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## **Chapter 22: Digital Corporate Communication & Algorithmic Leadership and Management**

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### **Abstract:**

During the past decade, the 4th industrial revolution has been rapidly unfolding, with digitalization and automation affecting more and more functions and processes in organizations. The emergence of the new forms of work, powered by digital technologies, resulted in the novel approaches to management and leadership, where the algorithms are often mediating human managers. The adoption of such technologies has shaped organizational communication and the ways information flows. This chapter explores the changes of the on-going transformation of corporate communication, reflecting on the established management and Communicatively Constituted Organizations (CCO) theories. It presents and conceptualizes Digital Corporate Communication (DCC) as a part of the newly evolved algorithmic management and leadership practices in the era of digital economy.

**Keywords:** Digital corporate communication, algorithmic management, algorithmic leadership, digital leadership, digital communication, digital technologies in management

### **Introduction**

In the era when software algorithms are controlling, organizing and monitoring millions of workers around the world, algorithmic management and leadership have gained attention in both academia and practice. Theory about communicatively constituted organizations (CCO) explains how organizations exist due to the management of different flows of communication. In fact, organizations are formed from communication that integrates, communication that structures, communication that contextualizes and communication that positions the organization in a larger social system (McPhee et al., 2014). Thus, management and leadership of these flows are what essentially determines an organization's success. The new forms of gig work, app-work and platform work, which are often led fully by algorithmic systems, are changing how information flows, but not necessarily improving the leadership function nor the wellbeing of the workers included in the new digital economy.

In the last century, many changes have happened to traditional management and leadership due to the new technologies. To better understand their effects, the two organizational practices should be distinguished first. For many critics, leadership has been simply a new word to describe management, mainly as leadership ‘best practice’ is often hard to find in the real world and is increasingly difficult to adopt (Edgell et al., 2016). Management is usually considered more tactical, focusing on administering and controlling functions, while leadership represents more strategic contemporary approaches that lead organizations by ‘visions and values’, rather than by rules and control. However, Koontz (1980, p. 183) considered leading and motivating as one of the management functions, beside controlling, planning, organizing, and he was also among the first to argue that technologies have an impact on organizational management (Coal & Kelly, 2020, pp. 112-113). To be more precise with terminology, leadership is viewed as a form of *managerialism* - the generalized ideology of management (Edgell et al., 2016). Klikauer (2013) provides the following explanation: “*managerialism combines management knowledge and ideology to establish itself systematically in organisations and society while depriving owners, employees ... and civil society ... of all decision-making powers.*” This impedes that both management and leadership are forms of a managerialist ideology that remains dominant across organizational work and life (Edgell, Gottfried & Granter, 2016). With that in account and distinct to management, leadership has been summarized here as *a social process aiming to fulfil organizational goals* (Auvinen et al., 2017). Since these functions are built around various communication processes, the effect of technological development on them has brought a new digital perspective on corporate communication.

Until recently, such tools have been used *by human managers to support human managers* in decision-making, controlling, supervising, planning and organizing through information systems and data collection across organization and beyond. This, however, is undergoing a radical change today. With the progress in Artificial Intelligence (AI) and automation technologies, computer systems are not here to just assist any more. “One of the characteristics of digital labor platforms is their reliance on *algorithms that perform many management functions previously conducted by human managers* in traditional work organizations” (Jarrahi & Sutherland, 2019). As numerous examples show, these tools can now mediate

middle management through the direct execution of control, supervision, workforce organization, task assignment, feedback and even motivation of employees (e.g., Lee et al., 2015; Schildt, 2017; Martin et al., 2016; Derrick & Elson, 2018). Building an understanding of algorithmic technologies used for organizational management will help to shed light on the digital element of DCC.

### **Definitions of the topic and previous studies**

“Algorithm” is defined as “*a set of instructions that are followed in a fixed order and used for solving a mathematical problem, making a computer program, etc.*” (Longman Dictionary, 2020). This definition shows that algorithms can represent both theory (describing the logic behind certain phenomena; guiding) and something more complex, like a computer program that performs computation. The latter are algorithmic systems, which are well-known for their ability to learn, develop and reinforce own logic. Such attributes make them in a way intelligent, as they are designed to imitate human cognition (Mitchell, 1997; Ertel, 2011). Two directions appear to be emerging when it comes to how these technologies are applied for organizational management: one focusing on management by algorithms and the other on leadership by algorithms.

