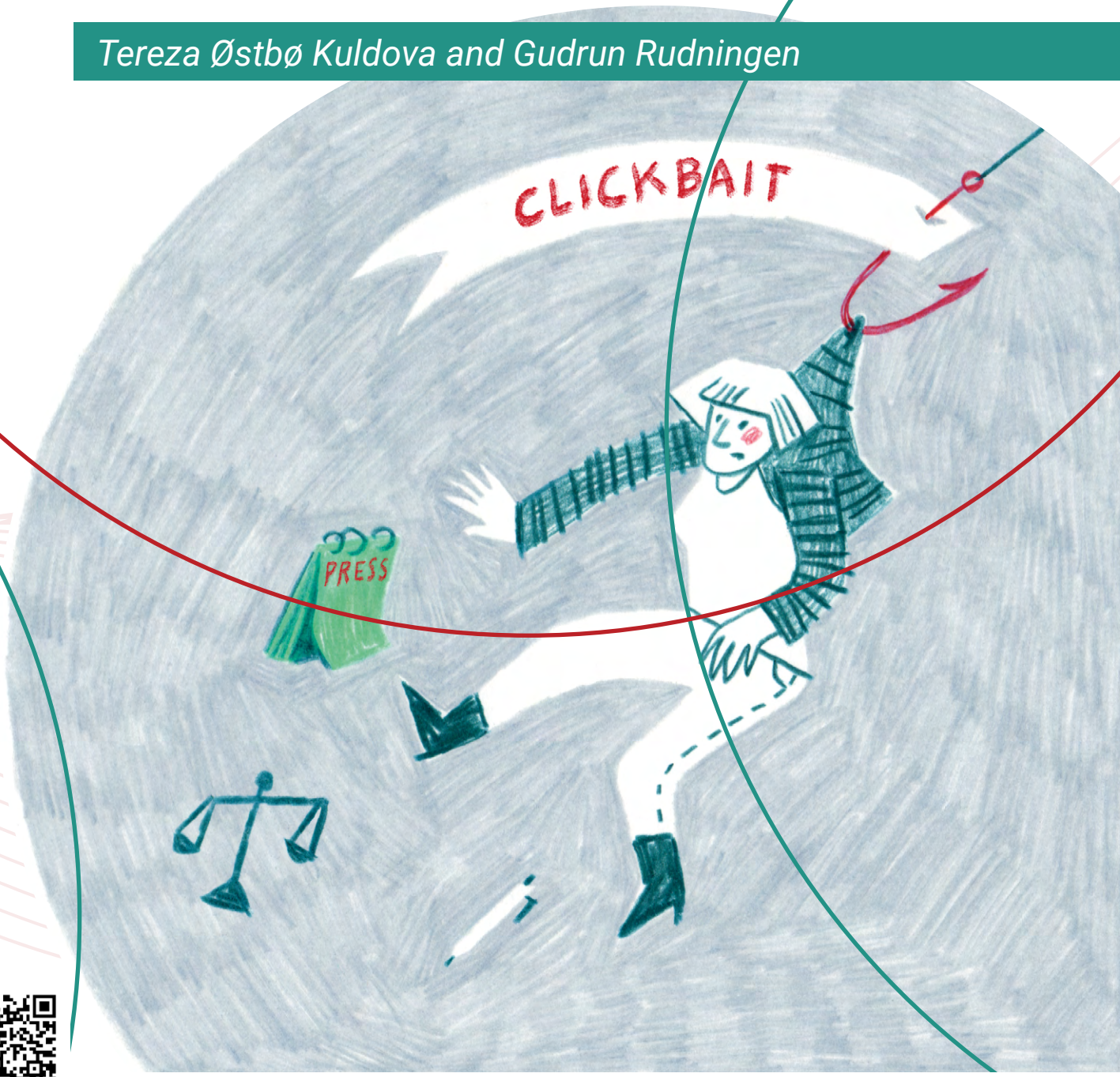
DIGITAL PROGRAMME
ALGORITHMS AT THE WORKPLACE

POLICY STUDY
November 2024

ALGORITHMIC GOVERNANCE AND CO-DETERMINATION IN NORWAY

INSIGHTS FROM WHITE-COLLAR WORKERS AND TRADE UNION REPRESENTATIVES IN THE FINANCE AND NEWS MEDIA INDUSTRIES

Tereza Østbø Kuldova and Gudrun Rudningen



tankesmedjan TIDEN
Kalevi Sorsa Foundation
AGENDA
Cevea
ECLM ECONOMIC COUNCIL OF THE LABOUR MOVEMENT
FRIEDRICH EBERT STIFTUNG
SAMAK
FEPS FOUNDATION FOR EUROPEAN PROGRESSIVE STUDIES

Policy Study published in November 2024 by

THE FOUNDATION FOR EUROPEAN PROGRESSIVE STUDIES (FEPS)
European Political Foundation - Nº 4 BE 896.230.213
Avenue des Arts 46 1000 Brussels (Belgium)
www.feps-europe.eu
@FEPS_Europe

TANKESMEDJAN TIDEN
Olof Palmes gata 9, 101 30 Stockholm (Sweden)
www.tankesmedjantiden.se
@tstiden

KALEVI SORSA SAATIO
Siltasaarenkatu 18–20 C, 00530 Helsinki (Finland)
www.sorsafoundation.fi
@SorsaFoundation

TANKESMIEN AGENDA
Youngs gate 7–9, 0181 Oslo (Norway)
www.tankesmienagenda.no
@tankesmien

CEVEA
Svend Aukens Pl. 11, 2300 København S (Denmark)
www.cevea.dk
@Cevea

ARBEJDERBEVÆGELSENS ERHVERVSRÅD (ECLM)
Reventlowsgade 14, 1651 København V (Denmark)
www.ae.dk
@taenketank

FRIEDRICH-EBERT-STIFTUNG NORDICS
Barnhusgatan 10, 111 23 Stockholm (Sweden)
www.nordics.fes.de
@FES_Nordics

COOPERATION COMMITTEE OF THE NORDIC LABOUR MOVEMENT (SAMAK)
Säästöpankinranta 2 A, FI-00530 Helsinki (Finland)
www.samak.info

This Policy Study was produced with the financial support of the European Parliament. It does not represent the view of the European Parliament.

Illustrations: Emmi Smid
Copy Editing: Rosalyne Cowie
Graphic design and layout: Agencia Downtown

ISBN: 978-2-931233-42-9
Legal deposit registration number: D/2024/15396./57

ACKNOWLEDGEMENTS

We would like to thank all our informants for taking the time to discuss this important subject with us, and we would also like to thank Christin Thea Wathne for providing comments on the draft.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

We can observe work intensification; hyper-individualisation and individual responsibilisation; increased competition and decreased possibilities for solidarity; and in some functions, diminishing autonomy and professional discretion. Moreover, algorithmic governance and the use of data-driven analytics fundamentally reshape not only how workers are known to employers, and hence, managed, but also how they see themselves and their work.

This report, focusing on the intersection of algorithmic governance and co-determination in Norway in the financial and news media industries, interrogates the possibilities and limitations of the Norwegian (micro)model vis-à-vis new data-driven technologies and their impacts on workers. Zooming in on highly skilled white-collar workers in a standard employment relationship in heavily digitised workplaces, we offer a unique view of the perceptions of these white-collar workers and trade union representatives, as well as of the effects of algorithmic governance and co-determination in practice. Both the finance industry and the news media industry are heavily digitised, with extensive use of data-driven performance management tools and data analytics. Trust in these digital technologies and management is high, and while initially some of these technologies were challenged, we can now observe a more unreflective attitude, as their use has become second nature to many workers. At the same time, we can observe work intensification; hyper-individualisation and individual responsibilisation; increased competition and decreased possibilities for solidarity; and in some functions, diminishing autonomy and professional discretion. Moreover, algorithmic governance and the use of data-driven analytics fundamentally reshape not only how workers are known to employers, and hence, managed, but also how they see themselves and their work. This has, such as in the case of the news media industry, profound societal effects, as journalists' work becomes driven by profit-oriented metrics, often at the expense of their social mission. Our findings show that the complexity, multitude, integration and interoperability of digital solutions used in the workplace make it extremely difficult for trade union representatives to assess the types of workers' data collected, their use and impacts. Trade union representatives lack knowledge of which systems are in place and how they are used by management. The reliance on a multitude of systems delivered by Big Tech companies with third-party and software as a service (SaaS) provider integration makes it difficult to assign responsibility, as workers are simultaneously managed by both algorithmic systems and human managers. Managers, too, often have little or no impact on the design features of these technologies.

The digital revolution has increased the informational and power asymmetry between the employer and workers, in favour of the employer. The data-driven "knowledge" of the entire organisation claimed by the employer can be weaponized to delegitimise qualitative knowledge of the workers and their representatives.

We show that the digital revolution has increased the informational and power asymmetry between the employer and workers, in favour of the employer. The data-driven "knowledge" of the entire organisation claimed by the employer can be weaponized to delegitimise qualitative knowledge of the workers and their representatives. We argue that more attention needs to be paid to epistemic power, injustice, rights and competencies. Another obstacle to effectively exerting influence on how data-driven management technologies and insights are used is that these technologies are still predominantly viewed as products and tools – not as drivers of organisational reform and change impacting the

content, form, intensity and control of work, that is, as something workers should have a say in. As such, the impacts of algorithmic governance on workers are not among the top priorities of local trade union representatives, who spend most time on traditional matters, such as salary, working time, layoffs or conflicts with management. *The Finance Sector Union of Norway (Finansforbundet)* positively distinguishes itself in this respect and may serve as inspiration to others: company-level agreements on performance management, metrics and data use are standard practice and an important tool for local trade union representatives in preventing the use of workers' data, metrics and statistics deemed unacceptable. This has also enabled a more reflective approach to technology, data collection and their impacts, but enforcement can, at times, prove difficult. Simultaneously, certain emerging areas, such as (cyber)security, fall outside of the scope of these agreements and co-determination, despite relying on invasive data collection and despite the high likelihood that the securitisation of workplaces we are currently witnessing will have profound consequences for workers.

We point to the need for strong trade union and national regulation, institutional power, strengthening of the Norwegian micromodel, training, and competence building for trade union representatives (in particular, building epistemic competence and critical approaches to data, regulatory developments, and the changing security and threat landscape and their impacts on workers.

Overall, we point to the need for strong trade union and national regulation, institutional power, strengthening of the Norwegian micromodel, training, and competence building for trade union representatives (in particular, building epistemic competence and critical approaches to data, regulatory developments, and the changing security and threat landscape and their impacts on workers).

1. ALGORITHMIC GOVERNANCE: CHALLENGING THE DATA GAZE AND ITS EPISTEMIC POWER

1. ALGORITHMIC GOVERNANCE: CHALLENGING THE DATA GAZE AND ITS EPISTEMIC POWER

During HR Tech 2024, a conference organised by HR Norway,[1] an interest organisation for those concerned with human resources (HR), management, organisation and working life, the coming artificial intelligence (AI) powered era of ever-deeper flexibilisation was announced: a future of complexity, intensity, uncertainty and speed; a transition to the *boundaryless* era of automation and disruption, where hierarchies will be replaced with "flexible teams", compliance and rules by "culture", jobs by "work", salaries by "rewards", profit by "philanthropy", hiring by "adding" and contracts by "compendiums". Ultimately, this automation era would lead to a "regenerative age" – if we were to use the words of the HR thinker Perry Timms from PTHR, who presented this somewhat fuzzy vision at the conference – an arena uniquely revealing of the current managerial and HR discourse on tech in Norwegian businesses. In this new era, HR and management are envisioned to smoothly and precisely, in such a boundaryless manner, permeate the *whole* organisation – there is nothing that is not relevant to the gaze of management and HR – or for that matter compliance or security. The reason for this is simple – there is, increasingly, nothing that escapes the "data gaze".[2] This data gaze speaks to the valorisation of data-driven knowledge that has become hegemonic and to the power of those *intermediaries* who deliver this knowledge – the tech, data analytics and "social quantification industry".[3]

Algorithmic management relies on particular ways of knowing and conceptualising the social world, organisations and workers. This way of knowing – through data – is embedded into the various algorithmic management systems – which makes it uniquely difficult to question and challenge.

Therefore, to understand what algorithmic management means for workers and how it transforms work, its organisation and management, as well as reconceptualises workers, we need to recognise that algorithmic management relies on particular ways of *knowing* and *conceptualising* the social world, organisations and workers. This way of knowing – through data – is embedded into the various algorithmic management systems – which makes it uniquely difficult to question and challenge. Algorithmic management relies on the ever-increasing *volume*, *variety* and *velocity* of data, promising to uncover new correlations and generate unique data-driven insights, which are sold as being superior to the human gaze. Alas, as many researchers have shown, and as we have summarised in our previous policy study, this data gaze has a range of negative consequences for workers and the quality of working lives, as well as society at large.[4] At the most fundamental level, this data gaze, unless mitigated and actively challenged (here, trade unions are crucial), turns workers into abstractions, reducing them to numbers generated by opaque algorithmic systems:

> "An individual employee becomes a score on a manager's dashboard, an upward or downward trajectory, a traceable history of tasks performed, or a log file on a company's server—stored in digital form and processed in ways that workers do not control and of which they may not even be aware." [5]

Since security often trumps privacy protections and other rights, it also allows for the extraction of sensitive data. We anticipate that the intersection of cybersecurity, HR and algorithmic management will only become more pronounced in the future and should therefore be placed on the agenda of trade unions.

The boundarylessness or seamlessness of data-driven organisations, or at least the desire to achieve it, springs from this quest for data-driven ways of knowing. This, in turn, results in the hybridisation of functions, roles and diffusion of responsibility across the organisation. This hybridisation therefore emerges from the imperatives of knowing employees, knowing suppliers, knowing clients, knowing customers, and knowing readers and publics – for management, compliance, due diligence, governance and security purposes, as much as for sales and profit. The ways of knowing employees, customers, clients, suppliers and others have radically changed with the rise of big data and predictive analytics; therefore, we are not merely dealing with "Taylorism on steroids".[6] These technologies not only represent "a qualitative leap in the domination and subordination of workers",[7] but also entrench quantitative and data-driven epistemologies, increasingly "black-boxed" for humans and processable only by machines,[8] as superior to any human qualitative ways of knowing (in the context of work, e.g., professional discretion and judgement, managerial competence, ethics). We can see this in finance: whereas before financial advisors would have locally anchored and personal relationships with clients, for the majority of the population, with the exception of wealthy clients, this is largely no longer the case. Instead, as our informants repeatedly emphasised, now the client is "known" through their algorithmically calculated credit rating and through data-driven know-your-customer (KYC) processes, which reduce the client to a series of numbers on a dashboard, while limiting the discretion of the financial advisor (if not fully automated or simply reduced to a "human-in-the-loop").[9] Similarly, employees at financial institutions are now subject to know-your-employee (KYE) processes and background checks, often implemented in the name of compliance and security – such as for the detection, but also increasingly pre-emption, of fraud, money laundering, intellectual property (IP) theft, harassment, corruption and other occupational white-collar crimes.[10] And we can see in the media and journalism, and the ways in which both journalists come to "know their readers" and in the ways in which journalists are "known" to management through data-driven statistics and analytics of their work, in turn, this also translates into how journalists are known to know – through metrics that visualise whether they know how to know. In parallel to this, we have seen the rise in popularity of data-driven journalism, relying on large datasets and large teams of journalists – the periodic revelations by the International Consortium of Investigative Journalists (ICIJ),[11] typically relying on leaks, come to mind (corporations, in turn, keep on enhancing cybersecurity measures and monitoring of workers to prevent and stop such leaks). Again, the way to "know" employees; the way to know the world; the way to know in order to prevent fraud, crimes and security threats; and the way to know in order to optimise management for efficiency, productivity and profit is through collating and correlating data exhausts and personal and often sensitive information of both workers and users. As a rule, the use of this information is largely seen as complying with the legitimate interest clauses for the processing of this data, particularly where it concerns crime, fraud and security threat monitoring and product development and improvement. Since security often trumps privacy protections and other rights, it also allows for the extraction of sensitive data. We anticipate that the intersection of cybersecurity, HR and algorithmic management will only become more pronounced in the future and should therefore be placed on the agenda of trade unions.

We can observe that the progressive "securitisation"[12] of the social presents itself as a solution to the expanding risk and threat universe. This is not coincidental. As our informants repeatedly reminded us, many of these monitoring, surveillance and algorithmic management technologies were implemented during the COVID-19 pandemic, which

rapidly expanded the markets for these technologies and further entrenched the grip of governance by numbers.[13] The COVID-19 pandemic has also added questions of monitoring, privacy and the introduction of new technologies into the workplace to the agendas of many trade unions. However, now we see that we have reached a state of "new normal", where technologies, such as Microsoft Teams, Zoom and digital monitoring in the home office, and their effects, are no longer questioned and continue to be used. The "AI hype"[14] has now captured the imagination of managers and to some degree trade unions and workers. In this context, it is often the need for new AI literacy, competencies and skills that is emphasised by trade unions, as well as the right to be informed and influence decisions regarding these technologies and the development of ethical frameworks. Interestingly, despite many trade unions promoting green policies, the environmental consequences of these technologies are often not on the agenda.

Today, we see a continuous expansion of these technologies being stimulated further by other crises, conflicts and the growing global insecurity: from the grave geopolitical tensions between western liberal democracies and authoritarian regimes – from Russia and China to Iran, the war in Ukraine, the Houthi militias, to the increasing human rights violations in many countries, we are witness to a proliferation of conflicts, security threats, and operational and supply-chain risks. In a globalised, interconnected and deeply interdependent world, the consequences for workers, even in Norway, are already becoming manifest.

The securitisation of the workplace is thus increasingly becoming the dominant solution for handling various internal and external risks and threats.

When it comes to data-driven managerial technologies in the workplace, it is also worth considering the impact of regulations stemming from these geopolitical tensions (e.g., sanctions, supply-chain and human rights due diligence, cybersecurity), that is, regulations which seek to control this rapidly changing world by imposing obligations onto corporations, businesses and other organisations (e.g., due diligence, intelligence gathering, reporting) to which the practical solutions are again often data-driven.[15] Regulatory technologies (RegTech), and various governance, risk, compliance (GRC) and (cyber)security technologies and software, proliferate as the go-to solutions for assessing risks both within and outside of organisations, relying on high volumes of data, including workers' data, and open-source intelligence.[16] There is little doubt that workers, too, are subject to such technologies and that these technologies will likely expand and have ever greater consequences for them and their working lives. The securitisation of the workplace is thus increasingly becoming the dominant solution for handling various internal and external risks and threats. While this was described earlier by organisational ethnographers, for instance in the case of South Korea, we can see this in our material in Norway as well.[17] In our earlier research, we also documented the proliferation of inquisitorial investigations in the workplace (targeting whistleblowers and workers who raise critique, including trade union representatives whose work it is – precisely – to critically express themselves); we have seen the use of data from social media and the proliferation of data forensic analysis (emails, logs, screenshots, etc.) when investigating these cases.[18] This means that algorithmic management is increasingly not only oriented towards effectivisation, performance management, efficiency, and the imperatives of speed, profit and return on investment (ROI), but increasingly also *security*. How these security measures play out in practice in organisations, and with what consequences for workers and their rights, will depend to a very large degree on the institutional power, regulation and strength of trade unions, as well as their knowledge, competence and ability to enforce existing laws and agreements protecting workers from excessive and invasive surveillance, monitoring and control.

How these security measures play out in practice in organisations, and with what consequences for workers and their rights, will depend to a very large degree on the institutional power, regulation and strength of trade unions, as well as their knowledge, competence and ability to enforce existing laws and agreements protecting workers from excessive and invasive surveillance, monitoring and control.

Given all these aforementioned developments, the likely most striking feature of the data-driven systems used for management and governance, particularly in highly regulated industries, such as finance, is the progressive merging of HR, management, compliance and security into each other, as propelled by the aforementioned turn to data. "Function creep", repeatedly feared by our informants – namely, the use of data from one system (e.g., HR) and purpose for another (e.g., performance management or security compliance) – is importantly not a deviation, but rather a key feature of the system.

> "The point is that so-called 'function-creep' is not ancillary to the data collection process, it is built into it – the function is the creep. Continuous repurposing of information initially gathered for other purposes is greatly facilitated by digitization, which makes storage, sharing, and processing easier. But function creep is also made enabled by the new 'save everything' logic of automated data analysis (Morozov, 2013), where the relevance of any piece of data to future correlations and predictions can never be ruled out in advance." [19]

Algorithmic management therefore cannot be understood as limited to a *particular* managerial product that explicitly seeks to manage workers or optimise organisational processes. Instead, we need to conceptualise and grasp its pervasive and boundaryless nature. We need to understand the process of *platformisation* of organisational governance and integration of data and the embedded and often invisibilised ways in which it governs and shapes our behaviours, thoughts and actions, or else, the infrastructural and "extrastatecraft" power of these algorithmic architectures.[20] The pervasiveness of these systems, their epistemic power, their complexity and the ways in which they reflect the socio-economic and cultural power of the tech giants make it difficult for *individuals* to challenge or even *question* them.[21] This is no coincidence; some would argue that the emerging AI-driven world is precisely designed to prevent us from questioning and carefully considering the implementation of new tech solutions,[22] despite the rising awareness of the epistemic risks of using and relying on these technologies.[23]

We need to go beyond narrow definitions of algorithmic management and conceive of the deeper infrastructural effects of these systems better understood in terms of algorithmic governance.

The data exhaust from work activities and beyond – as the boundaries between work and private life have evaporated for many workers – powers the tech industry and what Shoshana Zuboff famously analysed as the era of "surveillance capitalism".[24] The workers' data and metadata – as well as the hidden labour of hundreds of thousands of underpaid, crowdsourced and invisibilised workers labelling data sets for AI models in the Global South[25] – power the data-driven algorithmic systems that, in turn, subject these workers to opaque evaluations, risk assessments and dashboards that serve to support decisions for managers.[26] Understanding the data revolution in these terms also means that we need to go beyond narrow definitions of algorithmic management and conceive of the deeper infrastructural effects of these systems better understood in terms of algorithmic *governance*.[27]

Algorithmic governance is best understood as a mode of power resting on the aforementioned reconceptualisation of what counts as legitimate and authoritative knowledge.

Algorithmic management is better viewed as a *particular* instantiation of algorithmic modes of governance in the workplace; but, as we have remarked above, in the context of platformisation of governance functions, it becomes increasingly difficult to separate it, both empirically and theoretically, from the larger governance structures. Algorithmic management is typically conceptualised as referring to "algorithms which are digitally encoded and implemented by computers, and which process data" and are used for the purposes of "coordination of labour and input within the organization [...] planning (i.e. deciding in advance), staffing, commanding, coordinating and controlling",[28] where the focus has often been on distinguishing between the levels of automation, from full automation to no automation,[29] on the processes of recording, rating, rewarding, performance management, scheduling and so forth,[30] while regulatory hope has been placed on the "human-in-the-loop", humans augmenting AI and data-driven intelligence.[31] The technological possibilities and functions of algorithmic management and process mining systems that seek to optimise workflows, their pervasive nature, and reliance on "unscrupulous exploitation of worker data at scale", which "increases the power imbalance between employers and workers and normalizes extensive surveillance in the workplace",[32] has been documented in great detail.[33] Algorithmic governance is best understood as a mode of power resting on the aforementioned reconceptualisation of what counts as legitimate and authoritative knowledge; in organisational practice, this would be precisely such data-driven insight. The concept thus speaks to the ordering, regulation, management, optimisation, participation and behaviour modifications as a result of *algorithmisation* and *datafication* – and of the "data gaze"[34] or "data prism" through which reality, the social and individuals/workers become refracted.[35] Algorithmic governance is not only pervasive and efficient in some respects, but also often opaque, inscrutable and hard to pinpoint,[36] as the digital, the informational and the governmental become entangled.[37]

The key to making sense of labour relations in the era of big data analytics, machine learning (ML) and generative AI is gaining an understanding of the reshaping of what counts as legitimate, credible and authoritative knowledge, of what counts as a firm support upon which to make organisational, managerial, and personnel decisions.

The key to making sense of labour relations in the era of big data analytics, machine learning (ML) and generative AI is gaining an understanding of the reshaping of what counts as *legitimate, credible and authoritative knowledge*, of what counts as a firm support upon which to make organisational, managerial, and personnel decisions. For knowledge, data and information are power, and their monopolisation and capture are generative of social and financial power and profit.[38] Nowhere is this more manifest than in the workplace, and it is the management that increasingly views itself as having superior access to the "single source of truth" (to use a tech phrase in a slightly altered meaning), or else to data from across the organisation, which is not accessible to either workers or trade union representatives. The "data gaze" embraced by management rests fundamentally on the idea that "it can reveal hidden truths that are otherwise invisible [...] that [...] it is able to look into blind-spots of the social world and illuminate the shadows".[39] The power struggle between management and labour is thus increasingly *epistemic* and increasingly uneven and asymmetrical. This struggle ultimately boils down to how we produce and construct knowledge and meaning as a society and in the workplace, for governance, management and control. Since the struggle is ultimately one over *epistemic power* and the consequences of "epistemic injustice",[40] it makes it immensely difficult to meaningfully challenge, in particular at the level of organisations but also in society at large, as we have become affectively invested in these systems, making us "resistant to counterevidence"[41] and dismissive of the qualitative gaze. This is reflected in our interviews, as informants often feel overwhelmed by information, data, reports and communications platforms, while struggling with knowing where to

place responsibility; how to relate to the effects of the digital transformation and, most importantly, how to challenge data-driven insights (if they are questioned at all). This is why workers, trade unions and citizens should begin demanding *epistemic equality and justice* and asking the following key questions: "'Who knows?' 'Who decides who knows?' 'Who decides who decides who knows?' The answers to these questions determine a society's progress toward epistemic equality".[42] These questions were also those that underpinned the Court of Justice's decision regarding the "right to be forgotten", which rejected "Google's self-authorized claim to a totality of epistemic rights and instead distributed this 'right to know about one's past' in a new pattern".[43] Considering these epistemic rights is even more crucial today, as background checks, invasive data collection across work and private life, and their analyses proliferate – often deeply flawed and premised on dirty data, spurious correlations and pseudoscientific theories. Epistemic inequality between the employer and employee has always been a feature of this unequal power relationship; this is also why the Norwegian model emerged in the first place to tackle, among others, this epistemic inequality. However, this epistemic inequality has grown dramatically as a consequence of the data revolution, and the question may be whether the Norwegian model is still capable of handling it. Or as Zuboff put it:

> "A new age of epistemic inequality has dawned in which individuals' inalienable rights to learning and knowing about one's own life must be codified in law if they are to exist at all. Unequal knowledge about us produces unequal power over us, turning epistemic inequality into a critical zone of social contest in our time." [44]

This is why workers, trade unions and citizens should begin demanding epistemic equality and justice and asking the following key questions: "'Who knows?' 'Who decides who knows?' 'Who decides who decides who knows?' The answers to these questions determine a society's progress toward epistemic equality.

The language of technology and data, and the imaginary of data as speedy, accessible, revealing, panoramic, prophetic and smart,[45] has become firmly ingrained in both managerial and governance discourses – data and technology have become almost deified, suggesting we live in the culture of "technopoly".[46] Workers are, of course, also not immune and have embraced the ideologies of technopoly, as we also show; in fact, it appears that trust in technology has grown even where it was earlier viewed with suspicion or resisted. While some technologies and practices may still be frowned upon in the Norwegian context, where security or compliance are concerned the implementation of invasive technologies is largely silently accepted (even if in the past, or in other social and cultural contexts, they would still be questioned). The fundamentally normative stance that affords superiority to data-driven insights has not only progressively discredited other forms of knowing, but also captured the hearts and minds of (or subjectivised, if you will) both managers and workers.[47] Or as Schildt puts it:

> "The new normative mindset, which I call 'the data imperative', is pushing managers to prioritize digital data flows over human observations, algorithms over human intuition, and smart automation over human work. […] It has become a managerial imperative for companies to collect and analyse digital data, facilitating the relentless identification and

> elimination of inefficiencies and maximization of returns from new innovations and initiatives. […] failure to use digital technologies is not merely ignorant or old-fashioned; the failure to collect and analyse data in order to optimize diverse aspects of business is morally suspect." [48]

The "map" provided by the data-driven dashboard thus does not necessarily (or likely ever) accurately reflect the actual "territory".

The dashboard does not equal reality.

