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South African e-commerce logistics
Reproducing racialised capitalism through warehouse work

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ABSTRACT

Based on industry reports and interviews with warehouse workers and unions, this article examines how the global patterns of e-commerce logistics are integrated with and constituted through concrete relations of racialised labour processes in South Africa. It analyses the specificity of the growth of capital investment, the expansion of consumer markets, new state interests and the new use of digital technology in the labour process of e-commerce-based warehouse work in South Africa. Many new features of work organisation in warehouses are experienced by black workers through longer-term relations of surveillant racial despotism and limited employment futures. Scholarship on logistics globally, especially research purporting to explain the trajectory of workers' politics at the local level, has tended to underestimate the articulation of logistics in time and space. In this article, we examine how histories of capital investment, a highly precarious racialised labour market, lack of skill recognition and union organising legacies reveal how continuities intertwine with new patterns of logistics.

KEY WORDS

logistics; e-commerce; race; class; South Africa; Amazon; Takealot

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Introduction

Logistics reorganises capital investment from production to circulation, integrates new consumer and labour markets and introduces new forms of labour control (Bonacich & Wilson, 2008; Tsing, 2009; Cowen, 2014; Danyluk, 2018; Moody, 2022). This 'logistics revolution' (Bonacich & Wilson, 2008) has been said to reshape political, economic and

subjective life under capitalism (Neilson, 2012; Mezzadra & Neilson, 2019). As part of this process, new infrastructures and technologies of logistics, which accelerate capital circulation and expand accumulation, generate potential new sites of working-class power (Moody, 2017, 2022; Alimahomed-Wilson & Ness, 2018; Chua & Cox, 2022; Potiker et al., 2024). This paper considers what South African e-commerce warehouse work can offer to global debates that focus on what is new about logistics and its labour.

First, while much research on e-commerce details Amazon's operations in the USA and Europe (Alimahomed-Wilson & Reese, 2020; Massimo, 2020; Delfanti, 2021b; Mrozowicki & Pilch, 2021; Vallas, Johnston & Mommadova, 2022; Fuchs, Dannenberg & Wiedemann, 2022; Fairwork, 2024; Lee et al., 2024), this article contributes a rare example of an e-commerce firm's operations in the Global South, including conditions in its warehouses and the labour politics therein (also see Sprague & Sathi, 2020; Atzeni, 2023).

Second, while it confirms common features of e-commerce identified by critical logistics and labour literature elsewhere, this article argues that to understand e-commerce warehousing in South Africa one cannot abstract these features from the constituted relations in which they are articulated. E-commerce creates new arenas of capital investment, reshapes consumer markets, repositions state engagement and reorganises labour control in ways that are imbricated with local relations. Furthermore, these processes have been experienced by workers as reproducing longer histories of racialised capitalism in South Africa – that is, workers do not attribute the features of labour control so prevalent in e-commerce warehouses globally merely to employer despotism (Moody, 2017; Alimahomed-Wilson & Ness, 2018) but also to conditions defining black workers' prospects within a post-apartheid South Africa. This orientation shapes workers' politics.

Many of the dynamics within warehouse work have been described for other contexts, as discussed below. In fact, one finding is that e-commerce warehouse work in South Africa looks very similar to that described for other places and other firms. Yet, this article argues that the changes brought by e-commerce cannot simply be read as a South African case of a larger phenomenon, which is defined elsewhere and simply 'impacts' on South Africa (see Hart, 2002). Instead, e-commerce and its warehouse labour must be understood within longer histories of South African capital accumulation, within a post-apartheid neoliberal developmentalist discourse of growth, access to markets and consumer participation, and within an already existing racist surveillant work organisation. This is not simply a matter of saying that context and history matter, but that we cannot understand the novelties of logistics outside of its contemporaneous articulations in place and time.

The next section reviews the literature on global logistics and e-commerce warehouse labour. Thereafter, I examine the emergence of e-commerce in South Africa and show its connections to longer racialised histories of capital and state relations as well as new convergences between capital and the state. I then examine the organisation of work in e-commerce warehouses, describing new technologies and labour processes. Workers experienced these features through longer-term relations of racial despotism and a post-apartheid terrain of racialised precarious employment. These articulations explain workers' politics within the warehouses, where workers' attempts to claim labour rights are yet to achieve major success.