There are certain differences between algorithmic management and leadership practices. *Algorithmic management* can be perceived as a “big brother”, who is, basically, forced on workers (they *have to* comply with its rules), is in charge of control and distribution of work, not interested in any feedback, and is utilizing very simple monetary non-personal incentives in a gamified manner to motivate subordinates to continue working. The origin of *algorithmic leadership* seems to be more humanistic, as the practice is aimed at helping either a human user, a worker or a whole company (depending on the use case). In this context, it is more like a “companion”, rather than a “big brother”. In terms of present definitions of the phenomenon, as with algorithmic management, they are not agreed and often the same term is used to describe different applications.

A significant amount of research has been done on organizations with automated middle management functions (e.g., Uber, Lyft: Lee et. al, 2015; Upwork: Jarrahi et. al, 2019; AirBnb: Cheng &

Foley, 2019). However, the communication element has rarely been a focus of the studies. As management and leadership are executed through some form of communication, it is communication that determines how people perceive their organization's management and leadership. Therefore, digital corporate communication (DCC) is defined as "an organization's strategic management of digital technologies, digital infrastructures and digitalization processes to improve communication with internal and external stakeholders and more broadly within society for the maintenance of organizational intangible assets" (Badham & Luoma-aho, 2023, p. XXX). In this context, algorithmic leadership and management represent a major shift in organizations, because they mitigate interactions between organizational stakeholders and key management players, while attempting to make organizations more cost efficient and fast.

When communication is conducted by algorithms, it has different dynamics compared to humans. Algorithms might be perceived less natural as they only do what they are coded to do. In addition, they seldom communicate the logic behind the coded choices, making their communication even more obscure for anyone interacting with them inside or outside the organization (Buhmann et al., 2020). Despite the lack of clarity in how algorithms communicate, there are speculations on their potential involvement in leadership activities and even top management of organizations, due to their yet quite powerful analytical capabilities. For example, Wesche and Sonderegger (2019) have introduced the concept of Computer-Human Leadership (CHL), which they defined as *"a process whereby purposeful influence is exerted by a computer agent over human agents to guide, structure, and facilitate activities and relationships in a group or organization."* Looking even further into the past, already in the beginning of the century Avioli et al. (2000, p. 617) suggested the concept of e-leadership, defining it as *"a social influence process mediated by Information Technology (IT) to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups, and/or organizations."* Assuming that at some point in the future algorithms will improve their communication abilities, these might be not mere speculations.

As a separate phenomenon, the study of DCC will bring clarity to communication design, execution and attributes in algorithmic management and similar digital contexts. This is important

especially because Jarrahi and Sutherland (2019) emphasize that to understand the emerging role of algorithms in organizations, one should take a sociotechnical perspective and move from questions of replacement or substitution toward questions of balance, coordination, contestation, and negotiation.

Wesche and Sonderegger (2019) emphasize that the acceptance from the subordinates will be of crucial importance in computer-human leadership, as in its case the user will have to obey and/or follow the system in the context of task completion process. Their research, however, did not focus on the fully automated leadership processes and neither it focused on what specific leadership functions can be automated and what not. In e-leadership, the potential mediation of leadership by technology is viewed from the perspective of robots leading human subordinates (Avioli et. al., 2014, p. 117). The researchers note that even if the robots are developed to the point when they are able to recognize human emotions and psychological states, assigning them as leaders may possess threats, as robots themselves will most likely not have their own emotions, moral and ethical considerations, acting only from the plain directives or algorithms embedded into them (2014, p. 117).

Lee et al. (2015) were the pioneers in the field, introducing the term “algorithmic management” and defining it as *a practice, where software algorithms supplemented by technology devices undertake the functions normally executed by human managers*. Algorithmic management should be understood as a sociotechnical process emerging from the continuous interaction of organizational members and the algorithms that mediate their work (Jarrahi & Sutherland, 2019). The boundaries between the responsibilities of managers, workers, and algorithms are not fixed, but constantly negotiated and enacted in the novel management approaches. Lee et al. (2015) used the term in the context of platforms like Uber and Lyft. Schildt (2016) based his conceptualization on Lee et al.’s (2015) definition, but he was the first one to address it as “scientific management 2.0”. With such labelling, Shildt emphasized that management has become a process executed by technology and not by a human being, referring to Taylor’s theory of management, in which the management process described as the one having strict rules and aiming at maximum efficiency of operations. In his article, the author also postulates that *“algorithmic management, or Scientific Management 2.0, shifts power from a hierarchy of managers to*

*larger cadres of professionals who master analytics, programming, and business*”, pointing out the fact that there are still people in charge, they are just not managers anymore and are out of sight of the workers (Schildt, 2016).