This is important, as the discredited knowledge includes the qualitative, embodied and experiential knowledge of workers upon which their representatives act, but which is increasingly dismissed as particular, emotive, biased or – simply put – just too human. At the same time, workers themselves are encouraged to view themselves through the numbers and data-driven analytics that summarise their performance; they are encouraged to compare and benchmark themselves against their peers (or competitors), to understand professional success through data-driven insights (such as journalists correlating *quality* journalism with the number of clicks and using these to distribute awards to journalists, often on a monthly basis), or to use these numbers to their advantage in salary negotiations – as was the case for white-collar workers in the financial sector. The machine, unlike the human, is seen as delivering objective, impartial and uniquely revealing streams of data. But, of course, it never sees that which is not recorded – it cannot guarantee correct interpretation, and it cannot consider human needs – the "map" provided by the data-driven dashboard thus does not necessarily (or likely ever) accurately reflect the actual "territory". The discrepancy between the data-driven maps and realities on the ground can be illustrated by a statement from one of our informants, which can serve as a memorable metaphor and reminder that the dashboard does not equal reality:

> "I have a good friend who has been cycling for Foodora for a long time and worked for the algorithm. We talked about an unfortunate thing that can happen if you get a delivery on the Grefsen plateau [location in Oslo]. You get caught. The algorithm will just send you to pick up at Storo, deliver at Grefsen, pick up at Storo, deliver at Grefsen. It's an extremely steep hill, so you have to cycle up and down and up and down and up and down. You never recover." (PA1)

The one-sided valorisation of data-driven knowledge is what lurks behind the negative symptoms of algorithmic management: violations of privacy, invasive surveillance, granular micro-management, function and purpose creep, unfair evaluations, perverse incentive structures, hyper-individualisation, gamification and other behavioural nudges to drive up competition and erode trust, collegiality, and solidarity, while increasing stress and pressure, intensifying work, or deskilling and undermining professional discretion.

Many of the workplace and societal challenges spring from – and are likely to be exaggerated in the future due to – the increasing divergence between these data-driven maps and the actual social terrain. This makes the cultural imagination of technological neutrality and data as the source of truth and revelation even more troubling. This cultural imagination of technological neutrality and superiority persists, despite repeated critiques of

inherent bias and garbage-in garbage-out; despite the repeated revelations of the political, normative and interest-driven nature of these technologies; and despite the social harms and even scandals connected to algorithmic decision-making and the resulting injustices.[49] Critical knowledge that time and again reveals the political, normative and interest-driven nature of these technologies does not break with the tech ideology and data solutionism.[50] The one-sided valorisation of data-driven knowledge is what lurks behind the negative *symptoms* of algorithmic management: violations of privacy, invasive surveillance, granular micro-management, function and purpose creep, unfair evaluations, perverse incentive structures, hyper-individualisation, gamification and other behavioural nudges to drive up competition and erode trust, collegiality, and solidarity, while increasing stress and pressure, intensifying work, or deskilling and undermining professional discretion. These have been widely documented by many scholars.[51]

This is precisely why we investigate in this report not only the impacts of "datafied knowledge"[52] on workers, labour power and trade union power *within* workplaces, but also its hold over both workers and managers, ultimately questioning the possibility or even desire to challenge this datafied knowledge. We focus on two sectors: finance and journalism. While much has been written on platform labour,[53] the workings of algorithmic management and governance, and the possibilities of trade unions to influence algorithmic systems in the context of white-collar work and standard employment have been understudied, only recently emerging as a concern.[54]

There is no doubt that technologies such as workplace monitoring, algorithmic management systems, (semi-)automated decision-making support systems, predictive analytics, and other forms of performance quantification and benchmarking represent a form of workplace governance that puts the Norwegian model of workplace democracy and the tripartite collaboration between employees and trade unions, employers and authorities under pressure.

There is no doubt that technologies such as workplace monitoring, algorithmic management systems, (semi-)automated decision-making support systems, predictive analytics, and other forms of performance quantification and benchmarking represent a form of workplace *governance* that puts the Norwegian model of workplace democracy and the tripartite collaboration between employees and trade unions, employers and authorities under pressure.[55] The Norwegian model is put under pressure in several ways. The most obvious may be the effects of importing techno-managerial tools developed in countries such as the USA with trade union busting, individualistic, and surveillance and control-oriented managerial cultures, which are reflected in the software products. The more invisibilised dynamics of increased formalisation, control and individualisation driven by these tools stands in direct opposition to the Norwegian model: while relying on formal collective agreements, the Norwegian model has been, to a very large degree, dependent on the cultivation of *informal* relations and on building organisational cultures of dialogue, participation and trust, and relied on informality, which is now threatened by the data-hungry formalisation and reductionism. Furthermore, it is beyond doubt that the epistemic power of the employer has increased, as has the informational and knowledge asymmetry between management and the unions and workers – workers know little about what data-driven insights the management has, and they also know little about the algorithms and technologies they use and the data they collect.[56] Moreover, power has also simultaneously shifted from middle management to experts in analysis and programming. The lack of detailed knowledge about the technologies, which many of the trade union representatives interviewed assume they would need to participate in technical discussions of software being implemented, further discourage participation in discussions about software implementation. We turn to how this plays out throughout this report.

The epistemic power of the employer has increased, as has the informational and knowledge asymmetry between management and the unions and workers – workers know little about what data-driven insights the management has, and they also know little about the algorithms and technologies they use and the data they collect.

We argue that the digital and algorithmic restructuring of workplaces puts pressure on the workers' and trade unions' possibilities of co-determination, working conditions, participation, and autonomy. The Norwegian model is underpinned by the recognition of existing power structures, with the explicit aim being to balance these for mutual benefit and strike a compromise, and this relies on both formal and informal ways in which power asymmetries are balanced for shared benefit, but, as datafication deepens informational asymmetries and concentrates epistemic power in top management, it impacts this balancing act at the core of the Norwegian model. Unless treated seriously, we may, over time, witness the hollowing out of the model, which will manifest in more authoritarian, individualised and alienated workplaces, where co-determination may still exist on paper but not in reality, and where workplace monitoring and surveillance become prominent, and where human agency becomes detached, with potentially destabilising effects.

The competence that the industry demands is a competence at speedily embracing technologies that research has shown to be problematic, invasive and biased. We argue that it will become imperative to reclaim the concept of critical thinking and build core competence in epistemic critique; for unless we question the knowledge behind the power, and the power behind the knowledge that seeks to govern us, we will have few possibilities to resist its effects.

The fact that knowledge is at the core of the struggle also manifested itself at the aforementioned HR Tech conference in another way. Whatever the jargon used, the majority of speakers emphasised the need for humans to rapidly embrace and adapt to new technologies, such as generative AI, to stay ahead of change and develop "skills foresight", to master "human-machine teaming", to enhance their capabilities, to display "learning agility", and to understand and master the data and growth mindset, as much as critical thinking. The oft-recited mantra was the following: AI will not necessarily take your job – although it is already doing it, such as when the fintech Klarna laid off 700 employees, later announcing that their AI chatbot does the work of 700 people[57] – but rather, *those who do not embrace and become augmented by AI will be replaced by those who do*. In other words, from the viewpoint of HR and management gurus, there is no alternative – AI is here, either you want it or not, and it is up to humans to adapt and become augmented, ever more productive, efficient, flexible and connected. Those who refuse or stay behind will be forgotten and outcompeted. Or at least this is how technology is being sold; few seem to stop and ask – efficient at what exactly? Augmented with what kind of knowledge exactly? Efficiency, speed and data driven by economic imperatives have become the unquestioned gods, as the tech industry pushes narratives that deny us the time to reflect. The competence that the industry demands is a competence at speedily embracing technologies that research has shown to be problematic, invasive and biased. We argue that it will become imperative to reclaim the concept of critical thinking and build core competence in epistemic critique; for unless we question the knowledge behind the power, and the power behind the knowledge that seeks to govern us, we will have few possibilities to resist its effects.

The urgency with which algorithmic and data-driven managerial and productivity tools are implemented, and the rapid organisational change that comes with this implementation, means that time for thorough participative processes, evaluation, impact assessments and deliberation is radically limited and at times even non-existent.

These pressures to embrace AI (the power behind this "knowledge") coming from the tech industry and management consulting firms – the pressure to invest in company-wide subscriptions for products such as Microsoft Copilot or enterprise ChatGPT that promise secure and privacy friendly experience (without typically having any clear business case) or risk become outcompeted and obsolete – are symptomatic of the general trends to embrace data-driven technologies *at all costs and as fast as possible* and to think about consequences later. This perpetual marketing pressure to purchase and implement new data-driven techno-managerial solutions has been repeatedly remarked upon by our informants and trade union representatives as a central feature of their engagement with top leaders, HR and management. The *urgency* with which algorithmic and data-driven managerial and productivity tools are implemented, and the rapid organisational change that comes with this implementation, means that time for thorough participative processes, evaluation, impact assessments and deliberation is radically limited and at times even non-existent.

Therefore, strong institutional frameworks, institutional power and regulatory support, from collective agreements to national laws protecting workers – and most importantly, their active enforcement – are needed; it is precisely this that has made at least some difference in the Nordic context.

Therefore, strong institutional frameworks, institutional power and regulatory support, from collective agreements to national laws protecting workers – and most importantly, their active *enforcement* – are needed; it is precisely this that has made at least some difference in the Nordic context.[58] This enforcement, in turn, and in the context of the workplace, requires strong trade unions, both centrally and at the local level. Trade unions must question technology, prioritise these issues, and understand its human impacts on the rights to privacy, free expression, liberty, autonomy, professional discretion and quality of (working) life; they need to acquire the necessary degree of understanding of how these technologies shape the ways in which we think, understand and act in the world, and thus also manage it; and finally they need to acquire the necessary legal, regulatory, formal and informal tools and power to enforce these. In many respects, as this report also shows, the struggle ahead is increasingly about knowledge and power and their nature. What will be needed, more than ever, to succeed in the fight for workers' rights and epistemic justice will be the building of *epistemic capabilities*: the critical-thinking skills needed to understand the social constructedness of data, the premises which shape these technologies, the particular theories and interests that underpin them, and the power dynamics they generate. Or else, the ability to ask the right questions about technology (which are not necessarily technical or require technical know-how), as opposed to blindly implementing new tech because of the fear of missing out or simply "because we can".[59] Just because we can does not mean we should or need to. The trouble ahead is that it is precisely this reflexivity and criticality that is being challenged by the latest generative AI systems.[60] Therefore, it is more important than ever to account for the *power* inherent in the technologies that increasingly set the limits and shape both our actions and imagination.

What will be needed, more than ever, to succeed in the fight for workers' rights and epistemic justice will be the building of epistemic capabilities: the critical-thinking skills needed to understand the social constructedness of data, the premises which shape these technologies, the particular theories and interests that underpin them, and the power dynamics they generate.

2. ALGORITHMIC GOVERNANCE AND CO-DETERMINATION IN FINANCE AND JOURNALISM

2. ALGORITHMIC GOVERNANCE AND CO-DETERMINATION IN FINANCE AND JOURNALISM

Since research on the impacts of algorithmic management and governance on white-collar workers in a standard employment relationship is limited, as most attention has been focused on the platform economy, we decided to focus on this group and two sectors that have been highly digitised: finance and journalism. This focus would also allow us to zoom in on the role of Norwegian trade unions in negotiating digitalisation and its impacts.

The dominant trade union, The Finance Sector Union of Norway (Finansforbundet) and its representatives have been actively negotiating company-level agreements concerning performance management metrics and the use of technologies and data for performance management and control in the workplace.

From the outset, it must be stated that concerns about the impact of algorithmic systems, apps, data-driven insights and various digital organisational tools are not the top priority for either the workers or trade union representatives whom we met. This impression is also supported by a recent large quantitative survey, which included questions around co-determination and participation in digitalisation processes, understanding these as processes of organisational change, and hence, something one should be able to actively debate and negotiate. The survey has shown very limited interest, influence and involvement of trade union representatives in questions pertaining to digitalisation; only a few reported that digitalisation had been a subject discussed in co-operation between parties, despite many reporting frustration with digital systems and extensive reporting. At the same time, the survey revealed a "correlation between the assessment of the consequences of digitalisation and whether employees and employee representatives have had more or less influence in recent years" – "the more satisfied with the union representatives employees were, the more positive they were about digitalisation".[61] However, the finance sector, as we shall see in more detail, distinguishes itself in this respect: as the dominant trade union, *The Finance Sector Union of Norway* (Finansforbundet) and its representatives have been actively negotiating company-level agreements concerning performance management metrics and the use of technologies and data for performance management and control in the workplace. This is not surprising, as the finance industry is an early and key adopter, as well as developer, of new technologies; a recent report by The Finance Sector Union of Norway has shown high levels of adoption of and experimentation with AI-driven technologies in the Norwegian financial sector; this also pertains to managerial functions:

> "More and more organisations are introducing modern HR and management systems provided by third parties, which include integrated functionality for analysis and reporting. Designing individual development plans, identifying skills gaps, verifying competences, generating suggestions for job opportunities based on employees' strengths, and matching candidates with job and promotion opportunities, are examples of different AI-supported solutions." [62]

This case is uniquely revealing of both the attitudes in a highly digitised white-collar workplace and the local power to influence how technologies and workers' data are used in practice and what is deemed an un-/acceptable use by the employer.

As such, this case is uniquely revealing of both the attitudes in a highly digitised white-collar workplace and the local power to influence how technologies and workers' data are used in practice and what is deemed an un-/acceptable use by the employer. This case may also serve as inspiration to other trade unions in their work on negotiating technologies in the workplace. At the same time, the case not only reveals the immense degree of digitalisation of work in the finance sector, where more or less everything is recorded, but also the significant differences within the same organisation with respect to the impacts of digitalisation on workers' autonomy, ranging from empowering to disempowering.

The implications of algorithmic governance of journalism are profound, but, as our case study shows, they do not appear to be on the agenda of trade unions at any substantial level.

The work of journalists, too, has become greatly digitalised and increasingly governed by data analytics supplied by intermediaries, companies such as *Kilkaya*, "the most flexible analytics tool for news publishers",[63] which exert great power over both the work and self-understanding of journalists, as well as the current shape of the news media landscape. This case shows how digitalisation of journalism went from being contested and resisted to becoming embraced as both trust and faith in data-driven insights grew. Moreover, this case also points to the risks of data-driven insights governing journalism, shaping what gets published and becomes "newsworthy", as well as the media knowledge ecosystem at large; the question of knowledge and power thus becomes redoubled in this case. On one hand, the data-driven and datafied "knowledge" generated by data analytics companies, in tandem with its organisational use, shapes journalistic practice in particular ways (often in tension with the mission of journalism to hold the powerful to account); it shapes how news pieces are presented and sold to the public and adjusted to public, profiled and segmented (and thus, increasingly fragmented and polarised); and ultimately, it shapes the very meaning of being a journalist today. On the other hand, the production of algorithmically governed journalism shapes the very knowledge environment we inhabit, which, in turn, shapes our political and other decisions and perspectives, likely reinforcing the aforementioned culture of technopoly.[64] The implications of algorithmic governance of journalism are profound, but, as our case study shows, they do not appear to be on the agenda of trade unions at any substantial level. As elsewhere, key concerns for trade unions remain salary negotiations, concerns about working time and scheduling, and supporting individual members; in some sense, questions around digitalisation, privacy, data, function creep and so forth are perceived as a "luxury" to engage with, something one may think about only when having extra time at hand, which, in a pressured media reality, is rarely the case. This perception of digitalisation and of the introduction of new software and technologies and their impacts as secondary, unimportant, a luxury, a mere tool, insignificant or something that nothing can be done about because it will happen anyway, is an interesting finding in itself. One could argue that, to a large degree, algorithmic governance, *as a mode of governance*, has become, over the years and despite early resistance, invisibilised to our informants. This perception of it being a luxury among trade union representatives within organisations is likely further supported by the notion that only those working at the very top level in trade union leadership and policy and research circles have the time to spend contemplating such questions – and this includes us, researchers, coming to interview on matters many have not thought deeply about prior to our encounter. This further underscores that there is a need to develop critical thinking and epistemic capabilities, vis-à-vis the impact of data and algorithmic governance, in addition to building strong institutional supports and arenas for dialogue and reflexivity around the subject.

There is a need to develop critical thinking and epistemic capabilities, vis-à-vis the impact of data and algorithmic governance, in addition to building strong institutional supports and arenas for dialogue and reflexivity around the subject.

2.1 Reflexive methodology: Focus groups, interviews, documents and fieldwork

This report is grounded on a qualitative case-based study from two sectors in Norway: the finance industry and the news media industry. The empirical material comprises two focus-group interviews and 15 semi-structured one-to-one interviews with employee representatives, conducted in 2023 and 2024 (see Figure 1). The informants were recruited through three different unions – *The Finance Sector Union of Norway (Finansforbundet), the Norwegian Union of Journalists (Norsk Journalistlag, NJ), and the Union of Employees in Commerce and Office (HK: Handel og Kontor i Norge)*. The unions provided lists and contact details of potential informants, who were employee representatives, lawyers and/or workers. Informants were contacted by email. As mentioned above, only the employee representatives having the time to respond to inquiries and having the "luxury" of reflecting upon these issues could set aside time for being part of a research project; several potential participants responded apologising that time pressures did not allow them to participate; this was particularly the case for those working in positions with strict time and performance management expectations. The potential biases that our selection of informants might have are, however, not only hard to detect, but common to most qualitative studies; the value of qualitative research is in contextualising these interviews, using other sources, such as documents, reports, and other primary source and open-source data, as well as secondary academic and grey literature. We also build our analysis on several years spent researching Norwegian working life and the subjects of digitalisation and algorithmic management across different research projects.

In the first focus group, there were five participants from finance and the publishing industry, and in the second, there were six participants from trade unions. Focus-group interviews allowed for several perspectives to come forth, as the interviewees could build on each other's utterances and have an interactive dialogue. These focus groups were used initially to get a more general picture of the issues and attitudes. General insights from the focus groups were then used to inform the more in-depth one-on-one interviews; these were semi-structured, open-ended and lasted approximately 60-90 minutes. The interviewees were asked to reflect upon their work practices and co-determination prospects in relation to the implementation of new technology, digitalisation at the workplace and algorithmic management systems. The semi-structured interviews were thematically driven, allowing for the interviewees to steer the conversation according to their perspectives, while being guided by the topics in the project's interview guide and the questions raised by the researchers. In the finance sector, we conducted six interviews with employee representatives at different financial institutions. In the news media industry, we interviewed five journalists, who also had roles as employee representatives, from five different news media organisations and one IT worker in a publishing house. The news media organisations are all owned by larger media corporations with both national and local reach. Additionally, to get a sense of the legal, regulatory and political issues in different sectors, we interviewed three lawyers specialising in labour law and one political advisor in a progressive political party. Moreover, we conducted fieldwork at two relevant conferences, one on HR and new technologies and another on security, to further enrich and be able to interpret the insights from our informants.

The interviews were analysed based on a *reflexive methodology and thematic analysis* using rigorous techniques in research procedures and being aware of the interpretative and political-ideological nature of research and the impact of authoritative text-based representation.[65] The analysis is empirically based and thematically structured, and simultaneously based on the lived experiences and perspectives from the informants, as well as a broad range of secondary sources and observations. Research ethics has been embedded at all stages

of the research, from selection of informants to data gathering, analysis and dissemination. The research study has been reported to and approved by the *Norwegian Agency for Shared Services in Education and Research* (SIKT).[66] All participants have been given and signed an informed consent document. All interviews were recorded on a voice-recorder device, the files were deleted immediately upon transcription and the interviews were anonymised during transcription. Interview excerpts quoted herein have been translated from Norwegian to English (by DeepL[67] and the researchers), and informants are anonymised in line with the guidelines for research ethics for social science and humanities (NESH).[68] Given the nature of qualitative interview, files have not been shared in any open-access databases and no direct or indirect personal details have been stored on a networked computer.

Figure 1. Overview of data collection.

1	focus group 1 (FG1)	5 participants	finance (3) publishing industry (2)
2	focus group 2 (FG2)	6 participants	trade union workers
3	interview (L1)	lawyer specialising in labour law	general
4	interview (L2)	lawyer specialising in labour law	finance
5	interview (L3)	lawyer specialising in labour law	general
6	interview (F1)	chief employee representative	finance
7	interview (F2)	chief employee representative	finance
8	interview (F3)	chief employee representative	finance
9	interview (F4)	chief employee representative	finance, with IT background
10	interview (F5)	bank employee and part-time employee representative	IT developer in finance
11	interview (F6)	bank employee and part-time employee representative	customer service in finance
12	interview (PI1)	chief employee representative	publishing house
13	interview (PA1)	political adviser, progressive political party	IT background
14	interview (J1)	journalist and employee representative	national news media
15	interview (J2)	journalist and employee representative	local news media
16	interview (J3)	journalist and employee representative	local news media
17	interview (J4)	journalist and employee representative	national news media
18	interview (J5)	journalist and employee representative	local news media
19	fieldwork (F1)	HR Tech 2024 (conference organised by HR Norway, Oslo, 30 April 2024)	participation, note taking and discussions with software product developers (exhibitors)
20	fieldwork (F2)	*Sikkerhetskonferansen* 2024 (Security Conference organised by the Norwegian National Security Authority, 13-14 March 2024)	participation, note taking

2.2 The Norwegian model: A very brief introduction

The Norwegian model thus refers to the organisation of working life and the tripartite system of cooperation between the trade unions, employers' associations and the state, including the coordination of wage formation between social partners, multi-level collective bargaining, formal rules for co-determination, representation, dialogue and participation through which unionised employees can influence the conditions of their employment.

The Norwegian model dates back to 1935, when *Norsk Arbeidsgiverforening* (N.A.F.; today, The Confederation of Norwegian Enterprise, NHO) and *Arbeidernes Faglige Landsorganisasjon* (today, The Norwegian Confederation of Trade Unions, LO) signed the first major collective bargaining agreement, following years of labour conflict, and has since rapidly evolved into a complex landscape of organisations, unions and agreements that, together with the *Working Environment Act*[69] and a range of other laws relevant to the workplace, seek to regulate working life and balance the inherent power asymmetry between the employer and the employee. Parallel to this, we have seen the evolution of the Norwegian tax-funded welfare state, with universal access to education, healthcare and other welfare goods. The Norwegian model thus refers to the organisation of working life and the tripartite system of cooperation between the trade unions, employers' associations and the state, including the coordination of wage formation between social partners, multi-level collective bargaining, formal rules for co-determination, representation, dialogue and participation through which unionised employees can influence the conditions of their employment.[70] The Norwegian model depends on the strength of the parties, in particular the employees' and employers' organisations, which are intended to balance the power asymmetries and guarantee that the parties are equal in negotiations, especially at the macro-level; as such, it depends on the continued high levels of unionised workforce. The level of unionisation among employees has been rather stable for the past years at around 50%, but discussions are emerging around the willingness of the younger generation to unionise: at the same time, the majority of employers – 100% in the public sector and 70% in the private sector – are organised.[71] At the same time, we have seen that in times of crises, interest in joining trade unions grows, for example, during the COVID-19 pandemic, in many sectors, work has either ceased, with many being laid off, or rapidly moved online. In the face of insecurity and new working arrangements, trade unions in Norway, having long struggled to recruit new members, suddenly saw a spike in new memberships – LO (*The Norwegian Confederation of Trade Unions*) alone registered 10,000 new members.

The Norwegian model, marked by low conflict levels, dialogue and established conflict resolution mechanisms, has evolved in the context of a small but open and competitive economy, where social capital and high levels of trust have been seen as key to its success. The important thing to understand is that the Norwegian model is fundamentally a consensus-seeking model, where

> "[b]oth laws and collective agreements are used as tools to implement and maintain the model. The power of these tools resides in the recognition by the parties both of rights and duties, and of the acknowledgement of a common goal, which is beneficial for the community and companies, and of the recognition that the parties have both common and conflicting interests. The result is a relatively stable balance of power between labour and capital, a balance deeply anchored in a class compromise connected to historical and political developments." [72]

This is also mirrored across our interviews, where trade union representatives emphasise time and again that they seek to reach the best solutions for everyone through good dialogue.

> "I am actually more left-leaning politically, but when I am trade union representative, I just try to do the best out of the situation […] then I am very consensus-oriented. But I think that is precisely the point, that is the best for both sides." (FG1)

Basic agreements are key to the Norwegian model and complement Norwegian labour law, aiming to create a solid foundation for co-operation, negotiations and trust building between parties across all levels, while building on the fundamental recognition of their conflicting interests. The model is underpinned by the idea that co-operation within these frameworks can contribute not only to better working conditions, but also lead to increased productivity, efficiency and smoother organisational change.

Basic agreements are key to the Norwegian model and complement Norwegian labour law, aiming to create a solid foundation for co-operation, negotiations and trust building between parties across all levels, while building on the fundamental recognition of their conflicting interests. The model is underpinned by the idea that co-operation within these frameworks can contribute not only to better working conditions, but also lead to increased productivity, efficiency and smoother organisational change. Or else that the participation and involvement of trade unions and employees in decision-making ultimately also pays for the employer and does not only benefit the employee, as it also allows for working towards shared organisational goals.

Key to our study is understanding the possibilities and limits of co-determination, negotiation and participation *at the company and local level*, as well as possibilities for autonomy, something that is referred to as the Norwegian "micromodel".[73] We focus on co-determination, participation and dialogue between employers, employees and trade union representatives *within* organisations, as we concern ourselves with the possibilities of the trade union representatives and employees to influence the implementation and use of algorithmic management and governance systems, including data-driven performance management systems, within their respective workplaces. In this respect, it is important to emphasise that the

> "Norwegian collective agreements are strictly hierarchical, which means that company agreements, including pay systems, cannot breach provisions in sector-level agreements. Negotiations at the company level are conducted by local parties without involving central parties unless the local parties are unable to agree on a revised agreement. Local bargaining is done under a peace clause, which means that strikes are prohibited." [74]

Digitalisation, the implementation of algorithmic management, data-driven analytics, dashboards, monitoring systems, risk-profiling technologies and more are not mere technological changes, but fundamentally managerial and organisational changes that impact workers, and thus, something workers should have a say in as per collective agreements.

Over the past decades, there have been increasing concerns about the Norwegian model and the micromodel being hollowed out and challenged by the neoliberal restructuring of the economy, globalisation, technological change and digitalisation, outsourcing, and the implementation of management and leadership ideologies and technologies that are not compatible with the Norwegian model, as well as increasing inequality, and thus, also increasing power imbalances between parties.[75] As we have pointed out in the introductory discussion, digitalisation, the implementation of algorithmic management, data-driven analytics, dashboards, monitoring systems, risk-profiling technologies and more are not mere technological changes, but *fundamentally managerial and organisational changes* that impact workers,[76] and thus, something workers should have a say in as per collective agreements. However, the pervasive problem is that these new modes of algorithmic governance associated with data-driven technologies evade and eschew established categories of power and what is understood as *reorganisation* within the Norwegian work life model. Despite the existence of agreements and relevant paragraphs, in *practice*, there seems to be little scope for negotiating the new datafied and algorithmic frameworks within which people increasingly work. These are often presented as merely technological, and therefore, "neutral" *products* and *tools*, as something the purchasing department takes care of or is decided at company headquarters (in the case of large corporations outside of Norway), and thus, are located beyond the scope of local co-determination, negotiation and participation. The first step towards exerting influence over these digital technologies is therefore to understand their introduction as a matter of reorganisation or as a matter of impacting how tasks are solved and work gets done, in which trade union representatives must be included. The second step is actively using existing agreements and regulatory frameworks at the local level and enforcing the protections therein. The third step is developing competence among trade union representatives to be able to identify epistemic injustices and their effects and ask the right questions when new technologies are being implemented. The fourth step is developing new regulations and agreements more specifically tailored to balancing the information (and hence, power) asymmetries, as well as the consequences of these technologies, considering also their larger social and environmental effects.

The first step towards exerting influence over these digital technologies is therefore to understand their introduction as a matter of reorganisation or as a matter of impacting how tasks are solved and work gets done, in which trade union representatives must be included. The second step is actively using existing agreements and regulatory frameworks at the local level and enforcing the protections therein. The third step is developing competence among trade union representatives to be able to identify epistemic injustices and their effects and ask the right questions when new technologies are being implemented. The fourth step is developing new regulations and agreements more specifically tailored to balancing the information (and hence, power) asymmetries, as well as the consequences of these technologies, considering also their larger social and environmental effects.

3. CASE 1: INSIGHTS FROM FINANCE SECTOR WORKERS AND TRADE UNION REPRESENTATIVES


€
°C

3. CASE 1: INSIGHTS FROM FINANCE SECTOR WORKERS AND TRADE UNION REPRESENTATIVES

3.1 Trade union power in the finance sector in Norway

The key parties regulating the working conditions in the finance sector are Finance Norway (*Finans Norge*) on the one hand and The Finance Sector Union of Norway *(Finansforbundet)* on the other. Finance Norway is the trade and employers' association for the financial industry in Norway, which represents 260 financial companies with 50,000 employees and is associated with Norway's largest employers' organisation, the NHO, and is a party in the finance industry's collective agreements.[77] Finansforbundet,[78] on the other side, is the largest trade union in the finance sector, with over 35,000 members in 300 companies. While there are other trade unions that organise workers across the finance sector, such as Tekna, Nito, Econa, The Norwegian Association of Lawyers *(Juristforbundet)*, the Union of Employees in Commerce and Offices (*HK: Handel og Kontor*) and the Norwegian Union of Municipal and General Employees (*Fagforbundet*) – the last two are LO[79] trade unions – it is fair to say that Finance Norway and The Finance Sector Union of Norway are the most important actors shaping the sector's policies and practices.[80] This strength of both employers' and employees' associations is a central characteristic of the Norwegian model.[81]

The *General Agreement* between Finance Norway and the Finance Sector Union of Norway[82] regulates matters relating to pay and working conditions, such as holidays, working hours, leave of absence, co-determination and layoffs. The *Basic Agreement* between Finance Norway and the Finance Sector Union of Norway[83] contains general provisions on negotiation and co-operation. In addition, in all Finance Norway's companies, union representatives and the company management are to negotiate and enter company-level agreements, and regulate that which is, as per the two above agreements, left to the local partners to reach agreement upon.

