

Leeds University Business School – Research and Innovation Podcast

Episode 69: The social shaping of technology in food retail – why context matters for the future of work

Speakers: Dr Lilith Brouwers and Dr Abbie Winton

[00:00:00] **Lilith:** Hello and welcome to the Research and Innovation podcast. I'm Dr Lilith Brouwers.

[00:00:10] **Abbie:** And I'm Abbie Winton.

[00:00:11] **Lilith:** And we're both postdoctoral research fellows at the Centre for Employment Relations, Innovation and Change at Leeds University Business School. Abbie is working on a UKRI project called Humans in Digital Logistics, but today we will be talking about her PhD at the University of Manchester in the Work and Equalities Institute, where she was looking at technological changes in the food retail sector.

[00:00:40] **Lilith:** So, let's start by me asking you what first interested you in the area of food retail work?

[00:00:46] **Abbie:** So, there was a couple of things that really sparked my interest in retail. The first was, really, despite retail being such a huge employer still, there really isn't actually a great deal of academic research that looks at retail work on the shop floor. Particularly in this kind of context of socio technical change.

So over the years, we've seen quite a lot on retail in terms of skills and the gendering of work, which is of course linked to technological changes we'll go on to discuss later, but there hasn't actually been so much on the actual technologies that are used on the shop floor and the way in which they're changing work.

[00:01:24] **Lilith:** That's very interesting. So can you tell me a bit more about the paper that we'll be talking about today?

[00:01:29] **Abbie:** So I'll start by just saying that I'm currently co-authoring this paper with Debra Howcroft. She was my PhD supervisor and a professor of technology and organization at the Work Inequalities Institute. So recently Debra has written extensively on critical themes surrounding the future of work, but we thought it would be quite a good opportunity to draw on some of my PhD research to add some empirical evidence to what is largely a very theoretical debate.

So the paper basically explores both the quality and quantity of work available in the food retail sector, both at the intersection of technological change, but also the coronavirus pandemic, which kicked off halfway through my PhD, as I know it did yours too, Lilith. But our key argument is basically that there's a clear disconnect between mainstream claims about technological change and the actual lived realities of those working within the sector.

So through the research we found that the declining quantity and quality of work in food retailing is actually a product of corporate strategies to minimize short term costs and is driven by a whole host of factors that we'd expect typically from a capitalist firm - not solely the implementation of new automating, very fancy technologies as some would have us believe.

Today though, I was quite keen to explore some of the background to the research and also discuss the findings more broadly in relation to wider developments and debates within the sector. And hopefully one day I can come back and talk a bit more about the empirical portion in some more depth.

[00:03:04] **Lilith:** That sounds like a great idea. So when it comes to this research, what surprised you most about your findings?

[00:03:11] **Abbie:** So, always the most surprising thing to me is just how prevalent technological determinism is in the current discourse around new technologies. So this is found in management consultancy reports, in the news we see it a lot, but even in academic articles it has become increasingly prevalent, particularly around the discussion on the fourth industrial revolution.

And just to be clear for those that are less familiar with the terms, technological determinism includes the kind of framing of technological change as something that occurs autonomously and is completely immune from external influences. So we know in reality that this is just absolutely not the case.

Technology, just like any other social phenomena, is influenced by society, the economy, politics, culture, and even pre-existing technologies themselves. So I found that all too often the discussions around technological change and the impact that it's having really fails to acknowledge this kind of broader societal context but because of this deterministic view, whenever you hear about the future of work in retail, whether that's on the news, the TV, or sometimes in popular culture, the assumption is very much that work is on its way out, basically within the sector. It's going to be entirely eliminated because of automation and robots and so on, but our findings suggest that the picture is actually much more complex than this suggests.

So we found on the most part that the technologies that are actually being used on the shop floor are still incredibly basic when compared to some of these more futuristic examples that we're seeing and we'll return to this later and they are very far off replacing the work in its entirety.

So for me, I think the most interesting thing really is why this is the case and for me, looking back to the historical context is a really useful way in order to be able to understand what's going on today.

[00:05:10] **Lilith:** That is such an interesting point, that gap between the futuristic speculation about how technology will be used and the completely different reality on the ground. It really reminds me of current debates on AI and how people think it's going to do all these things, but when we look at what it can and cannot do in practice, the story is very different. So I think it's great to see this discussion in the area of retail as well.

One of the things I like about your paper is that you explore the historical context of food retailing in quite a lot of depth. Why do you think it's so important to look at that history?

