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ORIGINAL ARTICLE

'They tell us after they've decided things': A cross-country analysis of unions and digitalisation in retail

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Abstract

The role of trade unions in the social shaping of digital technologies is a vital question for research, public policy and social justice. This article draws on interviews with two unions in the grocery retail sector in the United Kingdom and Norway, and examines their involvement in technology decisions, and whether they can shape better outcomes for workers. By comparing a 'neo-liberal' economy and a 'Nordic welfare state', the article considers whether stronger institutional power and regulatory supports in Norway provide for greater influence in a sector regarded as challenging for unions. The findings indicate relatively few country differences and help shed light on the factors that enable and constrain unions' role in digitalisation.

1 | INTRODUCTION

Recent years have witnessed intense debate on digitalisation and its implications for the future of work (Howcroft & Taylor, 2022). While attention initially focused on potential job losses (Frey & Osborne, 2017), there has been a growing shift towards examining the consequences for job quality. This article draws on an approach that sees outcomes not as technologically determined but socially shaped (Mackenzie & Wajcman, 1985), depending on multiple

elements, including public policy, institutions, social actors and workers' responses (Howcroft & Taylor, 2022; Lloyd & Payne, 2019; Thompson, 2020). Trade unions are potentially important actors in shaping better technology outcomes for workers but current studies examining their role are limited.

Today's context is challenging for trade unions with neo-liberalisation, financialisation, union decline and the growth of precarious work. Nevertheless, some studies are emerging in well-organised areas of manufacturing in Germany and Italy that highlight attempts by unions to shape 'Industry 4.0' (Cirillo & Rinaldini, 2020; Haipeter, 2020). These single-country studies point to the importance of national systems of regulation and collective bargaining in enhancing the role of unions in the process of digitalisation. There is though a major gap in international comparative research that addresses the role of unions in different countries and sectors (Doellgast & Wagner, 2022; Kornelakis et al., 2022; Lloyd & Payne, 2021a).

This article contributes to the emerging analysis of unions and digitalisation by examining whether national institutional systems and union power resources make a difference in a relatively weakly organised sector. The focus is on retail in the United Kingdom and Norway, a sector typically associated with low pay, extensive use of part-time contracts and students, and high labour turnover (Bozkurt & Grugulis, 2011; Price, 2016). The countries are selected for their starkly contrasting institutional environments and union power resources. The United Kingdom is a neo-liberal economy with a lightly regulated labour market, extensive low-wage work and high-income inequality, where unions have suffered significant decline and marginalisation (Lloyd & Payne, 2016). Norway is a Scandinavian welfare state with strong unions, an enduring tripartite system of macro-economic governance, multi-level collective bargaining, and a high and relatively flat wage distribution (Løken et al., 2013). Workers and unions have rights in the law and collective agreements to be consulted over changes affecting work including technology, and for employee representation on company boards. Cooperative industrial relations, joint decision making and less hierarchical management are said to be features of the Norwegian model (Dølvik & Steen, 2018).

With no equivalent rights in relation to technological change, unions in the United Kingdom have to rely on securing their own agreements with individual companies, often from a position of weakness. We might, therefore, expect unions in Norway to have a stronger role in shaping technology outcomes, even in retail. Alsos and Trygstad (2018, p. 249), however, suggest that the putative Norwegian model of joint workplace decision-making, forged historically within manufacturing, has few equivalents in retail, where the situation may 'have more in common with other European workers in the same industries.' Research has yet to examine this claim empirically or to consider its analytical implications.

The article draws on qualitative research with the Union of Shop, Distribution and Allied Workers (USDAW) in the United Kingdom, and *Handel og Kontor* (HK), the Union of Employees in Commerce and Offices, in Norway. It concentrates on grocery supermarkets, a subsector where unions have found it easier to organise and obtain collective agreements. Using multi-level interviews with union actors, the article addresses two key questions. First, what role are unions playing in the use and implementation of digital technology and has this delivered better outcomes for workers? Second, are there country differences or similarities and why? The findings contribute to analysing the inter-relationships between national institutions and sector dynamics, including the role of union power, and the challenges that unions face in shaping digitalisation.

The first section opens with the literature on unions and technology and presents the analytical approach before providing a 'sector-in-country' context. The research methods are

then outlined. The main findings focus on the two unions' ability to influence technology decisions and shape better outcomes in relation to jobs losses and monitoring and surveillance. The final section discusses the implications for analysing unions' role in digitalisation and the possibilities for progress.

