained distinction among various forms of AI.

4 For more examples, see Wilson, Daugherty 2018 and Ransbotham 2016.

not aiming to replace team or project leaders, they certainly make it easier for a team to take decisions on their own, rather than relying on a superior[5].

Third, these developments come at a time when the leaders' roles in organizations are under intense scrutiny. Many firms are finally acting on the insight that strict hierarchical pyramids are ill equipped to steer them through today's volatility and have initiated large-scale change: projects are conducted by agile methods which privilege (external or internal) customers' wishes over management input. Direct communication across organizational boundaries is explicitly encouraged, sidelining traditional reporting lines. Decision making is accelerated by pushing it closer to the frontline actors[6].

Each of these three trends has the potential to substantially alter the way management and leadership are enacted in companies, regardless of industry or company size. In the following sections, I will examine how they might play out in organizations' everyday practice, focusing on the four areas mentioned above.

4 Four Areas of Transformation

4.1 Area 1: Decision Making

This area has attracted the first and greatest attention in the discourse on AI and management[7]. Most authors' opinions coincide in that machines will contribute data and evaluate them while humans will apply their experience, creativity and other uniquely human qualities to arrive at final decisions.[8]

5 For more examples of collaboration tools' current deployment, see the Deloitte Human Capital Report 2018, p81-85.

6 Cf. Sutherland 2014; Laloux 2014; Kotter 2014.

7 Cf. Davenport, Libert, Beck 2018; Agrawal, Gans, Goldfarb 2017.

8 Kolbjørnsrud, Amico, Thomas 2016; Chamorro-Premuzic, Wade, Jor 2018.

Looking more closely, there are actually a number of ways machines can interact with humans in decision making. I'll summarize them as follows:

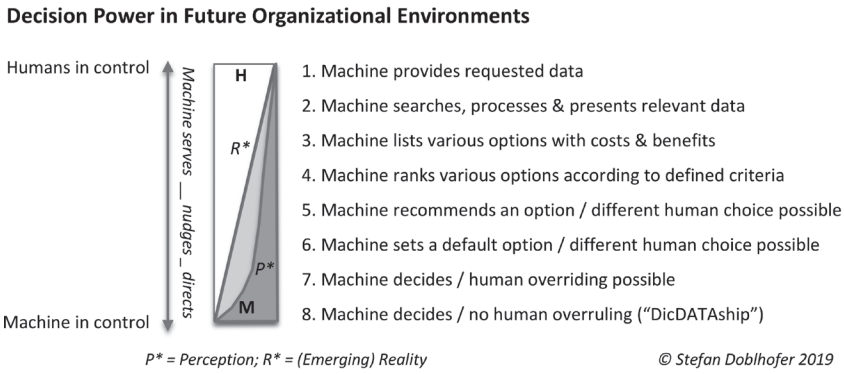

Figure 1: Decision Power in Future Organizational Environments

In Modes 1 – 4, the machine clearly performs a service. Modes 5 and 6 are what Thaler and Sunstein[9] have famously described as "nudges": the machine expresses a clear preference, but humans can still disagree. In Mode 7, the machine gets into the driver's seat, and in Mode 8 we arrive at what I call DicDATAship.

In my opinion, Modes 5 and 6 will leave humans an overall sense of control – clearly different from Modes 7 and 8 where the machine "takes over". However, this perception may be guided by human control illusion[10]. In reality, as its learning mechanisms will continuously improve an AI solution's recommendations or default sets, the subjective price for contradicting the machine will get higher and higher over time. This is highlighted by the two

9 Thaler, Sunstein 2008.

10 See the concept of overconfidence in Kahneman 2011.

lines in the central box of the graph (for perception and reality). Note that the gap between the lines (in light grey) is at its widest in Modes 5 and 6.

To address the human willingness to arrive at better informed decisions while still staying in control, the producers of AI solutions will be well advised to position their products as "assistants", working in Modes 4 to 6.

As several authors have pointed out, AI as assistance for decision making probably won't cost many managers their jobs[11]. Rather, evidence-based decision making will require a new humility[12] which may not come natural to most of today's leaders.