[00:05:49] **Abbie:** I'm glad you share my reflections on the sector and AI is an interesting one as well. Through the research, we saw almost no examples of AI being used in a particularly interesting way on the shop floor. So that's definitely something for us to consider further, but back to the historical context, all too often we read stuff about the future where the history of the sectors being studied and the changes that have occurred for them are completely taken for granted.

So we argue in the paper and try and demonstrate is that there's a lot to learn about how changes might play out in the future by learning from the past and I'm not going to take all of the credit for this approach at all. It's definitely not a new one and it was taken from social shaping analyses of technology conducted by the likes of Judy Wajcman and Cynthia Cockburn who've emphasized the importance of this historical context for decades now.

[00:06:43] **Lilith:** All right, so the history of technology in the sector can tell us about the implementation of technology in the future. That makes a lot of sense. How does that play out in the context of food retailing?

[00:06:54] **Abbie:** So work in food retail has not always been feminized, low paid and insecure. A while back, food retailing in the UK was largely carried out by male greengrocers, butchers and bakers before the Americanized self-service supermarket model came into being.

But with this model came the introduction of trolleys, electronic cash registers, and the pre-packaging of goods, which gave rise to a change in the nature of skills that were required for the work. So this was basically a shift towards a focus on customer service skills, as opposed to the more technical aspects of the role.

And I think one of the most interesting things that we found from this time was that the unions were really worried, as they believed that the move to this self-service model would de-scale the work and make it more easily accessible for female workers, which they really did not want at the time. And because of this, they came to an agreement with the supermarkets whereby they only accepted the move to this self-service model if they could

actually get a guarantee that there would be no replacement of men by female workers. So this gives you quite a good idea of how unions actually viewed women and their place in the labour market at the time.

What we did actually see was that their fears were realized as when women did start to eventually move into the sector, retailing fell from being one of the highest paying sectors at the start of the century to one of the lowest by the 1980s. So the drop was quick and very significant.

This really teaches us a very important lesson, which is that the implementation of new technologies has been a site for political contestation for a very long time, through regulation, and this inevitably shapes the nature of work.

[00:08:41] **Lilith:** So in this case it sounds like the introduction of these new technologies did actually have a significant effect on the organization of work then.

[00:08:49] **Abbie:** Technology definitely played a part, and we're absolutely not denying that. But the argument that we and others are trying to make is that we cannot attribute these entire shifts, like women entering the sector to technologies alone.

There was loads of other things that shaped this process, such as managerial decision making at the time, changes to regulations and social norms around women's work. In addition, more broadly, just to the perception and valuation of women's skills relative to men's.

So there's lots of different moving parts to consider. It's definitely never as simple as being able to predict a singular predetermined impact that a technology will have on work as this is just not how change occurs.

[00:09:30] **Lilith:** Yeah, that makes a lot of sense. So the technologies that you discuss - which include things like trolleys, which I will be honest, I've never thought about as technologies, but of course they are - they've been around for quite some time now, and they're currently still widely used. Why is that?

[00:09:49] **Abbie:** Yeah, you're completely right. So technological change has been incredibly slow in retail. If you compare it to other sectors where workers are more highly paid. So many of the technologies that are used on the shop floor today have been around since the 80s, albeit potentially in a more basic form.

And there's lots of reasons for this. But we really need to consider the level of investment in technology relative to the cost of other options, i.e. the cost of labour. And as we learned earlier, wages in the sector have been suppressed because of the feminization of the workforce and the undervaluation of women's work and their skills, which then influences the rate at which technology is adopted within the sector.

So in the case of retail, intense price competition and low margins actually means that short-termism drives decision making and creates a situation where cheap labour is actually the more desirable option when compared to longer term investments in very expensive technologies.

[00:10:47] **Lilith:** That is fascinating and I'm sure that it's a surprise to other people listening and not just to me that just making people do the work can be a lot cheaper. So this historical context, looking back on how retail used to work and how changes have been implemented, is clearly very important to understanding how retail work is shaped today. Considering all of this, why do you think food retail work is so relevant in today's context?

[00:11:16] **Abbie:** So when we think about the really dominant voices in the mainstream future of work debate/discourse, whatever you want to call it, many seem to reference the end of retail work as almost being a given because of these self-service checkouts and the development of new retail technologies, but when we look through the historical period, we know that change hasn't occurred this quickly.

And actually, in fact, instead of investing in new technologies, retail firms have continued to use human labour on the shop floor. So, when the likes of Amazon have announced a new line of stores which use technologies such as computer vision, data from multiple lasers and deep learning, which allow customers to pick up items and walk out without any interaction.

