



Dr Tony Curtis

ICATS Founder and Principal Tutor

In the media the summer has often been called 'The silly season!' with slow news days resulting in stories such as 'Man bites dog!'. This is not so this summer! Here is a selection of headlines from journals on my desk today:

THE WEEK: *Halfway to boiling point:* this is a review article on impact of dangerously high record temperatures in India & Pakistan. Even in the UK a high temperature health warning was given this June. *The looming crisis: Will Russia's war unleash famine?*

New Scientist: *Can Fashion ever be green: The environmental cost of your clothing – and what you can do about it*

E&T [Monthly magazine of The Institution of Engineering & Technology]: July special edition *War on Waste* and June edition *Rethink Plastics* feature article.

What are the linking threads? The turn of the century witnessed a frenzy of globalising supply chains. A well-oiled Swiss watch precision system of giant container ships, bulk carriers and automated distribution warehouses provided ever cheaper products in abundant supply. 'Use, enjoy and chuck away!' was the mantra. Dr Ali's Green's excellent event reports reflect the Aroma Trade concerns with aspects of sustainability and supply chain management. In these turbulent times people in our industry are wrestling with supply chain challenges which are providing very real threats to the industry as we know it. There is little time for reading around. One of the aims of the ICATS Newsletter is to distil work and ideas in other industries that may be useful and to import into our Aroma Trades context. In this spirit I start with the 4th June New Scientist cover story on fashion. The heading and strapline set the dispiriting tone:

CAN FASHION REALLY GO GREEN? Our love of cheap and cheerful clothes is hugely damaging to the environment. What does more sustainable fashion look like, and what will it take to buck the trend? The [present] fashion industry has become a threat to the habitability of the planet.

Graham Lawton

We can use a 4Rs framework to assess green and sustainability issues: reduce, reuse, recycle and recover. Reducing environmental impact is a challenge. Cotton is problematic. It has high inputs such as water, agrochemicals and energy. Synthetic fibres such as Lycra® are oil based. I used Tencel™ as a case study in my teaching. It appears to be an ideal solution. It is based on plant cellulose; it uses a solvent in a closed loop system (recycle of solvent) but still the processing costs are so high that it is regarded as a luxury (it has absolutely brilliant fabric qualities) and not a mass product. There are no easy fixes, no low hanging fruit options for a wonder fabric. The New Scientist reports that the average number of times a T-shirt is worn is 30 times and only a tiny proportion of discarded clothes are recycled. Many fabrics contain mixtures of fibre (e.g cotton - polyester) and this can make recovery difficult. The whole complex international supply chain is involved. Not only is improved technology needed but consumers will have to accept higher prices. Not an easy sell when people are facing a disposable income squeeze with high inflation.

However, I am reminded of a New Scientist cartoon. It features two environmentalists taking in front of a large poster. In the first image the poster reads 'Save energy, save the planet!' and the caption is 'This is true but doesn't work!'. The second image shows the same two environmentalists but the poster now reads 'Save energy, save money!' and the caption now reads 'This may work!' Possibly reduced disposable income may make slow fashion trendy! There is a glimmer of hope on the horizon with some internet sites allowing people to trade no longer wanted clothing.

If the New Scientist is on the case, so too is E&T [Monthly magazine of UK Institution of Engineering & Technology]. The July special edition *War on Waste* and June edition have a whole series of powerful articles. The front cover of the July edition sums up the situation:

WAR ON WASTE feature articles: Exclusive: Tech tracks down the fly-tippers; The UK's packaging plan: what is the hold up? Investigation: Your plastics [UK] burned illegally abroad; Can we afford to waste 1.3 billion tonnes of food every year? The fight against fatberg.



Here I will focus on what is a mixed story but overall, it is one of hope and potential good progress to be made. First, let us have the bad news! A world where supply chain disruption is affecting the export of Ukrainian food (wheat and sunflower oil). The forecast is that this might precipitate famine in some regions. This is against a background where 1.3 billion tonnes a year of food is wasted (1/3 of total production). This is shocking in itself. However, to make matters worse the current disposal of this wasted food is estimated to generate 1.8 billion tonnes of greenhouse gas emissions, adding insult to injury or injury on top of injury?