### **What is changing?**

Corporate communication is a complex multi-layered practice, which differs a lot depending on one’s role in an organization, as well as on the purpose and target audience of communication. For example, managers at different levels influence the top-down transmission of corporate messages to employees, communicating their opinions back to top management (Men, 2011; Whitworth, 2011). Even though employees prefer to receive information from their immediate supervisors rather than from senior executives, the communication quality does not play a big role in this type of communication. On the contrary, communication quality, styles, competence, and channels become extremely important when it comes to leadership (Men, 2013). Leadership, as an ability to influence the attitude and behaviour of employees, *is performed largely through communication* (Men, 2014). Therefore, to holistically explore and form an understanding of Digital Corporate Communication in the new emerging Algorithmic Leadership context, *the established theoretical principles of both leadership and CCO* will be reviewed to reflect upon.

Though digitalization of organizational processes has made many management tasks (e.g, controlling, organizing) easier and more transparent, the same enablement has not happened in leadership. During the recent decades leadership practice and communication have faced several fundamental changes due to digitalization (Auvinen et al., 2019). The recent epoch of digital transformation (boosted by COVID-19 pandemic) has made interactions faster and traceable, making some of the management practices easier. Meanwhile, the leadership nature and execution has faced many challenges in the virtual context, as it is deeply rooted in communication (Holladay & Coombs, 1993; De Vries et al., 2010). Due to the varying extent of digitalization, leadership evolution has been illustrated in comparison with the



industrial revolution. Is it, after all, a question of full leadership automation or of a simple distribution of leadership influence and its functions (e.g., managerial) between humans and algorithms?

The automation of leadership is not a straightforward concept. It can relate to the automation of the whole *corporate leadership process* (part of organizational governance) or to just *one of the management functions* (as it is an inherent part of any management practice - mentioned in the introduction section). Harms and Han (2019) suggested that algorithmic leadership consists of elements of e-leadership, distributed or shared leadership and substitutes for leadership. From the *e-leadership* perspective, Stokols et al. already in 2009 mentioned that the use of technologies has led to constant contact between managers and employees, often resulting in higher stress, lack of socialization and sense of belonging, as well as a lack of mutual understanding between the subordinates. In the present management-by-algorithms (e.g., in Uber), we can also observe a constant contact and interaction between workers and digital system (as known as “algorithmic management”) (Möhlmann & Zalmanson, 2017). This is something not common for human-to-human leadership and management, as people simply cannot be in constant contact time- and resources-wise.

According to the *shared or distributed leadership* theory, there is no single leader. Instead, the leadership is distributed within the team. Each member can take the lead and influence others, when he or she has more situational expertise, and then stepping aside when the situation changes (Northouse, 2016, p. 365). Most of the present evidence shows that in algorithmic leadership there is, however, only one leader, which is the digital system. Nevertheless, in rare (and, so far, mostly conceptual) cases, the algorithmic leadership can have the elements of shared leadership. There, an AI-leader can act as a team member, assisting with, for example, decision-making, or as a coach, helping with activities alignment and assignment based on individual skills of each member (Wesche & Sonderegger, 2019). Considering the *substitutes for leadership* theory, though one could think that substitution is almost technically impossible in algorithmic leadership as workers must always report to the system, most of its principles are not changing in the algorithmic context and, thus, are discussed in the next section.

As corporate communication is viewed here as a major leadership enabler, it is important to explore how its processes change in the digital environment and the role and effects of algorithms in this.

When technology mediates social processes in organization, it directly affects interaction, communication and power dynamics of those involved. Jarrahi et al. (2021) call this a sociotechnical phenomenon, demonstrating that algorithms coordinate the organizational choices and shift organizational roles (Figure 1). Their diagram demonstrates the role and place of algorithms in the communication process between management and employees in the algorithm-driven organization. Practically, there is no direct communication between human managers and workers, but rather all organizational messages and decisions go through algorithms and are mediated and/or augmented by them. Next, the existing principles of corporate communication will be overviewed and mapped on the research evidence of algorithmic systems.