Global logistics and the features of e-commerce

Literature on global logistics and e-commerce outlines important new features of capitalism, including features of the labour process. As Cowen (2014) details, logistics became an expanding set of business practices in the 1960s by deploying the strategy and tactics of war to invoke a new method of calculating value across the entire distribution chain. As much critical logistics scholarship shows, logistics involves the infrastructures, technologies and labour of distributing, transporting and storing goods, which produce value by shortening turnover time, thereby garnering new forms of accumulation (Cowen, 2014; Danyluk, 2018; Moody, 2022). To speed up distribution, big box retailers like Wal-Mart introduced cross-docking, which emphasises the continuous movement of bulk goods through the warehouse while minimising storage time (Bonacich & Wilson, 2008:124–7). Deepening this logic, Business-to-Consumer (B2C) e-commerce distribution centres require bulk stock to be unpacked into individual items and stored for short periods to be moved directly to consumers. This has increased labour requirements while demanding great accuracy (Loewen, 2018:702–4; Delfanti, 2021a; also see Barnes in this Special Issue). Thus, warehouses have become a critical site for the reorganisation of work, particularly in e-commerce.

E-commerce warehouses rely on algorithmic management and digital scanners which route tasks and track labour productivity (Struna & Reese, 2020; Delfanti, 2021b). Wages are typically low within local labour markets, although in some contexts Amazon attracts workers by paying higher wages than other comparable local jobs (Sprague & Sathi, 2020; Delfanti, 2021b; Mrozowicki & Pilch, 2021; Chua & Cox, 2022). Working time is often long and arduous (Alimahomed-Wilson & Reese, 2020; Delfanti, 2021b; Mrozowicki & Pilch, 2021; Vallas, Johnston & Mommadova, 2022). Amazon workers commonly report high levels of injuries, exhaustion and stress (Gutelius & Pinto, 2023). In many contexts, warehouse work is characterised by high labour turnover (Delfanti, 2021b; Vallas, Johnston & Mommadova, 2022; Atzeni, 2023). Agency workers are used commonly for numerical flexibility (Mrozowicki & Pilch, 2021; Atzeni, 2023; and see Gutelius, 2015), although in some contexts of high volumes and tighter labour markets, direct employment replaces labour intermediaries (Loewen, 2018). 'Last-mile' delivery drivers are often self-employed or subcontracted, monitored by GPS and algorithmic management and paid per delivery at rates based on drops per day that barely cover the cost of the vehicle and petrol (Newsome & Moore, 2018; Alimahomed-Wilson, 2020). Warehouse workers around the world are largely black, brown and, in middle and high-income countries, disproportionately immigrants (De Lara, 2018; Reese, 2020; Mrozowicki & Pilch, 2021:29; Delfanti, 2021b:25; Almahomed-Wilson and Reese, 2021; Chua & Cox 2022; Lee et al., 2024).

While precarious conditions define the sector, many have noted that workers potentially hold new strategic power based on their structural location within global distribution chains (Moody, 2017, 2022; Alimahomed-Wilson & Ness, 2018; Chua & Cox, 2022; Neilson, 2023). Neilson (2012:331) correctly assesses that 'the fantasy of creating a smooth or seamless world [in logistics], is susceptible to disruption from the unruly world of living labour'. Yet, as De Lara (2018) argues importantly, these are located processes in which concrete relations matter. He anatomises the constitution in

place of shifting labour markets, state development practices and capital investment in what is known as California's Inland Empire, the vast expanse of warehousing and logistics infrastructure linking the ports of Los Angeles and Long Beach to the US market. Histories of racialised inequality within labour markets, local state efforts to promote new investment in the context of deindustrialisation, and financial capital interests explain the expansion of the sector in the region, as well as the forms of working-class activism that emerged to contest these changes (De Lara, 2018). Writing about South Africa's democratic transition, Gillian Hart (2002:12–13; see also Hart, 2018) cautions against generalising discourses 'framed in terms of the impact model of "the global" on "the local," … [which] conjure inexorable market and technological forces that take shape in the core of the global economy and radiate out from there'. This article argues that, while many of the features of e-commerce logistics defined elsewhere, particularly in the Global North, can be found in South Africa's emergent sector, e-commerce cannot be understood outside of the articulated conditions in place. As we will see, the global tendencies identified in warehouse work in South Africa function through practices of racialised labour, surveillant control and precariousness, which reproduce aspects of apartheid and post-apartheid labour regimes. In the next section I examine the emergence of e-commerce as a sector and locate it within these longer racialised histories.

e-commerce and South Africa's racialised capitalism

B2C e-commerce has emerged recently as an important new sector in South Africa. It has attracted new capital investment, expanded consumer markets and prompted new state engagement in ways that suggest that it follows global trends. South Africa's consumer e-commerce market has grown very rapidly since the COVID-19 pandemic. In 2018, it accounted for sales of R18 billion worth of goods (1 per cent of the total retail market nationally), which increased to some R71 billion in 2023 (6 per cent of the total retail market), a nearly three-fold increase over this period (Goga, Paelo & Nyamwena, 2019:2; Mastercard, 2024). It is estimated that about 37 per cent of the South African population bought at least one product online in 2021, and some 70 per cent of respondents in a Deloitte Africa Digital Commerce survey said that they shopped online at least once per month (Schaefer & Bulbulia, 2021:5).