Now here is the good news. The article on food waste is not a message of despair but one of hope. Currently engineers and scientists are working on ways to extract target carbohydrates needed to make probiotics. Reading University is the home of the IFEAT / British Society of Flavourists international flavour course. The article profiles Dr Afroditi Chatzifragkou's work at Reading. He comments that waste like potato peel is no longer considered something that is worth nothing. Possibly there is truth in the old saying 'Where there's muck there's money!'. Recently a couple of BBC World Service programmes focused on breeding and harvesting black soldier fly larvae (this sounds better than maggots) to produce high quality protein from food waste. An early target is as a replacement for non-sustainable fish meal used in the production of meat and fish farming, some good news!

The June and July editions of E&T feature three articles on packaging. *The Waste Mafia* explores the dark side of waste management: illegal waste dumping. High technology drones are just one of the high technology weapons being deployed in this war. It illustrates a key challenge. Regulation and law are a waste of time unless resources and technology are deployed for their enforcement. *Rethinking Plastics* and *The Problem with Packaging* look at the challenge of reduction and recycling. What I liked about these accounts was the exploration of the multi dimensionality of the problem. Here is one statistic. 25% of UK households classify as high performing recyclers as they only dispose of 1 to 2 items a week incorrectly (is



that good?). Depressingly 20% of households are classified as lower performing recyclers as they dispose of over 10 items a week incorrectly. Richard Hinchcliffe poses the question 'Imagine if all food trays were made of one material or if all [plastic] bottles were clear?' Recycling would be simpler and more efficient. The consensus of current Marketers is that consumers will respond to a range of more attractive offerings with more sales and more profit. The array of more brightly coloured packaging is more difficult to recycle than boring clear plastic which can be more effectively and efficiently processed.



Corporate social responsibility (companies doing the right thing, more than simply compliance) is only part of the picture. Law and its enforcement are important but again only part of the picture. In Social Marketing, Marketers identify that there are some special challenges in this aspect of marketing including:

- **Negative issues:** use less, buy less, waste less, keep longer (e.g fashion products). This is against a barrage of buy this season's model etc. messages.
- **Lack of a link between action and benefit:** Global warming may cause sea levels to rise. I live on top of a hill so why should I care? The benefit goes to others, not to me! I am 70 and sea levels will not be a problem until 50 years from now. Why should I care now?!

The idea in Social Marketing is that we have to take people through stages:

Lack of knowledge to knowledge, to action change to value change.

This process has largely been achieved in drink-driving. In most countries there are strict laws regarding driving while intoxicated. This has the overwhelming support of people; value change has been achieved. With issues such as sustainability, global warming and green issues, in general, we still have some way to go. From the figure given above some 20% of people can't even be bothered to correctly separate their recycle waste. We are short of even achieving action change and we need to get to value change!

My concern is that politicians often play to the audience (electorate) with questions along the lines of 'What is industry going to do to clean-up its act.' That is fine but industry is part of society and it is a society problem. There must be an environment where consumers and users accept that yes 'Industry must do its bit' but we must all take individual responsibility for the future of the planet. It is one world and we are all in it. Global warming, atmospheric pollution, microplastics in the sea etc. are no respecters of national borders.

Here is another seismic philosophy change. A recent BBC broadcast reported that young people did not trust politicians but did trust their influencers on TikTok. All you need to know from an unqualified person on a screen a few centimetres in size! Well CEOs and Business Strategists are not looking up TikTok but digging deep into the bowels of the university book repositories. Not for TikTok influencers but for academic writings by Accountants and Economists, possibly long retired, for what? Well, inflation accounting theory. This was last required some ½ a century ago! High inflation has nasty problems with working capital up and down the supply chain and company inventory. Costing is easy (well not so complicated!) when \$ prices are stable (they are not at the moment for energy and many commodities). Why do I say \$ prices? Well different regions have significantly varying inflation rates. The areas may have significant economic health projections. These factors result in volatile exchange rates for local currencies against the US\$ further complicating issues. International business is getting increasingly messy and risky. Financial hedging strategies work for the relatively short term and can be a costly insurance policy. Medium and long-term options are not available. Production & operations planners wish that was the only set of problems! Day-to-day operations have additional dimensions. Here are two long established business mantras:

Consumer marketing: When is a refrigerator not a refrigerator.? Answer: when it is in Chicago and the customer needs it in Miami!