While these agreements regulate most aspects of working life, of relevance for us and to the questions of algorithmic management, governance, and the introduction of new technologies and digitalisation is in particular *§ 9-8 Information Technology* of the *Basic Agreement,* which states that

> "(1) Before introducing new or changed information technology solutions that take effect as mentioned in Clause 11-3 no. 1 e), the company shall discuss the matter with the Union Representatives as early as possible. The Union Representatives shall be informed of the possible consequences of the solution for the size of the company's staff and organisation, and a specification of the requirements for retraining and training that this will entail. (2) If the company formally sets up a Project Committee or similar working groups in connection with the introduction of new or changed IT solutions, the Union Representatives shall be entitled to appoint at least one member of the Committee. (3) The company's own expertise shall be available to the Union Representatives, to a

reasonable extent, in consultation with the company's management. The Union Representatives may in agreement with the company's management, use any necessary external expertise in such questions. (4) If impact analyses document that significant cost reductions can be made as a result of the introduction of new or changed technological solutions, discussions shall be entered into between the Union Representatives and the company's management as to whether and if so how these cost reductions should be used for improvement of the working environment." [84]

Moreover, as per the Basic Agreement, *§ 18-3 Use of Workload and Volume Statistics*, "the use of any systems for collection of workload statistics/volume statistics[85] shall be established in the individual company-level agreement", which means that trade union representatives have to negotiate any details pertaining to performance measurement and control at the company level, reaching a company-level agreement; this often pertains to the use of data-driven performance management tools. To give the reader an idea of the possible wordings of the company-level agreement, we can consider the following, which is an excerpt from such a company-level agreement; similar statements can be found in many company-level agreements in the Norwegian finance sector:

"An agreement shall be entered into with the shop stewards before new systems for collecting workload, sales and volume statistics are implemented. The same applies when such systems are changed. The agreements have the status of special agreements, cf. chapter 5 of the Basic Agreement. The agreement shall contain information about the purpose of the measurement, what information is registered, how the registered information is used, who has access to the registered information, and how and for how long the information is stored. The co-operation committee shall annually discuss the need and framework for measurements in (company anonymized). In addition, a total overview of agreements entered into on current systems for collection of workload statistics/volume statistics shall be available to shop stewards." [86]

The following is an excerpt from a company-level agreement at a different financial institution, which in addition to similarly stipulating the need for special agreements in relation to the introduction of workload and volume statistics, namely, performance measurement and control systems, also elaborates further:

"Prior to the work of designing measurement and control systems covered by the contractual framework, the management shall prepare a basis for decision-making that shall include at least the following points:

- the purpose of the measurement system in question
- measurement criteria – activity, result, volume

- which units/departments are affected by the measurement system
- who should be reported to and who should be given access
- rules for deviation reporting
- storage and retention of information
- any use of surplus information
- evaluation together with employee representatives along the way, and at the conclusion"

[...]

"Measurement of activities, results and volumes, as well as other data statistics that contain information about individual employees, shall only be used to the extent permitted by The Personal Data Act.[87] Anonymised data (which cannot be traced to individual employees) may nevertheless be used for analysis purposes, management tools, etc. Before registration is initiated, all affected employees must be informed of what is being registered, what the purpose is and who is responsible for the registration. Employees and employee representatives are at all times entitled to be informed of what registrations take place, what the information is used for and how long it is stored."

[...]

"When using statistics that contain information about individual employees' activities, results and volumes, etc. the following guidelines must be followed: Registration that can be attributed to an individual employee can be used by the immediate manager as a management tool and as basic material for follow-up, development and performance reviews. It is a prerequisite that such use takes place in a confidential manner between manager and employee. The use of the registrations must be *objectively justified*[88] by the organisation and the purpose of the registration."

Special agreements are often developed in the finance sector with respect to concrete regulation of performance measurements and data collection on workers. These agreements, which specifically target performance measurements and control are also rather unique in the context of the trade union movement at large, and reflect the high degree of monitoring and control of white-collar workers in finance, as well as the high digitalisation of the sector.

As mentioned in the above excerpt, as per Chapter 5 of the Basic Agreement, it is possible to develop special agreements between management and union representatives, "that apply to pay and working conditions or other working conditions. The rules in a special agreement may subsequently be incorporated in the company-level agreement if the parties agree on this".[89] This is particularly relevant for our case, as such special agreements are often developed in the finance sector with respect to

concrete regulation of performance measurements and data collection on workers. These agreements, which specifically target performance measurements and control are also rather unique in the context of the trade union movement at large, and reflect the high degree of monitoring and control of white-collar workers in finance, as well as the high digitalisation of the sector. Tools for measurement of both team and individual-level performances were the key concerns for both workers and trade union representatives across our interviews. Concerns about the granular analysis of work performance, as well as proliferating key performance indicators (KPIs) were the most common, as well as concerns about how data, once collected through the many different systems, is actually used and whether it is used in alignment with the special agreements: "A lot of data is collected, and once the data is there, my impression is that it's easy to utilise it" (L2).

Trade union representatives would often be proud of having negotiated such special agreements regulating performance measurement – for instance, preventing or stopping the use of individual-level performance and sales dashboards, such as screens in the workplace featuring both top and bottom performers. At the same time, however, they would admit to the great difficulty of influencing the implementation and actual uses of data-driven performance measurement tools, no less due to the technological complexity and variety of systems used across the large and complex financial institutions. As one of our informants put it:

> "It's been a bit of a challenge at times because it's not easy for local union representatives to be in a situation where they have to negotiate about measurement and actually decide whether they should have a measurement system or not. They can easily find themselves in a position where they feel pressured into saying yes to something that may not actually be appropriate. It's a problem that some of these measurement systems are a bit of a carte blanche."· (L2)

The existence of legal and institutional rights and agreements that regulate the ways in which unions can influence technological change, the implementation of new digital and other monitoring and measurement tools, as well as training, is central to the Norwegian system and has been without doubt advantageous.

The existence of legal and institutional rights and agreements that regulate the ways in which unions can influence technological change, the implementation of new digital and other monitoring and measurement tools, as well as training, is central to the Norwegian system and has been without doubt advantageous – as research that compared trade union power vis-à-vis digitalisation in banking in Norway and the UK has clearly shown.[90] But while formal frameworks are extremely important, the central question that needs to be explored is how these legal and regulatory frameworks, the intent of the labour law (i.e., worker protection) and the agreements actually play out in the complex social and organisational terrain, as well as in the digital realm.

3.2 Finance sector and key industry trends impacting workers

Finance generally, and the finance sector in Norway in particular, is, of course, highly digitised and at the forefront of digital development, regularly on top of digitalisation ranking and mirroring the high levels of digitalisation in Norwegian society at large.[91] This has been emphasised time and again by our informants, who have also pointed to the simultaneous growth of IT departments and compliance departments within their institutions (the latter being increasingly automated and, in all respects, dependent on various third-party software tools). One of the informants also emphasised the fact that the Norwegian personal electronic identification system for identification and contracts signing, BankID, was developed by *private* Norwegian banks and financial sector actors (the Norwegian Financial Services Association and Norwegian Savings Banks Association, now Finance Norway) and is, in fact, *public* key infrastructure on which 4.5 million Norwegians depend to access both private banking and public services; BankID is issued by private banks.[92] In this respect,

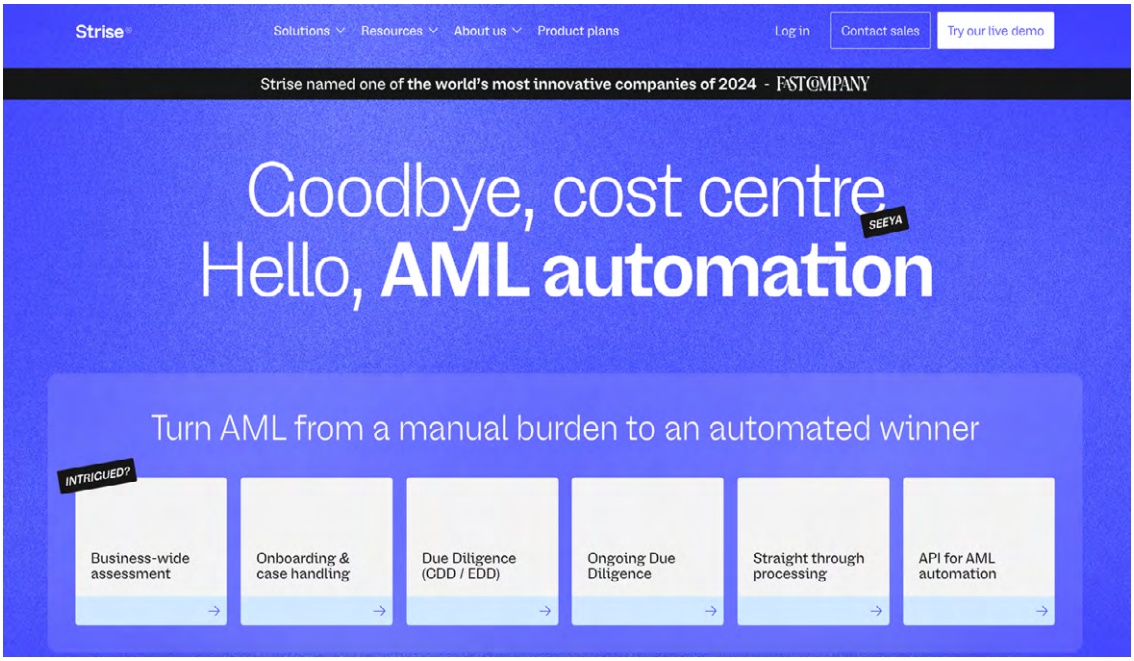
> "the BBS/BankID solution sheds light on the strong collaboration and consolidation efforts that have occurred in Norway across public and private organizations. While such efforts were also motivated by the urgent need to compete against stronger, international players, their ripple effects beyond economic competition generated significant technological innovations." [93]

BankID is now also moving, under the new brand Stø, from being an infrastructure provider to becoming a services provider: from KYC and due diligence (customer due diligence, CDD, and enhanced due diligence, EDD) to passport-authentication checks; in the latter case, taking on new security functions, which in many other jurisdictions would be the sole domain of the state.[94] This, as our informant noted, speaks to the importance of financial technologies and infrastructure not only for private profit making, but also for core functions of the Norwegian state. Prior to the introduction of the (non-compulsory) Norwegian biometric ID cards in 2020, Norwegian bank cards had been used since 1977 as ID cards, progressively even becoming accepted by public institutions (and even if banks sought to rid themselves of the obligations to issue ID cards, it is clear that this co-dependence between private banks and the public sector has paved the way to contemporary markets in digital identity services): "This says a lot about the role of the bank market in Norway as opposed to other countries, this is important to understand as a starting point […] we [the finance industry] are at the forefront of digital development" (F3).

The growth of IT and compliance – and RegTech – are key trends transforming the sector identified by all informants. These trends reinforce each other: compliance with increased regulatory demands typically entails more control, monitoring and data-driven solutions, which, in turn, drives further development of software for compliance, as well as customer-oriented products.

This is also mirrored in Norwegian tech start-ups, where the IT development merges with compliance, which have grown over last few years, such as Strise (Figure 2),[95] which specialises in compliance with anti-money laundering regulations (AML) and uses AI in its software for CDD/EDD and other functions, such as onboarding or generation of audit-proof reports, is a case in point. The growth of IT and compliance – and RegTech – are key trends transforming the sector identified by all informants. These trends reinforce each other: compliance with increased regulatory demands typically entails more control, monitoring and data-driven solutions, which, in turn, drives further development of software for compliance, as well as customer-oriented products.

Figure 2. Screenshot from Strise.



Compliance automation has been repeatedly singled out as one of the key concerns, as it would also likely mean job losses in compliance, unless the regulatory growth continues. As AI is also seen as a key part of the solution, we will see a transformation of the ways in which one works with regulatory compliance. In the long run, compliance technologies promise to de facto solve the issues of regulatory compliance *through* technology (such as automated KYC, risk assessments with automated risk-flagging and reporting), with some human oversight.

> "All that can be automised, will be automised. The bank management has expressed this very clearly. […] while we have seen enormous growth in both IT and compliance, we now see that some compliance functions are also headed for automation, also using AI." (F1)

Technological solutions primarily orient themselves around questions of cost, efficiency and speed, while issues of quality of compliance and of its purpose or responsibility – in particular in the context of its hyper-automation – are not really being addressed.

Technological solutions primarily orient themselves around questions of cost, efficiency and speed, while issues of quality of compliance and of its purpose or responsibility – in particular in the context of its hyper-automation – are not really being addressed. While there are concerns about data-driven risk evaluations (which are key to these technologies) or faulty data in screening customers and monitoring workers (for instance, in the highly regulated "markets" departments), the efficiency arguments tend to close down the discussion (if it is even allowed to arise).

> "No, but, and this is a bit scary if you take it too far [the use of AI and automation for regulatory compliance], but what the banks are really struggling with lately is the workload of regulatory requirements, right? They're drowning. It's not sustainable in the long term to do so much regulatory work. If it's going to continue to grow, then in a way more than half of the staff will only be working on regulatory matters, and banking products will eventually become expensive. So, in a way, if you do it in the right way, it's a way of ensuring quality and streamlining in a good way too." (F3)

At the same time, the system has been discussed as inefficient and fundamentally flawed, in particular the anti-money laundering regime, which requires banks to produce "suspicious activity reports" that are then sent to the Financial Intelligence Unit (FIU).[96] Despite these inefficiencies, it fuels both the RegTech industry, financial innovation and the growth of internal compliance departments. Only DNB, Norway's largest bank, has more than 600 employees with anti-money laundering responsibilities, generating several thousand reports annually to the National Authority for Investigation and Prosecution of Economic and Environmental Crime (ØKOKRIM). These reports are intended to provide useful intelligence information, but the FIU at ØKOKRIM only has around 20 employees[97], who in 2023 received 46,086 reports from reporting entities (22,000 of these from abroad).[98] Only very few cases are investigated; convictions are extremely rare. The system is described by the informants as dysfunctional, and its perceived meaninglessness may further contribute to the ease at which regulatory requirements become a matter of automation delegated largely to computers, with some human oversight. "For ØKOKRIM to do a proper job based on what is being reported now, they would need a hundred times more people than they have. So, what if we report more, what does it actually do? Nothing." (F3)

Compliance workers are also, at least in the first line, heavily monitored – their work being easily quantifiable – and the informants noted that they are handling cases of work pressure related to these workers.

Compliance workers are also, at least in the first line, heavily monitored – their work being easily quantifiable – and the informants noted that they are handling cases of work pressure related to these workers. The detailed monitoring of their work and case handling, as well as the speed at which they process cases, likely contributes to this stress; those in higher positions in compliance, tasked with investigating more complex cases, are said to enjoy more autonomy and have more time to deal with cases and experience less pressure. The informants have heard complaints about the inability to spend enough time on each case due to the pressures experienced from the measuring systems, as well as due to the sheer wealth of transaction and customer data that needs to be handled. The trade union representatives themselves experience these regulatory pressures as well, in the form of a seemingly never-ending stream of policies, codes of conduct, guidelines, training and more, on which they should have some opinion.

The trade union representatives themselves experience these regulatory pressures as well, in the form of a seemingly never-ending stream of policies, codes of conduct, guidelines, training and more, on which they should have some opinion.

> "It is extremely difficult to follow up. It requires a lot of capacity. You have to really understand, explore a new area, acquire new knowledge very fast. […] before, I used to spend time on individual cases of members, I do not have much of that now. Now, it is more a type of general executive problems. We are very regulated, so there are all the time new regulations, new guidelines for this and that, which we also have to comment on, and then you have to understand all that. […] You feel like you should be a lawyer, a data expert and an ethicist in one all the time […] It is extremely demanding for everyone and now comes more and more focus on security, this will be important in the future." (F4)

With respect to the growth of compliance, the informants remarked that this data collection has also driven forth the increased reliance on (semi)-automated risk evaluations of clients and, for instance, decisions about loans, which, in turn, makes questions of the transformation of the profession and impacts on professional judgement and discretion as a result of datafication pertinent,

> "Now it is all about data-driven insight […] now we treat customers as data points, I think it impacts what used to be more personal relations, professional judgement, knowledge and ability to evaluate customers […] I think it is a problem for society […] it is essential for the craft, to actually be able to make individual judgements. If you remove that or make it too rigid, then everyone can just fill out a digital form, and get a yes or a no. Then there is no point having a dialogue. […] it is a problem if you blindly trust digital systems, then you cannot handle real people-problems, we are all different." (F3)

This statement should be viewed within the larger context of how algorithmic governance and epistemologies reshape professions and work in ways that are likely beyond the possibility of trade unions to influence, but that nonetheless impact workers and others. For instance, several informants were concerned about the social consequences – about the impacts of such a highly digitised sector on vulnerable groups, the elderly and those with disabilities. These discussions have often brought us to questions of online fraud, cybercrime and vulnerable clients – as the rates of scams targeting bank clients are increasing, but they also mentioned that bank employees are increasingly targets and that cybersecurity is another area which has therefore grown considerably. Or as one of our informants put it: "there are enormous queues at our fraud department" (F6); therefore, "despite automation, there have been no layoffs in customer service" (F6). From the financial institutions' perspective, employees are both seen as in need of protection – from both physical and digital threats – and as a potential threat themselves, either because of their particular vulnerabilities that can be exploited by threat actors, or just unwittingly breaching security and other procedures, or because they themselves can pose threats – such as data leakage, fraud and IP theft to the theft of client information. The securitisation of the workplace is becoming rather advanced in the financial sector, as financial institutions seek to protect themselves from both external and internal threats; again, the current geopolitical situation further raises threat levels, as concerns about foreign espionage, hacking and ransomware, and advanced persistent threats proliferate.

From the financial institutions' perspective, employees are both seen as in need of protection – from both physical and digital threats – and as a potential threat themselves, either because of their particular vulnerabilities that can be exploited by threat actors, or just unwittingly breaching security and other procedures, or because they themselves can pose threats – such as data leakage, fraud and IP theft to the theft of client information. The securitisation of the workplace is becoming rather advanced in the financial sector, as financial institutions seek to protect themselves from both external and internal threats; again, the current geopolitical situation further raises threat levels, as concerns about foreign espionage, hacking and ransomware, and advanced persistent threats proliferate.

In the DNB report on "Financial resilience in an unsecure world: Threats and trends from a DNB perspective 2024", we could thus, for instance, read that

> "DNB regularly experiences various forms of insider activity, especially in terms of information theft. However, most cases have low consequences for DNB. According to the Norwegian Police Security Service (PST), the insider threat from state actors has increased in light of the changed geopolitical situation. DNB is also a target for organised criminals seeking insiders in the banking and financial sector for activities such as money laundering and fraud. Consequently, DNB must account for increasingly sophisticated and professional threat actors, including potential insiders.[99] […] Enhanced background checks are conducted for individuals in high-risk roles, and they receive additional follow-up and training to handle the extra risk associated with their positions. This is done to secure DNB's assets and to prevent employees from being exposed to or concerned about external pressure or influence." [100]

This changed threat landscape has led to the introduction of new security routines before, during and after the employment relationship, from background checks using open-source information to a specialised interview guide for high-risk roles; routines for the management of deviations in the background check; routines for the management of deviations jointly handled by HR and security; an emphasis on handling those with connections to high-risk countries; and on building attitudes, awareness and routines for security.

During the Security Conference 2024, organised by The Norwegian National Security Authority,[101] Torgeir von Essen, Head of Physical and Personnel Security at DNB, spoke on the existing and emerging threats in the financial and banking sector, as well as on the experiences of DNB, highlighting self-motivated, professional and organised criminal actors and state actors, and the role of insiders or bank employees as potential facilitators of fraud, information theft, leaks to the media or manipulation of data systems, in particular, disgruntled employees, or employees in the process of termination of their employment (taking away contacts, data, sales numbers, client details etc.), but also the risk of employees being subject to pressure. He also emphasised that the pre-emptive approach to these threats cannot be built exclusively on more control, but trust and building loyalty are needed, or else, one needs to build a "security culture"; these should be cost-effective

solutions that ensure both profit and security. This changed threat landscape has led to the introduction of new security routines before, during and after the employment relationship, from background checks using open-source information to a specialised interview guide for high-risk roles; routines for the management of deviations in the background check; routines for the management of deviations jointly handled by HR and security; an emphasis on handling those with connections to high-risk countries; and on building attitudes, awareness and routines for security. He also spoke of the increased internal focus on insider threats and on new approaches to KYE, including a multidisciplinary insider threat group; a meeting place for building security, risk and threat awareness, and building management and leadership competencies in the field. This approach is trying to go beyond reliance on "indicators" (divorce, deviant use of funds, downloading of excessive amounts of files etc.), towards knowing the whole person; this includes vulnerability assessments and security-awareness employee interviews, in addition to data-driven insights. Closing relationships with employees in a proper manner was also emphasised, where parties "should part as friends". Another problem he flagged in this respect was the high turnover, a systemic problem facing the banking and financial services industries, where people appear to change jobs increasingly frequently.

In our interviews, we asked about these security measures, but there appeared to be a general lack of awareness about the systems and procedures used by management, and they were largely shrugged off as necessary measures given the current security landscape and something to be handled by IT and the security department. Alternatively, this was seen as something that has been there for a while and that has already been resolved, with everyone being used to these systems or just not thinking much about them.

> "When cybersecurity measures were introduced for the first time, we had employees coming to us asking what this will mean. But then they [management] came and explained what the purpose is, and after that it actually calmed down. We did not receive any further questions about that." (F3)

Despite substantial awareness about algorithmic management systems when it comes to performance management, invasive monitoring technologies and security procedures, which may utilise and risk assess sensitive data on workers and be further integrated – in the platform manner – with other HR and performance data, were not questioned.

Despite substantial awareness about algorithmic management systems when it comes to performance management, invasive monitoring technologies and security procedures, which may utilise and risk assess sensitive data on workers and be further integrated – in the platform manner – with other HR and performance data, were not questioned. We therefore also know little about how these systems work in practice, as our informants could not provide any specific information and these systems were not thematised in the co-determination forums. Beyond the vague awareness of one of our informants about some interviews conducted with employees with connections to high-risk countries, and the following statements, we were not able to gain much more insight: "we have now stricter recruitment routines, more background checks" (F2).

> "I know there are discussions about high-risk countries, and what consequences there are for employees with links to these countries, there are concerns about discrimination. I don't know if there is any monitoring system. The management usually answers that they have a relatively tolerant policy, that they do not discriminate too much." (F3)

And while there was a general recognition that HR, for instance, has security-relevant data and that data from performance management systems can be used, there was simultaneously little awareness about how and whether such data were repurposed and under what conditions. This was, for instance, clear from the following statement, regarding denial of the ability to work from home to workers with what would be labelled as security vulnerabilities, "Alcoholism, drug problems, gambling, those are reasons for denying home office. We have employees who do not have home office because of this. […] often the younger generation also struggles more with home office" (F3).

All informants agreed that securitisation of the workplace will be an important area to follow in the future, given the rise in fraud, cybercrime and geopolitical tensions and a range of new regulations in cybersecurity that are coming. However, local trade union representatives felt that questions of (cyber)security were complicated, technical and beyond the scope of their role, as well as hard (or close to impossible) to influence.

All informants agreed that securitisation of the workplace will be an important area to follow in the future, given the rise in fraud, cybercrime and geopolitical tensions and a range of new regulations in cybersecurity that are coming. However, local trade union representatives felt that questions of (cyber)security were complicated, technical and beyond the scope of their role, as well as hard (or close to impossible) to influence. Informants with a legal background were more aware and concerned about these developments:

> "There is a tendency when pursuing cybersecurity to also do things that can compromise employees' privacy and rights. […] If you have access to an employee's account, and you suspect that something is wrong, the path to checking the employee's account is very short. Or if you have recordings of telephone conversations, which in principle was because you are required to have them in certain situations by the authorities… […] The fact that there is so much, and that there is so much information collected in various fields about employees means that their privacy and the ability to have an overview of what type of information the employer has is almost hopeless. […] Cybersecurity, what should you do in connection with it, which the IT department has monopoly on, is perhaps not something you discuss with employee representatives. At least not everywhere. There are a lot of measures that will go under the radar, but which will also have implications for individual employees." (L2)

While DNB, as an example, emphasises security measures in its threat assessment, when it comes to the involvement of trade unions, we see in the annual

report from 2023 that trade unions are mentioned *only* in the context of diversity, equity and inclusion:

> "In 2023, we worked closely with trade unions and employee representatives on a number of matters, for example, adaptation for transgender people and drawing up a survey about perceived inclusion for employees with a multicultural background. In addition, we held many presentations and workshops in management teams and attended several events to increase competence on inclusion. We also conducted courses in inclusive management and developed a toolbox that all employees can use to learn more about diversity and inclusion." [102]

In 2022, the annual report mentioned employee representatives again only in the context of their involvement in a new strategy for diversity and inclusion.[103] In the 2021 annual report, focus was on employee representatives' participation in developing strategies for addressing gender differences in pay.[104] The other large banks on the Norwegian market do not discuss the role of employee representatives in their annual reports. We therefore see that there is likely a tendency to keep trade unions out of certain types of discussion – for example, security – despite their impacts on workers.

3.3 Challenging technology in a techno-optimist culture and high-trust society?

All our informants pointed to the high levels of trust, which are also stimulated and generated through dialogue between parties. At the same time, they repeatedly remarked that this trust may make them naïve and unreflective, vis-à-vis the power of technology in the hands of the employer.

Norwegian society at large is marked by high levels of trust – in technology; in the state and the government; in leaders and in managers; and in organisations complying with existing rules, laws and regulations. At the same time, it is clear that there is fundamental tension between trust-based society and a highly digitised society with a highly developed model of surveillance capitalism, where data is harvested both from online activities and an ever-greater range of networked devices, and that the latter may challenge this trust-based orientation in the long run.[105] All our informants pointed to the high levels of trust, which are also stimulated and generated through dialogue between parties. At the same time, they repeatedly remarked that this trust may make them naïve and unreflective, vis-à-vis the power of technology in the hands of the employer: "We have a fundamentally high level of trust in the system, in the state, in everything. Unfortunately, we may become a little unconscious. And then things happen so quickly that you are caught by surprise" (FG2).

Comparing Norwegians to colleagues from other countries working for the same multinational financial institution and the ways they act in joint meetings, several informants remarked that foreigners were far more suspicious regarding the introduction of new measuring and algorithmic systems and raised many more critical points:

"It's just that we in Norway think like this, that when we have been presented with the reasons behind measuring or new digital system, we think OK, we understand that, right? It's only for a short period of time. It will only be used for this and that. And we have that in our company-level agreements as well, so we're very confident that these are conditions the bank has agreed to. […] Perhaps we're a little too naive in Norway too. We believe the best about everyone. And we also believe that about AI and everything digital. We only see the benefits, and then we forget about all the undesirable things it can actually bring. But I think that's standard for us Norwegians." (F2)

However, there were also concerns that these technologies, developed in other cultural contexts, may potentially challenge both the Norwegian model and the trust-based relationship in the workplace:

"When it comes to the American systems […] these are systems that have been created in a completely different society. I don't have the impression that there is that kind of distrust in finance in Norway, but that's one of the dangers of those systems, because you use them. […] I do think that the increased use of this type of technology in combination with less consultation, less co-determination and less transparency could lead to mistrust. Because that will also be a consequence of these systems, that a lot of data is collected that you don't have an overview of this data […] And maybe there could be a risk to, I don't know, the Norwegian model, I think that's quite real." (L2)

Techno-optimism and technosolutionism – and its ideological nature – are further manifest in the striking disavowal, downplaying and denial of the environmental consequences of the quest for collecting and analysing ever-more data and the negative stance towards data minimisation policies.

Techno-optimism and technosolutionism – and its ideological nature – are further manifest in the striking disavowal, downplaying and denial of the environmental consequences of the quest for collecting and analysing ever-more data and the negative stance towards data minimisation policies.[106] Interestingly, despite the increased focus on sustainability reporting, data on energy use and the environmental impacts of big data and AI do not appear to figure in corporate spreadsheets. As one of our informants also observed, there was no palpable willingness to consider the environmental consequences of this hunger for ever-more data: "I think it's under-communicated how much natural resources disappear because of it. Yes, and now we talk about sustainability all the time, but right here you just have to be quiet. We're forward-thinking and innovative here, you know" (L2).

At the same time, trust and the possibilities of dialogue, participation, and negotiation were also seen as an important mitigating factor against disproportionate surveillance measures:

"Information and co-operation and co-determination is key […] the parties agree that a good and trusting relationship between the parties must be facilitated. And when we talk about trust, we know that where there is increased trust, there is less need for surveillance. And it follows from all these provisions – there must be real influence. There is an obligation for both parties to actively participate in the co-operation, i.e., both employer and employee." (L1)

In some sense, the Nordic fetishisation of "trust" here prevents the trade unions from asking critical questions about algorithmic management systems, in particular those legitimised by doing good, for example, ensuring security, preventing harassment or increasing productivity – for all can agree that safety, security and productivity are good. The problem is, however, that few ask what is actually being implemented in their name, how is it used in practice ("function creep"), whose power is enhanced and with what consequences?