2 | UNIONS AND TECHNOLOGY

Dealing with new technology has never been easy for unions. Bargaining agendas focused traditionally on pay and conditions, unions often had limited knowledge of new technologies (Deery, 1989), and management has typically been resistant to union, or indeed worker, involvement (Edwards & Ramirez, 2016, p. 100). While much pessimism surrounds the ability of unions to shape digitalisation today, the past at least offers examples of alternative possibilities (Martínez Lucio et al., 2021). In the 1970s and 1980s, British unions experimented with New Technology Agreements and, even though union influence was often late and limited, some gains were achieved (Williams & Steward, 1985). In Scandinavia, social dialogue and collective agreements went further, bolstered by industrial democracy and board representation. In some cases, unions were even involved in technology design (Ehn, 2017), but were often excluded from key planning decisions (Deutsch, 1986).

Whether unions can engage early enough remains a key question. Once a technology has been designed and enters the workplace, certain decisions have already been taken which then constrain how technologies can be used (Beirne & Ramsay, 1992). Thompson and Laaser (2021, p. 147) refer to 'first order choices', whereby technologies can become dominant in a sector, having been 'steered primarily by corporate actors' and 'lead firms'. Similarly, Edwards and Ramirez (2016) argue that technologies themselves may have 'immanence effects' on work. In deciding whether to 'embrace or resist', workers and unions have to figure out, therefore, which outcomes are fixed by the technology and what can still be shaped. As Thompson and Laaser (2021, p. 155) note, 'second order choices' at the workplace are not merely residual, with 'considerable room for contestation and variation' by workers and their representatives. These studies identify certain constraints and opportunities to shape technology at different stages. However, they do not deal explicitly with questions of workers' power and whether unions are able to exert influence.

Power-resource theory highlights the importance of understanding different sources of worker power, the levels at which they operate, and their inter-relationships (Refslund & Arnholtz, 2022; Wright, 2000). Power relations at the workplace impact on the ability of unions to secure beneficial outcomes from negotiations or consultations around technology, which is also affected by the 'institutional power' of unions to influence public policy and employment regulations. While institutional power effects may be critical to understanding unions' ability to shape technology outcomes at the workplace, this is mediated by sector dynamics and company approaches (Bechter et al., 2012).

The analytical approach adopted in this article addresses the power of unions to influence the institutional and regulatory context, the sector, and decision-making at company and workplace level. Consideration is also given to unions' strategic capabilities and resources when dealing with technological change (Lévesque & Murray, 2010). International comparative research that addresses how these different levels interrelate, and which is attuned to both 'structural and agential factors' (Gasparri & Tassinari, 2020. p. 797), can help to unpack the

conditions which enable or constrain union influence (Doellgast & Wagner, 2022; Lloyd & Payne, 2021b).

3 | GROCERY RETAILING IN THE UNITED KINGDOM AND NORWAY

The grocery retail sectors in the United Kingdom and Norway are dominated by large supermarket chains that are highly competitive and have relatively low profit margins. In the United Kingdom, 'the Big Four' supermarkets – Tesco, Sainsbury's, Asda and Morrisons – accounted for 57% of the market in 2021 (Mintel, 2021). In recent years, they have become less dominant following the entry of foreign-owned 'discounters', notably Lidl and Aldi, that are not unionised. In Norway, the market is far more concentrated. The three big players – *Norgesgruppen* (which includes Kiwi and Meny), Coop and REMA 1000 – have 97% of the market and slightly higher margins compared to the United Kingdom (Statista, 2021).

There is a long history of digitalisation in the sector from barcodes and till scanners to more recent innovations including hand-held devices for ordering, electronic pricing and self-service checkouts (Barile et al., 2018). 'Industry 4.0' technologies, such as 'Big Data', promise radical transformation, but the most significant shift so far has been the growth in 'omni-channel' servicing, combining online and in-store offerings. The market for e-groceries started earlier in the United Kingdom and is more substantial than in Norway (McKevitt, 2017), although both countries saw expansion during the pandemic. A further development is the emergence of 'cashier-less stores', such as *AmazonFresh,* the future of which remains highly uncertain.

Digitalisation has been presented as a substantial threat to store workers' jobs (PWC, 2021; Steen & Steen, 2019). Grocery retail, however, appears relatively unscathed, with little change in employment over the decade before the pandemic in both Norway and the United Kingdom, despite job cuts and redundancies in some UK supermarkets (Wood, 2017). The impact of digitalisation on job tasks is unclear. Some scenarios highlight the potential to expand 'skilled' work and enhance customer service, while others see digital technology being used to increase monitoring and surveillance, deskill and intensify work (Wallace-Stephens & Lockey, 2019). Evans and Kitchin (2018, p. 47) contend retail workers are no longer simply under the disciplinary gaze of supervisors and CCTV but inhabit a workplace where management can collect more data on worker performance, algorithms drive decisions on labour use, and 'code is king'.

Studies of the impact of digital technology on supermarket work are scant. Price's (2016, p. 927) research in an Australian supermarket found 'scan rates' were used to increase the pace at which checkout operators worked, while scheduling software controlled who 'worked where and when'. In Norway, retail managers report that automation gives workers more time for customer interaction and requires limited upgrading in digital 'know-how' (Steen & Steen, 2019); however, research has yet to examine whether digital technologies are being used for the monitoring and surveillance of workers.