The top B2C e-commerce brand in South Africa is Takealot.com, a purely e-commerce platform, with net sales in 2023 of around R7.5 billion, which increased 3 per cent from 2022, followed by Superbalist, an online fashion seller, with sales of around R4.3 billion, increasing by 10 per cent in one year (both owned by the same company, Naspers). Brick-and-mortar retailers have also expanded their online sales, including South African brands Woolworths and Makro (owned by Massmart/Wal-Mart), two top retail brands which accounted for some R3 billion and R1.4 billion respectively in e-commerce net sales (ECDB, 2023; Makro, 2021). Investment has partly gone into establishing new warehouses and infrastructure required to support warehouse operations. For instance, Takealot operates from three distribution centres,

one each in Cape Town, Johannesburg and Durban, with over 100,000 m^2 of warehouse space and growing (Malinga, 2019; Business Tech, 2021; Takealot, 2021).

Yet understanding the growth of e-commerce demands locating the sector in a longer history of South Africa's racialised capitalism. 'Racial capitalism' was first used as a term by South African writers and activists who argued that racism, as practised specifically by the apartheid state was necessarily intertwined with capitalism (Legassick & Hemson, 1976; Levenson & Paret, 2023). This concept identified the dependence of mining, agricultural and manufacturing capital on the migrant labour system and attendant legal restrictions, enforced by the colonial and then the apartheid state, to supply cheap black labour (Wolpe, 1972; Hall, 2021[1980]). Stuart Hall's (2021[1980]) engagement with these debates argued that analysing racialised capitalism requires paying attention to the concrete relations and contradictions present in a given social formation. As he insisted, 'The histories of these different racisms cannot be written as a "general history"' (Hall, 2021[1980]:236).

Within the limits of this short piece, I suggest a few features that specify the racialised dynamics and contradictions of e-commerce in South Africa. First, it developed domestically through a single dominant firm, which accumulated the grand resources necessary to finance its e-commerce platform through a direct historical relationship to the apartheid state. Naspers, Takealot's parent company, rebranded itself as a 'global consumer internet group' (Naspers, 2023:6) following its longer history as an Afrikaner media company ('Nasionale Pers'), which propagandised for the National Party and the apartheid regime (Botma, 2008; Ashman, 2023). Naspers leveraged its relationship with the apartheid state to obtain television rights from the 1970s to the 1990s, shifting to digital services and expanding services to other parts of Africa as democracy was ushered in, explicitly claiming its transformation as a shift from 'exclusive nationalism to an inclusive nationalism' (quoted in Teer-Tomaselli, Tomaselli & Dludla, 2019:1148).

Naspers funded its expansion into global e-commerce from its pay-television business; for example by investing just under 50 per cent of shares in the Chinese company Tencent in 2001 and then using avenues opened further by BRICS.[1] It invested in Russian-based Mail.ru, India-based Ibibo and Flipkart and Movile in Brazil (Teer-Tomaselli, Tomaselli & Dludla, 2019:1148–54). Thus 'Naspers has been particularly adroit at identifying opportunities that less adventurous corporations, particularly those founded in the technologically highly developed "first world," would not touch' (Teer-Tomaselli, Tomaselli & Dludla, 2019:1155). From 2014, it invested in e-commerce acquisitions and its South African platform Takealot, and, in 2019, Naspers dual-listed as Prosus on the Amsterdam stock exchange, where Prosus is the 'largest consumer internet company in Europe' (Ashman, 2023:77). Thus, while capital accumulation in e-commerce in South Africa is new and follows global trends, the lead domestic company has built its wealth from long-term relations with the apartheid state and moved skillfully to reposition itself through the democratic transition as a transnational player.

1 BRICS is the acronym for the intergovernmental organisation including Brazil, Russia, India, China and South Africa, which the African National Congress (ANC) Government joined in 2010.

Second, in the post-apartheid context, as redress to racial capitalism under apartheid, the state under the ANC has promoted black participation in the economy as owners and investors (Southall, 2007). Despite concerns about the dominance of a single firm within the sector, the state views e-commerce as facilitating openings to participation. The South African Competition Commission held public hearings in November 2021 for its Online Intermediation Platforms Market Inquiry (OIPMI) which included e-commerce within its scope (Competition Commission, 2021). The Commission noted concern with the dominance of Takealot and the lack of access to small and medium enterprises (SMEs) and 'Historically Disadvantaged Persons' (HDPs) as sellers and platforms. The Commission's recommendations focused narrowly on limiting the price parity practices of Takealot, which pressured suppliers to list products at the lowest price on its platform. It also ruled that Takealot had to implement a programme to onboard HDPs (Competition Commission, 2020, 2023:5; Buthelezi and Hodge, 2019). Current South African policy debates about e-commerce thus focus on its potential role in market expansion and 'entrepreneurial' access. Thus, the emergence of e-commerce in South Africa coincides with state interest in expanding markets to black suppliers and producers. Unlike in the Global North, then, a contradiction can be observed in South Africa between the shifting relations of racialised capitalism with respect to e-commerce and how state regulation approaches the sector through a lens of national development, even as large capital dominates.