Figure 1. Sociotechnical dynamics in algorithmically mediated organizational context (Jarrahi et al., 2021).

From the CCO perspective, there are ten principles of communication, as outlined by Bishop (2006): *being clear* (appropriate and understandable use of language, organization of information), *relevant* (consideration and connection with interests of involved parties), *timely* (allowing response and interaction with information), *consistent* (not opposing or contradicting the organization’s discourse and actions), *truthful* (accurate and factually correct), *fundamental* (disclosing the core issues and central facts; avoiding “spinning”- giving the positive side only, twisting information to alter impression or disregarding the truth), *comprehensive* (holistic, providing the context and meaning), *accessible* (information is available to all parties to see, hear and discuss it), *caring* (showing respect and compassion for circumstances, attitudes, beliefs, and feelings of those involved), *responsiveness to*

*feedback* (organization seeks and responds to feedback and encourages mutual adaptation). The study has confirmed that these principles support the value and use of corporate communication process, with the basis that the communication is symmetric and based on dialogue, as this way it is considered to be effective (Bishop, 2006).

Do these principles persist when the communication processes are absorbed by digitalization and performed by algorithmic entities? The latest evidence shows that most of them become lost, with a slight variance and difference, depending on system and organizational contexts. When it comes to fully automated algorithmic systems, like in platform or gig work, there is a possibility that they are not even initially designed to be dialogic by humans, who program them, as most of the evidence shows lack of any open communication, support and feedback functionalities (e.g., Rosenblat & Stark, 2016). Another possibility is that organizations that deploy such systems want to deliberately avoid two-way communication with workers. In particular, Mateescu and Nguyen (2019) report lack of transparency on how the algorithms operate, creating additional challenges for the workers to figure out the logic behind decisions, even regarding their salary calculation. Transparency here is defined as a feature of the system, which gives users opportunities to see how decisions are made, to evaluate decisions' outcomes and the decision-maker itself (Lee et al., 2018), which is reflected in such CCO principles as being clear, accessibility, relevant, fundamental, comprehensive and accessible. A couple of real-life examples are introduced further to demonstrate the dynamics of how the violation of these and other principles of CCO happens in the fully digital context and under algorithmic communication.

Even though one could argue about the algorithmic communication being comprehensive, based on the Cheney and Dionisopoulos (1989) point of view that understanding the context is a responsibility of publics, the researchers emphasize that it is still the responsibility of an organization to provide contextual information and *to facilitate understanding as an inherent requirement of symmetrical communication*. Hond and Moser (2022) in the study on the role of algorithms in corporate sustainability reporting cite Hansen and Flyverbom (2015): “access to reality is mediated by algorithmically coded soft and hardware devices, which afford particular kinds of knowledge and insights, *but never the full picture of anything*” (p. 883). The researchers note that the material agency of AI technology transforms

sustainability reporting to an algorithmically mediated managerial technology that alters how corporate sustainability practices are understood and appraised by the public (Hond & Moser, 2022). According to Bishop (2006), this also violates the fundamental principle of CCO, as he mentions that “*not communicating the real or core issues represents an intent to mislead*”. Möhlmann and Zalmanson (2017) outline interesting insights on how the communication processes are organized within these algorithmic systems and affect workers. The researchers note that the communications are one-sided and not open, what makes it impossible to deliver any suggestions, complains or discuss management decisions. This absence of the feedback loop and dialogue with algorithms contradicts with the responsiveness to feedback, accessible and caring CCO principles, as they both are important for facilitating two-way communication, which is, in turn, an enabler of leadership (Men, 2014). Another demonstrative example is how CCO principle of consistent is undermined in platform-mediated work environment - even though platform owners (e.g., Uber, Lyft, Deliveroo) claim this will give them more freedom and autonomy, in reality, workers face constant surveillance (e.g., Chan & Humphreys, 2018; Mengay, 2020; Möhlmann & Zalmanson, 2017; Mateescu & Nguyen, 2019).

### **What remains the same?**

We may approach leadership in the digital revolution from *e-leadership* (Avolio et al., 2000; Darics, 2020), *remote, distance or virtual leadership* (Watkins, 2007; Schmidt, 2014) conceptual frameworks. Despite of the conceptual layer, the core of leadership – *a social process aiming to fulfil organizational goals* – remains the same (Auvinen et al., 2017). However, the categorization between a human leader and an artificial or, namely, an algorithmic (Noponen 2019; Noponen et al., forthcoming) leader, may offer an interesting perspective. Therefore, the following narrative will focus on the features and attributes of human leadership that can or could be relevant for *an algorithmic leader*, meaning that they would act the same way and produce same effects, when applied to the algorithmic context.