The supermarket industrial relations systems in Norway and the United Kingdom are very different and reflect the national 'model'. In the United Kingdom, collective bargaining, where it takes place, occurs at company level with agreements applied to all stores. Collective bargaining coverage for retail is 29%, with union density at 12%, roughly half the national average (DBEIS, 2022), but is likely to be higher in supermarkets. While several unions are active in the sector, USDAW is the dominant union with 360,000 members, the vast majority in

retail. USDAW has negotiated high-profile 'partnership agreements' with some supermarkets, the most celebrated being that with Tesco, the largest private-sector agreement in the United Kingdom. The Tesco deal has secured employer support for union organisation, and has been seen as a success story for union revitalisation (Lynch & Price, 2011). There are, however, long-standing critiques of such partnership deals for being founded on union weakness (Kelly, 2004), and not delivering benefits for workers (Wood, 2016). Nine out of ten USDAW members recently surveyed, most in retail, reported technology being introduced without consultation, one in five were extremely worried about job security, and 60% were unclear what data their employer collected on them (USDAW, 2022, p. 6).

In Norway, sectoral bargaining covering supermarkets is conducted by the employers' organisation, Virke, and HK, and is underpinned by the Basic Agreement between the peak labour market parties. HK is the second largest private-sector union with approaching 80,000 members and the only union organising in retail stores. Union density in retail is higher than the United Kingdom at 24% but is still less than half the national average of 50%, with collective bargaining coverage at 39% (Nergaard, 2020). Before 2020, the retail collective agreement with NHO (the main peak-level employer organisation) was applicable to all employer members' stores. However, the shift by supermarket employers to Virke now requires individual stores to have a union rep and 10% union membership for the agreement to be applied. The Basic Agreement and the Work Environment Act require employers to consult with workers' representatives on changes affecting the workforce including technology, and for workplace reps and managers to meet at least monthly (Alsos & Trygstad, 2018). The Work Environment Act and the Personal Data Act also place restrictions on the use of technologies to monitor and control workers.

Sales assistant wages are relatively low in both countries at 80% of median pay in Norway and 70% in the United Kingdom, but in hourly wages are almost double in Norway at NOK216 (£18.16) compared to £9.69 in the United Kingdom in 2021.[1] Norwegian supermarkets, even where the collective agreement is not applied, generally follow the negotiated pay tariff, while additional payments for evening and weekend work enhance hourly rates. In both countries, short-hour contracts are a major issue, with concerns over involuntary part-time work. Norwegian workers, however, are protected by restrictions on short-notice changes to work schedules in both law and the collective agreement. In the United Kingdom, unsocial hour payments are increasingly rare, and many supermarkets are using more flexi-contracts, where hours and schedules are variable (Wood, 2016).

Given stronger supports for union involvement in technology decisions in Norway, one might expect HK to have more influence compared to USDAW. However, formal institutions are not necessarily the same as actual practice. Highlighting significant 'representation and participation gaps' in the Norwegian retail sector, Alsos and Trygstad (2018, p. 244) found only a quarter of union representatives had formal and informal discussions with management (compared to over half in manufacturing), with over 4 in 10 reporting this seldom or never happened. Several possible explanations are offered, including management's reluctance to engage, disinterest on both sides, and lack of union power. This suggests the situation may resemble that facing retail unions in neo-liberal economies. It is possible that where UK supermarkets have partnership agreements, insofar as they lead employers to consult unions on technology changes, that this may also close the gap. Examining this claim can shed light on

[1]Authors' calculation from Annual Survey of Hours and Earnings 2021: Table 16; Statistics Norway 2021 Table 11418.

the opportunities and challenges that unions face in shaping technology in retail, the factors that enable or constrain union influence, and possibilities for progress.

4 | RESEARCH METHOD

The research sought to examine the role and influence of unions in technological change through the perspectives of union officials and representatives. USDAW and HK were selected as the main unions representing in-store supermarket workers in the United Kingdom and Norway. The primary method involved semi-structured interviews with national and regional officers and union representatives. Interviews were supplemented with material from union web pages, documents and collective agreements.

Initial contacts were provided by national officers at HK and regional officers at USDAW. While it was not possible to obtain interviews with national officers in USDAW, the union has published a policy statement on automation (USDAW, 2022). In addition to being interviewed, initial contacts helped to identify workplace representatives who recommended others as part of a 'snowballing' approach. As well as exploring differences in perspective according to position in the union, the research included workplace representatives in different supermarket chains to identify any company variation. It was expected that workplace representatives selected by the union would be relatively 'active' reps, and more likely to provide examples of influence over digitalisation. During 2021 and 2022, 23 online interviews were conducted in English, 11 in USDAW and 12 in HK (Table 1).