The trade union representatives, unlike the lawyers cited above, often did not explicitly question technological and digital systems, as they too often shared the vision of technology as being neutral, as a mere tool and as a means to effectivisation and increased productivity. In some sense, the Nordic fetishisation of "trust" here prevents the trade unions from asking critical questions about algorithmic management systems, in particular those legitimised by doing good, for example, ensuring security, preventing harassment or increasing productivity – for all can agree that safety, security and productivity are good. The problem is, however, that few ask *what* is actually being implemented in their name, how is it used in practice ("function creep"), whose power is enhanced and with what consequences? Since the almost default approach is technosolutionist,[107] we also fail to ask whether safety and security or productivity could be achieved better through other means than those of technological surveillance measures and enhanced data-driven control. Instead, the leaders are trusted to not abuse technologies: "I hope that the bank has control to ensure that it's right. It has to be a bit trust-based. That they don't use things they shouldn't" (F1).

Another related issue was that of the aforementioned pressure to implement new technologies – and to preserve one's position at the top of digitalisation rankings, to be the best in class, to have the latest software and gadgets. This is not a new social phenomenon, fear of missing out and the belief in the inevitability of technological progress has been a feature of modernity. And so has been the way in which this techno-optimism and techno-determinism forecloses substantive debate and the possibility of resistance, as much as nuanced discussion. This phenomenon was well-described by David F. Noble in the mid-90s: "Everyone assumes, without debate, that resistance to technological change is a sure recipe for competitive doom".[108]

[…] "Managers feel they must automate because 'everyone's doing it', out of fear that they will be undone by more up-to-date competitors (a paranoia encouraged by equipment vendors). There is this vague belief that the drive to automate is inevitable, unavoidable, and this belief becomes a self-fulfilling prophesy. In the stampede, meanwhile, there is very little sober analysis of costs and benefits." [109]

There was a great degree of trust in everything that was deemed "new" and trending, which, in turn, limited the possibilities for raising any more fundamental questions, unless they fell within the established scope, such as performance measurement:

> "It's new technology and you feel like you just have to have it. You can discuss it and ask questions and things like that, but at the end of the day I think it's difficult for trade union representatives to put their foot down and say that we don't actually accept that. It does happen and it has been done, I know that. Especially when it comes to systems that measure performance at an individual level." (L2)

> "You just think that this is something good, without thinking about what it can be used for. I think it can be smart to be a little critical of its use, but at the same time, if you don't use it, you get left behind." (F1)

> "We don't stand on the barricade and say no to new technology per se. If we were, I think we would have [been] dismissed as discussion partners quite quickly. But as soon as something concrete comes up in relation to measurement and public disclosure, we react immediately. And that's where we specifically say no if we think it's not appropriate or useful. […] for instance, public disclosure of individual results." (F3)

Furthermore, these technologies are introduced with the promise of increasing efficiency, productivity, and profit or creating new value streams and reducing the need for future hires, which also means that trade union representatives have limited possibilities to stand against these goals: "Mostly it is introduced to increase efficiency by automating repetitive tasks. We have for instance had rather high ambitions for future growth and this growth should preferably happen without hiring new people" (F4).

Informants also felt that one maybe becomes a little too trusting and confident due to the very existence of company-level agreements, but these agreements still need to be enforced; due to the high levels of trust, one often seems to rest on one's laurels. This has also been identified by several informants as a potential danger of the system.

Informants also felt that one maybe becomes a little too trusting and confident due to the very existence of company-level agreements, but these agreements still need to be enforced; due to the high levels of trust, one often seems to rest on one's laurels. This has also been identified by several informants as a potential danger of the system. Moreover, given the existence of these agreements, which underpin

the trust in leadership, we have also observed that several informants conceived of, for instance, the issue of "function creep" as a case of a few "bad apples" in the organisation, rather than as a systemic feature of the platformised management systems and data collection (as shown by research):

> "We have the company-level agreement, it says what data can be collected and how it can be used. I have had some episodes where maybe some more eager manager would use the data in a wrong way, but that is a pretty long time ago now." (F4)

> "Sometimes, there is local creativity. For instance, HR says, we need to investigate. It is a large bank, and there are possibilities, you never have a guarantee. It is not that there is necessarily ill will, it is more that some people are just being a little too creative." (F2)

Participation in user groups is not the same as dialogue about consequences; the purpose is optimisation of the technology in question, not an evaluation of its consequences for workers. The two processes should therefore not be confused.

Informants also noted time and again that it is extremely difficult to challenge the introduction of, in particular, technologies supplied by Big Tech, such as Microsoft, as well as software often integrated into the Microsoft platform and supplied by third parties. The same went for getting a sense of data flows. Internal software development or the implementation of more specific tools would more often involve local users and at times trade union representatives in user groups and testing when being rolled out. But participation in user groups is not the same as dialogue about consequences; the purpose is optimisation of the technology in question, not an evaluation of its consequences for workers. The two processes should therefore not be confused. It has also proved to be difficult to challenge the sales arguments of tech companies selling their products with promises of effectivisation and cost-cutting, but with little thought about the impacts on workers:

> "We hear only their version, their sales arguments. It is very difficult to challenge or to know what this product will mean in practice. It is impossible to know the consequences […] but we have good dialogue and both HR and legal are involved, and we see that legal is also asking questions […] and they have a lot of experience with risk assessment […] so I feel the processes are good, but at the same time, we never get the whole picture." (FG1)

> "The challenge is really with the Big Tech giants, who do not operate with the same culture and mindset. It will be interesting to see if we can influence technologies like that at all, likely not at local level […] it is also extremely difficult to dig into these technologies, they are always updating, evolving, adding on functionality […] often we think, here we should have been involved." (F4)

While challenging Big Tech and third-party suppliers may prove difficult from the position of the local trade union representative, there is some scope for negotiating how certain technologies are used locally and what is an acceptable use for workers; this often requires finding a balance and compromise between the interests of the organisation, such as optimisation and monitoring, and the interests of the workers, such as privacy, autonomy, discretion and trust. For instance, finding a "balance between the employers' desire for effectivity and the risk that this will have negative consequences for workers' health […] in particular older workers and those in more a vulnerable situation" (L2).

3.4 Performance measurements, algorithmic management and the "data gaze" in practice

White-collar workers in finance are in no sense a homogenous group; as our interviews have shown, the exposure to monitoring, algorithmic management, performance measurement systems and the top-down data gaze varies significantly between different functions and so do the effects of these systems. This complex reality also makes it difficult for trade union representatives to orient themselves in the effects and issues connected to these systems, as they play out very differently in different parts of the organisation. Overall, however, all informants agreed that monitoring and pressures have increased with digitalisation:

> "I have worked in a bank since 1995, and we have always been measured on sales and number of phone calls, so that is not new. But what is new, is that everything is measured now, all departments in the bank and it is so much more detailed […] there is more and more you should do in the same time, more pressure and everything is recorded." (FG1)

The invasiveness of these systems is obvious to new entrants into the financial industry, but after a while, as several informants pointed out, one gets used to this level of control and insight – especially in some functions, and stop noticing it or adjust working practices so that it becomes less noticeable: "in the beginning of my employment, I would for instance receive message from my supervisor: now you were too long away on [a] toilet break, you should not do that, that was typical" (FG1).

The result of individualised performance management systems was, according to our informants, increased pressure and competitiveness, as well as individual responsibilisation, a self-centred way of working that was not conducive to workplace solidarity or collegiality, thus resulting in a sense of alienation.

The result of individualised performance management systems was, according to our informants, increased pressure and competitiveness, as well as individual responsibilisation, a self-centred way of working that was not conducive to workplace solidarity or collegiality, thus resulting

in a sense of alienation. These trends were further described as being reinforced by home office, which was available for certain functions. Some also hinted at the immorality built into these techno-managerial systems incentivising individuals to focus on themselves and their performance at the expense of the collective good or clients:

> "it's a system that facilitates opportunism […] we're measured on everything, and it's linked to what we earn, to salary negotiations. It will always be that you think of yourself first, you think, what do I have to do to get more pay when. Then you'll say that you have to chase the KPIs, not think about the good, community or what's morally right." (FG1)

This individualisation built into both the algorithmic systems and managerial approaches also translated into individual responsibilisation. Hence, while the management system was seen as incentivising hyperfocus on sales, for instance, it was the responsibility of the individual worker to navigate the legal and ethical landscape, and comply with various professional standards, and certification and ethical training received on the job. "If you find that someone is perhaps acting a little on the edge of the regulations, it's easier to point the finger at an employee than to take it up at management level" (L2).

This individual responsibilisation also pertains to acquiring security awareness and other competencies, something the trade unions saw as being important to challenge:

> "There are a lot of courses in security, short courses, you have to take, and that are tracked. A lot of it is designed in a way so that you are responsible, you have to make your own assessments, and yes, it can be important and good, but you have to secure a balance between employer and employee. Because they cannot just say, we responsibilise the employee and it is their responsibility that they do not click on suspicious links. Our task is to prevent this individual responsibilisation." (F4)

The informants also spoke at length about all the data that gets collected and consequently forms the basis for evaluations; again, there was a sense that this data does not present the whole picture, while pushing workers away from professionalism towards a hyperfocus on sales and personal rewards.

> "Now they have full insight into how many emails you answer, how many phone calls you make, how many new sales you have… In other words, how much you talk to the customer about what, how long each conversation lasts […] The consequences are discussed at staff appraisals and your evaluation based on the data […] There's a lot of focus on selling more products in particular, and it's becoming increasingly noticeable that there's more and more focus on selling other things." (FG1)

This focus on "sales" monitors also in both the granular monitoring and the incentivisation of customer care workers on chat to also "sell", even though what counts as a "sale" in the statistics is not necessarily an actual "sale":

> "They check how many conversations we have in an hour, how long we use on a chat, what is its content, look at how much is what we call 'sales', for instance that we invite the customer for a savings meeting and they say yes, or book a meeting with financial adviser, that counts as a sale for me, even if it does not necessarily lead to a sale […] but if it leads to sale, there is something like a volume, and it also counts for me; it results in a sale, the leader can see I am good with selling." (F6)

Customer care employees, in particular, are among the most monitored; here much of the work is sought to be automated and optimised through the use of chatbots, which have become the initial point of contact. This has had an immediate impact on customer service workers on chat, while also having ripple effects on others in customer care:

> "The customer first meets the chatbot. It tries to help the customer and what we experience is that the chatbots give mostly correct answer, but the customer does not read it. They write they want to talk to human. And we often just copy the same answer from the chatbot to the customer, and then they are happy. Of course, not always, but rather often. […] and often customers want confirmation you are human. […] Before, we used to have the idea that the customer wants us to appear as professional and distanced as possible. But now, if you do that, they think you are a chatbot. If you are professional, you have to add in more polite or nice words or dialect." (F6)

The way the chatbot is programmed and designed thus also impacts on the very notion of what it means to be human and is negotiated in these interactions. But the "behaviour" of the chatbot and the pre-handling of customers also has further implications for customer service workers: "Sometimes we see the chatbot goes on for too long until it lets them through to us, so the customer becomes annoyed" (F6).

Given that customer service workers are also evaluated by customers, this can have potentially negative consequences for workers, who take the blame for the chatbot causing dissatisfaction.

Given that customer service workers are *also* evaluated by customers, this can have potentially negative consequences for workers, who take the blame for the chatbot causing dissatisfaction. Customer service is also typically reachable through multiple platforms: chat; phone; and email. Many customers tend to use all three, often at the same time, when trying to get through, increasing a sense of pressure. But the chat function also transforms the way one handles cases:

> "We want more customers over on chat because we can manage more customers in an hour on chat than over [the] phone. When on chat, we have three to five chats open at the same time. That you cannot do on the phone. We can manage eight to ten on chat as opposed to five to six on [the] phone in an hour." (F6)

Correct interpretation of the data is key and dependent on the local manager; relying solely on the dashboard would lead to radically wrong conclusions.

Still, more complex cases often require handling over the phone; something that impacts these statistics. Experienced customer service workers may also have paradoxically "worse" performance numbers because they are forwarded complex cases that take longer to resolve. While the whole team benefits from eventually learning how to resolve such cases in the future, and from having someone able to answer, this translates into "bad" numbers on the dashboard. Therefore, correct *interpretation* of the data is key and dependent on the local manager; relying solely on the dashboard would lead to radically wrong conclusions.

While the data from chat conversations is further used to train the chatbot, the metadata about worker performance is also actively used by the workers themselves in salary negotiations, which are again highly individualised. "In the salary discussion, it is most important to sell yourself […] you are at war with maybe the 15 others in your team. You have to argue for why you should get more" (F6).

There was perpetual tension between the measurement of individual performance and team-based performance. While in everyday practice, managers relate to team results as a whole, which is also in alignment with company-level agreements on performance measurements, the individual-level statistics and data are, at the same time, known to them and are actively used in salary negotiations by both parties. As a consequence, it may be more difficult to argue for the correct interpretation of the data in this context, and teamwork or spending time on complex cases can effectively be penalised, as, from the perspective of the data gaze, they are seen as underperforming, unless the local manager shows the necessary discretion.

This granular surveillance and algorithmic management of the workflow in customer service not only limited the employees' level of autonomy, but they also experienced being mistrusted should they choose to work from home.

This granular surveillance and algorithmic management of the workflow in customer service not only limited the employees' level of autonomy, but they also experienced being mistrusted should they choose to work from home. Even if they had that opportunity on paper, it was largely taboo:

> "We have the possibility, but we do not feel like we have the possibility. You are viewed with suspicion. You have to have a really good reason to sit at home. We do not have the necessary trust for them to let us work from home. This is not how it should be." (F6)

A trade union representative reflected on this by comparing customer care workers to brokers, who, too, are heavily monitored and measured by experience but have a far higher degree of autonomy and financial rewards:

"Our brokers, they're not sick but they are the ones who are measured the most. But then you have call centre employees. They are also heavily measured, but they are often sick. So, it's difficult to say that it's the measurement itself that makes people sick. I think it's more about the experience of autonomy in the position and perceived flexibility. Customer service is part of a system that is much more rigid. They have a traffic management centre that decides when they should be at work. When they should take their lunch break, when they should be at work, when they can take leave. The traffic that comes in is not something that they can influence that much, because so many people try to reach them. But if you're working with a niche product and you're talking to a smaller number of people, or you're the one who decides what currency strategy to adopt, you have a different responsibility. Even though you're also locked to the desk in that way, really." (F3)

At the other extreme are, for instance, highly skilled workers in the IT development, likely also pertaining only to some teams, who experience a lot of autonomy and view financial institutions from their perspective more as "knowledge companies", while experiencing high levels of trust from management at the same time as suggesting that measurement would be futile in this type of job:

"I feel very privileged with the job I do. I have a lot of trust in and from my managers and leaders […] there is nobody really measuring my performance. […] How would I even measure performance in my own everyday work, my productivity. If I did, using some of these tools, it would not reflect what I have actually done, [would] it? What should I measure to measure my productivity? Should I track the number of emails? I don't know. […] As long as everything flows fine and deliveries come when they should, there is nobody tracking me or my work or what I do when." (F5)

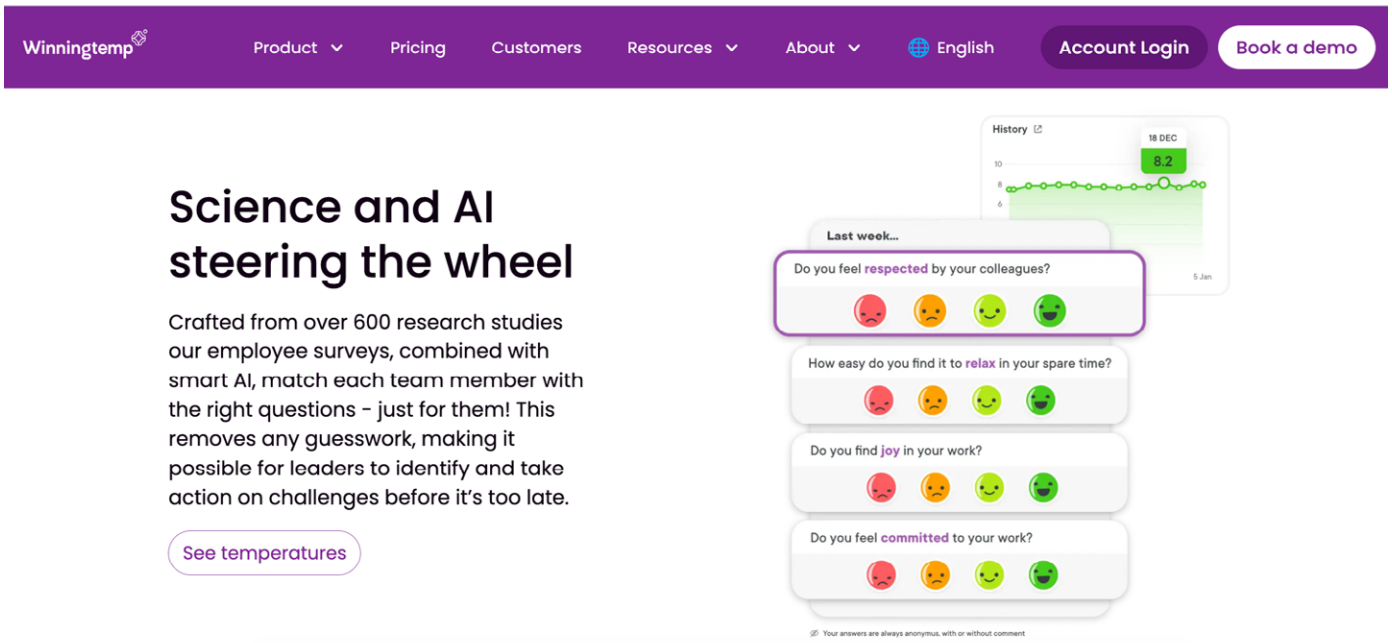
3.5 "Governing the soul": Measuring the "temperature" in the workplace

While the use of algorithmic and digital systems in work organisation and in performance measurements has been, to a large degree, normalised, generally no longer questioned and largely accepted, or not seen as problematic by the workers themselves, questions were raised across several workplaces, in both the financial services and publishing, when the employer purchased Winningtemp[110] software to evaluate the "temperature" at the workplace, marketing itself as being "founded on a simple yet powerful idea – to mix science, intuitive data and AI in order to help leaders to unlock the full potential of their team".[111]

Winningtemp offers employee surveys, people analytics, team insights, data-driven actions and more, promising to measure so-called "temperatures": "The temperatures were developed together with leading research scientists at Gothenburg University. A temperature measures one specific area that affects organisations' biggest challenges; employee engagement, employee turnover or sick leave."[112]

The product primarily promises to increase engagement and help reduce sick leave, stress and turnover. In practice, based on our informants' accounts, it replaces the traditional annual surveys of the working environment with short questionnaires sent out every two weeks to measure the temperature in the workplace. These questionnaires would, according to our informants, be answered with only one of four smileys – positive, very positive, negative or very negative (Figure 3) – in addition, there is the possibility to write in free text but, as several informants noted, this option was often avoided for the fear of being identified based on how one expresses oneself, in particular in small teams. There was no neutral smiley, which, as several informants noted, created great frustration as one was not allowed to be neutral for a certain question.

Figure 3. Screenshot from Winningtemp.



Unlike traditional working environment surveys, which should also be designed to incorporate many questions relating to organisational structures, workload, health and safety, and more, these "scientific" questions were purely oriented towards *individual psychology*: monitoring of emotions, and emotional reactions, satisfaction with leaders, and gauging levels of enjoyment, engagement, motivation, commitment and so on. This focus on individual psychology is symptomatic of the larger individualisation of the workplace, but also of the desire of the employer to have ever-more control over how workers "feel" and not merely how they perform; this has been analysed as the turn to "governing the soul" and a quest to shape the private self of workers.[113] It is no longer enough to just satisfactorily perform your tasks, now you also have to display joy.

The software is sold to employers with the promise to *predict* (and thus, also potentially decrease), based on these "temperatures", dissatisfaction, sick leave and work terminations. "The idea is that the leader or manager can go in and implement measures before for instance something results in a long-term sick leave" (F4).

The marketing also suggests that the software is using AI, which feeds different questions to different workers based on their previous answers, thus storing their personal history of answers and tracking their emotional evolution in the workplace from the first time they answer onwards. This has not been understood by those interviewed, as several believed that all workers receive the same questions and that leaders can use the answers to address concrete dissatisfaction. Also, while it is promised that answers are anonymised – typically one needs at least a team of five to send out questionnaires – there were repeated concerns that managers could easily understand who answered what or who was dissatisfied. Others said that many would just use happy smileys to avoid attention, or just refused to answer. Another noted that the system was irrelevant to the way they were organised, as it was, for instance, time and again unclear which leader they should say they were happy or unhappy with, as they worked in several teams under several leaders – "it does not work at all with our organisational structures" (F5). Others argued that

> "People would get fed up with the system, as they would keep answering but never hear anything back from management about this […] I think it is overall a very weird system. You are forced to have an opinion, or emotion, on something you do not have any opinion about or is not even relevant. I then vote red [angry smiley], to say that this was a really bad question. But will it be interpreted like that? Actually, it is not important for me, I don't care. […] But I am very sceptical [of] the whole system, it is not followed up openly by the leaders. What is the data for?" (PI1)

The introduction of this system was seen as more invasive than other software designed to measure performance or track productivity. From the managers' viewpoint, it was seen as complementary to these systems, adding extra insight into how workers feel, which could be matched to the performance data of the team.

The managers can view a dashboard, which provides results on certain key metrics at several levels – from their team to the total organisation. And as a sales representative noted during our conversation at the HR Tech 2024 conference, under certain conditions, it is indeed possible to tap into individual answers, if needed by the management. Overall, the introduction of this system was seen as more invasive than other software designed to measure performance or track productivity. From the managers' viewpoint, it was seen as complementary to these systems, adding

extra insight into how workers feel, which could be matched to the performance data of the team.

> "Winningtemp is only concerned with the personal dimension, wellbeing and so on, but does not cover performance and deliveries. For that I am dependent on other systems. I can see Winningtemp results for my team, and then I have other own small health checks on how people are doing." (F5)

At the same time as using Winningtemp as a team leader, the informant also had to answer these questions for their leader. In that context, remarking that

> "I chose myself what I answer, you must understand that this will be used. So, if there is something I think should not be followed up, I answer positively and if there is something that should be addressed, I use the angry face. […] You have to be aware yourself that this will be used." (F5)

The ways in which people understood or misunderstood how this algorithmic system was designed to work thus clearly influenced the results it would serve the managers, challenging arguments about its "scientific validity", predictive value or objectivity or its suitability as a decision-making support. It is highly unlikely that the system would have accounted for the various intentions projected onto it – from the faking of happiness to assigning an angry face to flag questions perceived as stupid or irrelevant.

The ways in which people understood or misunderstood how this algorithmic system was designed to work thus clearly influenced the results it would serve the managers, challenging arguments about its "scientific validity", predictive value or objectivity or its suitability as a decision-making support. It is highly unlikely that the system would have accounted for the various intentions projected onto it – from the faking of happiness to assigning an angry face to flag questions perceived as stupid or irrelevant. In the end, the conclusion from users would be that

> "If you want to have good data, you have to sit down and talk to the employees. Good, long talks. You do not get good data by sending out a questionnaire with 20 questions every two weeks. I think everyone should just understand that." (F5)

The fact that other performance monitoring and algorithmic management systems no longer raise many eyebrows, as opposed to tools such as Winningtem, is perhaps not surprising, as the aforementioned systems often run in the background, using the data exhaust of everyday work and are to a large degree invisibilised to workers or seen as mere tools (the metadata for managerial purposes are often the byproduct of these tools). In distinction to these systems, Winningtemp demanded both time and direct attention, and even if answering these questions was designed to be quick, they appeared

to generate a far greater degree of frustration, as the system was asking questions that were seen as invasive, personal, directed at emotions and often irrelevant from the perspective of the workers. Much of the frustration came from being asked the wrong questions.

While much is pre-defined in the system, which purports to build on certain psychological studies and is thus sold as a scientific form of assessment, providing "objective and validated data" for decision-making by management, the implementation differed across workplaces, depending on the strength of the unions and their dialogue with the management. In one case, the trade union representative was just informed about the introduction of the system two weeks prior, without any possibility to discuss this, and when asked about whether the questions could be adjusted to become actually relevant to the workplace, the answer was that "HR is afraid to change the questions, because they are 'scientific' […] and that the consultant from Winningtemp said they should not change the question as the results would then not be valid anymore" (PI1).

The trade union representative said in a subsequent presentation of the system by the consultants that the system was flawed:

> "I told them people are going to boycott it, those are idiotic questions we are getting every other week and do not know why, and then the director reached out to me and attacked me saying I am trying to destroy everything for everyone, for the company. […] I spoke with the others [workers], now we mostly answer with happy smileys to avoid trouble." (PI1)

The introduction of the same system in another company played out very differently; here, the trade union representative was involved in the top-level group responsible for its introduction and actively contributed to the selection and addition of questions:

> "there are pre-set questions, but we have removed some and then we have also added our own, and we changed some of them, so people do not misunderstand and then we also encouraged that they comment. […] the idea was to have a continual follow up and to work with it actively afterwards, to discuss it in the team or department. […] we were involved a lot, as it is important it is used correctly, and how the data from this system is then used; we argued that it cannot be the point to always have green, green, green." (F4)

These examples of different procedures and outcomes of the implementation of the same software therefore show that active trade union representatives, with an understanding of technology and data, and provided they have well-functioning systems for co-determination, can influence how technologies are used and interpreted and with what consequences for the workplace, to a certain degree.

These examples of different procedures and outcomes of the implementation of the same software therefore show that active trade union representatives, with an understanding of technology and data, and provided they have well-functioning systems for co-determination, can influence how technologies are used and interpreted

and with what consequences for the workplace, to a certain degree. This brings us to the possibilities of influencing these technologies and how they are shaped by different organisational contexts.

3.6 Negotiating the data gaze: From informational asymmetry to organisational contexts

All trade union representatives placed an emphasis on the existence and importance of company-level agreements that regulate performance measurement and quantification, as well as the use of data collected through diverse algorithmic systems.

In all workplaces, trade union representatives reported that there are largely well-established routines for the negotiation of performance measurement systems, and the use of data generated by algorithmic and digital systems used by workers. All trade union representatives placed an emphasis on the existence and importance of company-level agreements that regulate performance measurement and quantification, as well as the use of data collected through diverse algorithmic systems. A desirable system for co-determination on these matters, according to our informants, would at the bare minimum include the following:

> "At the very least, employee representatives must be involved in the procurement phase from the outset. You must ensure that the employee representatives have this knowledge. At the same time, employees must also be given access to, i.e., the opportunity to find information about which systems are used in the organisation to collect information. Certain rules must be in place to ensure that there is always a person with decision-making authority who is formally responsible for the process and who has the ability to override any decisions made by the algorithm-driven system. It must be made clear that decisions are made using algorithms and that there must be the opportunity to explain which premises are used as a basis. There must be rules for evaluating the systems […] There must be measures to ensure that the system does not have discriminatory results." (L2)

Our informants also emphasised their role in enforcing company-level agreements, while simultaneously highlighting their dependence on individual employees bringing issues to their attention:

> "Our company-level agreement stipulates that all introductions of new measurement systems must be discussed with us. And I'm not going to say that the agreement isn't being breached, but there's an agreement that we should comply. And it's clear that there are probably some creative souls down the line who suddenly use this [data] for something they're not supposed to use it for. But then people are very quick to contact us and ask, 'Is this okay?' And then we start digging into it, and then we say, well no, this data is not supposed to be collected for this purpose, so we can't use it." (F2)

It appeared that breaches of company-level agreements and practices that were not deemed appropriate were also discovered more case by case and accidentally:

> "The only thing I know is that we've addressed this with [Microsoft] Teams. Because we discovered by chance that there was a manager who said, 'Be careful what you write in Teams, because someone is watching'. And then we were like, what? Then we started investigating and it turned out that they were recording all of Teams' conversations, because you have customer contact and things like that [which you are legally required to record as a bank], so they recorded everything you do in Teams. […] So now we have an intermediate solution. They record everything, but nobody uses it. You can't separate who you can record and who you can't [i.e., conversations you are legally required to record from those you do not have to record]." (F1)

Concerns were often raised about how data would be used, despite admissions that establishing the facts of these matters was often close to impossible given the multitude of digital systems, of which even management was said not to have a full overview.

> "The concerns are generally about data. There are also concerns about how it will be used. Whether the information collected will be used against employees. Whether it will be used in a later review or appraisal. Whether it will be used in a case if a conflict arises, for example. Whether this information can be retrieved then." (L2)

Management and leaders often make claims to have holistic access to organisational data, a "single source of truth" (to use the IT expression) about the organisation and every worker, and hence, a better view than trade union representatives; this data will be presented as objective because it is data-driven and total. The qualitative, embodied, collective and organisational knowledge of trade union representatives and workers is presented as partial, as incomplete, as emotive, as a few stories of "disgruntled employees", and hence, not representative, and thus, irrelevant as a basis for decision-making.