4.2 Area 2: People Analytics

The Deloitte Human Capital Report 2018 sees the rise of People Analytics (essentially a name for AI using employee data) as its second most important trend. People Analytics solutions have so far focused on

- recruitment: early programs pre-selected large groups of candidates; today's solutions can "listen to voices and identify mood, and decode video interviews to identify education level, lying, and cognitive ability"[13]
- performance: simple solutions just track performance data. Now, we are beginning to see sophisticated data mining for factors that really account for employees' success[14]
- employee engagement: from simple surveys to several Chinese companies literally monitoring workers' brainwaves through devices in their helmets[15]

11 Agrawal, Gans, Goldfarb 2017.

12 Chamorro-Premuzic, Wade, Jor 2018.

13 Deloitte 2018, p74.

14 Cf. De Romrèe, Fecheyr-Lippens, Schaninger 2016; Arellano, DiLeonardo, Felix 2017.

15 Cf. Houser 2018.

- employee interaction, tracked by organizational network analysis, to identify talent and opinion leaders
- retention: using surveys but also digital traces left by ex-employees, companies get better at predicting which employees might be "at risk".

With the new European GDPR rules, People Analytics have come under scrutiny. Still, the Deloitte Report concludes, "despite the potential risks, the promise of people analytics remains too valuable for companies to pass up" (p92).

People analytics will help managers make better informed decisions about their employees. Doing so, it will limit their discretionary margin (e.g. for politically motivated promotions, etc.) and increase the influence of HR (and IT) professionals. On the other hand, today people analytics solutions mostly work as supporting tools for decision making, and as such, they don't directly threaten managers' jobs.

4.3 Area 3: Self-Organization

Recently, we have seen a massive movement in a large number of organizations to find alternatives to their traditional pyramidal structures, and to help employees work with more autonomy[16].

A typical starting point is the establishment of Scrum[17] or similar agile project management approaches. They are designed to closely follow the ever-changing wishes of today's customers. To achieve that, they employ frequent feedback loops and team reviews. Facilitation and simple processes play a critical role. Leadership is often temporary and divided among several roles; the most important leader tends to be the person who regularly connects with the customer.

16 See Hamel 2011; Laloux 2014.

17 Cf. Sutherland 2014.

However, the call for self-organization extends far beyond project management. Alternative organization models to hierarchy like Holacracy[18] or Sociocracy[19] encourage teams to steer themselves, providing simple methods that help them avoid lengthy discussions without results. Even though the models themselves have been adopted by very few large organizations so far, some of their methods are now in widespread use, and they inspire many companies to expand their front-line employees' and teams' autonomy.

Self-organization actually represents a direct and visible threat to many first line and middle managers' positions. In the emerging alternative structures, many of the current tasks of team leaders or department heads can be absorbed by a number of engaged employees on a short-term basis.

4.4 Area 4: Administration

This is probably the area where AI and other IT tools have seen most progress. Deep learning is expanding the potential of current systems in areas as diverse as

- approval processes: by automated input verification
- planning processes: by cross-checking with historical data and by adding multiple contingency options, including adaptation during implementation
- capacity planning: by incorporating historical data and feedback of involved employees
- division of labor: by taking into account qualifications, track records, and peer feedback

18 See Robertson 2014 for Holacracy and the IDM (Integrative Decision Making) method (p109-126).

19 See https://sociocracy30.org for Sociocracy and www.sociocracyforall.org for the Consent Method.

- reporting, including adapting, re-formatting and automatically updating reports[20].

This area probably poses the biggest threat to current managers' jobs – above all, because it's a huge field[21]:

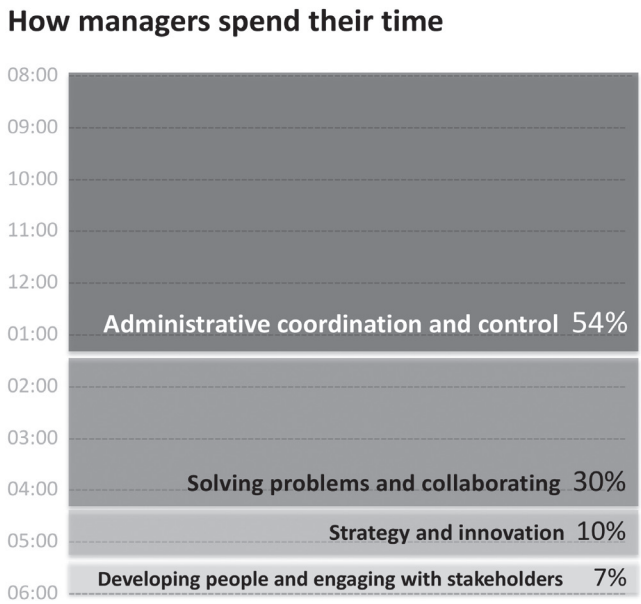

Figure 2: How Managers Spend Their Time[22]

20 For these and more examples, see Wilson, Daugherty 2018, Ransbotham 2016, and Deloitte 2018. The list also draws on 15 short written interviews I have conducted with business leaders and HR professionals from 6 industries.