Interviewees were asked a common set of questions about the unions' approach to digitalisation and the extent of any involvement. Those with union officers focused on union strategy for dealing with technology and influence at company, sector and national level, as well as variation between supermarket chains. Workplace representatives were asked about their own and workers' involvement in digitalisation, the impact on work, and any influence on outcomes. All interviews lasted between 60 and 90 minutes, and were audio-recorded and transcribed. Data were analysed thematically, with the focus on identifying the main mechanisms for union influence and key issues related to digital technologies. The next section examines the role of USDAW and HK in technology decisions and their influence in two areas that figured prominently: job losses and digital monitoring and surveillance.

5 | UNION INVOLVEMENT IN TECHNOLOGY DECISIONS

In both countries, grocery companies are highly centralised organisations with their stores organised on a standard model. Technology decisions are normally made centrally and rolled out across all stores, limiting the potential influence of local managers and workplace reps. Much depends, therefore, on union influence in company-level decisions. In the United Kingdom, USDAW national officers, alongside elected members to national committees, are the main union actors at this level. In Norway, senior HK representatives are formally designated a role in company-level collective bargaining and consultation, and may also be present on company boards.

USDAW officers argued that single-union partnership agreements in Tesco and Co-op afforded some opportunities for union voice in major technology changes through meetings with senior management: 'talking about things like automation... Anything that's affecting

TABLE 1 Research interviews

Interviewee	Position
USDAW-regional-officer1	Regional secretary
USDAW-regional-officer2	Regional secretary
USDAW-area-officer1	Area officer
USADW-area-officer2	Area officer
USDAW-Co-op senior-rep	Area organiser/workplace rep
USDAW-Tesco-rep1	Workplace rep
USDAW-Tesco-rep2	Workplace rep
USDAW-Tesco-rep3	Workplace rep
USDAW-Tesco-rep4	Workplace rep
USDAW-Morrisons-rep	Workplace rep
USDAW-Sainsbury's-rep	Workplace rep
HK-national-officer1	National officer
HK-national-officer2	National officer
HK-national-officer3	National officer
HK-Kiwi-senior-rep	Lead company and workplace rep
HK-CoopA-senior-rep	Lead company and workplace rep
HK-CoopB-senior-rep	Lead company rep
HK-CoopC-senior-rep1	Lead company rep
HK-CoopC-senior-rep2	Company and workplace rep
HK-Meny-senior-rep	Regional and workplace rep
HK-Kiwi-rep1	Workplace rep
HK-Kiwi-rep2	Workplace rep
HK-Kiwi-rep3	Workplace rep

work, we've got big agreements' (USDAW-regional-officer1). Technology may also be discussed in consultative fora, such as the Tesco 'national forum' or the Co-op 'joint consultative committee'. It was claimed these employers generally use national officers as a 'sounding board' to gauge workforce reaction and spot any potential problems (USDAW-area-officer1). Workplace reps also reported opportunities to feedback through their regional officers into central union discussions with company management.

Officers felt union influence in general was strongest at Tesco where union density averages around 50%. One, however, noted that while 'we've got a really prominent voice', the union had to continually ensure they were 'heard and seen', otherwise it would be 'very easy to side-line us' (USDAW-regional-officer1). In some cases, technology changes were introduced unilaterally by senior management who 'just decide, "it's a new business package we're going to bring it in"' (USDAW-area-officer2). Even when planned changes were discussed, it did not mean the company would act on union concerns. As a national forum rep commented: 'a lot of

the time... they do not listen to the feedback, they do not listen to the concerns, and they plough on regardless' (USDAW-Tesco-rep3).

Workplace reps interviewed saw technology as arriving in stores 'from on high' (USDAW-Morrisons-rep), felt they had little influence, and were often unclear what input the union had in company-level decisions. At Sainsbury's, where USDAW and Unite have a joint recognition agreement without collective bargaining, a rep described their own involvement as 'none at all', with workers informed only when 'it's more or less been decided' (USDAW-Sainsbury's-rep). Even in Tesco with its partnership agreement, concerns were raised.

> [Technology] comes in and we just have to make sure we can mop it up... Other than going through our forums... our national officers... we have no influence... And half the time it's still not what they've agreed. (USDAW-Tesco-rep2)

In Norway, the research found one positive case of union involvement in technological change which follows what should happen according to the Basic Agreement. This was found in CoopC which is one of several Coop organisations all under separate ownership. CoopC has a history of cooperative employment relations, supports union organisation, and values joint working.

> They want people to be organised. It's the best way to work together... listening to all of our opinions about everything. (HK-CoopC-senior-rep1)

Union density was around two thirds, and the union had succeeded in moving all staff on to permanent contracts, considered unique among Coop employers. There were regular meetings of senior reps and managers to discuss proposed technology changes, and reps were also members of steering groups for new projects: 'as a union leader, I'm involved from start to finish and I have my say on it' (HK-CoopC-senior-rep1).