On one hand, the employer is also said not to have a full overview, "There are so many algorithmic and digital tools, I have no overview of what we have, what is used, what we have access to; the list is so long, I have no overview" (F5). While, on the other, management and leaders often make claims to have *holistic* access to organisational data, a "single source of truth" (to use the IT expression) about the organisation and every worker, and hence, a *better* view than trade union representatives; this data will be presented as objective because it is data-driven and total. The qualitative, embodied, collective and organisational knowledge of trade union representatives and workers is presented

as partial, as incomplete, as emotive, as a few stories of "disgruntled employees", and hence, not representative, and thus, irrelevant as a basis for decision-making. The hands-on knowledge of trade union representatives becomes delegitimised in comparison with this datafied knowledge of the employer, which is afforded a superior value in the current cultural climate. At the same time, the information asymmetry deepens:

> "Suddenly, we have a new administrative director, and he is good with economy and data and then he uses all this data, from across the organisation and says, suddenly, this department is inefficient. We close it down. And we, as trade union representatives, we could not see that one coming because we do not have the same access to the system or transparency." (FG1)

The specialised and expert knowledge needed to understand digital systems is also preventing trade union representatives from partaking in discussions:

> "There's an imbalance in how much knowledge people have, and that's a problem, especially with all the new systems that are coming in. People find that if they don't understand the system, […] they can't comment on it or discuss it with their employer."

> "So, they leave that to the employer and the IT department or the HR department […] But it's not like you have to understand the systems to be able to discuss the principles here." (L2)

The fact that these decisions are often in the hands of experts was also confirmed by other informants:

> "I don't know much about other data flows […] it is so fragmented. It is actually cybersecurity that has responsibility and knows most about this […] I know things like SharePoint can be challenging, I can see all the time who has been in documents but there are limitations on access to certain files of course and other controls." (F3)

The fact that the technologies appear overwhelmingly complex and uncontrollable, their effects hard to grasp and that many have become so used to both using technologies and being subject to the "data gaze" of managerial and control systems that they no longer actively reflect on these conditions shaping their working lives, means that it is even more difficult to create an awareness about the operations of power in the workplace in this digital age.

Many of our informants expressed that they knew too little about the digital transformation, algorithmic management and new technologies and that orienting themselves in the field, and understanding the consequences of data-driven technologies on workers, was extremely difficult. In particular, they have many other tasks and responsibilities, which often overshadow these more structural, systemic and abstract concerns (e.g., discussions about privacy, data collection). The fact that the technologies appear overwhelmingly complex and uncontrollable, their effects hard to grasp and that many have become so used to both using technologies and being subject to the "data gaze" of managerial and control systems that they no longer actively reflect on these conditions shaping their working lives, means that it is even more difficult to create an awareness about the operations of power in the workplace in this digital age.

"I think it is necessary to understand algorithmic governance and to become part of steering the development and take the place at the negotiation table that is our right; we need competence and capacity building for both employees and trade union representatives […] I really hope these questions will come up higher on the agenda, we need to understand these digital systems and their consequences" (FG1)

"Ahead, we need to ensure that we both use technologies efficiently, but also have clear boundaries and frameworks. We must always be able to override decisions manually. We must always be able to exert control over these systems. And that is the real challenge. […] We must have focus on being a workplace for humans and not machines. We have to have focus on the whole human." (F4)

Trade union representatives emphasised the need to actively work vis-à-vis leadership to create an understanding that investing in existing employees and capacity building is what pays off in the long run.

The rapid pace of technological development, the perpetual upgrading of digital systems and experimentation with the use of generative AI tools, such as Microsoft Copilot or ChatGPT, has placed renewed emphasis on training and development, as well as on the participation of trade unions in discussions about guidelines for the responsible use of these technologies. The emphasis on learning and participation as being key to productivity and innovation has been an integral part of the Norwegian model and is also enshrined in many of the collective agreements.[114] Therefore, it is not surprising that trade union representatives demand that workers receive the necessary training or reskilling to remain competitive and productive. In particular, trade union representatives emphasised the need to actively work vis-à-vis leadership to create an understanding that investing in existing employees and capacity building is what pays off in the long run. "We have always been particularly interested in raising issues about competence development and ensure that there is a focus on that among leaders" (F4).

The question is whether in some cases "real consent", as one of our informants put it, is needed and how pressure to disclose information can be reduced.

Another general issue that was subject to much discussion was the question of informed consent, which is by default severely limited in the work situation, as one is expected to use technologies that collect various data by default. But the question is whether in some cases "real consent", as one of our informants put it, is needed and how pressure to disclose information can be reduced:

> "We've sort of introduced something called real consent. We say that if they're going to publish data about yourself, sales competitions and top three lists, there must be genuine consent from the individual. But, yes, in reality there is such pressure to publish… […] we argued there should not be pressure […] often those at the bottom of the statistics think that is uncomfortable." (F2)

There were also concerns about the ways in which the introduction of digital whistleblowing channels, in compliance with regulation, is shaping how complaints and critique are formulated and individualised: rather than using the co-determination channels and trade unions, workers are encouraged to use various digital speak-up channels, which can in some cases transform organisational, collective and systemic issues into personnel and individualised issues. "My personal experience is that it is often right that they speak up, but that maybe the whistleblowing channel is not the best channel, that issues should have been escalated through the co-operation channels with us" (F3).

There were clear differences between multinational financial institutions headquartered outside of Norway and large and smaller financial institutions headquartered in Norway. In particular, those with headquarters outside of Norway reported on the difficulties of being heard and having a substantial impact.

In particular, in financial institutions headquartered outside of Norway, there was a tendency to resort to digital systems that would "work everywhere", irrespective of jurisdiction, and that were portrayed as "best practice", without necessarily taking properly into account the Norwegian model and regulations. These discussions brought us to the interesting question of the impact of organisational contexts on the possibilities of co-determination with respect to algorithmic governance. There were clear differences between multinational financial institutions headquartered outside of Norway and large and smaller financial institutions headquartered in Norway. In particular, those with headquarters *outside* of Norway reported on the difficulties of being heard and having a substantial impact:

> "We do not meet with top leaders in Norway. They have a system, different culture […] And they have more workforce in (headquarters location) than here, we are very small […] we know that we use AI, because we hear it from management, but we do not know what it is used for, what does it mean for the employee. […] Because of the EU regulation we now have the EWC (European Works Council), so we have meetings there, but there is little dialogue […] just two times in a year […] also those outside Europe do not participate, that is a problem."

[…] "But EWC is just employee country representatives, even if in the Nordic countries it is also often trade union representatives, but that is not the case in many other countries. […] The problem is that those with mandate in a project and power are not there [in the EWC meetings]. As a rule, it is someone else, just someone who goes through what they have discussed at the top. I see that sometimes they note down things and say we will take this with us, but I think I have never seen they changed something." (F1)

Another informant remarked that

"Much is decided at the Nordic level, and even if we are informed here and it is discussed, as long as it is not against the Norwegian law, the bank can do what they want. […] The headquarters live in a way on a different planet […] but locally we have a good well-organised system for participation and dialogue […] we try to encourage also more trade union activity and participation in other countries, but it is not always easy given local culture." (F2)

Despite this, the institutional power and regulation in Norway enabled the trade union representatives to act even in the context where many decisions were taken at headquarters outside of Norway:

"We've had a small creeping introduction of measurement systems from [headquarter country]. […] Which we've had stopped because it wasn't actually discussed with us beforehand. We are much stricter in Norway. […] There was a period when we had to measure how much time you spent on your computer. You had to log out to go to the loo or when you had training with a colleague. We've actually stopped that." (F1)

The Norwegian workers enjoyed greater protection, but would, for instance, risk being outcompeted or sized down in periods by more competitive and more easily controllable workers outside of Norway.

Those headquartered in Norway reported a higher degree of involvement and co-determination; this, however, did not necessarily translate to the other branches outside of Norway. There was thus not really an export of the Norwegian model; the Norwegian workers enjoyed greater protection, but would, for instance, risk being outcompeted or sized down in periods by more competitive and more easily controllable workers outside of Norway:

> "There's a fairly good understanding of roles, especially at the top. A little further down in management, there is a slightly more varying degree of familiarity with co-operation, co-determination and participation. […] In Norway, we are very highly organised, this is not the standard for the finance sector in the world, actually […] but in my experience, it is difficult to export this model, in [location of company office outside Norway] they have no tradition for trade unions." (F3)

All informants emphasised that, despite established forums and well-organised co-operation, there are often problems with influencing "prestige projects" (F2), that is, often both technological and organisational forms of restructuring in which the management invests in terms of reputation building.

Another organisational dimension that has been greatly impacting the possibility for co-determination has been the agile restructuring of the financial sector enabled by digitalisation. Both in Norway and elsewhere, we can observe a trend where financial institutions increasingly see themselves and seek to become reorganised and work as technological companies. From ING[115] and the Russian Sberbank[116] to Norwegian banks, agile teams (as well as methods and mindset) and hubs are introduced, as are new modes of project organisation inspired by the Silicon Valley and companies such as Spotify and Google, which are more fluid, flexible and dislocated. As a result, leaders can be in another country, with workers working from home or exclusively digitally. As one of our informants put it:

> "We have employees who sit in Norway but have a leader in [another country outside of the Nordics]. They work in project groups, tribes and squads. […] they often never even meet in person […] all work is digitally mediated […] Those who were used to [having] their leader next to them – they do not work here anymore." (F1)

Agile modes of organisation, enabled by digitalisation, challenge the Norwegian model in multiple ways, from the organisational charts becoming fuzzy and floating, to workers shifting or having multiple leaders and managers, as they move from one project to another, making it difficult to establish lines of responsibility and accountability. Overall, we see that the Norwegian model is stronger with greater possibilities to negotiate the digital gaze and algorithmic governance in financial institutions headquartered in Norway, and in particular those that are smaller in size. Not surprisingly, the larger the organisation, the harder it is to exert influence; this is, in turn, particularly difficult in organisations headquartered outside of Norway.

4. CASE 2: INSIGHTS FROM THE NEWS MEDIA INDUSTRY AND TRADE UNION REPRESENTATIVES

4. CASE 2: INSIGHTS FROM THE NEWS MEDIA INDUSTRY AND TRADE UNION REPRESENTATIVES

4.1 Unions, agreements and co-determination in the media industry

The parties negotiating in the media sector are mainly the Norwegian Union of Journalists (*Norsk Journalistslag, NJ*),[117] representing the employees, and the Norwegian Media Businesses' Association (*Mediebedriftene, MBL*),[118] representing the employers. Most journalists and other editorial personnel in the news media industry – freelancers, employees and those on temporary contracts – are members of the NJ, a union with 8,500 members (also counting students and retired staff). Most editors and media leaders are members of the Association of Norwegian Editors (*Norsk Redaktørforening – NR*).[119] With its 800 members, the association has the role to "safeguard the professional interests and editorial independence of its members, ensure freedom of expression, public access to government documents, protection of sources, develop journalistic skills and defend press ethics and self-regulation."[120] However, the MBL is the media trade and tariff organisation in Norway, with approximately 324 members from different media organisations.[121] It is a member of the Confederation of Norwegian Businesses (NHO) and the main negotiator in the media industry for independent news media organisations. For the national Norwegian Broadcasting Corporation (NRK), there is a separate agreement between them, the NJ and the employer association *Spekter*.[122]

Firstly, the general agreement between NHO and the NJ 2022-2025 (*Hovedavtale mellom NHO og Norsk Journalistlag 2022-2025*) regulates salaries, working hours, redundancies, and conditions of work and employment. Yet, the most important regulation in the context of this report is the *§9 Information, co-operation and co-determination*,[123] which regulates the influence employee representatives have on reorganisation and implementation of new technology. § 9-11 states that

> "The company shall keep the employees, through their union representatives, informed of plans and work in this area so that they can express their views as early as possible and before the company's decision. […] Before actions are implemented, the company management and employee representatives shall individually and jointly ensure that the employees receive information about the purpose of the actions, their practical consequences, including how they will be implemented, and the estimated duration of the measure." [124]

The duty of providing information seems to be conceived as the main aspect of this agreement. Hence, the involvement of employee representatives and the rest of the staff does not normally take place until the decision about what technology is to be implemented has been made.

The duty of providing information seems to be conceived as the main aspect of this agreement. Hence, the involvement of employee representatives and the rest of the staff does not normally take place until the decision about what technology is to be implemented has been made. A journalist talked about such a process in the interview:

> "I don't know how many times we've changed systems. It's many times. There's an introduction session where we're told that we're going to change to a new system. We are then trained in it and given an explanation as to why. When we switched to (the new media company) we switched to what they use. Then we get training, explanations and an introduction. I feel it's fine, but for a while there were a lot of changes at the same time, that was stressful." (J2)

In the last decades, reorganisation and restructuring processes in the media sector have become the "new normal" and the implementation of new technology has been pursued as a resilience strategy.[125] Traditionally, the unions in the media sector have been perceived as strong, meaning that they have a great influence on the agreements and the general working conditions of workers in the sector. At the same time, after decades of redundancies and economic uncertainty, we can observe a trend towards more formalisation of co-determination and participation processes; again, this has also been partially supported by digitalisation processes, new modes of recordkeeping, HR systems and new software solutions for handling complaints and more. While disagreements and even conflicts traditionally seemed to be handled at the lowest level, the disposition towards documentation, written consensus and formalisation points towards the increasing use of higher-level official channels for decision-making; there appears to be more (formalised) activity at the top level, as opposed to the lower-level, more grassroots and informal initiatives of the past. The main agreement opens for special agreements §4 at the company level *if* both parties agree upon such adjustments.

Secondly, the general agreement in NRK 2022-2025 is worded similarly, but the agreement places an emphasis on the joint responsibility in co-determination processes. In *§29 Organisation and implementation*, it is declared:

> "It is a joint duty for management, employees and their employee representatives to take the initiative to and actively support and contribute to co-operation. Conditions must be organised so that the individual employee, possibly through their union representatives, can have a real influence on the company's general work towards, among other things, increasing efficiency, reducing costs, improving the organisation's competitiveness and value creation, utilising new technology and facilitating necessary restructuring." [126]

A joint duty or common responsibility could potentially empower employee representatives in co-determination processes. However, if interpreted explicitly, it can backfire and instead undermine the duty of the employer for involvement. NRK is, however, subject to the Freedom of Information Act, the Personal Data Act (GDPR) and the Transparency Act, all of which require NRK to disclose documents and information to the public – and thereby to both

parties. These acts strengthen the in-house trust as transparency is a ground rule. NRK also needs to comply with the public sector procurement regulations and has dedicated personnel working on purchases, testing and implementation of new technologies. There is generally high trust that NRK, as the employer, complies with these regulations and that proper procedures are followed; procurement decisions are rarely challenged or even subject to discussion. This top-down and trust-based approach with respect to technology, which also relies on trust in regulatory compliance, pertains to the news media industry as a whole, including the private sector.

Mostly, in all news media companies, new technology is decided from the top, from the media group or the management.

Mostly, in all news media companies, new technology is decided from the top, from the media group or the management. Or as our informants put it: "It's always controlled from above and justified and legitimised by economy" (J2). "It's never decided whether it would be nice to have this kind of technology. It never is. It's introduced by the owner or management" (J5).

The implementation of new technology follows a market logic rather than a practice-based logic. Even though these are not necessarily counterparts, the decisions about technological rearrangement are never bottom-up and task-oriented. A change in ownership and management also influences the technology in use: "The last major changes were when we became part of [new company], and then everything was moved up from us to the Group. So, there are completely different people making all the decisions" (J3).

Decisions are normally taken far from the journalists' everyday work and appear to be rarely questioned. The journalists we spoke to displayed high levels of trust in the personnel making decisions about the implementation of new technologies, trusting that they know what they are doing.

Decisions are normally taken far from the journalists' everyday work and appear to be rarely questioned. The journalists we spoke to displayed high levels of trust in the personnel making decisions about the implementation of new technologies, trusting that they know what they are doing:

> "I don't think about it, because I know that before we use something new, there's a whole bunch of nerds who have spent so much time on it. I just trust it blindly. Once they've made a decision that we're going to use it, we use it […] I think that someone has that job. I don't need to think about that. I just blindly trust that. Maybe it's uncritical of me, but I don't have the capacity to… And I can't do anything about it either. But I can do something about my journalism." (J1)

Concentration of ownership, specialisation in competence relating to technology and outsourcing of IT services seem to impede the co-determination processes in the media sector relating to technology. Moreover, journalists are chronically time pressured, and in hectic everyday work, the focus is solely on their journalistic work. Concentration of ownership also means concentration of technology; journalists in Norway mostly use the same or similar technical solutions.

Concentration of ownership, specialisation in competence relating to technology and outsourcing of IT services seem to impede the co-determination processes in the media sector relating to technology. Moreover, journalists are chronically time pressured, and in hectic everyday work, the focus is solely on

their journalistic work. Concentration of ownership also means concentration of technology; journalists in Norway mostly use the same or similar technical solutions. That said, employee representatives are used, providing their input for adjustments and improvements, where possible, but centralisation of IT solutions and concentration of power impedes the possibility for their impact:

> "We want to improve the programmes we work with. After all, we report when we think things are out of order, wrong, or the machines don't interact with us as we expect. And I definitely think that since we became part of a large group, things have taken an awful lot longer. And to some extent, nothing happens." (J3)

The distance from the technological decision-making authority challenges the possibilities for adjustments and tailor-made technology that was the case only a decade ago. Nevertheless, there are also examples of involvement from IT personnel:

> "Those who have tenders to buy new things, they are in a way open, they write on the intranet: 'We will do this now, do you have input?' And the last time we switched image systems, they also had someone from each editorial department that uses it who went to a focus session, and they asked, 'What's important to you when we switch', and we got to test it before we decided, so it's very much a dialogue." (J1)

This process is, at first sight, somewhat in line with the traditional Norwegian workplace democracy and co-determination and participation processes. But upon closer inspection, it can be seen more as user involvement; this is not the same as co-determination, as it focuses on very different questions: for instance, functionality and efficiency instead of impact or consequences for workers. At the same time, there are examples that employee representatives are cautious about their role in the reorganisation processes involving technology. A journalist working for one of the larger media groups talked about the current reorganisation process in their newsroom, in which a group of representatives from the newsroom were involved, but not the union:

> "Employee representatives have not been members of that group. We haven't wanted to be either, because you don't want to put yourself in a situation where you're potentially on both sides of a conflict. That you've made decisions and then have to represent members who may be affected by them." (J5)

There are therefore tensions between the Norwegian micromodel and new approaches to user and stakeholder participation, where the latter may blur or gloss over the fundamental power imbalance and conflicts of interests between different parties – and which may also speak to the aforementioned boundarylessness, individualisation and hybridisation within organisations, which also translates into blurring the roles of trade union representatives.

In a process where potential redundancies and relocation of staff become part or a consequence of the process, the employee representatives seem to be careful not to confuse their roles. Being part of a stakeholder or user group when introducing new technology can quickly become viewed as a form of legitimisation of this technology, and thus, may make it more difficult to challenge its consequences later on. There are therefore tensions between the Norwegian micromodel and new approaches to user and stakeholder participation, where the latter may blur or gloss over the fundamental power imbalance and conflicts of interests between different parties – and which may also speak to the aforementioned boundarylessness, individualisation and hybridisation within organisations, which also translates into blurring the roles of trade union representatives.

4.2 The news media industry in Norway – towards a more profit-oriented sector

In the last decades, newsrooms worldwide have experienced disruption. News media outlets have closed, freedom of speech has come under threat, readership has diminished and journalists have been under increased pressure. What has been labelled "the media crisis" attests to the unsettled situation many in the news media industry found themselves in after the financial instability experienced in 2008, an economic, political and social crisis.[127] This media crisis has been marked by massive losses in revenue for print journalism; high-tech-driven development (currently AI); new forms of distribution through, for instance, social media; global competition; new user habits and new media actors. Worldwide, the structures within which journalists operate have undergone fundamental changes, challenging the very core of news organisations' traditional legitimacy, their economic base, and internal work structures nurtured by and nurturing an accelerated digital transition.

Norway is not an exception when it comes to the global trends threatening the media system and democratic values as we know them. However, Norwegian news media are market reliant, yet publicly funded. They are operating in the field of a well-established media system with institutionalised self-regulation, strong protection of press freedom and a tech-savvy, news-reading population. There has been no decline in the number of news media in the last decades in Norway, in contrast with the global trend. The Norwegian news media industry is large in relation to the size of the country's population, with 213 newspapers for a population of approximately 5.5 million. In comparison, Sweden has around 146 newspapers for 10 million people,[128] and Denmark has 30 newspapers for 5.7 million people.[129] The Nordic model of welfare politics, including the special organisation of media and communication, is generally understood as a contributing factor to the stabilisation of the media landscape in Norway.[130]

Market concerns are increasingly incorporated into journalistic practices through the use of metrics and data generated from readers (e.g., number of clicks, bounce rate, quick exit, reader time, and device and target group) to determine what stories to write, how to write them and when to publish in order to generate most 'engagement', for example, digital traffic. This change speaks to the shift to a datafied or quantified epistemology, leading to a new form of management practice.

Traditionally, the relationship between the market and the state has been fundamental for the structures of the Norwegian news media industry: the Nordic media model is based on a balance between these two.[131] The state is the legal entity regulating news

media through policy and financial support. However, the relationship cannot be too close for journalism to function as the fourth state power underpinned by the social contract with citizens tasking it to oversee the ruling powers and as a prerequisite for democracy. The market is the economic entity where news media find their consumers, compete and make a profit. However, to maintain its professional legitimacy, purely commercial news is not compatible with independent journalism. Currently, the distance between the state and the market is decreasing because of digitalisation and its ripple effects.[132] State regulation in Norway is still considered necessary to safeguard the media from unfavourable market constraints: a sound financial basis can underpin editorial freedom because editors can take risks in their coverage without having to worry about the loss of advertising revenue or readers and subscribers. However, market concerns are increasingly incorporated into journalistic practices through the use of metrics and data generated from readers (e.g., number of clicks, bounce rate, quick exit, reader time, and device and target group) to determine what stories to write, how to write them and when to publish in order to generate most 'engagement', for example, digital traffic. This change speaks to the shift to a datafied or quantified epistemology, leading to a new form of management practice that was previously unheard of. Before, "we decided what was good news, not the readers", as several editors only few years back put it.[133] The commodification of news is an inevitable development in a more profit-oriented industry reliant on market demands. The metrics is thus a reflection of the business-oriented and profit-seeking functions of the organisation. The most traditional boundary that is core to journalism has been underpinned by the dictum of keeping the mercantile function at arm's length,[134] but this boundary has been increasingly blurry with data-driven systems pervading news organisations. It is not only becoming impossible to keep it at arm's length, but in practice – through the aforementioned infrastructural power – it governs the work of journalists, often in invisibilised ways, in line with the imperatives of profit. The impact of the COVID-19 pandemic on journalism though remote working and increased online readership further triggered and accelerated the digital translation, and hence, a quantified epistemology,[135] which has become progressively naturalised.

The most traditional boundary that is core to journalism has been underpinned by the dictum of keeping the mercantile function at arm's length, but this boundary has been increasingly blurry with data-driven systems pervading news organisations. It is not only becoming impossible to keep it at arm's length, but in practice – through the aforementioned infrastructural power – it governs the work of journalists, often in invisibilised ways, in line with the imperatives of profit.

Traditionally, there have been two sources of income: subscription and advertisement. In the last decades, however, news media have become increasingly less attractive to advertisers. Global actors, such as Google and Facebook, have gained a firm footing in the Norwegian advertisement landscape. Advertisement revenues in printed newspapers have declined, a continuous year-on-year decline, and income from the growth in digital platforms has not increased as fast as expected. In 2020, however, digital revenues compensated for paper-format losses from Norwegian news media overall.[136] Digital paywalls were first introduced around 2011 and are common for most Norwegian online newspapers after years of open access to all news content. Since 2008, the traditional financial models for news organisations have been under pressure; therefore, technology became seen as key to solving the financial problems and to "saving" the newspapers; a pervasive sense of urgency for technological development emerged around that time and continues to persist. Automated, computational and data-driven journalism have also gained a solid footing in journalism.[137] Especially with the introduction of AI in recent years, news production, consumption and distribution have been altered.[138] The technical advancements in AI, particularly complex AI models based on natural language processing and ML algorithms generating coherent and contextually relevant text, pose both opportunities and challenges for

journalism.[139] Importantly, AI in journalism points us towards pressing questions regarding accuracy, potential biases, ethical implications and the overarching quality of journalistic content:[140] from the shifting landscape of media production and the changing skill sets required for journalists to the potential impact on the public's perception of news credibility and trustworthiness. Developing "AI literacy" is crucial, meaning building knowledge and perspectives about AI's effects on journalism for the journalists themselves.[141] This "intelligibility" issue is particularly crucial due to the risk of misjudgement and untrustworthiness.[142] In the context of journalism, it is not so much the potential for AI to augment and replace human roles,[143] but the journalistic authority in knowledge production[144] that is at stake – the epistemic power in the newsrooms.

AI in journalism points us towards pressing questions regarding accuracy, potential biases, ethical implications and the overarching quality of journalistic content: from the shifting landscape of media production and the changing skill sets required for journalists to the potential impact on the public's perception of news credibility and trustworthiness. Developing "AI literacy" is crucial, meaning building knowledge and perspectives about AI's effects on journalism for the journalists themselves.

Furthermore, in the last decades, the total number of personnel in news production has been decreasing dramatically; many traditional occupations were cast off as part of the downscaling, for instance, desk workers, dedicated proofreaders and photographers. Consequently, individual journalists have been over the past decades "flexibilised" and entrusted with delivering finished stories, hence becoming multiskilled. Since the 1990s, precarious digital journalists have become the norm in job adverts for journalists – as opposed to the permanent employment of journalists.[145] The cultural and industry portrayals of the "multiskilled, flexible and fast-learning digital journalist" contribute to the expendability of journalists and the fears of not being "up to date" with technology, "being left behind" and "outdated". Traditionally, the news media industry has been highly hierarchical, even in the Nordic egalitarian work environment. At the same time, the community sense of newsrooms' news production has been notable through the collective production of the newspaper as a *printed* product.[146] Digitalisation has influenced not only news production, but also the organisational culture towards the individualisation of work,[147] which is further underscored by the digital performance management and analytics systems and the aforementioned fact that what used to be done in a team of specialised workers is now often done by one multiskilled individual.

Digitalisation has influenced not only news production, but also the organisational culture towards the individualisation of work, which is further underscored by the digital performance management and analytics systems and the aforementioned fact that what used to be done in a team of specialised workers is now often done by one multiskilled individual.

The digital domain's, or more specifically the internet's, easy means for both gaining information and for producing and publishing content, has generated new ways of performing journalism, which have led to the popular claim that "we are all journalists now".[148] In journalism studies, the traditional jurisdiction journalists have achieved by speaking "truth" about the world through their journalistic codes and norms of objectivity have largely been seen as being taken over by participatory forms of journalism.[149] The occupation of the journalist is not protected in title, and it is not even fully regarded as a profession, according to the criteria found in sociological studies on professions; for example, knowledge monopoly, clear division of labour, strong professional education and research, strong professional organisations, and being ideology driven rather than economically driven.[150] Media scholars have regarded journalism as a semi-profession and lately even as de-professionalised, as a consequence of the aforementioned developments and as the criteria for being a profession have been under threat for a long time.[151] Additionally, it would be counter to freedom of expression to, for instance,

claim the exclusive right to express oneself in the media (i.e., knowledge monopoly). But it is precisely the traditional control of the information domain and flow that has been challenging journalism for decades.[152] The question "what makes a journalist and journalism?", or rather "who is a journalist?", has been raised (often with worry), while the answer is no longer linked to being employed as one. With the introduction of AI, the question becomes even more pressing, as it speaks to issues of trustworthiness, information control, disinformation, foreign influence, destabilisation of knowledge production and more.[153] Therefore, we also see new forms of securitisation of news media production at the same time as journalism finds itself in crisis – hence, the increased role of fact checkers, new technologies promising to detect AI-generated or manipulated content, and other modes of policing AI.[154]

Therefore, we also see new forms of securitisation of news media production at the same time as journalism finds itself in crisis – hence, the increased role of fact checkers, new technologies promising to detect AI-generated or manipulated content, and other modes of policing AI.

The proliferation of fake news and deepfakes has also made the awareness and attention to ethical considerations critical. Even though the phenomena are not new, AI and digital publishing provide more efficient ways of spreading disinformation, representing a serious threat against democracy and trustworthiness.[155] To support press freedom, as well as maintaining ethical guidelines, institutionalised self-regulation in Norway is, first of all, conducted through the Norwegian Media Authority, subordinate to the Ministry of Culture and Equality, regulating political goals of "media diversity and critical understanding of the media in the population."[156] The Norwegian Press Association, comprising the Press Council, deals with public complaints concerning unethical press coverage, while also enforcing the detailed Codes of Ethics (founded in 1936) that journalists are obliged to follow. The latter includes protection of sources, press freedom and responsibility, and rules for publishing journalistic content.[157] Most news media and broadcasters in Norway adhere to codes and guidelines set out by these authorities. The Nordic countries have been at the top of the *World Press Freedom Index* ever since its launch in 2002 due to low levels of corruption and censorship and the high level of safety for journalists, as well as due to the aforementioned regulations.[158] Norway has been ranked at the top of the ranking for the last eight years. In comparison, the corresponding rankings were 19 for the UK and 29 for the USA in 2023, a step up from the rankings in 2020, where the UK was at 35 and the USA was at 45.