21 Examples and graph from Kolbjørnsrud, Amico, Thomas, 2016.

22 Ryan Shanks, Sunit Singh, Robert J. Thomas, Managers and machines, unite!, Accenture, 2016

5 Overview: The Middle Managers' Digital Sunset

So far, I have described the direct threat from each area. In the graph below, I'll add what I call secondary threats, which emerge from interaction between the areas. I forecast the strongest interaction between the areas decision making and self-organization, to emerge when the technical potential from AI and collaboration tools is fully used to power self-organization.

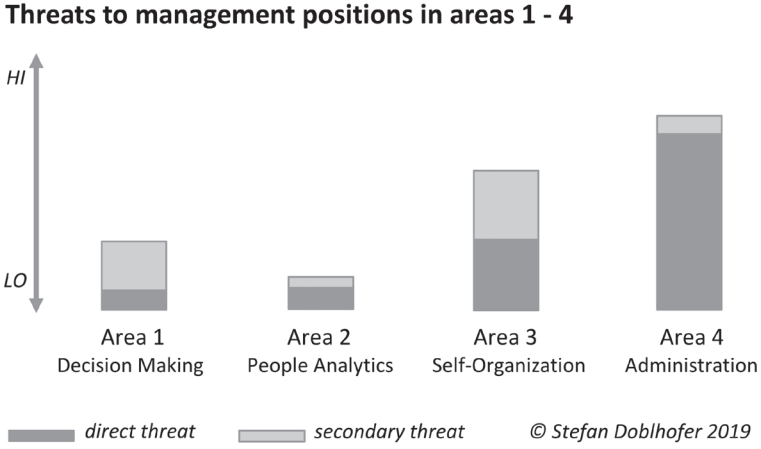

Figure 3: Threats to Management Positions

As we see, the threat to managers' jobs is real. I think it is especially strong for first line and middle managers: the first big threat, from self-organization, starts from the bottom in most organizations, and at least so far it has struggled to take hold at the top. And the second big threat, from administration, also applies mainly to the lower ranks, as many senior executives have delegated their admin work to dedicated staff.

So yes, many managerial jobs will disappear. However, this development might not be as painful as it seems. Today, a growing number of companies

actually struggle to find candidates for their lower management ranks. More and more employees (and not only millennials) have started questioning the deal: a little more financial compensation for constant availability, long hours and often reduced job security.

6 Key Players

Still, even new, agile, digitally enhanced organizations will require leadership – only in different forms. Projects will continue to depend on humans to steer them at key junctions. Organizational units will require coordination and alignment to succeed. Teams will appreciate interventions when motivation sags or conflict arises. Humans will be needed to facilitate the "Blended Collaboration" between tech and people. What we won't need, however, might be full-time middle and first line leaders to take care of all these needs on a continual basis.

Enter the "Key Players". My forecast is that many companies will see a great number of engaged and talented employees taking on occasional leadership roles: as Scrum Masters or Product Owners, they are already driving agile projects today. As Collaboration Tool Masters, they will enable teams to "treat intelligent machines as colleagues"[23] by selecting, deploying, maintaining, interacting with and further developing the best digital tools for the tasks at hand. As Facilitators, they will employ new methods to help teams arrive at fast, solid, and inclusive decisions. As Team Coaches, they may be called in to support individuals or to mediate conflicts. As Cross-Links, they could serve as contact persons between two departments. As Evangelists, they might drive new policies or priorities through the organization[24]. Feel free to add to the list.

23 Kolbjørnsrud, Amico, Thomas 2016, p4.

24 See www.doblhofer.cc / Key Players, for a number of everyday snapshots from future Key Players' practice.

Given the variety of their potential tasks, many Key Players will specialize. What they will have in common is that their leadership will be lateral. For this, they will need emotional intelligence and a deep understanding of group dynamics and organizational development.

Key Players might be a leadership reserve for their company, sometimes assuming an exposed role and then going back to more routine tasks. Companies could create pools of Key Players, set up separate career paths, complete with (task-related? temporary?) elevated salary levels, higher investment in qualification and personal development, and more. I suggest companies use (and of course, refine) the 'Key Player' term when engaging with their most promising employees: I am sure that a Key Player career path will be much more attractive to many of tomorrow's talents than their straight traditional team leader's role.

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