With all this historical context considered, you can see why social shaping theorists might be a bit suspicious that this will have the kind of intended impact. But we still see loads of futurists like Carl Benedict Frey, who consider the Amazon Go model as basically being an archetypal example of a replacing technology.

But he fails to reflect really on the fact that just because the technology exists, firstly, doesn't mean it's going to be used, and secondly, doesn't mean that it will actually have its intended or full effect. And we've seen this in practice already with Amazon. So this year, Amazon had only opened 29 Amazon Go stores in the US and 15 in London, and they'd actually set a target of 3,000 stores by 2021. So they're really quite far off where they expected to be.

So I really think the more interesting question is, rather than speculating about the potential job loss effects, is why isn't it actually having the expected effect?

In the case of Amazon, we know that this type of technology is incredibly expensive to use, especially in a context where margins are already very low. But also we need to think about the actual physical retail sites themselves and whether they're able to accommodate this specific type of technology.

And it's been reported that Amazon actually can't find enough shops that actually fit these sites or systems in them, which has stalled the rollout. So there's a much greater context that we need to consider when thinking about the capacity of certain systems.

[00:13:35] **Lilith:** Oh wow, yeah that's way less than their goal. And you would think that this sort of technology would have been very successful if they were trying to roll it out during the pandemic as well.

[00:13:46] **Abbie:** Yeah, exactly. So even this real temporary, but very significant need for self-service systems during the pandemic wasn't enough to prop up this Amazon model. So it really does leave you wondering actually what was going on there. And I think this is why more broadly is such an important and interesting time to be looking at food retail.

Part of my PhD, I did a documentary analysis of all of the newspaper articles around food retailing during the pandemic. And what we were seeing loads was a lot of doom and gloom around the end of retailing where people in the press genuinely believed or like to adhere to this kind of rhetoric that the pandemic would be the end of shopping as we know it and that most transactions would soon be carried out either online or through self-service systems that we've discussed.

But what we actually saw as restrictions started to lift, people did return to supermarkets. I mean, I'm not denying that there has been a slightly higher demand, particularly for online food shopping since the pandemic, but there hasn't been this complete overhaul of shopping as we expected.

And I think just generally, we really need to keep in mind again, that this model of shopping is much more costly for food retailers. So everything related to the delivery, storage, picking, packing. So the retailers themselves actually lack the incentive to try and retain these customers who temporarily moved online.

So again, I'm going to keep saying it, but this context and the things that shape employers' decision making processes are incredibly important to consider if we're actually going to get any accurate representation of how work is going to be impacted going forward.

[00:15:29] **Lilith:** That is so interesting. So before we finish could you give us a little flavour of what your preliminary findings are in this paper?

[00:15:39] **Abbie:** Yeah, absolutely. So the empirical portion of the paper basically explores this misalignment that exists between the mainstream, quite high level rhetoric around the future of retailing, and actually how this has ended up playing out in practice in the sector. So we draw on the social shaping of technology framework that I've touched on throughout this discussion, in order to be able to understand what's been going on.

So, although there has been a visible reduction of the number of people working on the shop floor, and again we're not denying that, but we argue that it's not possible to attribute this change to technology alone, as many of the future of work theorists that I've mentioned try to do.

So instead, we actually looked at other corporate strategies that have been deployed to lower costs through reducing the number of labour hours on the shop floor. And this includes things such as multi-skilling, restructuring, and just the simple removal of tasks that they think do not add value to the process.

And we have to remember again, that this has broadly been made possible by sustaining this model of labour that relies on employing a large, flexible, feminized workforce as we were discussing throughout this podcast.

So the whole crux of the argument of the paper is basically that we need to pay close attention to the wider social, economic and political context that shapes the implementation and use of technology as this basically gives us a much more nuanced understanding of how work will be impacted going forward.

And we absolutely need more empirical work that looks at this too. And I know Lilith mentioned at the beginning that I'm currently on a UKRI project and we're exploring really similar themes but this time in the context of warehousing that's traditionally been quite male dominated but has experienced similar shifts in the organisation of work through the use of these technologies too.

[00:17:32] **Lilith:** Wonderful. That is so interesting. Thank you very much for talking to me today, Abbie.

[00:17:37] **Abbie:** Thank you so much for being my discussant today, Lilith.

[00:17:40] **Lilith:** And, as always, if you want to know more about this research or have any questions, our contact details are in the show notes. Thank you for listening.