Third, both discursively and materially, e-commerce promotes the widening of consumer markets, which has concrete significance in South Africa, where the ability of blacks to participate as consumers was limited historically (Posel, 2010). In the post-apartheid period, South Africa became the most unequal country by income in the world (Francis & Webster, 2019). While there has been some class mobility among black South Africans, the vast majority of the working-class and poor population is black (Southall, 2016). In 2015, 70.75 per cent of black South Africans but only 4.1 per cent of white South Africans were poor (Francis & Webster, 2019:792). Since 1994, unemployment has grown (Francis & Webster, 2019:795). In 2023, unemployment nationally was officially 32.1 per cent – 41.1 per cent if discouraged work seekers were included (StatsSA, 2023). Persistent uneven and unequal racialised inequalities also map onto enduring spatial divisions within cities and between cities and their hinterlands (Ballard & Hamann, 2021). Consumer spending has nevertheless been bolstered by high consumer debt through both formal and informal lenders (James, 2021). People commonly speak about their inclusion or exclusion in South Africa in relation to their ability to buy and own consumer items (Iqani & Kenny, 2023:187; Posel, 2010; Iqani & Kenny, 2016).

Within this context, e-commerce platforms in South Africa have relied on middle-class and luxury markets but have also created new consumer markets, including in rural areas, informal settlements and working-class townships.[2] For instance, in framing its contribution to South Africa's economy, Naspers (2023:67) reports that 'Takealot stands out for having made these services [for delivery] as widely available as

2 Informal settlements are unplanned settlements on land not designated as residential and made up of shack dwellings (HDA, 2012:5).

possible – notably by offering them in informal settlements from the start. Equitable access and availability have always been a core Takealot principle'. One of the features of South African capital investment in e-commerce has been that it has had to solve delivery across the country's vast geography, as well as being able to deliver to difficult and dangerous-to-reach rural areas with poorly-maintained roads, informal settlements where homes lack clear addresses, and working-class and poor 'townships' – residential areas which were formerly segregated under apartheid – that still lack adequate service provision and road coverage. Much of urban South Africa also faces the threat of crime, particularly vehicle hijacking (SAPS, 2024). To accommodate these conditions, e-commerce firms use franchise hubs to manage last-mile delivery. These hubs operate as customer self-service pick-up points. As in other contexts, subcontracted drivers are also used for delivery to more remote areas (Alimahomed-Wilson, 2020; Chua & Cox, 2022). For example, while Takealot employs its own drivers for some of its delivery services, it also uses more than 12,200 'driver partners' who are hired as independent contractors (Takealot, 2021).

Furthermore, many platforms have partnered with financial technology firms to offer new services to reach 'un-banked' customers and those in rural or peri-urban areas. These innovations include features that allow customers without credit cards or bank accounts to place an order online and pay in-person by cash at a kiosk in a retail shop (Khumalo, 2017; MyBroadband, 2020). These kinds of adaptations have enabled online shopping to extend into wider consumer markets. Takealot can thus boast that it has 1.8 million customers and delivers over 1 million packages per month (Takealot, 2021).

Investment into these consumer markets is a new phenomenon, led by South African firms using innovative technological and logistical infrastructure. These new features were already visible in South African B2C e-commerce prior to the entry of Amazon into the marketplace. Amazon launched in South Africa in 2024, with in-country fulfilment centres planned for 2025. Amazon has been present in South Africa with its cloud computing business, Amazon Web Services (AWS) since the early 2000s and in data centres since 2020 (Reuters, 2020). The launch of its e-commerce platform was postponed from 2021 to 2024 due to legal challenges from Indigenous rights groups to the location of its head office in Cape Town on Indigenous land (BizNews, 2021; Kwet & Malatji, 2022). Rather than leading these innovations in South Africa, Amazon's entry signals the importance of the relations, where consumer know-how, fintech advances, and infrastructural networks were already in place, to manage the unique conditions of this fast-growing sector.

Finally, as we will see in the next section, e-commerce draws on longer practices of racialised and precarious labour in retailing and more broadly in South Africa (Kenny, 2018). The term 'racial despotism' (Webster, 1985) described historically a labour regime in South Africa that combined the punitive control of black workers within the workplace with the wider legal and political rule over and exclusions of blacks. This included denial of the right to vote, curtailment of free movement through pass laws, limited rights of residence in urban areas, limited access to education, job reservation for white workers, limited skill training and access to higher skilled jobs and prohibitions on trade union membership and participation in the industrial relations

system – what Von Holdt (2003) calls the 'apartheid workplace regime'. In the post-apartheid context, although black workers became citizens and employment rights were secured, racism has continued to characterise many labour practices, including through informal discrimination, limited career paths and little skills training or recognition, leaving many black workers in the lowest-paid jobs in the economy (Webster & Von Holdt, 2005; Barchiesi, 2011; Kenny, 2018). The once-strong labour movement has been weakened, and precarious work now defines much employment in South Africa, especially for black workers (Webster & Dor, 2023). Below I examine the new forms of labour control and conditions in e-commerce warehouses, workers' experiences and their responses.