This case is far from typical of the wider Coop, let alone other supermarkets in the study. In the other two Coops, despite nearly all stores having collective agreements, reps were frustrated that management excluded them from technology decisions. As one reported: 'they don't want to talk to us at all... they tell us after they've decided things' (HK-CoopB-senior-rep). At Kiwi and Meny, both owned by *Norgesgruppen*, union membership was much lower at around 20%, with only a third of Kiwi stores and half of Meny stores having a collective agreement. Here too technology changes were implemented without consultation: 'it's not supposed to be that way but it often is' (HK-Kiwi-senior-rep). A rep at Meny commented that stores are 'just told that this is what we're getting' (HK-Meny-senior-rep). Both reps, however, pointed to positive signs of increases in union membership and workplace reps. Relationships with Kiwi senior management were also said to have improved following changes to management and union leaders, and union demands for more meetings. While senior management was still considered to be a 'bit sneaky' in implementing technology, 'we are catching them, and we're saying this is not good enough... And they know that we have support from HK' (HK-Kiwi-senior-rep).

The Basic Agreement requires the store manager and workplace rep to meet at least monthly. Some interviewees noted that meetings were dominated by issues such as contracts and hours rather than technology. However, in many stores, they did not happen, which was attributed mainly to the local rep not being sufficiently proactive in demanding meetings. In a context where rep recruitment was challenging, it was widely reported that some members became reps simply for the collective agreement to be applied to their store but remained a rep only 'on paper'. One rep estimated that half the stores in CoopB had a 'contact person' only (HK-CoopB-senior-rep).

Whether worker representation on company boards allows unions early input into technology decisions also warrants consideration. In the United Kingdom, USDAW officers insisted that securing such rights would, as one put it, make 'a massive difference' (USDAW-area-officer1). In Norway, where these rights exist, the experience was mixed. In CoopC, the positive case, the union had three representatives elected to the CoopC board. Although this was seen as important, there were constraints in that HK had been unable to secure representation on the over-arching Coop *national* board where key technology decisions were made. In other Coops, and at Kiwi, there were complaints of decisions being made before meetings: 'the way it's done now is that the management has decided this. They inform the board members and then case closed' (HK-senior-rep1).

Despite a more favourable institutional environment in Norway, union involvement in technological change shows many similarities with the United Kingdom. The next two sections shift the focus from involvement in the decision-making process to union influence on outcomes in relation to job losses and monitoring and surveillance.

6 | JOB LOSSES

In both countries, union officers were concerned about job losses from digitalisation but accepted they could not prevent technological change. An USDAW officer summed up the general view that the union has to 'move with the technology' and 'protect as many jobs as we can' (USDAW-area-officer2). While USDAW has not been able to prevent some redundancies, officers saw their role as rigorously scrutinising redundancy plans and pushing for voluntary severance or redeployment where job losses could not be prevented. USDAW is also seeking to change the UK policy context by campaigning for a right to collective consultation over new technology, better redundancy protections, and help for displaced workers to access new jobs, including a right to paid time-off for retraining (USDAW, 2022).

In Norway, there were no reports of redundancies, nor widespread concern about imminent job losses. Instead, there was a generalised expectation of large-scale employment decline in the future, as captured by this comment: 'if everything should go on-line, of course people will lose their jobs. But I'm not really worried as this stands today' (HK-Meny-senior-rep). HK expects other jobs will be available in the economy but contends that members with low formal education or language issues may struggle to meet skill requirements elsewhere. The union has tried to bring forward rights for workers to undertake additional education through the two-yearly sectoral bargaining rounds. While national officers were optimistic of a break-through, progress thus far has been limited. The union, as an affiliate of LO (the main peak-level union confederation), has also sought to use its political connections with the newly-elected Labour government to secure rights to paid educational leave, something the state, NHO and LO have been unable to resolve since the early 2000s (Payne, 2006).

In the United Kingdom, all union reps interviewed argued that jobs had already been lost through automation, in particular self-service checkouts and self-scan shopping and, in one case, from the digitalisation of stock control.

> when their new routines came in we lost half the workforce [in stock control]. So that's not a benefit, it's not rosy, these people actually got made redundant (USDAW-Tesco-rep2)

There was a broad acceptance that the union had been unable to stop self-service tills, the most visible technology used to replace jobs. An area officer noted that 'as a union we don't like them', but apart from persuading members to avoid them when shopping there was little the union could do (USDAW-area-officer2).

The impact of automation was seen as difficult to separate from company reorganisations and cost-cutting, with the latter considered the primary driver of job losses. In most cases, companies manage the process by not replacing workers who leave and reducing the hours of those on flexible contracts. These contracts, which can guarantee as little as 7.5 hours per week, allow managers to vary workers' weekly hours, and have become endemic in retail (Wood, 2016). Local managers have targets for staffing hours, derived from customer numbers, sales and levels of automation, which can be reduced to cut costs or to reflect changes in work processes.