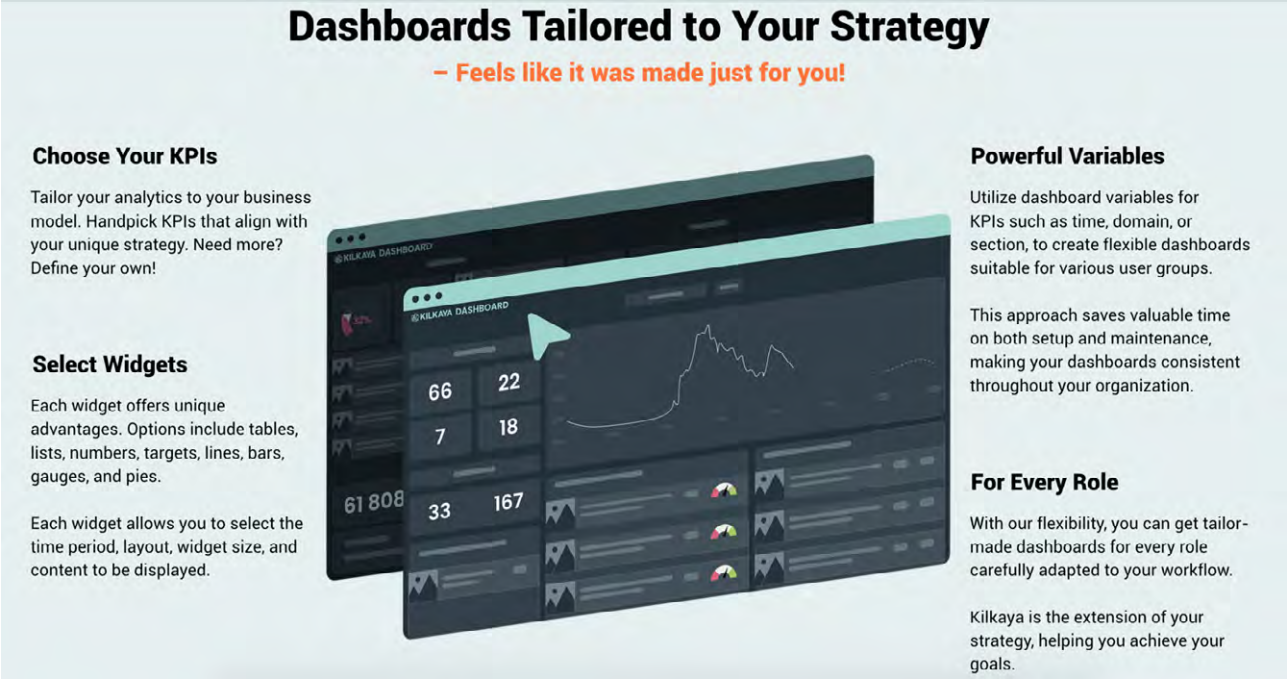
The Norwegian population generally has a high level of trust in news providers, considerable news interest and a willingness to pay for news – in comparison to other countries.[159] In Norway in the last years, smartphones have been the number one device for news consumption, and newsrooms have adjusted accordingly with more use of video and moving imagery. Smartphones are also increasingly the main tool for journalists, in addition to metrics and data. On one hand, there is data generated from readers, on the other, journalists' tasks are also tied to creating data by, for instance, marking, labelling and tagging stories for meta information for Google searches and other algorithms.

Most Norwegian news media companies are using the same company for data analysis, a Norwegian-based company called *Kilkaya* (Figure 4).[160] Technology companies that deliver comprehensive technological services, so-called *software as a service* (SaaS) to newsrooms are more and more common. These technologies are operating through the cloud, and no in-house servers or personnel are required, as maintenance and updating are provided by the supplier. *Kilkaya* has a monopoly in the Norwegian media market, with the NRK as their customer along with all larger media companies owning most news media in Norway (Schibsted, Polaris Media and Amedia).[161] They also have large media companies in the Nordics and the rest of Europe. On their website, Kilkaya states:

"We understand the unique challenges you face, whether you're trying to leverage videos, grow subscriptions, or optimize articles. That's why our mission is to offer real-time analytics that are as flexible as you need them to be. Our customizable dashboards and diverse KPIs are designed to align with your specific goals, empowering you to make data-driven decisions without having to compromise your strategy. We believe that analytics tools should adapt to publishers, not the other way around." [162]

With the monopoly in the Norwegian media market and other European countries, Kilkaya is in a good position to define what data to analyse, how to do it, what information should be extracted and visualised, and how to act further upon these figures. Even though most larger media corporations have devoted departments with an increasing number of personnel and expertise to analyse these metrics, the actual technology in use and the narratives, insight and support that they sell is decisive for not only how it is utilised, but also the understanding and further implications of it for organisations. In the following, we describe how the use of data-driven journalism plays out and how it is experienced and understood in the news organisations in this study.

Figure 4. Screenshots from the Kilkaya website.



4.3 Quantified epistemology: Work(place) governance by numbers, metrics and data

From a sound scepticism when first introduced into the newsrooms' routines a few decades ago, these data are now not only no longer questioned but also given high epistemic value.

With the introduction of online publishing, metrics or data generated by reader behaviour on digital platforms are increasingly becoming part of journalists' everyday work. From a sound scepticism when first introduced into the newsrooms' routines a few decades ago, these data are now not only no longer questioned but also given high epistemic value. This manifests in the following statement: "Before we didn't know. We didn't really know what people liked to read about. It's only now that we know. I think it's been a shock for a lot of people to realise that" (J2).

Even though journalists talk about the metrics as both nuanced and comprehensive and straightforward and banal, most interestingly, they seem to be considered as objective and neutral – rather than as in need of interpretation or, as always, already subject to interpretation. As pointed out in this quote, many journalists express that "now we know" in comparison to the past, which is now reimagined as working blindfolded for the printed newspaper.

This quote from one of the journalists points to the trust in these numbers for providing a solid knowledge base for journalism, thus falling into a larger socio-cultural phenomenon of "trust in numbers" and quantification.[163] Even though journalists talk about the metrics as both nuanced and comprehensive *and* straightforward and banal, most interestingly, they seem to be considered as objective and neutral – rather than as in need of interpretation or, as always, already subject to interpretation. As pointed out in this quote, many journalists express that "now we know" in comparison to the past, which

is now reimagined as working blindfolded for the printed newspaper. This phenomenon, where one is increasingly "governed by numbers"[164] (without necessarily questioning this form of governance), at the same time as trust in these numbers increases, has advanced in the last decades, as one journalist explains:

> "I just think the awareness that the number of clicks means interest, that awareness has increased from the beginning when we thought that the number of clicks was a very poor measuring device. In the beginning, we thought that good journalism was about something completely different than the number of clicks. It still is, there are many other things that matter, but if you don't get clicks on your good journalism, something is missing. So, we've become better at using titles and angles and images to say that this is an interesting story that you should read. The fact that we count clicks has helped us to better understand what generates clicks and what makes our stories read." (J2)

This development has been going on for decades, forced through by economic instability, for example, loss in revenues and a comprehensive digitalisation of news work in which publications on digital platforms are the core focus. To retain readers, journalists acknowledge the value of reader-centric journalism:

> "If we want them with us, if we want them to subscribe to us, we have to write in a way that makes them want to read us. So, this has been forced upon us […]. It's been a learning curve. It's been a real learning curve in journalism." (J5)

Because of the professionalisation of analytical work, journalists express their trust in these analyses and correspondently turn towards and embrace the market-oriented mindset embedded into this profit- and click-oriented analytics, while also regarding the data as speaking the "truth" (this correlation of data with knowledge as the source of truth unwittingly also likely impacts what speaking "truth" to power looks like in journalism itself today).

Because of the professionalisation of analytical work, journalists express their trust in these analyses and correspondently turn towards and embrace the market-oriented mindset embedded into this profit- and click-oriented analytics, while also regarding the data as speaking the "truth" (this correlation of data with knowledge as the source of truth unwittingly also likely impacts what speaking "truth" to power looks like in journalism itself today):

> "Back then [paper edition], we had a sense of what people wanted to read. Now we can see what they click on, how far they read, when they skip the story, whether it's women or men, we can find out so much about the readers now. This knowledge means

> that we can also serve our customers and our readers in a better way than before. I'm pretty sure of that." (J3)

From deciding, writing and disseminating news stories based on the journalistic profession – the skilled "hunch" learned by socialisation into journalism – the production of news today is infiltrated by metrics and an unquestioned reliance on numbers telling journalists not only what the audience wants to read, but also how the stories should be written, how to write click-worthy titles, what images to use or when to publish what. Firstly, the numbers indicate what to write about, as a journalist from local news pointed out:

> "Our work is very numbers-focused. Which articles were the best? And then we try to categorise it. So-called 'talking points' [in Norwegian: 'snakkiser'] go very well, like parking, ploughing and so on. In other words, things that people are concerned about. And the business section is doing very well. You can see that in all media reports. Sport is doing very badly unless they personalise it. If we take away the sporting attire and focus on things that people care about, they can read and recognise themselves. So, it's actually a bit interesting in recent years, where we've turned what we thought people were interested in on its head." (J2)

What the journalist touches upon here is how the metrics are also used for deciding how to write stories. For instance, the personalisation of stories, adding a more personal angle, is found to generate interest from readers.

What the journalist touches upon here is how the metrics are also used for deciding how to write stories. For instance, the personalisation of stories, adding a more personal angle, is found to generate interest from readers. The same goes for images: "If people look straight into the camera and smile, like that, the story will actually go better than if you see people from afar. It's all about direct contact" (J3).

Journalists are increasingly guided in their everyday work by this "knowledge" of what works and how to craft their pieces to suit the data gaze and algorithmic logic. As one of the journalists expressed it:

> "I know that when I'm sitting in an interview, I'm waiting for that quote that I know will get so and so many readers. When that person has said that quote, then I know, yes, that's it. It sounds terrible, but that's how it is. I don't think I'm the only one who does that." (J2)

Metrics have also led to a segmentation of news pieces for different target groups, dividing the readers into categories of gender, age and geography. Journalistic work has always had the reader in mind, often personalised and pictured with a name and age (for instance, "Olga" aged 56, "Per" aged 35), but with the metrics it is directly visible if the stories are reaching their preferred audience:

> "It's seen as important that we know who reads us, because then it's a bit like, who are we writing for? That's the big question, isn't it? Who are we really writing for? And what are they interested in. So, these figures and answers are used to develop our journalism. It's not just about numbers and figures, it's also a tool for us." (J5)

The interviewed journalists also expressed that the focus on numbers created a goal-orientated working environment, as the data analytics not only shapes the actual journalism but also translates into various forms of performance management and "quality" assessments.

The interviewed journalists also expressed that the focus on numbers created a goal-orientated working environment, as the data analytics not only shapes the actual journalism but also translates into various forms of performance management and "quality" assessments. This plays out a bit differently for larger news providers than for smaller local newspapers. For the latter, and for many local newspapers that are now part of larger media corporations, the threshold varies for how many clicks a story needs to be counted as a "good" story (e.g., 1,500, depending on the subscriber base for the newspaper) and how many stories are needed above the threshold to meet the daily goal. Clicks are only counted if the reader is in the story for ten seconds, which means that event-based journalism like accidents do not usually get counted. The news workers' task is to meet these numbers first by writing stories they know will gain digital traffic, as described above, and consequently also by changing and variously altering and modifying the positions, titles and images on the front of their platforms to generate even more "clicks" on each already published story.

The news workers' task is to meet these numbers first by writing stories they know will gain digital traffic, as described above, and consequently also by changing and variously altering and modifying the positions, titles and images on the front of their platforms to generate even more "clicks" on each already published story.

> "The editorial management team presents readership figures for the various articles at the morning meeting every day. That's our focus. And we then work to increase our readership figures. So, a great deal of emphasis is placed on which issues perform best in relation to these readership figures. We actively use them." (J3)

In larger newsrooms, journalists themselves are engaged in increasing the numbers: "I get a push notification when my articles are published. Then I sit and watch it all the time. If I see that it's not going well enough, I'll try to do something about it" (J1).

Newspapers also test articles on audiences as they publish, a device that the technology provides for. For instance, they publish simultaneously up to six different images and titles – and then decide on which one to choose to eventually go with based on the version that has gained most clicks, reader time and so on during the first minutes on their platforms.

"As a reporter, you're interested in the story going as well as possible. And that often involves a lot of fronting. Placement is one thing, but now it's the actual fronting. We do a lot of testing. Different titles and images and so on. We have a tool for that. For example, for all the 'plus' articles [behind paywall] we add, we have created maybe five or six different frontings that all go out at the same time. And then we run a test and see which one performs best. There are lots of different variables you get […]. It's used very, very much. It's the personnel at the front that apply it and control it. But in my department, we create the fronts ourselves to record." (J4)

Companies like Kilkaya shape, in profound ways, and partially govern (1) news production itself; (2) what is understood as "quality" journalism; and (3) how both managers and journalists view "success" and satisfactory work performance. The likely most striking discovery here is that this mode of working, by subjection to the "data gaze", is rarely, if ever, directly questioned by journalists now.

The metrics on the digital platforms have, consequently, become an integral part of everyday journalistic practice, motivating and driving journalists, shaping their news production, as well as being used for measuring their performance both by management and themselves as they become subjectivised by these numbers, metrics and data. In other words, companies like Kilkaya shape, in profound ways, and partially govern (1) news production itself; (2) what is understood as "quality" journalism; and (3) how both managers and journalists view "success" and satisfactory work performance. The likely most striking discovery here is that this mode of working, by subjection to the "data gaze",[165] is rarely, if ever, directly questioned by journalists now. One explanation may be simply that time pressures do not allow for the necessary reflexivity around data and vis-à-vis their own practice. Therefore, it is also not surprising that trade union representatives, too, largely do not question these technologies or conceive of them as first and foremost managerial tools; instead, they prefer to see these technologies as mere neutral "tools", which they master, disavowing in the process the ways in which they are being subjected to and mastered by their algorithmic governance logic. Therefore, it comes as no surprise that they do not really feel compelled to negotiate their introduction to any large degree. This finding speaks to the naturalisation of the technology and of the quantified epistemology in the newsrooms. While this mode of algorithmic governance may not be a problem from the point of view of individual journalists or trade union representatives, it may be a problem for society.

Therefore, it comes as no surprise that they do not really feel compelled to negotiate their introduction to any large degree. This finding speaks to the naturalisation of the technology and of the quantified epistemology in the newsrooms. While this mode of algorithmic governance may not be a problem from the point of view of individual journalists or trade union representatives, it may be a problem for society.

4.4 Governance by numbers: Impacts on work environment and social mission

Despite the generally positive attitude towards data analytics and metrics, towards the end of our interviews and conversations with informants, and as more time was afforded to reflexivity around metrics, more (self-)critical statements emerged. This again speaks to the work of journalists under time pressures as well as to the speed at which one is expected to embrace technology and to the societal valorisation of data-driven insight, which reflects in the default statements about technological neutrality, objectivity, efficiency and trust.

> "I realised it was actually personally a bit scary. I became a bit… I caught myself becoming a bit fixated on these numbers. Because in the meetings, it was like: who had been the best in class that day, right? Who had the best reading figures? So, I got a bit obsessed with that… a bit childish." (J2)

Many journalists report on how the metrics govern not only their work performance, but also their inspiration and motivation for their work.

Many journalists report on how the metrics govern not only their work performance, but also their inspiration and motivation for their work. Some newsrooms use these figures to award the best articles once a month, for instance: "It is used to recognise the best stories of the month once a month, with three nominations and one winner, based on articles that score high on these parameters" (J4).

Some of the informants describe the number fixation as stressful and demotivating, as they themselves have little influence on this type of management, which they find has a great impact on their work environment. It is first in this context that we see critique and the need for qualitative nuance emerge:

> "I feel that there's also a bit of a bad atmosphere, a bit of a bad vibe. Actually, yes. So that's why it's incredibly important not to just focus on numbers and say, yes, she was good, he was good. I think that's very negative, really. You need to talk more broadly about the articles. I feel that the atmosphere has improved a lot. It's never been very bad, but I felt that it was a bit like that." (J2)

The employee representative interviewed here brought the concerns about the negative effects of focusing merely on numbers, following organisational restructuring, back to the editorial management, and some adjustments were consequently made in the meetings where articles were evaluated. Despite still using the same analytics, the trade union representative managed to influence the way one speaks about these numbers in the workplace:

> "It's a happier environment, more people take part, so I actually think it's been incredible. And more articles go better. So, I think this is a very clear correlation, actually. Too much focus on numbers can be very negative for both motivation and productivity. You can achieve the same results by talking about things, but without having the number in your eye all the time." (J2)

This story from one of the newsrooms tells us that solely quantified performance management can have negative effects, as employees might lose sight of the core mission of their work. As the main decisive management tool for their work, some report on this being all too decisive and having little understanding what data feeds into the various dashboards:

> "What can sometimes be a frustration, or a concern, is that we get so caught up in the things we measure. Sometimes it kinds of trumps what seems like common sense, or that makes sense, or what looks good, or what seems perfectly logical to do. You could say, but can't we try to do that? And then get an answer: 'Yes, no, we've tested it and doesn't work'. For us, it's quite cryptic. It can be difficult when you look at the front panel and realise what it's about." (J5)

This exemplifies the need for critical approaches to data and the development of epistemic capabilities; in the absence of these capabilities, it appears far too easy to go with the default – the recommendation and interpretation provided by the dashboard.

This exemplifies the need for critical approaches to data and the development of epistemic capabilities; in the absence of these capabilities, it appears far too easy to go with the default – the recommendation and interpretation provided by the dashboard. This also speaks to the limitations of the "human-in-the-loop" approaches, for the question will always be – human with what capabilities and with what competence and possibility, as well as guts to challenge an algorithmic decision? In practice, it often easier appears to agree with the analysis provided by the system, which appears to be grounded in neutral data, rather than taking *responsibility* for challenging and questioning it.

Another troubling consequence of this form of governance by numbers, data analytics and metrics is that the journalistic social mission that all informants talk about as being important comes into conflict with the profit-oriented mission to generate clicks and engagement.

Another troubling consequence of this form of governance by numbers, data analytics and metrics is that the journalistic social mission that all informants talk about as being important comes into conflict with the profit-oriented mission to generate clicks and engagement. One of our informants describes this as being schizophrenic:

> "It almost sounds like a title. The journalist in 2024: 'Likes or social mission' You're split in the head. You become completely bipolar. You become a complete schizophrenic. That is the right expression, schizophrenic. 'Thank you, I would like both', like Winnie-the-Pooh said. There's a schizophrenia out there in journalism that we're now witnessing." (J2)

Despite this assessment, shared by others as well, there is little faith that local trade union representatives can actually do anything about it. Largely, challenging digital technologies is not perceived as part of their role. Furthermore, these issues, if considered, are typically seen as beyond their powers, and hence, something the trade union would need to address at the national level instead. But it is also unclear to many whether this is even something that the trade union at the national level should concern itself with or could do something about. And if so, they are unclear as to how both individuals and unions could even challenge the logic embedded into products such as Kilkaya. Paradoxically, most journalists have a very nuanced awareness about the protection of their sources, about privacy regulations and the use of images (e.g., one of our informants discussed at length rules pertaining to the use of images of children, about the use of metadata and digital protection of sensitive information, and about various other ethical concerns in journalism). However, when we asked whether they, as trade union representatives, consider the use of metadata and the data exhaust from *their* everyday work and its use by editors and management of both their work and themselves, as something to raise with the employer and management, the answer was largely no and that they have not really thought about their own privacy at work. Despite being very familiar with, for instance, GDPR, they just did not appear to think that this was also something that pertained to them. Often, they would just remark on their high level of trust in both technology and management, adding that maybe they were a little naive. Interestingly, while in the role as journalists they could see themselves as the strong part and their sources and informants as weaker part with rights and protections, in their role as workers, they appeared unable to see themselves as a weak part in need of protection in relation to the employer; this may suggest that strong professional identity prevented them from seeing themselves as both professionals and employees, suggesting – even in the case of the employed – an identification with the aforementioned "flexible multiskilled individual" with a degree of autonomy (even if often more imaginary than real). It may also be speculated that the professional codes of conduct, which position them as the party with power, vis-à-vis those they write about, contribute to making journalists somewhat blind to their own rights and vulnerability. Furthermore, the pressures and fast-paced nature of the work and concentration on producing news media likely again undermined the possibility for reflexivity about own practice.

4.5 Securitisation of news production: Increasing focus on (cyber)security management

Both physical and cybersecurity, even if introduced for a legitimate purpose, imply a high degree of monitoring and surveillance, while also potentially providing data on workers to management, as we have already seen in the case of finance. As one of our informants pointed out, app-based solutions for security awareness training were not only collecting data on workers, but also sharing this data with other workers to encourage – in a manner of gamification – uptake (even where it was expected you take all the obligatory courses).

We have also seen a proliferation of both physical and cybersecurity measures and developing security awareness. The public broadcaster NRK, for instance, has in the past years been issuing

their own yearly *NRK Threat Assessment*,[166] which, on one hand, mirrors the open intelligence products by national security and intelligence agencies, and on the other, also presents threats to its own organisation, thus serving a somewhat blurred function of informing the public at the same time as informing its own security management. The emergence of these threat assessments can be traced back to the *Security Act*,[167] which imposes certain security compliance obligations onto critical infrastructure operators and public organisations, including NRK. And, of course, it can be traced back to the aforementioned increasing geopolitical tensions and the proliferation of disinformation campaigns, which have also resulted in new intermediaries – fact checkers. Fact checking appears to be largely outsourced to fact-checking companies: verification of videos, images and facts is provided as a service to both public and private news organisations, like for instance *Faktisk*, "a non-profit organisation and independent editorial office for fact-checking social debate and public discourse in Norway".[168] Increased focus on security can be observed in both the public and private news organisations, as media organisations are subject to cyberattacks,[169] various attempts at deception, fraud and manipulation, while journalists are subject to harassment online and more. More efforts have therefore been placed on enhancing both physical and digital security – from the introduction of new security procedures in the physical realm to red-team penetration testing, employee phishing tests and various security awareness courses, typically app based. Both physical and cybersecurity, even if introduced for a legitimate purpose, imply a high degree of monitoring and surveillance, while also potentially providing data on workers to management, as we have already seen in the case of finance. As one of our informants pointed out, app-based solutions for security awareness training were not only collecting data on workers, but also sharing this data with other workers to encourage – in a manner of gamification – uptake (even where it was expected you take all the obligatory courses). This came on top of a range of new physical security measures, creating further frustration in a time-pressed job:

> "And as if that wasn't enough, we have an app where all learning is on the app. Fire safety and cybersecurity and everything. These are the kinds of courses you have to take in the app. And then you get a top list where you see who has completed and who has 100%. That's right. And it's so embarrassing. I can just show it to you. It's completely… So, one day, I was going to a place with a colleague on one of the annual trips we go on. And then I said, now I'm just going to take everything, because I was so annoyed that I hadn't done it. And it took from 8 o'clock in the morning until 3.40 pm before I had taken all the courses. And then I was at 100%. But that's so much. So here I am at 100%. And then you can see the top list in the entire department. You're not allowed to refer to it, so I won't read it out. But everyone can see who has done 0% and who has done what. And there you have both mandatory things, such as fire prevention and cybersecurity. Then you have the voluntary stuff, and then you have skills development such as photo and privacy courses and so on." (J1)

Gamified awareness training apps thus, in practice, also encourage individual benchmarking against colleagues, as well as "lateral surveillance", where it is not only the management surveilling workers, but workers surveilling each other. While this app created frustration, it was again not considered as something negotiable from the position of the trade union. This attitude was even more pronounced across informants when it came to matters of security, as security was perceived as necessary, as a general good and as something to be entrusted to (cyber)security experts. Overall, we therefore see the high impact of digital technologies, analytics, metrics and other data-hungry apps, which are all used both for accomplishing work tasks and by management, without these being seen as something to really negotiate, unless the impacts become strongly felt by the workforce. Given that we speak of key knowledge producers upon whom society depends, the lack of reflexivity – and the structural undermining of organisational possibilities for this reflexivity – should trouble us.

Gamified awareness training apps thus, in practice, also encourage individual benchmarking against colleagues, as well as "lateral surveillance", where it is not only the management surveilling workers, but workers surveilling each other.[170] While this app created frustration, it was again not considered as something negotiable from the position of the trade union. This attitude was even more pronounced across informants when it came to matters of security, as security was perceived as necessary, as a general good and as something to be entrusted to (cyber)security experts. Overall, we therefore see the high impact of digital technologies, analytics, metrics and other data-hungry apps, which are all used *both* for accomplishing work tasks and by management, without these being seen as something to really negotiate, unless the impacts become strongly felt by the workforce. Given that we speak of key knowledge producers upon whom society depends, the lack of reflexivity – and the structural undermining of organisational possibilities for this reflexivity – should trouble us.

5. BRIEF FORESIGHT ANALYSIS

5. BRIEF FORESIGHT ANALYSIS

Our case study has pointed to the deeper effects of algorithmic governance – in particular on how workers are known to employers through digital technologies, and to the asymmetric nature of this knowledge further empowering the employer, as well as the negative effects that spring from it, for both workers and society. We have pointed to both the trust and faith in data-driven insights and their pitfalls. In the age of AI, we will have to reckon with the fact that epistemic power and epistemic injustice, as well as the proliferation of disinformation, deepfakes, scams, fake and synthetic data, and so forth, will impact in profound ways on how we know the world – as well as how employers and managers relate to and come to know and conceive of workers.

This will require not only developing critical awareness vis-à-vis data-driven insights, information, media and knowledge products – the building of epistemic competencies – but also new conceptualisations of what "epistemic rights", and in particular "collective epistemic rights", could mean in this changed AI-powered "reality", where it will be increasingly more difficult to tell fact from fiction. Most informants emphasised the need for learning and competence building with regard to new technologies, which would also increase their confidence in addressing these issues, which are too often in the hands of experts and specialists. Challenging digital technologies and their impacts will require more specialised collective agreements at national, sector and company levels, and the collective right of action.

This will require not only developing critical awareness vis-à-vis data-driven insights, information, media and knowledge products – the building of epistemic competencies – but also new conceptualisations of what "epistemic rights", and in particular "collective epistemic rights", could mean in this changed AI-powered "reality", where it will be increasingly more difficult to tell fact from fiction. Most informants emphasised the need for learning and competence building with regard to new technologies, which would also increase their confidence in addressing these issues, which are too often in the hands of experts and specialists. Challenging digital technologies and their impacts will require more specialised collective agreements at national, sector and company levels, and the collective right of action.

Our case study has also pointed to the progressive securitisation of workplaces driven by increasing geopolitical tensions and conflicts; fears of industrial and foreign espionage; and the proliferation of cybercrime, scams, ransomware and more, now, too, increasingly AI powered. We see that employees are increasingly known to managers, not only through the data gaze to analyse their performance and emotional states, but also through *the security gaze*, as potential "insider threats", as individuals with vulnerabilities that can be exploited by threat actors, or directly as potential, accidental or intentional threat actors. We anticipate that this securitisation of workplaces will only increase in the future and that the managerial data gaze will progressively merge even more closely with the security gaze; the increasing cooperation between large corporations and the security and intelligence agencies is likely to accelerate these developments.[171] Acting in the name of security is known to override basic rights – from privacy to freedom of expression – resulting in discrimination and more. The securitisation of the workplace is also likely to negatively impact on co-operation and co-determination, limiting the possibilities for trade union representatives to negotiate the introduction of invasive digital tools and security practices.

So far, there is very limited knowledge about the securitisation of the workplace, both in research and among our informants. Security is perceived as something best left to specialists, to the security and IT departments, and as good. In practice, however, we see security being integrated into platformised data-driven managerial systems, as well as into managerial practices, hence directly impacting workers. Trade unions and workers need to be alert and participate actively in the development of security policies and regulations in the workplace and those likely to impact workers.

So far, there is very limited knowledge about the securitisation of the workplace, both in research and among our informants. Security is perceived as something best left to specialists, to the security and IT departments, and as good. In practice, however, we see security being integrated into platformised data-driven managerial systems, as well as into managerial practices, hence directly impacting workers. Trade unions and workers need to be alert and participate actively in the development of security policies and regulations in the workplace and those likely to impact workers.

Our case study has also pointed to the proliferation of new regulations. This massive increase in regulations, particularly palpable in finance, can be a double-edged sword for workers and trade union representatives. While some regulations are designed to protect the interests of workers and, for instance, limit data collection, other regulations demand more monitoring and reporting, thus resulting in more surveillance for regulatory compliance. The problem arises when the data collected for one purpose is used for another – here again, tapping into this data (as well as data from HR and performance management) for security purposes. We predict this is likely to become increasingly acceptable in the future, also in Norway; interoperability and data sharing are also likely to increase in the future as well as data exchange between private companies and state security agencies. We expect more regulations and laws to emerge, imposing more compliance, due diligence and reporting obligations in relation to (cyber)security, thus generating more intelligence for state security and intelligence actors. Privatised and organisational intelligence work relying on data analytics and human intelligence will – also driven by these regulations – likely become more integrated into everyday managerial practices, both online and offline. From the workers' perspective, it is high time that trade unions and the labour movement pay attention to this progressive securitisation, its drivers and profit interests behind it, which include the powerful triangle of tech, consulting and security companies.