Among various leadership types, transformational leadership is considered to be one of the most significant by scholars (Men, 2014). The rich amount of empirical evidence confirms its positive

influence on employee attitudes and behaviour, noting that transformational leaders are usually more communicative than transactional (task-oriented) ones (De Vries et al., 2010). Such leadership style has relationship- and people-oriented nature, while its execution happens through communication. The positive influence of transformational leaders is often reflected in the increased levels of commitment, motivation and encouragement of workers (Edgell et al., 2016).

In algorithmic, digitally mediated, context, Rosenblat and Stark (2016) have found that behavioural engagement happens merely through the promises of higher pay rates in certain areas and at specific times, resembling gambling or gaming form of emotional experience. It is used by platform companies, such as Uber, to facilitate the relationships between supply and demand, rather than to establish relationship with employees. This example demonstrates that *leadership does not exist in the algorithmic context of platform companies*. Instead, they utilize algorithms and digital systems to empower them and maximize workers' efficiency – holding control over information, monitoring workers closely and reducing all motivational practices to standardized gamification, nudges and financial incentives (Rosenblat & Stark, 2016). The second industrial revolution gave birth to the idea that work could and should be managed (Edgell et al., 2016). Scientific management, introduced by Frederick Taylor in 1909, was based on the, at the time, a novel idea that optimising the organization of work leads to higher efficiency. Scientific management was based on dividing tasks and responsibilities between workers, as well as standardising and measuring everything, rewarding high-performing workers with higher pay. Division of labour and standardisation was also the key ideas behind the birth of mass production with assembly lines in the early 1900s, often referred to as Fordism (Edgell et al., 2016). Even though during the past century both of these approaches to treating employees have been criticized and recognized as less ethical (Gal et al., 2020), today, in 2020s, algorithms gave them a second birth, offering new ways to execute them, the so-called *Digital Taylorism or Scientific Management 2.0* (Schildt, 2016; Günsel & Yamen, 2020).

Substitutes-for-leadership theory postulates that a leader's behaviour (or some of his/her functions) can be substituted for, neutralized, or reinforced by situational factors (Kessler, 2013, p. 810). Among these factors are, for instance, the subordinates themselves (their knowledge, experience, amount

of training, degree of autonomy needed, etc.), the nature of the task (its meaningfulness and intrinsic satisfaction it provides, degree of monotony and routine, feedback) and organizational characteristics (e.g., degree of formalization, flexibility of rules, amount of staff and support, etc.). There are several categories of these situational factors.

*Substitutes* decrease the influence of a leader over subordinates and can eventually replace him. One of such factors is technology that can substitute a human leader or decrease the degree of his influence. Another possible substitute can be the advanced training of workers, when the leader has not enough or right competence and, thus, cannot effectively lead, guide and supervise the subordinates (e.g., leader – administrator, subordinate - surgeon) (Kessler, 2013; Howell et al., 1990). In the algorithmic context, where the leader *is* a form of technology, the latter option of substitutes is observed: human workers educate themselves and find ways to trick algorithms, avoid punishments of the system, as well as figure out how to improve own work to maximize profit (e.g., Rosenblat & Stark, 2016; Chan & Humphreys, 2018).

*Neutralizers* are factors that prevent or counteract with leader's actions and encumber his ability to make a difference. An example of such factors can be seen, when a leader is separated from subordinates and communicates virtually, since many leadership techniques become ineffective. Another possibility of neutralization is when leader loses control over the rewarding system and, as a result, his ability to motivate employees. This is something that sometimes happens in the algorithmic context – workers simply loose interest in the financial rewards offered by the system, due to the lack of two-way communication with their algorithmic leader they fail to understand its decisions and start to question its expertise. As a result, the algorithmic leader loses his influence over subordinates. To take over this leadership, algorithmic management workers have established online communities, where those with more expertise share their knowledge and guide others (Chan & Humphreys, 2018; Jarrahi & Sutherland, 2019).