> When the technology is brought in... they've got all this data, this is how long the task takes. Therefore, these are the number of hours that you are allowed to recruit for that job. Or, if you've already got people doing that job that's how many hours you're now going to lose. (USDAW-Tesco-rep1)

Union reps reported considerable anxiety among members over job and hours insecurity. The squeeze on labour hours could also lead to too few staff working in the checkout area which increased stress and customer abuse. Reps did not see technology enabling workers to enhance customer service or undertake more varied tasks. Instead, the general picture presented was of intensifying work pressures by 'freeing-up time to give us extra workloads' (USDAW-Tesco-rep1), such that 'you've got to run around more and serve more customers' (USDAW-Tesco-rep3). Again, this was widely seen as 'more [to do] with the cost-cutting than the technology' (USDAW-Co-op-senior-rep). While the union argues they have reduced redundancies, the research did not uncover any evidence that it has been able to influence staffing levels.

In Norway, most workplace reps associated digital technologies with a more gradual decline in employment through not replacing workers when they leave. As in the United Kingdom, there was no indication that reps could influence either the technology or staffing levels through discussions with store managers who are bound by higher-level decisions. As well as self-service checkouts, the other technologies impacting on jobs were digital ordering and price labelling, which are absent in UK supermarkets but ubiquitous in Norway. While HK had organised campaigns against the use of self-service tills, a union officer explained that was 'over' now and they had become 'accepted' (HK-national-officer2). Union reps were less hostile to their use than in the United Kingdom, with some being positive. One argued workers liked them as they could do more varied tasks than sitting at checkouts (HK-CoopC-senior-rep1). Only the Kiwi chain was not using self-service tills, where they had been piloted without consultation with the union, before being removed after three months following resistance from customers. Digital ordering and labelling were better received, but again with little evidence of union involvement. As one rep explained: 'It's been great... we get the time to do the other things, taking care of our customers, getting the groceries out. It's lifted a lot of burdens' (HK-Kiwi-rep2).

Most reps did not report work intensification, with the exception of Kiwi, a store that competes on low cost, where two reported chronic under-staffing: 'we're basically told... speed

up... work harder... a lot of us are basically worn out' (HK-Kiwi-senior-rep). The other rep expressed frustration at being unable to influence staffing levels:

> I think the most difficult part... for me is I don't feel I have enough impact... regarding how many people are working... even with my weight as a union rep. (HK-Kiwi-rep1)

While store managers have a budget for staffing, their ability to vary workers' hours, unlike in the United Kingdom, is constrained by the Work Environment Act and the Basic Agreement. However, short-hour contracts of as low as 6% were reported in some supermarkets, mainly taken up by students.

7 | MONITORING AND SURVEILLANCE

Computerised cash-desks, scanners for ordering stock, in-store picking apps and digital video systems can be used to monitor the activities of individual workers. Data protection laws afford some protection from video surveillance and use of personal data. The legislation is much stricter in Norway than in the United Kingdom and there are also regulations relating to broader forms of monitoring and surveillance in the Work Environment Act and the Basic Agreement.

In the United Kingdom, widespread monitoring of checkout staff was reported through the use of 'scan rates', with workers given targets for items scanned-per-minute. While these rates were said to be rarely used to formally discipline workers, line managers often had 'conversations' with workers who were under-target, which some were said to find stressful. Reps cited conflicting pressures on workers to speed-up and deliver 'good' customer service, which they used to challenge managers threatening disciplinary or performance management procedures. The only employer that did not use scan rates was the Co-op, which the union rep insisted would meet resistance: 'we really would dig our heels in on that' (USDAW-Co-op-senior-rep).

Some larger UK stores operate as fulfilment centres for online customer orders. Workers responsible for putting together orders are subject to 'pick rate' targets which were widely seen as creating pressures to speed-up. As one rep noted: 'they keep increasing our target, so the expectation is that they go faster and faster... ours is... ridiculous' (USDAW-Tesco-rep4). Another noted that 'time-and-motion' studies to set rates were undertaken in 'dark stores' with no customers, and commented, tongue-in-cheek, how supermarkets 'used Usain Bolt to... do the pick and then... that's the average [time]' (USDAW-Tesco-rep1). There was no evidence the union had influenced the actual rates; however, it steadfastly opposed workers being disciplined for failing to meet them.

> the managers were... saying to staff, 'your pick rate's really rubbish, I'm gonna have to start thinking about... a disciplinary...' Over my dead body... I'll put a massive complaint in... I'll go to the health and safety... because you're not penalising anybody. (USDAW-Tesco-rep2)

Three other reps reported that disciplinaries or performance management processes, although rare, had occurred in some stores.