Therefore, from a top-level perspective, it will be imperative to evaluate the consequences of these regulatory developments, in particular where they impact workers and where workers become subject to new security and intelligence practices, security products and software – for example, perpetual background checks, sentiment analysis, risk and prediction algorithms and platforms, and vulnerability and security awareness evaluations. At the company level, trade union representatives will need to acquire knowledge and confidence to question potentially excessive security measures, to preserve the trust-based nature of Norwegian workplaces.

Therefore, from a top-level perspective, it will be imperative to evaluate the consequences of these regulatory developments, in particular where they impact workers and where workers become subject to new security and intelligence practices, security products and software – for example, perpetual background checks, sentiment analysis, risk and prediction algorithms and platforms, and vulnerability and security awareness evaluations. At the company level, trade union representatives will need to acquire knowledge and confidence to question potentially excessive security measures, to preserve the trust-based nature of Norwegian workplaces.

Our case study has also revealed the lack of discussions – both at the company level and in Norwegian society at large – about the environmental costs and impacts of AI and other data-driven tools. This is particularly startling given the environmental costs of these technologies – from the extraction of critical minerals to toxic waste and enormous energy consumption. Despite this, the solution to almost all our problems is seen to be in *more* data and *more* technology.

We wonder whether the fight for workers' rights could find synergies with more progressive environmental movements willing to look beyond the mantra of more data and more tech as a solution to the current climate and environmental crisis. What if concerns about the environment could be aligned with data minimisation strategies and privacy protections?

We wonder whether the fight for workers' rights could find synergies with more progressive environmental movements willing to look beyond the mantra of more data and more tech as a solution to the current climate and environmental crisis. What if concerns about the environment could be aligned with data minimisation strategies and privacy protections?

We understand that our case study does not offer any easy answers or recommendations. This reflects the complex nature of the problem and the position of local trade union representatives facing this enormous complexity and power structures that stretch beyond the boundaries of their organisations, and which are, for the most part, indeed, beyond their control. At the same time, we see that awareness combined with institutional power at both the national and local levels can, in some cases, significantly impact the outcomes and mitigate negative consequences.

6. POLICY RECOMMENDATIONS

6. POLICY RECOMMENDATIONS

6.1 Towards collective mechanisms for challenging algorithmic decisions and systems

Demanding transparency in algorithmic decision-making alone is not sufficient; it should be instead seen as merely the first step towards algorithmic justice. The ability to challenge algorithmic decisions *collectively*; allocate responsibility; and hold management, tech companies and suppliers accountable is crucial. Trade unions should work towards developing national-level policies and company-level agreements mandating that employers provide clear, understandable explanations of how algorithms are used to manage workers; how and what (meta)data is collected; and how these technologies are used in decision-making related to hiring, performance, security and other workplace evaluations (including workplace environment), promotions, downsizing processes, and terminations. Information about technologies used in the workplaces and agreements with suppliers should be readily available to trade union representatives, and they should also have a say in their negotiation. Workers should not only be informed about the criteria and data inputs that algorithms used in the workplace rely upon and process, but also empowered through these agreements and policies to challenge these decisions both individually and collectively if they are subject to unfair treatment, bias, abuse of personal data, function creep or if they repeatedly experience negative consequences –such as intensified work, as a result of algorithmic management, impacting their health negatively; increasing stress levels; eroding of work-life balance; diminishing job satisfaction; undermining professional judgement, autonomy and discretion; or decreasing morale. Policies should set clear limits on the extent and nature of algorithmic surveillance in the workplace. *Collective mechanisms for challenging algorithmic outcomes should be established, alongside individual avenues for appeal and redress, ensuring that algorithmic systems are not merely transparent but also accountable to the workforce as a whole*.

6.2 What can trade unions do?

Trade unions, at both the national and company levels can advocate for organisational policies and regulations that enable collective challenges to algorithmic decisions and systems that impact work organisation and content. They can push for regulations that require employers to provide mechanisms through which groups of employees can contest algorithmic outcomes. By promoting collective rights to challenge algorithmic systems, trade unions can empower workers to participate collectively in shaping the ethical, responsible and equitable use of technology in their workplaces.

6.3 Taking a position on third parties and algorithmic accountability and responsibility

While there are numerous policy proposals that promote the introduction of regular audits and impact assessments of algorithmic systems by independent third parties or suppliers themselves to detect and mitigate algorithmic biases, risks and errors, it is questionable whether such (often highly technical) audits achieve these goals in practice, or whether they merely serve as audit and compliance techniques that protect the employer/tech manufacturer and/or outsource responsibility to external experts. There is also growing concern that compliance is increasingly outsourced to automated reporting systems and RegTech. These systems often delegate ethical judgments that were intended to be made by accountable humans within organisations to potentially unaccountable machines. Therefore, instead of promoting overreliance on third-party audits and automated reporting systems, we suggest that trade unions

should instead work towards emphasising the independent responsibility of the employer and demanding alternative policies that hold employers accountable and responsible for the outcomes of algorithmic decisions and impact of algorithmic governance systems in the workplace; these policies should go beyond the rhetoric of the "human-in-the-loop".

6.4 Balancing the epistemic power of the employer

Our research has shown that employers often possess greater epistemic power than employees regarding algorithmic systems. To address this imbalance, policies should mandate that employers are subject to stricter disclosure regimes with regard to technologies used and data collected, including not merely the obligation to disclose but also to make this information easily understandable. In this particular case, the use of external experts could be advisable, provided it is funded by employer and it would ensure workers have access to unbiased and comprehensive information. Trade unions could, for instance, negotiate with employers to fund independent expert consultations that educate and inform workers about algorithmic systems. They could advocate for joint training programs that include representatives from trade unions, enhancing workers' understanding and ability to participate effectively in discussions about algorithmic management and governance. Our research revealed both the need and desire for more knowledge about algorithmic management and governance; here, it would be advisable to promote joint training and knowledge building, where workers' experiences with technologies are taken seriously

6.5 Worker co-determination and participation in shaping algorithmic management and governance

Our research suggests that involving employees in the development and oversight of algorithmic systems can not only increase trust and acceptance, but also improve these technologies and mitigate negative consequences. Company-level agreements should mandate the inclusion of worker representatives in the design, implementation and review of algorithmic management tools – not solely as users, but as part of evaluating their risks and consequences for workers. This participation can ensure that the tools are designed with a better understanding of workplace realities and workers' actual needs. Workers should not only be informed but also actively involved, listened to and have power over the implementation of technology. They should have a say in decision-making processes regarding the adoption, purchasing and use of new technologies. This could include veto power over certain implementations and the ability to propose alternatives that better serve the workforce.

6.6 Strengthening data privacy, protection and the collective rights of workers

Over the course of the past decade, numerous studies have shown that employees' privacy is compromised by algorithmic management systems that collect and analyse vast amounts of personal data; as we have shown, this is further accelerated due to the progressive securitisation of workplaces. Trade unions should be able to oversee that employers adhere to regulations; that strict data protection standards are actually enforced; that data collection is limited to what is necessary for specific; legitimate purposes and that function creep is being actively thematised, hindered and mitigated. Trade unions should work towards making robust data protection a reality through collective agreements and provide support to workers in exercising their rights to access and control their personal data held by employers. However, trade unions should not be satisfied with individual data protection regulations; new strategies towards developing and enforcing collective data rights of workers should be developed.

6.7 Recognition of technological change as organisational change

As the studies cited throughout this case study have shown, the implementation of new technologies leads to significant organisational changes that impact workers. Trade unions should work towards

creating awareness that technological change is organisational change and that purchases and the implementation of new technologies are not merely something to be decided by procurement departments, but something that workers should have a say in. Working towards this recognition would make it easier for local trade union representatives to make themselves heard in discussions about technology within the workplace, as well as to hold employers accountable and ensure workers' concerns and interests are addressed. Trade unions should advocate for the inclusion of technology adoption and implementation in collective bargaining agreements.

6.8 Emphasis on social and environmental responsibility

Both employers and trade unions have a social responsibility to consider the broader impact of new technology. As our research clearly shows, algorithmic management not only affects workers but has wider societal implications (e.g., reshaping news media). Trade unions should advocate for the ethical deployment of technology that benefits society as a whole, ensuring that technological progress does not come at the expense of social wellbeing and the environment. The environmental costs of big data and AI are now well-known.[1872] In this respect, protecting workers' data and working towards data minimisation can also have beneficial effects for the environment. Trade unions can advocate for policies that promote efficient data collection and storage practices within organisations, helping reduce energy consumption and the carbon footprint associated with maintaining extensive data centres and processing systems.

ABOUT THE FEPS-NORDIC DIGITAL PROGRAMME: ALGORITHMS AT THE WORKPLACE

ABOUT FEPS-NORDIC DIGITAL PROGRAMME: ALGORITHMS AT THE WORKPLACE

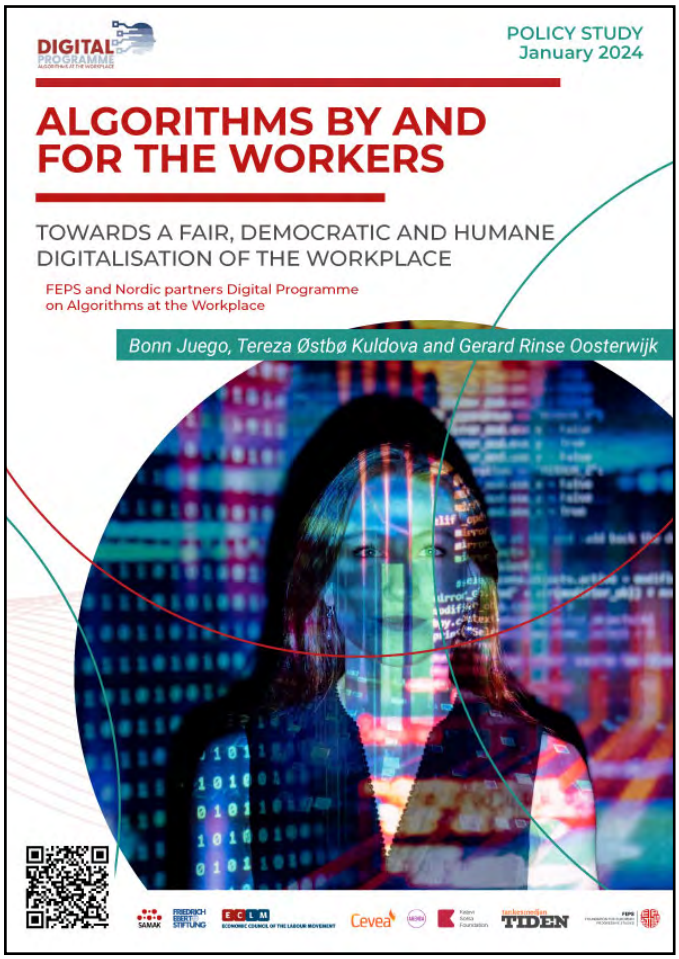
FEPS, together with our Nordic partners, Tankesmedjan Tiden, Kalevi Sorsa Saatio, Tankesmien Agenda, CEVEA, Arbejderbevægelsens Erhvervsråd (ECLM), Friedrich-Ebert-Stiftung Nordics, Cooperation Committee of the Nordic Labour Movement (SAMAK), and with the support of Nordics Trade Unions, came together for a Digital Research Programme to investigate these developments and their effects.

DIGITAL PROGRAMME
ALGORITHMS AT THE WORKPLACE

Over a period of two years, we worked together on three different research strands: one on company case studies of algorithmic management, where workers' performance is tracked and rated; another on online platforms, employment terms and algorithms; and research that led to this policy study on workers' experience in algorithmic management from surveys. Below, you will find more information on two previous publications of the FEPS-Nordics Digital Programme.

“Algorithms by and for the workers Towards a fair, democratic, and humane digitalisation of the workplace”

Bonn Juego, Tereza Østbø Kuldova, Gerard Rinse Oosterwijk, January 2024



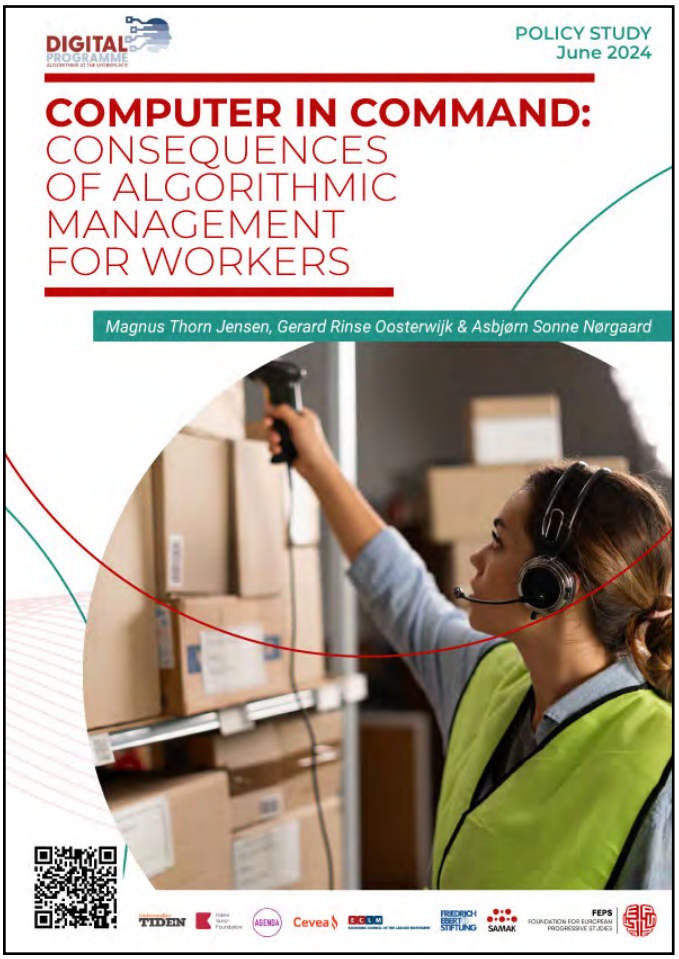
This policy study reflects on the complex interplay between technology and work, focusing on the impacts of algorithmic management (AM) techniques on workers’ rights, dignity, and well-being. Drawing on preliminary findings from an ongoing study of FEPS in collaboration with Nordic-based partners, the policy study highlights the complexities and contradictions of AM and the limitations of current policies and institutions in dealing with the fast-paced digital transformation. It emphasises the importance of worker agency and participation in the innovation process.

It proposes the need to create socio-institutional frameworks to direct a pro-labour digital transition and institutionalise co-determination as a viable solution for workers to engage actively with incessant technical changes. It concludes with a forward-looking perspective, advocating for research methodologies and problem-solving approaches that cater to the needs of diverse working contexts. The purpose is to contribute to informed policymaking that ensures a fair, democratic, and humane work environment in the digital age.

Read it at https://feps-europe.eu/publication/algorithms-by-and-for-the-workers/

“Computer in command: Consequences of algorithmic management for workers”

Magnus Thorn Jensen, Gerard Rinse Oosterwijk & Asbjørn Sonne Nørgaard, June 2024



The integration of new technology in the workplace continues to spark intense debate. For years the debate has centered on the fear that robots and computers will displace human workers. Recently, the focus of the debate has shifted: rather than being replaced by computers, more and more employees find themselves managed by computers. Tasks that were once the domain of human managers are now performed by computer systems – a phenomenon known as ‘algorithmic management’.

The study is based on a large survey conducted among union members in the warehousing and customer service/telemarketing sectors in Denmark, Sweden, Norway, and Finland.

This use of algorithmic management has several adverse consequences for employees. Workers exposed to algorithmic management experience less job autonomy, increased workloads, and heightened stress levels. Additionally, the study shows that algorithmic management is associated with less trust between employees and management, lower levels of job motivation and satisfaction, and a heightened fear of losing your job. Importantly, the study shows that these adverse consequences are not unavoidable altogether. High levels of employee influence in the workplace and transparency of company decisions significantly reduce the negative effects of algorithmic management. This is crucial insight for policymakers, unions, and others who want to ensure that the digitalization of work does not compromise job quality and workers’ well-being.

Read it at https://feps-europe.eu/publication/computer-in-command/

“NÅR SJEFEN BRUKER KUNSTIG INTELLIGENS: Hvilke konsekvenser algoritmestyrt ledelse har for ansatte”

Hilde Nagell, Oktober 2024

Stadig flere oppgaver som før ble utført av ledere, kan nå overtas av kunstig intelligens. Algoritmestyrt ledelse innebærer at dataprogrammer eller algoritmer brukes for å utføre oppgaver og funksjoner som tradisjonelt utføres av ledere. Algoritmestyrt ledelse introduseres gjerne med mål om å øke produktiviteten og sikre mer effektive ledelsesbeslutninger. Bruken av slike verktøy kan likevel innebære risiko og ha negative konsekvenser for ansatte.

Foundation for European Progressive Studies (FEPS) har gjennomført en stor spørreundersøkelse om algoritmestyrt ledelse blant fagforeningsmedlemmer i utvalgte sektorer i fire nordiske land: Danmark, Sverige, Norge og Finland. Dette er den norske landrapporten, som oversetter og gjengir resultatene fra av undersøkelsen, og setter den inn i en norsk kontekst.

Undersøkelsen viser at bruken av algoritmestyrt ledelse kan være forbundet med en rekke negative konsekvenser som redusert jobbautonomi, økt arbeidsmengde, redusert jobbsikkerhet, lavere tillit, redusert jobbtilfredshet og motivasjon og høyere stressnivå.

Heldigvis er slike konsekvenser ikke uunngåelige. Forhold på arbeidsplassen ser ut til å ha spesiell betydning for om ansatte opplever negative konsekvenser.

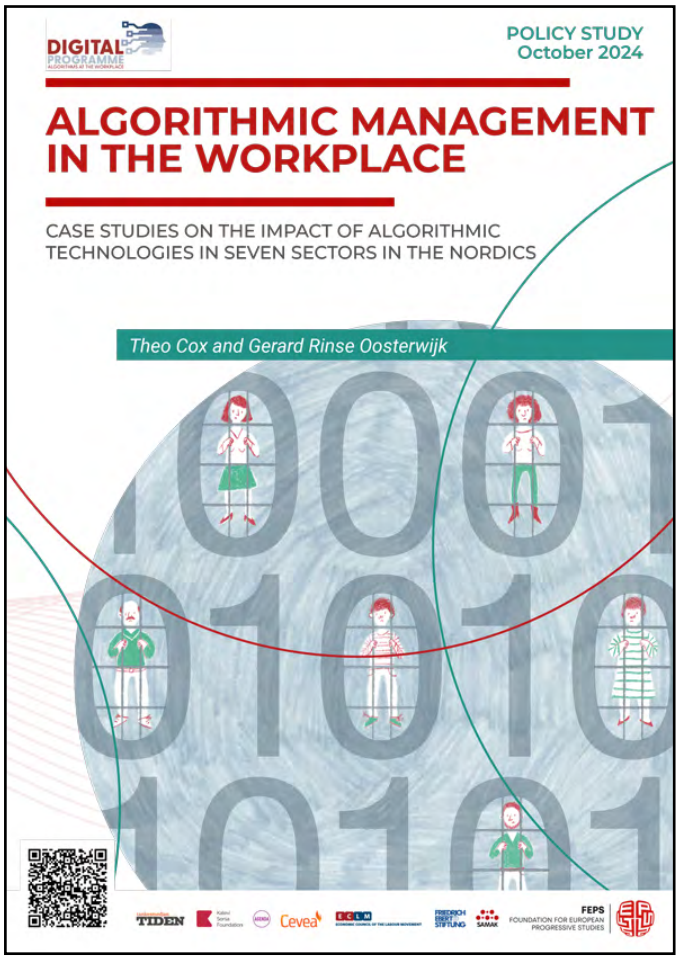
I virksomheter der ansatte involveres og har innflytelse på arbeidsplassen rapporteres det i mindre grad om negative konsekvenser. Ansatte som oppgir at de har betydelig innflytelse på viktige beslutninger, opplever i langt mindre grad negative konsekvenser av algoritmestyrt ledelse.

For det andre ser forholdet mellom ansatte og ledere ut til å ha betydning. Der det rapporteres om stor åpenhet omkring lederbeslutninger, er også de negative konsekvensene langt mindre fremtredende, og i noen tilfeller helt fraværende.

Read it at: https://feps-europe.eu/publication/computer-in-command/

“Algorithmic Management in the workplace: Case studies on the impact of algorithmic technologies in seven sectors of the nordics”

Theo Cox and Gerard Rinse Oosterwijk, October 2024



Algorithmic management, utilising algorithms and artificial intelligence to oversee and direct workers, is increasingly shaping the landscape of European workplaces. While narratives of technology-driven workplace transformation are alluring, the realities of increasingly automated and digitalised management present cause for concern. **This policy study explores these impacts with a focus on the unique labour environments of the Nordic countries—Finland, Sweden, and Norway—where long-standing traditions of labour organisation intersect with rapidly advancing technologies.**

Through detailed case studies across various sectors, including transport, retail, and finance, the report uncovers how these digital tools can exacerbate worker stress, diminish autonomy, and heighten job insecurity. However, it also identifies scenarios where meaningful worker participation and robust union involvement have mitigated these negative effects, showcasing the potential for more equitable outcomes.

The study highlights critical issues such as the **erosion of worker rights, the increasing imbalance of power between labour and capital, and the pervasive nature of workplace surveillance**. It provides targeted recommendations for EU policymakers, urging the implementation of stronger legal safeguards, greater transparency in algorithmic processes, and enhanced roles for trade unions in shaping the digital transformation.

Read it at https://feps-europe.eu/publication/algorithmic-management-in-traditional-workplaces/

ENDNOTES

1 "HR Tech 2024". HR Norge.

2 Beer, D. (2019) *The Data Gaze* (London: Sage).

3 Couldry, N. and U. A. Mejias (2019) *The Costs of Connection: How Data is Colonizing Human Life and Appropriating It for Capitalism* (Redwood,CA: Stanford University Press). DOI: 10.1515/9781503609754

4 Juego, B., T. Ø. Kuldova and G. R. Ooosterwijk (2024) "Algorithms by and for the workers: Towards a fair, democratic and humane digitalisation of the workplace". Policy study. Foundation for European Progressive Studies, January.

5 Manokha, I. (2019) "New means of workplace surveillance: From the gaze of the supervisor to the digitalization of employees". *Monthly Review*, 9(70): 25-39 (p. 26). DOI: 10.14452/MR-070-09-2019-02_2

6 Noponen, N., P. Feschenko, T. Auvinen et al. (2024) "Taylorism on steroids or enabling autonomy? A systematic review of algorithmic management". *Management Review Quarterly*, 74: 1695-1721. DOI: 10.1007/s11301-023-00345-5

7 De Stefano, V. and S. Taes (2021) "Algorithmic management and collective bargaining". *Transfer: European Review of Labour and Research*, 1(29): 21-36. DOI: 10.1177/10242589221141055

8 Pasquale, F. (2015) *The Black Box Society: The Secret Algorithms that Control Money and Information* (Cambridge, MA: Harvard University Press). DOI: 10.4159/harvard.9780674736061

9 Hohnen, P., M. A. Ulfstjerne and M. S. Krabbe (2021) "Assessing creditworthiness in the age of big data: A comparative study of credit score systems in Denmark and the US". *Journal of Extreme Anthropology*, 1(5): 29-55. DOI: 10.5617/jea.8315

10 Kuldova, T. Ø. (2022) *Compliance-Industrial Complex: The Operating System of a Pre-Crime Society* (London: Palgrave Pivot). DOI: 10.1007/978-3-031-19224-1; T. Ø. Kuldova (2024) National security, insider threat programs, and the compliance-industrial complex: Reflections on the platformization in corporate policing, intelligence, and security", in T. Ø. Kuldova, H. Gundhus and C. T. Wathne (eds) *Policing and Intelligence in the Global Big Data Era: New Global Perspectives on Algorithmic Governance (Vol. I)* (London: Palgrave Macmillan).

11 International Consortium of Investigative Journalists website.

12 Buzan, B., O. Wæver and J. de Wilde (1998) *Security: A New Framework for Analysis* (Boulder: Lynne Rienner Publishers). DOI: 10.1515/9781685853808; M. Schuilenburg (2011) "The securitization of society: On the rise of quasi-criminal law and selective exclusion". *Social Justice*, 1/2(38): 73-89.

13 Kuldova, T. Ø. (2022) "Thinking the delirious pandemic governance by numbers with Samit Basu's chosen spirits and Prayaag Akbar's Leila". *Journal of Postcolonial Writing*, 2(58): 167-182. DOI: 10.1080/17449855.2022.2040801; A. Lloyd (2022) "Covid-19 and the future of work: From emergency conditions to regimes of surveillance, governance and optimisation". *Journal of Extreme Anthropology*, 2(6). DOI: 10.5617/jea.9653

14 Markelius, A., C. Wright, J. Kuiper et al. (2024) "The mechanisms of AI hype and its planetary and social costs". *AI and Ethics*, 4: 727-742. DOI: 10.1007/s43681-024-00461-2

15 Kuldova, T. Ø., J. Østbø and T. Raymen (2024) *Luxury and Corruption: Challenging the Anti-Corruption Consensus* (Bristol: Bristol University Press). DOI: 10.56687/9781529212426

16 Barberis, J., D. W. Arner and R. P. Buckley (2019) *The RegTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries in Regulation* (Chichester: John Wiley & Sons).

17 Prentice, M. M. (2021) "The securitized workplace: document protection, insider threats and emerging ethnographic barriers in a South Korean organization". *Journal of Organizational Ethnography*, 3(10): 258-273. DOI: 10.1108/JOE-02-2021-0010

18 Kuldova, T. and B. Nordrik (2023) "Workplace investigations, the epistemic power of managerialism, and the hollowing out of the Norwegian model of co-determination". *Class & Capital*, 3(48): 463-488. DOI: 10.1177/03098168231179971

19 Andrejevic, M. and K. Gates (2014) "Big data surveillance: Introduction". *Surveillance & Society*, 2(12): 185-196 (p. 189). DOI: 10.24908/ss.v12i2.5242

20 Easterling, K. (2016) *Extrastatecraft: The Power of Infrastructure Space* (London: Verso).

21 Greene, L. (2018) *Silicon States: The Power and Politics of Big Tech and What It Means for Our Future* (Berkeley, CA: Counterpoint).

22 Alegre, S. (2024) *Human Rights, Robot Wrongs: Being Human in the Age of AI* (London: Atlantic Books).

23 Messeri, L. and M. J. Crockett (2024) "Artificial intelligence and illusions of understanding in scientific research". *Nature*, 627: 49-59. DOI: 10.1038/s41586-024-07146-0

24 Zuboff, S. (2019) *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (Profile Books).

25 Altenried, M. (2020) "The platform as factory: Crowdwork and the hidden labour behind artificial intelligence". *Capital & Class*, 2(44): 145-158. DOI: 10.1177/0309816819899410; R. Grohmann and W. F. Araújo (2021) "Beyond mechanical Turk: The work of Brazilians on global AI platforms", in P. Verdegem (ed.) *AI for Everyone? Critical Perspectives* (London: University of Westminster Press), pp. 247-266. DOI: 10.16997/book55.n; U. Rani and R. K. Dhir (2024) "AI-enabled business model and human-in-the-loop (deceptive AI): Implications for labor", in M. Garcia-Murillo, I. MacInnes and A. Renda (eds) *Handbook of Artificial Intelligence at Work* (Edward Elgar), pp. 47-75. DOI: 10.4337/9781800889972.00011

26 Duggan, J., U. Sherman, R. Carbery et al. (2019) "Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM". *Human Resource Management*, 30: 114-132. DOI: 10.1111/1748-8583.12258

27 Kalpokas, I. (2019) *Algorithmic Governance: Politics and Law in the Post-Human Era* (London: Palgrave Macmillan). DOI: 10.1007/978-3-030-31922-9; C. Katzenbach and L. Ulbricht (2019) "Algorithmic governance". *Internet Policy Review*, 4(8). DOI: 10.14763/2019.4.1424

28 Baiocco, S., E. Fernadez-Macías, U. Rani et al. (2022) *The Algorithmic Management of Work and Its Implications in Different Contexts* (Geneva: International Labour Organization), p. 6.

29 Wood, A. J. (2021) "Algorithmic management: Consequences for work organisation and working conditions". JRC Working Papers Series on Labour, Education and Technology, No. 2021/07.

30 Noponen, N., P. Feschenko, T. Auvinen et al. (2024) "Taylorism on steroids or enabling autonomy? A systematic review of algorithmic management".

31 Grønsund, T. and M. Aanestad (2020) "Augmenting the algorithm: Emerging human-in-the-loop work configurations". *The Journal of Strategic Information Systems*, 2(29): 101614. DOI: 10.1016/j.jsis.2020.101614

32 Christl, W. (2023) *Monitoring, Streamlining and Reorganizing Work with Digital Technology* (Vienna: Cracked Labs), September, pp. 65-66.

33 For example: W. Christl (2021) *Digitale Überwachung und Kontrolle am Arbeidsplatz: Von der Ausweitung betrieblicher Datenerfassung zum algorithmischen Management?* (Vienna: Cracked Labs), September; W. Christl (2023) *Monitoring Work and Automating Task Allocation in Retail and Hospitality* (Vienna: Cracked Labs), June; W. Christl (2023) *Monitoring, Streamlining and Reorganizing Work with Digital Technology*.