Racialised labour control and conditions in e-commerce warehouses

This section presents the findings of qualitative research conducted in total over eight months from July 2022 to February 2023 using purposively selected, semi-structured interviews with industry experts, trade unions and workers in logistics, as part of an International Labour Organisation (ILO) study on algorithmic management in logistics in South Africa.[3] This article uses interviews from e-commerce. Interviewees were identified through trade unions and snowball sampling. Workers were interviewed outside of their places of work, including a union office, as we did not receive permission to conduct research inside the firm. They worked at two distribution centres (DCs) (one in Johannesburg and one in Cape Town) of a major e-commerce company called (pseudonymously) E-Store. Workers from Cape Town were interviewed telephonically. Questionnaires focused on: job history; type of contract; trade union membership and activity; labour processes, work organisation and use of digital technologies; training and skills development; and working conditions and wages. An interview with a union representative also focused on union involvement in the workplace and with the firm as well as changes in the nature of work. The interviews were expansive and ranged beyond the questionnaire, in most cases engaging more broadly with workers' experiences. While the number of e-commerce interviews is small (six are used here), they total nearly 14 hours of discussion.

New technologies and algorithmic management defined the labour process in the DCs where these warehouse workers laboured. First, I identify features of e-commerce warehouse work in these DCs that are similar to those in other contexts. Like elsewhere, the introduction of digital technologies at E-Store has intensified work, increased individualised surveillance of workers and divided the workforce.

3 Interviews were conducted by Andrew Bennie, Bridget Kenny, Lawrence Mmoloke, Tessa Nyirenda, Mpumelelo Zengani. In total we conducted interviews with 17 individuals: two managers; three technology specialists; two union representatives; five workers from an e-commerce firm, four workers from a major road freight and logistics firm (RFL) and one from a smaller RFL. The research project was granted ethical clearance for the research by the University of the Witwatersrand, Human Subjects (Non-Medical) Ethics committee (Protocol # H22/06/16).

In E-Store, new digital technologies were introduced between 2014 and 2018 as the company grew. Prior to the introduction of new technologies, workers scanned bar codes but tracking did not occur along the whole line. E-Store packers manually pushed parcels in trolleys to dispatch (Interview WK1; Interview WK3). As a union representative said,

> *… before [the technology] it was hard work; it was labour. Everything was done physically, manually. You just have technologies coming in slowly, slowly, slowly. (Interview UR1)*

Hand-held scanners and apps were introduced to track and trace orders and items. Biometric clocking used fingerprints to register workers' time on and off shift, including time taken for breaks. Like technologies used in many e-commerce firms internationally, warehouse management software and transport management systems integrated online customer orders from receipt to delivery and monitored time and daily and hourly targets (Alimahomed-Wilson & Reese, 2020; Delfanti, 2021b; Atzeni, 2023).

While surveillant technologies were introduced, the company also began to contract labour brokers for picking, packing and stock control. The labour process thus came to rely on a small group of permanent workers, around 50 in each of the two DCs, who were 'Black-African' or 'Coloured',[4] whose roles included some picking but primarily involved supervision and administrative work. In contrast, a larger group of ~3,000 workers per DC were employed by different temporary employment services to be scheduled when needed. In both DCs in any given shift, then, labour brokers supplied some 300 pickers and all packers on the floor. These workers were also mostly black South Africans (Interview WK1; Interview UR1). Permanent staff had been working longer for the company, having entered jobs before 2014. They were mostly aged in their forties and older than contract staff who were aged, on average, in their late twenties. The permanent workers interviewed were men, corresponding to employer preferences to employ men in manual jobs prior to the introduction of the new technology. Both male and female contract staff were interviewed and included an inventory clerk, a picker and a packer. Company managers were mostly 'White' and 'Indian' men, while labour broker supervisors were mostly black men (Interview WK1).