In Norway, interviewees were not aware of any supermarkets using scan rates or pick rates. A senior rep cited strong data protection laws and insisted 'we would be fighting it very hard' were there to be any such moves (HK-CoopC-senior-rep1). One Kiwi rep noted that some store managers had introduced time targets for stock-filling, monitored using stop watches (HK-Kiwi-senior-rep). The issue was resolved after the union raised it as a breach of rules with company managers. According to the Basic Agreement, any work study, including the use of targets, has to be agreed with union representatives.

A more pervasive issue, in both countries, is the use of digital surveillance systems through video cameras (CCTV) which are permitted in supermarkets for security purposes, such as prevention of theft. Outside of certain areas, like staff canteens or rest rooms, unions cannot stop their use. In the United Kingdom, there were frequent references to 'Big Brother', with one officer describing how workers are continually monitored 'when they walk into the store, if they're arriving late for their shift', even down to the use of staff discount cards (USDAW-area-officer2). However, some local reps explained cameras were not used so intrusively and presented less of a problem. One claimed that watching staff on monitors at the Co-op was 'massively frowned upon... it's an absolute no-no' (USDAW-Co-op-senior-rep). Another reported that management in their Tesco store generally abided by the partnership agreement which forbade the use of CCTV to performance manage workers (USDAW-Tesco-rep2).

Elsewhere, examples were given of local managers using CCTV to watch workers, along with how the union had reined-in such abuses.

> we had a manager asking the guys to monitor the CCTV so we could see when certain members of our staff are going for breaks and what they were doing, which I called a halt to straightaway. (USDAW-Morrisons-rep)

In other cases, USDAW reps reported CCTV footage being used as evidence in disciplinary cases. One cited 'two or three' cases a year involving staff over-seeing self-service tills accused of failing to spot customer thefts (USDAW-Tesco-rep1). The most extreme case was at a Sainsbury's store, where it was claimed managers 'routinely use cameras to spy on workers' (USDAW-Sainsbury's-rep). One disciplinary case involved a trolley park attendant suspected of taking too many cigarette breaks being recorded for a week. Management justified this by stretching the protection against theft argument and accusing the worker of 'theft of company time'. The ability to challenge such misuses of CCTV relies on local reps holding managers to account. A union official stressed that, without such oversight, management could 'run riot' with the technology (USDAW-area-rep2). Most interviewees were confident that data protection law was on the side of workers in such cases. Whether this confidence is justified, however, remains unclear as most supermarkets were said to be reluctant to pursue cases once challenged by the union.

In Norway, the research found no evidence of video footage being used in disciplinary cases. Despite the strength of data protection law and restrictions within the collective agreement, however, five reps gave examples of store managers using video monitors to watch staff. One referred to their manager counting how many times workers had a cigarette break, even though 'that's not allowed in Norway' (HK-Kiwi-rep2). Another said their manager would watch the CCTV and then tell staff '"you have been standing here talking to each other for too long"' (HK-CoopB-senior-rep). Where there is a rep who knows the regulations and is willing to challenge management, it was felt such infringements could be easily stopped, either through a

conversation with the store manager or by taking it higher in the company and invoking the collective agreement:

> The collective agreement has a whole paragraph on this and we're pointing to the paragraphs and we're holding them accountable. (HK-Kiwi-senior-rep).

National officers also noted that the union could publicly 'name and shame' companies who misuse the technology, which was said to be quite effective in Norway where many customers are concerned over how workers are treated.

8 | DISCUSSION AND CONCLUSIONS

Through a comparative study of two unions in the grocery retail sector in the United Kingdom and Norway, this article has addressed the role of unions in the implementation of digital technologies and whether they can deliver better worker outcomes. Using a multi-level analysis of union power resources, agency and sector dynamics, the research considers country differences and similarities, along with possibilities for progress.

The research identified some differences in union influence over technology between supermarkets in both countries, with the best case found in one Coop group in Norway. The general picture, however, is of the limited role for unions in *both* countries. In the United Kingdom, most union involvement occurred in supermarkets with partnership agreements but with little evidence of a significant impact on management decisions. In Norway, despite strong institutional and regulatory supports for union involvement in technology decisions, HK was unable to operationalise them in most supermarket chains. In direct breach of regulations, employers avoided union involvement by not holding meetings, failing to inform union representatives about changes, and by-passing company boards. The research, therefore, supports Alsos and Trygstad's (2018) conclusion that the Norwegian model of joint workplace decision-making, built historically within large manufacturing workplaces, has few equivalents in retail.

Across the sector, there was little evidence of transformative technological change in line with visions of 'Industry 4.0' (Barile et al., 2018). For in-store workers, self-service technologies and online shopping have been the main changes, along with the automation of certain tasks. In stores where staffing levels have declined, it has been largely managed through labour turnover and reducing working hours. Some UK supermarkets have made redundancies, partly due to automation, but primarily attributed to company-level cost-cutting exercises. Resistance to technology has been limited. In Norway, some digital tools, such as electronic price labelling, could be said to have been 'embraced' (Edwards & Ramirez, 2016) by some HK reps for giving workers time for more varied tasks. This may reflect a context where job losses, hours insecurity and work intensification were less widely reported than in the United Kingdom where union reps tended to see technology as adding to these problems.