Operations planning and Marketing: You can't have a 99% car! Those little microchips only weigh a few grams, take delivery of your 1.5 tonne car and we will send you the bits to allow you to drive it next year. Customers are not impressed! You can just substitute any product in this quotation. Hit a 90% sales target in sales & marketing and that is not a disaster. A 99% complete product is!

For the last ½ century the business drive has been to globalise more and more. The New Scientist review above describes a relatively simple product group: fashion clothing. Yet even here, component manufacture (fibre,



dyes etc.) and operations (design, assembly etc.) take place in various locations scattered around the world. This is, as we said at the start of the article, like a global Swiss watch. A well-oiled logistics chain stitches (sorry for the pun!) the global chains together. This week the BBC reported that Ever Ace (the largest container ship in the world) unloaded 3,267 containers at Felixstowe (largest container port in the UK) which was just a proportion of its potential total load of 23,992 containers. Just remember one standard container equals one rather large lorry! This is just great and works like magic, provided there are no port docking problems (COVID19 restrictions?) and the ship does not get stuck in the Suez Canal (or held up by other problems such as hurricanes etc.). Remember the quotation above about a refrigerator. Well, when is a container not a container? Answer: when it is needed in China to be packed for goods for Europe but is empty, stranded by disruption in Europe! Here are some other supply chain issues:

- Ever-changing complexity of international and national regulations and resulting documentation requirements.
- War risks: The Ukraine situation (affecting both production and distribution of food) is not the only one that is difficult. Remember this is not only a physical danger but a regulatory risk with the impact of sanctions having unexpected reach and impacts.
- Criminality: piracy at sea is still a significant risk. We have mentioned above illegal fly tipping and illegal burning of plastic waste.
- Weather and climate change: the Californian drought which started in December 2011 lasted 376 weeks. Remember droughts may not only be a problem for agriculture but for energy with hydro electricity production adversely affected. Oddly in some countries nuclear power is also affected. Low river levels affect the cooling systems and force operation at reduced power. Low river levels can also disrupt shipping and barge traffic. We could go, on and on: forest fires, freak snow storms, earlier and more intense heat waves etc., etc., etc. At the start of July, Japan had joined the list of countries experiencing unusual heatwaves.

The global Swiss watch supply chain is broken. There is too much grit clogging the mechanisms. The new imperative is supply chain security with new (and unexpected) sources of global supply chain disruption.

Here is my final thought for the day. In my university library there is a whole aisle devoted to Marketing and related books. There is only about one shelf devoted to buying and procurement. There are a multitude of Marketing and related degrees. Very few are in procurement. Yet in business – to – business marketing for every sale, there is a purchase (with professionals involved in the strategy and process). One of the major effects of the recent collection of crisis events is that supply chain management has moved sharply up the corporate strategy imperative table. Supply chain management is not only about sustainability and corporate social responsibility but also simple short time survival: how do we get next month's sales plan manufactured and out the door to the customer. The IFEAT / ICATS Diploma programme has a continuing professional development focus. This aims to skill people for these new challenges and complexities. Tougher and turbulent trading conditions require professionals with deeper and broader range of competencies. The family of IFEAT education programmes aims to provide this to its member companies.

In my undergraduate lecture series on International Corporate Strategy, I started with a simple PowerPoint slide:

There are three types of companies:

Those who make things happen [make sense of the environment and take action]

Those who watch things happen [watch things but do not make sense of the changes and / or take action]

Those who wonder what happened! [suddenly find their business had failed and go bankrupt]

To be in the first group the company needs high capability, well trained and educated staff. This is not a luxury but a corporate survival imperative. Do keep reading around, events taking place 10,000 miles away this week may have a major impact on your operations next week.