Supermarket retailers - is your supply chain really as green as it should be?

Professor Merlin Stone

Institute of Business, Law and Society, St Mary's University

Twickenham, London, UK

Dr Kaouther Kooli

Bournemouth University Business School

Bournemouth, UK

March 2022

Abstract

This short paper considers the issue of environmental supply chain transparency of retailers. It explains why progress on environmental issues in the retail sector depends not only on what retailers do, but on what their suppliers do. It explains the role of supply chain information in helping diagnose environmental supply chain issues, and how creating a database of public domain information from a wide variety of public domain sources can help. It then considers how use of advanced analytical techniques based on artificial intelligence can accelerate and simplify access to this information, allowing retailers to identify problem areas amongst suppliers quickly and efficiently. It examines a case study of a leading British grocery retailer to show what such data and analysis can reveal. Finally, it identifies all the stakeholders who need such analyses, and recommends actions they should take to improve retail compliance with environmental supply chain requirements.

Introduction

The issue of retail supply chain transparency has suddenly surged into the limelight, as retailers check that what they offer their consumers is not tainted with anything to do with Russia. We hope that the Ukraine situation will be resolved soon, in favour of democracy, and then we will all get back to the other big ethical issue in supply chain management – the environment.

Governments throughout the world, particularly in Europe, have realised that just asking firms to look at their own practices is not enough. Particularly in the case of large firms, such as the larger retailers, one of the best ways to improve things is for them – and all those who monitor their performance - to focus not just on the retailers' own practices but also on those of the firms that supply them.

The EU's new legal framework focuses on harmonization, legal certainty, and ensuring a level playing field for all EU states. A central element of this is the EU supply chain directive. Several European countries are tightening up their law relating to due diligence in relation to supply chains, covering not just the environment but various other social and governance issues.

Supplier information

At the centre of the discussion on supply chain due diligence is how well firms organise their information, especially:

- Identifying who supplies them and how important each supplier is
- Collating the information about their suppliers, particularly about their weak environmental, social and governance practices
- What they are doing about any problems (e.g., requesting compliance, switching suppliers)

Large retailers have thousands of suppliers. Due to tightening up of buying policies and use of state-of-the art ERP software, most large retailers can readily produce lists of their suppliers and information on their importance to the retailer.

But what about the external information? Our research shows that much of the information about the environmental behaviour and performance of their suppliers is in the public domain, but scattered over many sources, such as annual reports, press coverage, responses to analyst questions, legal databases, and social media.

In some industries, such as the automotive industry, data on who supplies whom is more widely available, and some data is provided by specialist information providers. However, the most comprehensive information, especially in retailing where the number of suppliers is enormous, comes from companies' own purchasing databases, as this is the most updated and comprehensive.

Our review of research about environmental disclosure shows how often firms fail to properly and intentionally disclose environmental problems, and also how often they like to position themselves as being much greener than they are – hence the importance of using many independent sources.

A retailer can of course identify whether an individual supplier is problematic by searching for information about them, but large retailers need to regularly audit all their suppliers, not just to identify current problems, but to identify trends in problems, likely future issues and so on. This requires constructing a database of all relevant available data that is readily accessible and analysable, and matchable to a company's list of suppliers and to any new suppliers under consideration.

Fortunately, this database has been created by at least one company. This means that a retailer cannot claim that it does not know where to get the information it needs to check the environmental compliance of its suppliers. The database that has been created is designed to be accessible by the most advanced AI tools, allowing almost any form of analysis.

Analysis

There are many possible approaches to analysing the data, but the amount of data to be analysed and the variety of analyses required means that rather than use standard statistical or analytical tools, an approach using artificial intelligence technology is more likely to yield the results required by any inquirer.