As in other contexts, algorithmic management fragmented work into separate tasks and intensified the pace of each task for both pickers and packers (Struna & Reese, 2020; Delfanti, 2021b; Vallas, Johnston & Mommadova, 2022). Moving around the DC, pickers fetched items stored on shelves while packers were stationed along a conveyor belt on which items travelled to be boxed into parcels (Interview WK3). In E-Store, tasks were allocated via an app on workers' scanners. For instance, a picker would receive an order to fetch an item at a certain location in the warehouse, listing a letter and number code for a shelf. The scanner registered the time taken to pick this item (Interview WK1). Unlike pickers, packers did not move around the warehouse: 'you

4 Official census racial classification maintains the following categories: Black-African, Coloured (broadly, mixed-race), Indian and White (Maré, 2014).

stand in your pack station, and then you're waiting for the items to come to you' (Interview WK4). The items came to the packers in an open container called a tote, which they scanned. The scanner told them whether the items inside were to be packed separately for different customers or packed together for the same customer. The packer then scanned each item: 'You have to scan one-by-one, one-by-one, one-by-one. And then after you scan, you have to wrap it' (Interview WK4). Besides the physical act of packing, the packer relied on the scanner for the information required to fulfil each task: 'You can't even write down, "this order is going to Thobeka [example customer]" … only technology is going to help you' (Interview WK4). Workers explained that this digital technology enabled fast-paced work:

> *Because technology … it's very fast … I can scan one tee-shirt for like ten times … I can scan the whole of them very quickly like that … I can't even spend two minutes. (Interview WK4)*

Furthermore, the app monitored target rates set per hour for each worker. For pickers, the rate ranged from 87 to 120 items picked per hour per worker, depending on how many orders were scheduled for a shift (Interview WK1). For packers, the rate was generally 125 items packed per hour (Interview WK4). Hence, while the technology itself sped up the work process, workers also had to meet their productivity rates every hour.

Seemingly more straightforward than Amazon rates, which vary by commodity and section (Delfanti, 2021b:75–6), workers felt that rate-setting was obscured. While individual tasks were allocated over the scanner, 'the only person who knows the numbers of the volume today [is the supervisor]' (Interview WK4). The overall number of orders per shift was set daily by head office management based on customer orders (Interview UR1). Department managers and supervisors decided how many workers to bring on shift to service the number of orders, which in turn affected the hourly productivity rates. For pickers and packers in E-Store, like in other contexts (Delfanti, 2021a), with their target rates obscured behind scanners, these electronically recorded target rates now displaced workers' direct knowledge.

This new digital technology mediated the coordination of labour and, with the ever-present scanner recordings and monitoring of workers' locations, the speed and the quantity at which goods were moved. This reflects the concept of 'digital Taylorism' as a means to divide work into discrete tasks and speed up the labour process through the use of algorithmic management (Altenried, 2022; Delfanti, 2021b). Algorithmic management in logistics provides the capacity to measure labour productivity in real time (Neilson, 2012:330). In so doing, it generates a fantasy of eliminating the indeterminacy of labour through 'feats of governance and measure' (Neilson, 2012:330). Algorithmic management thereby increases the surveillance of workers, as many have noted (Struna & Reese, 2020; Delfanti, 2021b:68–71).

These surveillant technologies were also used to discipline workers. As an inventory clerk said, 'You have to make sure that your name doesn't have an error' (Interview WK2). A worker who did not achieve the target each hour would be taken off shift and questioned by their supervisor (Interview WK1; Interview WK2). The worker could be

sent home for the rest of the shift without pay or given a warning if they did not make their rate:

> *So, you didn't make anything for a day … You didn't make a rate … You're going home early, they chase you one o'clock [they send you home at one o'clock]. (Interview WK4)*

Pickers and packers described the stress entailed in trying to achieve the required rate, an experience which is similar to findings about workers at Amazon and other e-commerce operators internationally (Struna & Reese, 2020; Delfanti, 2021b:73–7).

Finally, new technologies divided workers on the shop floor by making it difficult to help others in the warehouse. Because each worker's activities were recorded against their personal username on each scanner, the technology tended to individualise the labour process more than previously:

> *It's risky to ask someone to help you. Because if there's any error, it will be under your name. So now it's more like we are working individually … there is no teamwork. (Interview WK2)*

Stationed linearly along the conveyor belt, packers said that workers effectively competed with each other to claim enough items to make their rate:

> *The one who is packing in front, he can choose the [items] which he wants to pack … Then you found out those people who are packing in the back, they are only getting like one item or singles. It means that they cannot make a rate. (Interview WK4)*

In this way, workers were further individualised in the labour process.

Workers were also divided between permanent and contract staff through different hours of work, pay and conditions (see Delfanti, 2021b). While permanent workers at E-Store worked regular eight-hour shifts and received paid overtime payments, workers hired through labour brokers were informed about shifts at short notice and sent home without pay when orders were slow. They were often instructed to work longer than scheduled hours, provoking difficulties for workers, particularly women, who relied on unreliable and unsafe transportation at night to homes in distant townships. If workers refused to adapt to these hours, they were typically punished by being cut from schedules later (Interview WK1; Interview WK4).