When it comes to *enhancers* – factors that positively affect a leader's influence – it is controversial how they appear in the digitally mediated leadership context. For example, the human leader's influence can be enhanced with access to more information, relationship networks, organizational

culture and ethics (Kessler, 2013, p. 811). An algorithmic leader can process and access more information by default, what can raise its credibility in certain situations (e.g., as explored by Lee, 2018).

Nevertheless, most of the factors that positively affect leader's influence – culture, ethics, communication and relationship networks – are not yet technically possible and/or leveraged to reinforce the digital leader's influence (Gal et al., 2020).

To sum up, it is negotiable whether there should be a line between the traditional or digital (e.g., algorithmic) leadership, yet it seems that it might be more fruitful to focus on the actual leader, disregarding its nature or origin. The long-established human leadership research shows that there is a variety of roles and functions that a leader needs to fulfil to achieve organizational goals. Even though it still stays obscured, which of those roles and functions will pass on to the algorithmic leadership and which will not, communication remains the only inseparable function of a leader.

### **What is the role of communication in algorithmic management and leadership?**

Rosenblat and Stark (2016) are among the pioneers in research on algorithmic management and the problematic issues in labour conditions and experience of work under it. The researchers dedicated much of their focus to problems within communication processes between the company, its workers and customers. There were several issues that they discovered and discussed in their paper. First, workers are usually unable to reach company representatives. Uber, as an example, outsources its support and it is handled only by means of email. The typical replies are lacking situational understanding and are often templated (Rosenblat & Stark, 2016).

Communication often serves the central function of motivating in organizations. Jabagi et al. (2019) explored the motivation of workers in the gig or platform economy, where Information Technology (IT) plays a central role in organizational design and enables the connection between workers and customers. This context is generally known for the lack of social interactions (with colleagues and supervisors), because even human managers, who are traditionally in charge of maintaining and supporting workers' self-motivation, are now mediated by technology. In order to tackle this issue, Jabagi et al. (2019) proposed to the platform labour providers to integrate Enterprise Social Media (ESM) - “an

*organizational web-based platform that facilitates internally facing communication, social interaction and collaboration among users within an enterprise through the creation, sharing and indexing of content* (Leonardi et al., 2013, as cited in Jabagi et al., 2019). Implementation of ESM should increase motivation and work satisfaction, fulfilling the psychological needs of employees. ESM platforms resemble the well-known mass social-media platforms (e.g., LinkedIn), but also have unique functionalities (e.g., wikis, document sharing). They are considered to be very effective for a digital transformation of an organization, because of their ability to facilitate collaboration and knowledge sharing and to enable workers' social interaction, communication, self-expression and better identification of skills and knowledge (Jabagi et al., 2019). In the enterprise version, the researchers suggest introducing practices of *social networking* (e.g., having a profile, share status updates, express opinions, comment) and *social badging* (awards for certain achievements). According to their research and background study on self-determination theory and job design, these features can increase workers' sense of belonging and competence, motivating them to commit and contribute more to their work and organization.

Communication is the means to make sense and build meaning into organizational practices. Toyoda et al. (2020) made an experiment, where participants (MTurk workers) had to find parasites in the blood sample with malaria, founding that when workers were provided the meaning of the task and when an Artificial Intelligence-powered system was framed as a supportive tool (used supportive messages), workers' engagement significantly increased. In fact, the results revealed the value of communication: when the workers knew the task's rationale and what is expected from it, they tried to frame their actions to be more desirable. This is also in line with CCO principles discussed in the previous chapter. Interestingly, workers were more engaged (though not more accurate) when AI system was framed as a supervisor (used controlling language) and when the task was meaningless (Toyoda et al., 2020).

Another central role of communication in the context of AI is sensemaking through informal communication networks. Chan and Humphreys (2018) looked at workers' interpretations of the algorithms (i.e., messages received) and data, communication networks created and the guidance by workers among each other on forums, attempts of normalizing the production of social space at work.



Focused on Uber, they discovered that certain tensions emerge between the company and its workers - while Uber claimed that the rating systems and navigation were “objective knowledge”, the drivers relied on tacit knowledge and informal communication networks to make sense of the logic much like in traditional organizations. They had to develop an understanding on how the system works, in order to tackle its imperfections and avoid situationally unnecessary punishments (Chan & Humphreys, 2018).