In regard to monitoring and surveillance technologies, as with Price's (2016) research in Australia, most UK supermarkets used scan rates to performance manage checkout workers. Our study extends these findings by providing evidence of how CCTV monitoring of these tills, along with pick rates for in-store fulfilment, are utilised in the United Kingdom and have been used to discipline workers. Deploying technology in this way is not inevitable, and this is an area where unions can and do make a difference. In Norway, the absence of these forms of

technical control (Edwards, 1979) reflects constraints contained in the Basic Agreement and the law. CCTV cannot be used to monitor workers, which puts reps in a strong position to halt abuses by local managers. In the United Kingdom, despite much weaker protections, USDAW reps still engage in ongoing contestation over how these control systems are used by local managers and have successfully challenged their use in performance management and disciplinary procedures.

Although there are some country differences, it is the similarities that are most striking in terms of the two unions' limited role and influence over technology. A key explanation is the weakness of union organisation, partly reflecting workers' lack of 'structural power' (Wright, 2000), given jobs have minimal entry and training requirements and new recruits are relatively easy to find. In Norway, despite a supportive institutional context with significant union power resources at national level, HK confronts sizeable 'representation and participation gaps' (Alsos & Trygstad, 2018). Low union membership and lack of proactive reps makes it difficult to compel employers to engage over technology in accordance with regulations. USDAW has much higher union density than HK in the supermarket sector, linked to partnership agreements that are conditional on union moderation (Wood, 2016). These tend to constrain union mobilisation which is exacerbated by the lack of supportive institutional backing.

An additional explanation for similarities reflects challenges pertaining to unions' own strategic agency around technology. In both cases, it seems unlikely that technology per se can be a focal point for worker mobilisation given that workers' priorities revolve around addressing low pay, fractional contracts and insecure working time. HK demands in relation to education and training, for example, are considered vital by national officials to mitigate the effects of digitalisation, but they are typically relegated in the bargaining rounds with employers. In the United Kingdom, USDAW's partnership agreements are underpinned by its moderate stance. This leaves the union caught in a dilemma between accepting the current position and mobilising workers to push for more union influence over technology, an issue that many may regard as peripheral.

If the research points to few country differences, explaining why there are better outcomes in Norway, in terms of less monitoring and surveillance and no redundancies, can help to inform discussion of possibilities for progress in both countries. It is difficult to attribute these outcomes directly to HK. Rather the research identifies the importance of the Basic Agreement, the Work Environment Act and strong data protection law. Together these reflect the 'institutional power' of Norwegian unions at national level, the effects of which are felt even in sectors where unions are relatively weak. In the United Kingdom, in the absence of institutional power, USDAW has been unable to achieve similar outcomes, even though it has managed to challenge management's use of technology-facilitated metrics and CCTV in disciplining workers.

Shifting the terrain may be less difficult in Norway given that a supportive regulatory environment is already in place. Progress hinges primarily on HK's organising efforts to increase membership and develop union activists to enforce the rules, which some interviewees felt were improving. In addition, the move of employers away from the automatic application of collective agreements to all stores has encouraged the union to devote more energy to bottom-up organising. The return of a Labour government in 2021, after an 8-year absence, was also said to provide opportunities for unions to influence the regulatory framework in favour of workers. In the United Kingdom, union influence also requires active union members and reps that can be mobilised when workers' interests are threatened; however, there was less optimism about the direction of change. USDAW's demands for a statutory right to

consultation over new technology may be a starting point to changing the institutional context. However, assuming this could be achieved, the evidence from Norway indicates that even with far stronger institutional and regulatory supports, influence is limited without effective workplace organisation.

The article contributes to debates about the role of unions in shaping technological change by broadening the empirical lens beyond the current focus on manufacturing in Germany and Italy (Cirillo & Rinaldini, 2020; Haipeter, 2020). It also makes an important analytical contribution in terms of grappling with the multi-level nature of union power and weakness, and how these different levels relate to one another. Institutional power and regulatory supports to bolster unions' role in technological change are still important even in sectors with relatively weak unions. Union strategic agency, however, is critical to the utilisation of these supports, both to enhance organising efforts and worker mobilisation, which together can underpin a stronger union role in digitalisation.

It is important to emphasise that these findings are based on a subsector of retail with relatively large workplaces where unions have greater presence. Further research is required that explores digitalisation in other areas of retail where union organisation is more variable. Hopefully, more research will follow on how unions are engaging with new technology in other countries and service sectors that can shed further light on the links between institutions, sector dynamics and union power.

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