As a result of changing hours, labour broker employees' pay could vary widely over each week or month:

> *When it is busy, like in peak season, we can reach R2000 … a week … [But] in the middle of the year, like we're getting R1000, maybe R900, or maybe R800 because you are working sometime two days or three days per week. (Interview WK4)*

Their peak wages were on a par with other 'elementary' occupations, which averaged R7,192 per month in 2023 (Labour Resource Services, 2025), but the erratic hours often meant they earned far less. By contrast, permanent workers earned more stable wages

and generally more per hour since they tended to be in supervisory or administrative jobs (Interview WK1). Low wages and divisions, including with agency work, are typical of e-commerce and logistics more broadly (Mrozowicki & Pilch, 2021; Atzeni, 2023; Gutelius, 2015), but the use of labour broking must also be understood within the specific strategies of capital (see Loewen, 2018) and in general, does not automatically predict divided politics (Barnes & Ali, 2022), as we will see below.

I will now consider workers' experiences of these conditions, which, as we have seen, are familiar in the sector around the world. Yet, there were significant differences. Other descriptions, such as of Amazon, emphasise the brutality of the employer's new labour processes (Alimohamed-Wilson & Reese, 2020; Vallas, Johnson & Mommadova, 2022). However, to most of the workers interviewed for this study, the conditions of warehouse work were not experienced as new but recalled aspects of racial despotism from the apartheid workplace regime (Von Holdt, 2003). These conditions were thus seen as reinscriptions of a post-apartheid labour regime characterised by irregular working hours, precarious contracts and (long-term) 'casual' employment, low wages, low skill recognition, punitive management and with little hope for advancement for South African retail workers more broadly (Kenny, 2018). A union representative interviewed recounted a story in which E-Store fired drivers when the GPS recorded them going off route:

> *There are drivers who have been fired for stopping to buy food at the garage … If you explain, hey, no, I was buying food since I don't have lunch. No, they don't care. You say you need to move from point A to point B you can't stop in between … Someone was dismissed for buying clothes for the child. It was Christmas eve, they got dismissed [shaking his head]. (Interview UR1)*

While such descriptions are common in other contexts (Alimahomed-Wilson, 2020), in these warehouses, such harsh management directed at black workers invoked the wider post-apartheid labour regime of racialised precariousness. Workers felt demeaned and infantilised (Interview WK1; Interview WK5). One permanent worker explained that when they wanted to go to the toilet, managers would question them:

> *You can be accused and even fired. Because they tell you, 'You went [to the toilet]? Come here! Where were you?' … 29 years after freedom [referring to the first democratic election in 1994], you are still accusing somebody of wanting to go to the toilet. (Interview WK3)*

Workers, then, interpreted company practices through broader legacies of racist power, where petty control belied 'freedom' for blacks.

Viewing these forms of labour control through racialised skill barriers was another way that workers saw little change in their jobs in post-apartheid South Africa. Workers felt that their skills should be valued because they were using digital technology: 'Why do we have to know all these things when we are still called general workers … Isn't this supposed to be on a higher level to a general worker?' (Interview WK1). As noted, historically, black workers were segregated by skill category and limited to unskilled ('general workers') or semi-skilled work (Webster, 1985). He continued to say that workers 'feel that we are robbing them of their chances of growth' (Interview WK1).

A worker in Cape Town DC made connections between black workers ('African') who would be 'stuck' as packers for years, and 'Coloured' workers who would get promoted quickly (Interview WK4), referring to legacies of intra-black segmentation established under apartheid which granted Coloured workers preference for jobs over Africans in the Cape (Humphries, 1992).

E-Store trained staff minimally, and it did not recognise workers' own investments in further education, such as funding their own degrees and diplomas by taking logistics courses (Interview WK1). There were few opportunities for promotion, and workers described the absence of promotion-oriented programmes, speaking instead about the practice of keeping a large number of workers in entry-level jobs for years (Interview WK3; Interview WK4; Interview WK5). As Loewen (2018) describes in the US context, the wider discourse of the 'unskilled' served to remind workers of their disposability, a narrative that echoes South African labour market histories.

The subtext of these engagements was the specific legacies of racial despotism in South Africa (Webster, 1985), where the experiences of racialised control were deeply rooted in concrete historical relations (Hall, 2021[1980]; Lee et al., 2024). Black workers in E-Store understood the surveillance, the punitive management, the lack of skill recognition and limited possibilities to advance as underpinned by an enduring racialised labour regime.

Finally, integrating logistics labour into a schema of apartheid despotism and post-apartheid neoliberal racialised precarity has implications for how workers have contested their conditions. Because of their experiences of work and new technologies, workers' politics have sought to claim labour rights by demanding security, permanent employment, fair hours and better pay and career paths, all reflections of wider struggles in recent decades (Kenny, 2018; Webster & Englert, 2020; Dor, 2023).