Such experiences of workers shows that they expect clear communication of how ratings are comprised and how they should interact with customers and also the platform, which makes it a necessary missing element in the present management-by-algorithms work context. Chan and Humphreys suggested the term “*digitally-enabled service workers*”, to demonstrate better how the data influences the emergence of expectations towards social interactions and how the power dynamics are mediated through various digital processes, leading to the peer-to-peer exchange of information and building algorithmic imaginary by the workers (Chan & Humphreys, 2018).

Jarrahi and Sutherland (2019) called this development of understanding of the platform’s behaviour *sensemaking*, which they have also found to be a shared activity, since most of the research subjects used *online forums* to exchange their knowledge of the platform and its policies, seek for some advice, help and support each other. Continuing the line of research, Kaine and Josserand (2019) were among those, who pointed out the importance of *social media* for gig work. They discovered that it was useful for community building and for the direct facilitation of gig work (in the context of knowledge-intensive work), because workers were able to do self-branding and display their skills and competences better. Moreover, workers used social media not only for exchanging their knowledge, but also for collective activism and for expressing their resistance towards the platform work conditions.

These examples demonstrate that, even though in the digital context, where communication processes are automated by algorithms, most of the CCO principles are not embedded into communication, yet the social aspect of work only maximizes its importance. What happens as a result is that human workers take the lead over communication, substituting the algorithmic leadership and building their own dialogic ways to communicate between each other, educate and share best practice and knowledge.

### Critical examination

From the organizational point of view, despite the central role of communication for work morale and sensemaking, social connectivity among workers remains unimportant to platform providers (Möhlmann & Zalmanson, 2017). Mediated by the platform, lacking human managers or co-workers, there is no direct support (only through chatbots or email) and no opportunity for social exchange for AI-led workers. As a result of the lack of interactions and sociality, workers are unable to build either negative or positive social ties and might feel isolated, like if they were working for an abstract system, rather than an organization comprised of people. Besides, platform communication remains one-way and closed off, disabling improvements through suggestions, complains or discussions on decisions. Platform companies explain how they do not “employ” people but provides them an opportunity to work independently (i.e., the Uber app) (Möhlmann & Zalmanson, 2017).

In fact, even though such functions of human resource management as work assignment, performance management and employment relationship building are present in app-work, they are totally different from the established known models of HRM, from both their strategic planning and implementation perspectives (Duggan et al., 2019). Taking, for example, the *employment relations* in algorithmic management context, they are of purely transactional nature, as no effort is put into the development of trust and commitment of workers. Besides, the training and competence development opportunities are nonexistent in app-work, as well as social interactions and networking opportunities (Duggan et al., 2019). In app-work, platforms regulate workers based on certain rules and affordances, making them both dependent and limited in their work, what also makes it clear that the power dynamics are not balanced, shifted towards the platform (constant control and complete authority over decisions) and customers (anonymous ratings), creating *digital Taylorism experience*.

Additionally, well-being of workers is significantly damaged, as no social or security benefits are provided (Duggan et al., 2019). When it comes the *work assignment* practice itself, it is very opaque and, as the evidence shows, usually works in favour of more efficient and fast workers. Besides, the autonomy

of workers to choose whether to pick a task (or to work in general), which is claimed to be one of the benefits, is under a big question, because all their rejections and delays are monitored, recorded and affect (negatively) any further tasks proposals for an individual worker, thus, limiting his autonomy. Lastly, the *performance management* is also associated with the *lack of transparency* behind it and relies purely on quantitative measures, not taking into account any behavioural nuances and controversial situations, even though multiple parties are involved and affect the final ratings (Duggan et al., 2019).

Another critical HRM review was conducted by Connelly et al. (2020), who identified several challenges of the traditional human HRM practices within the context of gig economy. They pointed out that, for example, workers retention and engagement normally involve such practices as *an establishment of qualified relationship with supervisor, meaningfulness of work from which the benefit for society and others is visible for the worker, team spirit and activities, training and professional development*. However, they are hardly present (and not likely to appear any time soon) within the algorithmic management, as already mentioned in the context of CCO principles reflection. Many of this kind of practices are not present on the digital labour platforms, because workers are not officially considered as employees there, but are, instead, independent contractors (Connelly et al., 2020).