Permutable is an example of a company that has created such a database and deployed AI tools to analyse it. Its approach allows all environmental, social and governance (ESG) issues to be tracked. The data needed from retailers can be supplied by them in different forms, from static data to integration with ERP systems. Where the supply of data is integrated, it means that data about problematic companies is supplied to the retailer in near real-time, while the results of the analysis can be supplied in many ways, from finished reports to raw API accessed data. Each supplier can be rated using all the key ESG metrics. Suppliers can be benchmarked against each other and their peer group. Any areas of concern can be flagged, allowing retailers to identify which suppliers warrant close attention. To enable retailers to understand the issues quickly, results can be provided as a heat map. Suppliers can be reviewed over time, showing when issues occurred and therefore whether a supplier is becoming worse or better in terms of compliance. The approach allows easy tracking back to source data, to identify the precise nature of problems with suppliers. Countries that are of concern can be highlighted. The categorisation of issues and problems can be provided in various ways, for example, using the United Nations Social taxonomy from UN sustainable development goals. The resulting technology has been tested at scale by Fortune 500/FTSE 100 clients.

Sample results

In a recent study of a UK grocery retailer's supply chain by Permutable, while the results showed reasonable compliance with sustainability requirements now being laid down in law, they also showed failure to manage supply chain sustainability. The retailer buys products from more than 48 countries, mainly from the UK and US. The data analysis yielded 200 pages of textual data. The analysis of this data shows that the retailer's suppliers are not compliant with the sustainability requirements.

The analysis identified:
- 506 occurrences of issues related to natural resources;
- 411 occurrences of issues related to pollution and waste;
- 359 occurrences of issues related to climate change;
- 197 occurrences of issues related to product liability

For those interested in wider ESG measures, there were nearly four times as many occurrences of issues related to social and related matters as there were environmental issues,

The above findings show that there are always some suppliers whose activities are suspect, in some cases extremely so. These supplier problems must be addressed if a retailer's brand is not to be compromised.

Quantifying and benchmarking

Governments and investors are requiring much greater precision in data about ESG performance. Managers of funds have to choose between thousands of possible investors, so they need to quantify the extent of conformance or non-conformance with environmental requirements. Governments and ESGs need to know which are the worst offenders, to decide where to focus their compliance and other actions. The types of measures that are being used or are in development include:
- Percentage of suppliers and/or supply agreements that are screened for compliance
- Specific metrics relating to performance e.g. emissions, recycling, renewable energy consumption, water usage, pollution.

The apparent complexity of these can be reduced, as we have noted above, by use of advanced data analysis, benchmarking and other techniques.

Conclusions

So far, the results, which must remain confidential for the time being, have shown that while companies have achieved a reasonable degree of compliance with the requirements that are now being laid down in law, there are always some suppliers whose activities are suspect, in some cases extremely so. These supplier problems must be addressed if a retailer's brand is not to be compromised.

Recommendations

The fact that it is now easier for retailers to identify who amongst their suppliers is not complying with environmental requirements, or at risk of not doing so, has some clear implications. These implications relate to the activities and duties of

- Retail company senior general and functional (particularly purchasing and marketing) management;
- Retail buyers/merchandisers;
- Retailers' legal advisors (whether external or in-house);
- Retail industry associations and industry associations of suppliers to retailers;
- The companies supplying to retailers, whose own supply chains need checking;
- Environmental NGOs;
- Government;
- Investors.

The detailed implications for each of these will be the subject of later publications by us. However, there are some straightforward actions that should be taken immediately and which senior management, legal advisors, industry associations, NGOs and governments should ensure that they are taken or require to be taken. They are these:

- Every retailer should do a one-time check on all their suppliers, to identify which suppliers are the source of any problems;
- All new suppliers should be vetted;
- Suppliers should be asked to vet their own suppliers, and so on up the supply chain;
- Renewed checks should be carried out regularly, at a minimum once a year, and the results reported in the ESG sections of annual reports and covered in analyst meetings;
- Suppliers that appeared problematic should be subject to more frequent re-vetting until problems are dealt with;
- Results should be published (this will become a legal requirement in some countries);
- The suppliers of any acquisitions or important business partners should also be vetted as above;
- Investors (whether in retailers or their suppliers) that aim to invest ethically should require evaluation of their supply chains.

About the researchers

Dr Kaouther Kooli and Professor Merlin Stone are researchers whose focus includes the use of advanced digital technologies in business. Their research on supply chain is taking place at the moment and further reports will be issued. Their research is facilitated by provision of access to Permutable's technology and data. For more information on their research, please e-mail Merlin on merlin.stone@stmarys.ac.uk or Kaouther on kkooli@bournemouth.ac.uk.