Unlike in other country contexts (Defanti, 2021b; Atzeni, 2023) labour turnover at E-Store was not high. Permanent workers had been employed for a decade and labour broker employees for three or four years (Interview WK1; Interview WK4). Rather than exit a scarce job in the context of high unemployment, both permanent and labour broker workers had joined the National Union of Metal Workers of South Africa (NUMSA), which organised workers in logistics. A permanent worker and his colleagues contacted the union in 2016 because they felt their salaries were low and they lacked benefits such as a pension fund:

> *So, I joined the union based on that for the union to fight for us to get those kinds of benefits, because this company is growing big and yet we don't get to secure our future. (Interview WK1)*

Workers went on strike for union recognition, but E-Store management would not bargain with the union because workers had not won support from a majority of employees nationally (Interview UR1). Democratic labour rights were supposed to bring them a better life, but instead they felt they were still waiting: 'we don't get to be assured that when we leave [E-Store], we are going to leave [with] a lot' (Interview WK1). Some workers then left NUMSA for another union that promised to be more effective, but still they felt unrepresented (Interview WK3; Interview WK5).

A union official argued that E-Store's use of labour brokers negatively affected union organising (Interview UR1). In South Africa, labour broking has been used to cheapen labour and has divided workers in retailing (Kenny, 2018). Yet a concerted negotiating drive by the trade union federation, the Congress of South African Trade Unions (COSATU), in the 2010s achieved an amendment to the Labour Relations Act (Section 198) that increased protection for employees of temporary employment services by designating them employees of the client firm after three months. The union official reported that NUMSA had engaged the company to insource the labour broker employees in line with the law. E-Store 'confirmed in writing that it's going to be like that' but then nothing happened (Interview UR1). Indeed, employers in South Africa have been using 'lawfare' to avoid directly employing agency workers using technicist legal arguments that draw out cases in court, thereby circumventing the intent of the law (Dickinson & Mohlala, 2024). In this case, workers across categories joined the union and demanded that agency workers be made permanent showing precisely how black workers built solidarities across divisions (see Barnes & Ali, 2022), but the campaign failed and many labour broker workers left the union (Interview UR1). Workers had fought on the terrain of post-apartheid labour rights, which was meant to ensure fair hours and pay, collective representation, fair procedure and a discourse of inclusion through employment (Barchiesi, 2011; Kenny, 2018). Instead, warehouse workers learned they were not secure either at E-Store or in the wider polity.

Conclusion

E-commerce describes new dynamics in South Africa that have been identified globally, including new capital investment, new consumer markets, new state attention and new digital technologies and forms of labour control (Cowen, 2014; Alimahomed-Wilson & Reese, 2020; Delfanti, 2021b; Atzeni, 2023; Neilson, 2023). Yet these innovations were constituted within longer-term relations of capital, state and labour in South Africa.

Logistics portends a shift in capital accumulation strategies toward circulation, which has altered the potential structural power of logistics workers (Neilson, 2012; Moody, 2017, 2022). This article offers a caution to these general global observations within the critical logistics literature. As Hart (2002, 2018) pointedly argues, global processes do not simply arrive in peripheral places but are co-constituted through concrete relations in time and space. And, as Hall (2021[1980]) insisted, it is necessary to explain the concrete relations and forces articulating specific conjunctures of racialised capitalism to confront and change them.

In South Africa, e-commerce warehouse workers were at the crux of a distribution system that supplies commodities for expanding capital accumulation. Like elsewhere, digital technologies were used for punitive surveillance of workers to maximise labour productivity, while labour brokers supplied the bulk of the workforce. The labour process divided workers and cheapened their labour. Black workers formed the majority of the workforce. Unlike other country contexts, these workers were not typically immigrants and both permanent and agency workers were from similar demographic backgrounds. In addition, there was little job turnover,

unlike in other countries. Workers organised into unions to contest labour broking, low pay and lack of promotion using post-apartheid labour rights but achieved little success because of wider labour market vulnerabilities and loss of working-class power more broadly within the country. Workers' politics had therefore trodden a familiar path laid out in democratic South Africa that was meant to usher in meaningful worker participation, but with little effect. Workers experienced the features of warehouse work through a wider political interpretation which located experiences in enduring conditions of inequality for blacks, and, ultimately, a circumscribed democratic transition.

In this context, e-commerce can be said to reproduce racialised capitalism in South Africa. It has done so by articulating with the existing labour regime in South Africa, which has long relied on racialised surveillance, punitive management and the undervaluing of black workers' skills and labour time. While in principle working-class power has the potential to disrupt capital in logistics in South Africa, in practice, concrete labour has been limited by this political moment. E-commerce has therefore contributed to the unravelling of the post-apartheid labour rights imaginary that promised inclusion through work. Black workers continue to organise and collectively contest their treatment by employers as disposable, including by challenging racialised labour, but the terrain of labour politics is shaky and the inequalities of racialised capitalism persist

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