Having such employment status and freedom over the schedule and completion of the tasks, prevents HR department from employing activities targeted on increasing the engagement of workers, in order to achieve higher productivity and performance quality rates. Thus, in gig work, HRM could be (and often is at present) focusing only on transactions management and accounting, general monitoring of workers, their status and differences, matching the supply and demand, recruitment, as well as suggesting when the full-time employee would be a better choice than gig worker. In terms of performance management, the researchers note that if algorithms are used instead of the HR managers, then transparency of the data usage is required, so that employees are able to know how their personal data is used and can argue with that. Besides, HR department should be the one accountable for the technology usage. However, as in gig economy workers are not employees, these practices are not in place either (Connelly et al., 2020). Considering the compensation and benefits side, it is normally managed though

the “gamification” of the system in gig work and is relatively effective. The overall design of the platform work is targeted to be motivating, because the workers’ engagement cannot be encouraged by human managers within the algorithmic management setting and the communication with them or any other company representatives is not established (Connelly et al., 2020).

### **Illustrative example: Deliveroo France**

Generally, managerial tasks appear more prone to automation than leadership tasks. The case of Deliveroo illustrates how even a company with an extensive algorithmic management system still needs the human touch in many leadership and communication tasks. Deliveroo is an online food delivery company that operates in numerous countries from the United Kingdom to Kuwait, enabled by crowds of self-employed bicycle and motorcycle couriers. The case of Deliveroo illustrates communication’s crucial role in algorithmic management. Similar to other platform companies, Deliveroo combines *algorithmic control* with *entrepreneurial rhetoric* in governing workers. As Galière (2020, 366) found, in France, Deliveroo promotes an atmosphere of self-entrepreneurship by promising newly registering food delivery riders ‘flexibility, independence, attractive income’. Whereas workers in other platforms may contest these claims, Deliveroo riders in France have bought into it to a greater extent, as they believe that algorithmic management facilitates a hyper-meritocratic work setting. This is partly due to Deliveroo riders engaging in a sporting competition: those cycling fastest deliver most meals and therefore receive most assignments from the algorithmic system.

According to Galière, disciplinary mechanisms of rational control do not fully explain workers consenting to algorithmic management, as building normative control through communication is also crucial. While the promotion of an entrepreneurial atmosphere is present from the start, operational managers further reinforce the entrepreneurial identity in events organized by the company. However, whether algorithms really facilitate hyper-meritocratic work conditions seems questionable, as a ride-hailing simulation by Bokányi and Hannák (2020) shows that the systems may distribute widely different incomes to identically performing drivers.

The case of Deliveroo in France displays how communication that position an organization in its larger social system may affect the way its everyday work is organized, as well as workers' perceptions. Deliveroo's recruitment advertisements, tempting them to "be their own boss", have contributed to building an organizational culture where algorithmic management is somewhat accepted as the facilitator in a race to deliver meals as fast as possible. This conversation is part of the larger political discourse of self-entrepreneurship that includes the contested question of whether platform workers are individual entrepreneurs or contractual employees.

### **Conclusion and future directions**

As we have many expectations from leaders, be it a human or algorithmic leader, our expectations related to communication are among the most important, as it is the heart of leadership and organizing, as many examples from theory and practice have shown. Communication is a unique, complex social process that involves emotions, reasoning, negotiation and situational thinking, especially, if it is supposed to lead and engage others. Digital communication and algorithmic management terrains are not yet well-known or understood, since they are continuously expanding and changing as we, humans, explore them. On the other hand, how we communicate and operate with emotions is hardly understood by the most advanced algorithms, what appears to be their stumbling factor for achieve a status of a leader and acting independently. Therefore, the main question is - do we want to take the advantage of technology to improve our practices and create better ones or do we want the technology to use its advantage, disregarding the ethical side of the issues?

In this chapter, we have demonstrated that there are examples of both applications of technology and one characteristic that distinguishes one from the other is the presence and quality of communication. Future research and more detailed studies on such leadership aspects as motivation, engagement and influence in the digital context would contribute to better understanding on how we should shape our own practices and will direct the development of the algorithmic ones. What would be the characteristics and requirements for the digital communication processes led by humans to be effective? Can algorithmic

leadership ever be ethical? How to make it ethical and what role would the communication processes play in this? To what extent organizations should utilize the technology in their communication processes and are there better digital tools available to facilitate the creation of organizational culture?

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Figure 1. (In your final version of your chapter, figures should be in a separate file in their original format, but for this template it is attached here). You can submit a color version but make sure it works also in black and white as printed books will not have color.

Figure 1. The four parts of the Handbook of Digital Corporate Communication.