34 Beer, D. (2019) *The Data Gaze*.

35 Flyverbom, M. (2019) *The Digital Prism: Transparency and Managed Visibilities in a Datafied World* (Cambridge: Cambridge University Press). DOI: 10.1017/9781316442692

36 Campbell-Verduyn, M., M. Goguen and T. Porter (2017) "Big data and algorithmic governance: The case of financial practices". *New Political Economy*, 2(22): 219-236. DOI: 10.1080/13563467.2016.1216533; I. Kalpokas (2019) *Algorithmic Governance: Politics and Law in the Post-Human Era*; C. Katzenbach and L. Ulbricht (2019) "Algorithmic governance".

37 Walters, W. (2012) *Governmentality: Critical Encounters* (London: Routledge). DOI: 10.4324/9780203116937

38 Foucault, M. and C. Gordon (1980) *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977* (Harvester Press); E. Segev (2019) "Volume and control: The transition from information to power". *Journal of Multicultural Discourse*, 3(14): 240-257. DOI: 10.1080/17447143.2019.1662028

39 Beer, D. (2019) *The Data Gaze*, p. 9.

40 Hull, G. (2023) "Dirty data labeled dirt cheap: Epistemic injustice in machine learning systems". *Ethics and Information Technology*, 38(25). DOI: 10.1007/s10676-023-09712-y

41 Ibid, p. 5.

42 Zuboff, S. (2020) "Caveat Usor: Surveillance capitalism and epistemic inequality", in K. Werbach (ed.) *After the Digital Tornado* (Cambridge University Press), p. 176.

43 Ibid, p. 176.

44 Zuboff, S. (2020) "Caveat Usor: Surveillance capitalism and epistemic inequality", p. 180.

45 Beer, D. (2019) *The Data Gaze*.

46 Postman, N. (1993) *Technopoly: The Surrender of Culture to Technology* (New York: Vintage Books).

47 Kuldova, T. (2021) "The cynical university: Gamified subjectivity in Norwegian academia". *Ephemera: Theory & Politics in Organization*, 3(21): 1-29.

48 Schildt, H. (2020) *The Data Imperative: How Digitalization is Reshaping Management, Organizing, and Work* (Oxford: Oxford University Press), pp. 9-10. DOI: 10.1093/oso/9780198840817.001.0001

49 Benjamin, R. (2019) *Race After Technology* (Cambridge: Polity Press); T. Mbadiwe (2018) "Algorithmic injustice". *The New Atlantis*, winter(54): 3-28; C. O'Neil (2016) *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (New York: Crown); J. Susskind (2018) *Future Politics: Living Together in a World Transformed by Tech* (Oxford: Oxford University

Press); R. Susskind (1996) *The Future of Law: Facing the Challenges of Information Technology* (Oxford: Oxford University Press); A. Todolí-Signes (2019) "Algorithms, artificial intelligence and automated decisions concerning workers and the risks of discrimination: the necessary collective governance of data protection". *Transfer*, 4(25): 465-481. DOI: 10.1177/1024258919876416

50 Morozov, E. (2013) *To Save Everything, Click Here* (New York: Public Affairs).

51 Amoore, L. and V. Piotukh (eds) (2016) *Algorithmic Life: Calculative Devices in the Age of Big Data* (London: Routledge). DOI: 10.4324/9781315723242; M. Andrejevic (2005) "The work of watching one another: Lateral surveillance, risk, and governance". *Surveillance & Society*, 4(2): 479-497. DOI: 10.24908/ss.v2i4.3359; S. Baiocco, E. Fernadez-Macías, U. Rani et al. (2022) *The Algorithmic Management of Work and Its Implications in Different Contexts*; K. Ball (2010) "Workplace surveillance: An overview". *Labor History*, 1(51): 87-106. DOI: 10.1080/00236561003654776; J. V. Chen and Y. Park (2005) "The role of control and other factors in the electronic surveillance workplace". *Info, Comm & Ethics in Society*, 2(3): 79-91. DOI: 10.1108/14779960580000263; T. Christiaens (2022) *Digital Working Lives: Worker Autonomy and the Gig Economy* (Lanham: Rowman & Littlefield). DOI: 10.5771/9781538173749; B. Christian and T. Griffiths (2016) *Algorithms to Live By: The Computer Science of Human Decisions* (New York: Henry Holt and Company); W. Christl (2021) *Digitale Überwachung und Kontrolle am Arbeidsplatz: Von der Ausweitung betrieblicher Datenerfassung zum algorithmischen Management?*; W. Christl, W. (2023) *Monitoring, Streamlining and Reorganizing Work with Digital Technology*; A. Contu (2008) "Decaf resistance: On misbehavior, cynicism, and desire in liberal workplaces". *Management Communication Quarterly*, 3(21): 364-379. DOI: 10.1177/0893318907310941; S. Dale (2014) "Gamification: Making work fun, or making fun of work?" *Business Information Review*, 2(31): 82-90. DOI: 10.1177/0266382114538350; B. Goold (2003) "Public area surveillance and police work: The impact of CCTV on police behaviour and autonomy". *Surveillance & Society*, 2(1): 191-203. DOI: 10.24908/ss.v1i2.3352; P. J. Holland, B. Cooper and R. Hecker (2015) "Electronic monitoring and surveillance in the workplace: The effects on trust in management, and the moderating role of occupational type". *Personnel Review*, 1(44): 161-175. DOI: 10.1108/PR-11-2013-0211; A. Lloyd (2022) "Covid-19 and the future of work: From emergency conditions to regimes of surveillance, governance and optimisation"; I. Manokha (2019) "New means of workplace surveillance: From the gaze of the supervisor to the digitalization of employees"; V. Mayer-Schönberger and K. Cukier (2013) *Big Data: A Revolution that Will Transform How We Live, Work, and Think* (Boston: Houghton Mifflin Harcourt); Mbadiwe, T. (2018) "Algorithmic injustice"; J. Sempill (2001) "Under the lens: Electronic workplace surveillance". *Australian Journal of Labour Law*, 14; A. J. Wood (2021) "Algorithmic management: Consequences for work organisation and working conditions"; S. Zuboff (1988) *In the Age of the Smart Machine: The Future of Work and Power* (New York: Basic Books).

52 Thylstrup, N. B., M. Flyverbom and R. Helles (2019) "Datafied knowledge production: Introduction to the special theme". *Big Data & Society*, 2(6). DOI: 10.1177/2053951719875985

53 For example: T. Christiaens, T. (2022) *Digital Working Lives: Worker Autonomy and the Gig Economy*; A. Rosenblat, A. (2018) *Uberland: How Algorithms Are Rewriting the Rules of Work* (Oakland, CA: University of California Press). DOI: 10.1525/9780520970632; S. Vallas and J. B. Schor (2020) "What do platforms do? Understanding the gig economy". *Annual Review of Sociology*, 46: 273-294. DOI: 10.1146/annurev-soc-121919-054857

54 Baiocco, S., E. Fernadez-Macías, U. Rani et al. (2022) *The Algorithmic Management of Work and Its Implications in Different Contexts*.

55 Falkum, E., I. Drange, H. Enehaug et al. (2019) "Workplace democracy under pressure", in H. Hvid and E. Falkum (eds) *Work and Well-Being in the Nordic Countries* (London: Routledge). DOI: 10.4324/9781351169967-7

56 Barati, M., and B. Ansari (2022) "Effects of algorithmic control on power asymmetry and inequality within organizations". *Journal of Management Control*, 33: 525-544. DOI: 10.1007/s00187-022-00347-6; H. Schildt (2020) *The Data Imperative: How Digitalization is Reshaping Management, Organizing, and Work*.

57 While Klarna has denied a direct relationship between the two events, this case is often cited as an example of automation, and indeed, taking jobs. Zara, C. (2024) "Klarna says its AI assistant does the work of 700 people after it laid off 700 people". Fast Company, 27 February.

58 Payne, J., C. Lloyd and S. P. Jose (2023) "'They tell us after they've decided things': A cross-country analysis of unions and digitalisation in retail". *Industrial Relations: A Journal of Economy and Society*, 1(54): 3-19. DOI: 10.1111/irj.12390

59 Markelius, A., C. Wright, J. Kuiper et al. (2024) "The mechanisms of AI hype and its planetary and social costs".

60 Alegre, S. (2024) *Human Rights, Robot Wrongs: Being Human in the Age of AI*.

61 Dahl, E. M. and I. M. Hagen (2023) *Hva nå? Mikromodellens møte med nye utfordringer* (Oslo: OsloMet), p. 107.

62 "Kunstig intelligens i arbeidslivet". Finansforbundet, 2024, p. 7 (translated from Norwegian).

63 Kilkaya website.

64 Postman, N. (1993) *Technopoly: The Surrender of Culture to Technology*.

65 Alvesson, M. and K. Sköldberg (2017) *Reflexive Methodology: New Vistas for Qualitative Research* (London: Sage).

66 Sikt website.

67 DeepL website.

68 "Guidelines for Research Ethics in the Social Sciences and the Humanities". National Research Ethics Committees.

69 "Act relating to the working environment, working hours, employment protection, etc. (Working Environment Act)". Ministry of Labour and Social Inclusion, 17 June 2005.

70 Fougner, J. (2019) *Norsk Arbeidsrett: Styringsrett, Samarbeid og Arbeidstakervern* (Oslo: Universitetsforlaget).

71 Ingelsrud, M. H., E. M. Dahl and E. Nørgaard (2023) *Arbeidslivsbarometer: Norsk Arbeidsliv 2023: Kompetanseutvikling for Nye Tider? Deltakelse, Motivasjon og Barrierer* (Oslo: OsloMet).

72 Løken, E., T. A. Stokke and K. Nergaard (2013) *Labour Relations in Norway* (Oslo: Fafo), p. 8.

73 Hernes, G. (2006) *Den Norske Mikromodellen: Virksomhetsstyring, Partssamarbeid og Sosial Kapital* (Tøyen: Fafo).

74 Løken, E., T. A. Stokke and K. Nergaard (2013) *Labour Relations in Norway*, p. 22.

75 Falkum, E., I. Drange, H. Enehaug et al. (2019) "Workplace democracy under pressure"; T. Kuldova and B. Nordrik (2023) "Workplace investigations, the epistemic power of managerialism, and the hollowing out of the Norwegian model of co-determination"; I. Lekve (2023) *Som Sisyfos: Faglig motmakt i det nye arbeidslivet* (Bergen: University of Bergen).

76 Schildt, H. (2020) *The Data Imperative: How Digitalization is Reshaping Management, Organizing, and Work*.

77 "About Finance Norway". FinansNorge.

78 "Velkommen til deg som jobber i finans og teknologi". Finansforbundet.

79 The Norwegian Confederation of Trade Unions (Norwegian: Landsorganisasjonen i Norge, LO).

80 For a discussion of the agreement structure in the finance sector, see also Å. A. Seip (2018) *Organisering og Avtaler i Finanssektoren* (Oslo: Fafo).

81 Løken, E., T. A. Stokke and K. Nergaard (2013) *Labour Relations in Norway*.

82 "Sentralavtalen i finans". Finansforbundet.

83 Finans Norge also has a basic agreement with LO, which largely has very similar wording; a new version is currently being negotiated. LO organises 2,500 members in the finance sector (see: "LO bryter forhandlingene i finanssektoren". LO, 4 May 2023.)

84 Basic agreement between Finance Norway (Finans Norge) and the Finance Sector Union of Norway (Finansforbundet) 2022-2023.

85 In Norwegian, this is "*måle- og kontrollsystemer*", which should be more precisely translated as measurement and control systems; it is the Norwegian wording that is legally binding; the aforementioned citation is from the official translation of the document.

86 Excerpt from a company-level agreement, company anonymised.

87 Act relating to the processing of personal data (The Personal Data Act).

88 Emphasis ours. It needs to be noted at this point that the employer can go rather far in both the collection and use of data from digital systems that monitor work in various ways, as long as it is "objectively justified", that is, as long as the employer provides solid justification for the respective measures. This justification is often at the crux of the matter because, in practice, the legality of the control measures largely depends on the employer's justification for their implementation; while the principle is intended to protect employees from arbitrary interference in their personal integrity, what measures are "objectively justified" is often not only unclear, but also increasingly hard to determine in the context of digital complexity, velocity, volume and possibilities for data analytics, and the implementations of complex systems.

89 Basic agreement between Finance Norway (Finans Norge) and the Finance Sector Union of Norway (Finansforbundet) 2022-2023.

90 Lloyd, C., J. Payne and S. Jose (2022) "Trade unions and digitalisation in Norway and the UK: Findings from the banking industry". UDIG: De Montfort University and Cardiff University.

91 For an overview of Norway's financial system, see: "Norway's financial system 2023". Norges Bank.

92 "About us". BankID website.

93 Parmiggiani, E. and P. Mikalef (2022), "The Case of Norway and Digital Transformation over the Years" In Mikalef, P. and E. Parmiggiani (2022) Digital Transformation in Norwegian Enterprises. Springer, p. 15. DOI: 10.1007/978-3-031-05276-7_2

94 "BankID BankAxept lanserer det nye varemerket Stø". BankID, 20 September 2023.

95 Strise website.

96 Amicelle, A. and V. Iafolla (2018) "Suspicion-in-the-making: Surveillance and denunciation in financial policing". *The British Journal of Criminology*, 4(58): 845-863. DOI: 10.1093/bjc/azx051; T. Ø. Kuldova (2022) *Compliance-Industrial Complex: The Operating System of a Pre-Crime Society*; A. Verhage (2011) *The Anti Money Laundering Complex and the Compliance Industry* (London: Routledge). DOI: 10.4324/9780203828489

97 "Dobling av informasjon fra utenlandske FIU-er". Økokrim, 19 March 2024.

98 Gerhardsen, A. H. (2024) "Økokrim: – MT-rapporter fra norske rapporteringspliktige økte med 20 prosent i 2023". *Finanswatch*,

20 March.

99 "Financial Resilience in an Unsecure World: Threats and Trends from a DNB Perspective 2024". DNB, p. 7.

100 Ibid, p. 12.

101 "Sikkerhetskonferansen 2024". NSM, Oslo 13-14. March 2024; the following account is reconstructed from hand-written conference notes.

102 "Annual Report 2023". DNB Group, p. 101.

103 "Annual Report 2022". DNB Group.

104 "Annual Report 2021". DNB Group.

105 de Godoy, J., K. Otrel-Cass and K. H. Toft (2021) "Transformations of trust in society: A systematic review of how access to big data in energy systems challenges Scandinavian culture". *Energy and AI*, 5: 100079. DOI: 10.1016/j.egyai.2021.100079

106 Crawford, K. (2024) "Generative AI is guzzling water and energy". *Nature (World View)*, 626: 693. DOI: 10.1038/d41586-024-00478-x

107 Morozov, E. (2013) *To Save Everything, Click Here*.

108 Noble, D. F. (1995) *Progress without People: New Technology, Unemployment, and the Message of Resistance* (Toronto: Between the Lines), p. xiv.

109 Ibid, p. 95.

110 Winningtemp website.

111 "About us". Winningtemp website.

112 "Temperature checks for true success". Winningtemp website.

113 Rose, N. (1999) *Governing the Soul: The Shaping of the Private Self* (London: Free Association Books).

114 Gustavsen, B. (2011) "The Nordic model of work organization". *Journal of Knowledge Economy*, 2: 463-480. DOI: 10.1007/s13132-011-0064-5

115 Calnan, M. and A. Rozen (2019) "ING's agile transformation—teaching an elephant to race". *Journal of Creating Value*, 2(5): 190-209. DOI: 10.1177/2394964319875601

116 Østbø, J. (2021) «Hybrid surveillance capitalism: Sber›s model for Russia›s modernization». *Post-Soviet Affairs*, 5(37): 435-452. DOI: 10.1080/1060586X.2021.1966216

117 Norsk Journalistlag website.

118 Norwegian Media Businesses' Association website.

119 Norsk Redaktørforening website.

120 Ibid.

121 Mediebedriftene website.

122 "Hovedavtalen for NRK". Norsk Journalistlag.

123 "Hovedavtale mellom NHO og Norsk Journalistlag 2022–2025". Lovdata.

124 Control measures may be based on technological, economic, safety and health circumstances, as well as other social and organisational conditions in the company. Control measures that are introduced must not go beyond what is necessary and must be objectively justified by the individual company's activities and needs. Employees or groups of employees shall be treated equally when implementing control measures.

125 Rudningen, G. (2024) "Positive renewal in newsrooms through crisis in crisis", in M. K. Solvoll and R. K. Olsen (eds) *Innovation through Crisis: Journalism and News Media in Transition* (Gothenburg: Nordicom).

126 "Hovedavtale i NRK 2022 – 2025 mellom Arbeidsgiverforeningen Spekter/NRK og Norsk Journalistlag/NRKs journalistlag". p. 16.

127 Curran, J. (2019) "Triple crisis of journalism". *Journalism*, 1(20): 190-193. DOI: 10.1177/1464884918807034

128 "Nordiskt mediestatistik". Nordicom.

129 "Nyhedsmedier og magasiner". Danmarks Statistik.

130 Syvertsen, T., G. S. Enli, O. J. Mjøs et al. (2014) *The Media Welfare State: Nordic Media in the Digital Era* (Ann Arbor: University of Michigan Press). DOI: 10.3998/nmw.12367206.0001.001

131 Sjøvaag, H. (2019) *Journalism Between the State and the Market* (London: Routledge). DOI: 10.4324/9781351035347

132 Ibid.

133 Bygdås, A. L., S. Clegg and A. L. Hagen (eds) (2019) *Media Management and Digital Transformation* (London: Routledge). DOI:

10.4324/9780429490187

134 Coddington, M. (2015) "The wall becomes a curtain: Revisiting journalism's news–business boundary", in *Boundaries of Journalism* (London:Routledge), pp. 67-82. DOI: 10.4324/9781315727684-5

135 Rudningen, G. (2024) "Positive renewal in newsrooms through crisis in crisis".

136 "Norsk medieøkonomi 2018–2022: Ein rapport om den økonomiske utviklinga i norske medieverksemder". Medietilsynet.

137 Dörr, K. N. (2016) "Mapping the field of algorithmic journalism". *Digital Journalism*, 6(4): 700-722. DOI: 10.1080/21670811.2015.1096748

138 Zamith, R. (2019) "Algorithms and journalism". *Oxford Research Encyclopedia of Communication*, 25 February. DOI: 10.1093/acrefore/9780190228613.013.779

139 Biswal, S. K. and N. K. Gouda (2020) "Artificial intelligence in journalism: A boon or bane?", in A. Kulkarni and S. Satapathy (eds) *Optimization in Machine Learning and Applications* (Singapore: Springer), pp. 155-167. DOI: 10.1007/978-981-15-0994-0_10; Marconi, F. (2020) *Newsmakers: Artificial Intelligence and the Future of Journalism* (New York: Columbia University Press).

140 Broussard, M., Diakopoulos, N., Guzman, A. L., Abebe, R., Dupagne, M., and C.-H. Chuan (2019). Artificial Intelligence and Journalism. *Journalism & Mass Communication Quarterly*, 96(3), 673-695. DOI: 10.1177/1077699019859901

141 Deuze, M. and C. Beckett (2022) Imagination, algorithms and news: Developing AI literacy for journalism". *Digital Journalism*, 10(10): 1913-1918. DOI: 10.1080/21670811.2022.2119152

142 Jones, B., R. Jones and E. Luger (2022) "AI 'everywhere and nowhere': Addressing the AI intelligibility problem in public service journalism". *Digital Journalism*, 10(10): 1731-1755. DOI: 10.1080/21670811.2022.2145328

143 Diakopoulos, N. (2019) *Automating the News: How Algorithms Are Rewriting the Media* (Cambridge, MA: Harvard University Press). DOI: 10.4159/9780674239302

144 Carlson, M. (2015) "The robotic reporter: Automated journalism and the redefinition of labor, compositional forms, and journalistic authority". *Digital Journalism*, 3(3): 416-431. DOI: 10.1080/21670811.2014.976412

145 Steensen, S. and B. Kalsnes (2020) "Fra fast lokaljournalist til midlertidig digitalt hode: Utviklingen i stillingsmarkedet for journalister 1987–2017". *Norsk medietidsskrift*, 1(27): 1-19. DOI: 10.18261/ISSN.0805-9535-2020-01-02

146 Rudningen Skjælaaen, G. and I. M. Tolstad (2019) "Print and digital: Synchronizing discrepant temporal regimes in the newsroom", in A. L. Bygdås, S. Clegg and A. L. Hagen (eds) *Media Management and Digital Transformation* (London: Routledge), pp. 17-26. DOI: 10.4324/9780429490187-2

147 Rudningen, G. (2024) "Positive renewal in newsrooms through crisis in crisis".

148 Örnebring, H. (2013) «Anything you can do, I can do better? Professional journalists on citizen journalism in six European countries». *International Communication Gazette*, 1(75): 35-53 (p. 39). DOI: 10.1177/1748048512461761

149 Lewis, S. C. (2012) "The tension between professional control and open participation: Journalism and its boundaries". *Information, Communication & Society*, 6(15): 836-866. DOI: 10.1080/1369118x.2012.674150

150 Freidson, E. (2001) *Professionalism, the Third Logic: On the Practice of Knowledge* (Chicago: University of Chicago Press).

151 Witschge, T. and G. Nygren (2009) "Journalistic work: A profession under pressure?" *Journal of Media Business Studies*, 1(6): 37-59. DOI: 10.1080/16522354.2009.11073478

152 Lewis, S. C. (2012) "The tension between professional control and open participation: Journalism and its boundaries".

153 Jones, B., R. Jones and E. Luger (2022) "AI 'everywhere and nowhere': Addressing the AI intelligibility problem in public service journalism".

154 Köhler, T. (ed.) (2020) *Fake News, Framing, Fact-Checking: Nachrichten im digitalen Zeitalter: Ein Handbuch* (Bielefeld: Transcript Verlag). DOI: 10.1515/9783839450253

155 Kalsnes, B. (2019) *Falske Nyheter: Løgn, Desinformasjon og Propaganda i den Digitale Offentligheten [Fake News: Lies, Misinformation and Propaganda in the Digital Public]* (Oslo: Cappelen Damm).

156 "Kulturdepartementet". Medietilsynet, 14 June 2021.

157 Pressens Faglige Utvalg website.

158 Reporters without Borders website.

159 Moe, H. (2023) "Norway". Reuters Institite, 14 June.

160 Kilkaya website.

161 Thoresen, J. and J. R. Hammerfield (2023) "De store konsernene er ikke lenger best på teknologi". 14 December. A Swedish competitor, Rosen, delivers services to one Norwegian newspaper, *Klassekampen*.

162 Kilkaya website.

163 Merry, S. E. (2016) *The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking*. (Chicago:

University of Chicago Press). DOI: 10.7208/chicago/9780226261317.001.0001; Porter, T. (1996) *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press). DOI: 10.1515/9780691210544

164 Supiot, A. (2017) *Governance by Numbers: The Making of a Legal Model of Allegiance* (London: Bloomsbury).

165 Beer, D. (2019) *The Data Gaze*.

166 "NRK Trusselvurdering 2023".

167 "Act relating to national security (Security Act)". Lovdata.

168 Faktisk website.

169 For instance, Amedia, one of the largest media groups for local newspapers.

170 Andrejevic, M. (2005) "The work of watching one another: Lateral surveillance, risk, and governance".

171 For example, see: "NHO og medlemsbedriftene skal jobbe tettere med sikkerhetsmyndighetene". NHO, 5 December.

172 See, for instance: S. Lazzardo (2024) "Original sins and dirty secrets: GenAI has an ethics problem. These are the three things it most urgently needs to fix". Fortune, 27 June.

AUTHORS, ABOUT FEPS & PARTNERS

ABOUT THE AUTHORS

TEREZA ØSTBØ KULDOVA

Tereza Østbø Kuldova is a research professor at the Work Research Institute, OsloMet – Oslo Metropolitan University, Norway. She is the author of, among others, Luxury and Corruption: Challenging the Anti-Corruption Consensus (co-authored with Jardar Østbø and Thomas Raymen, Bristol University Press, 2024); Compliance-Industrial Complex: The Operating System of a Pre-Crime Society (Palgrave, 2022); How Outlaws Win Friends and Influence People (Palgrave, 2019); Luxury Indian Fashion: A Social Critique (Bloomsbury, 2016) and numerous edited volumes, articles, reports and popular texts.

GUDRUN RUDNINGEN

Gudrun Rudningen is a senior researcher at the Work Research Institute, OsloMet – Oslo Metropolitan University, and holds a PhD in social anthropology from the University of Oslo on the digitalisation of journalistic work. She has broad expertise in doing research with large knowledge-intensive organisations and has published numerous peer-reviewed articles and chapters in edited books as well as reports. She is a co-leader of the interdisciplinary research group Media Practice at OsloMet.

ABOUT THE FOUNDATION FOR EUROPEAN PROGRESSIVE STUDIES (FEPS)

The Foundation for European Progressive Studies (FEPS) is the think tank of the progressive political family at EU level. Its mission is to develop innovative research, policy advice, training and debates to inspire and inform progressive politics and policies across Europe.

FEPS works in close partnership with its 77 members and other partners -including renowned universities, scholars, policymakers and activists-, forging connections among stakeholders from the world of politics, academia and civil society at local, regional, national, European and global levels.

THE FOUNDATION FOR EUROPEAN PROGRESSIVE STUDIES (FEPS)
European Political Foundation - No 4 BE 896.230.213
Avenue des Arts 46, 1000 Brussels (Belgium)
info@feps-europe.eu
www.feps-europe.eu
@FEPS_Europe

ABOUT TIDEN

Tankesmedjan Tiden's mission is to contribute to the development of long-term progressive political thinking. The think tank aims to promote debate and formulate concrete proposals regarding issues related to equality, globalization, human rights and welfare, as well as stimulate the ideological and political development of the labor movement and the left.

TANKESMEDJAN TIDEN
Olof Palmes gata 9, 101 30 Stockholm (Sweden)
www.tankesmedjantiden.se
@tstiden

ABOUT KALEVI SORSA

Kalevi Sorsa Foundationis is a social democratic think tank established in 2005 and based in Helsinki, Finland. The foundation's objective is to promote public debate on equality and democracy and to produce research and publications.

KALEVI SORSA SAATIO
Siltasaarenkatu 18–20 C, 00530 Helsinki (Finland)
www.sorsafoundation.fi
@SorsaFoundation

ABOUT AGENDA

Tankesmien Agenda is an independent think tank that contributes with social analysis and progressive policy to the development of the centre-left in Norwegian politics.

TANKESMIEN AGENDA
Youngs gate 7–9, 0181 Oslo (Norway)
www.tankesmienagenda.no
@tankesmien

ABOUT CEVEA

The Danish think tank Cevea is created as a politically oriented centre-left institution with the aim to innovate the political debate in Denmark through the publication of books, reports, analysis, articles, and the organization of public debates and conferences.

CEVEA
Svend Aukens Pl. 11, 2300 København S (Denmark)
www.cevea.dk/
@Cevea

ABOUT ECLM

The Economic Council of the Labour Movement (ECLM) is a Danish economic policy institute and think-tank working to promote social justice in Denmark.

ARBEJDERBEVÆGELSENS ERHVERVSRÅD (ECLM)
Reventlowsgade 14, 1651 København V (Denmark)
www.ae.dk
@taenketank

ABOUT FES NORDIC COUNTRIES

The Friedrich-Ebert-Stiftung (FES) is a non-profit German foundation funded by the Government of the Federal Republic of Germany, and headquartered in Bonn and Berlin. The FES office in Stockholm was founded in 2006 with the goal to foster German-Nordic cooperation. The regional project encompasses Sweden, Denmark, Finland, Iceland and Norway.

FRIEDRICH-EBERT-STIFTUNG NORDICS
Barnhusgatan 10, 111 23 Stockholm (Sweden)
www.nordics.fes.de
@FES_Nordics

ABOUT SAMAK

The Cooperation Committee of the Nordic Labour Movement, better known by its abbreviation SAMAK, is an alliance of social democratic parties and labour councils in the Nordic countries.

COOPERATION COMMITTEE OF THE NORDIC LABOUR MOVEMENT (SAMAK)
Säästöpankinranta 2 A, FI-00530 Helsinki (Finland)
www.samak.info

This report focuses on the intersection of algorithmic governance and co-determination in the financial and news media industries of Norway. We interrogate the possibilities and limitations of the Norwegian (micro) model vis-à-vis new data-driven technologies and their impacts on workers. Zooming in on highly skilled white-collar workers in a standard employment relationship in heavily digitised workplaces, we offer a unique view of the perceptions of these white-collar workers and trade union representatives, as well as of the effects of algorithmic governance and co-determination in practice. We show how algorithmic governance and the use of data-driven analytics fundamentally reshape not only how workers are known to employers, and hence, managed, but also how they see themselves and their work. The digital revolution has increased the informational and power asymmetry between the employer and workers, in favour of the employer. Now, more than ever, we need strong trade unions and increased institutional power, national regulation, and training, and competence building for trade union representatives.

POLICY STUDY PUBLISHED IN NOVEMBER 2024 BY:

ISBN: 978-2-931233-42-9
Legal deposit registration number: D/2024/15396./57