

Version 1
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LINEAR RISKS MATRIX

Your mini-guide to the
business hazards and
headwinds created by our
'take, make, waste'
economy



Rethink

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Introduction

We know people struggle to find time to think about external issues, and let's face it, lots of the news on geopolitics, climate, plastics and damage to nature can be depressing. So it is easy to feel disconnected from big-picture trends and issues, and hope they won't affect your business.

In a previous job, I looked after risk management for major projects. I'm cautious by nature, so I relished looking at the future, from inside and outside the organisation, and working out what might disrupt our plans. Thinking about risks, and deciding if, and how badly they might affect your business, can help you decide what to change, or what to keep an eye on.

We've created a Linear Risks Guide for our coaching clients, and thought it would be useful to make the highlights available to everyone. We expand on these in the full-length guide that we include in the resources for our Kickstart and Kickstart+ coaching programmes, which takes **you through a range of risks to consider, for your business.**

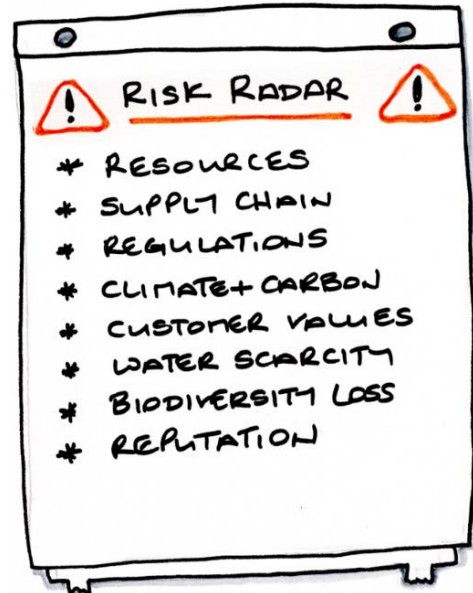
We've focused on the risks related to our modern, 'linear economy', in which we take materials, make a product, use it and then discard it. We look at risks related to the markets you operate in, your business model and competitor pressures, your production and supply chain operations, and regulatory and legal factors.

Modern business is a part of a 'throughput' economy.

We take some materials, make a product, use it and then discard it – a linear system, using up resources and creating waste and pollution at every stage. Many business models rely on growing revenue to stay profitable – sell more!

However, from a business perspective, there are **many downsides to this 'sell more' approach**, which we tend to ignore. Continued economic growth puts pressure on land, water and resources, and for some resources, demand can outstrip supply, meaning volatile and/or increasing costs.

There are risks from climate disruption, disease, geopolitics and trade wars. All of these can affect access to materials, and we are starting more geopolitics and trade wars, again creating risks for the cost and availability of key resources.



On top of this, **mind-sets are changing** – people expect businesses to be ethical and sustainable, and not to ‘greenwash’. Using unsafe materials, deforestation and putting unrecyclable products into the market can severely damage brand reputations. People are switching from ownership to ‘experiences’ and sharing, and **green taxes are on the horizon**.

If some of these risks feel relevant to your business, what should you do? **We believe circular economy approaches are the best way to keep your business fit for the future**: making sure it’s resilient and can absorb or ideally avoid external shocks. It helps you control costs, create new offers and revenue streams and develop new markets. Circular approaches build better relationships with your customers and engage your employees and suppliers. To find out more, about the circular economy and how it can help you build a, resilient, profitable and sustainable business, go to [‘What is the Circular Economy’](#) in the Resources section of our website, or listen to [Episode 1](#) of the Circular Economy Podcast.

Even if your company doesn’t make products, equipment or infrastructure, you can still benefit from using circular economy approaches. **Circular procurement policies** can add value and build resilience, and a circular mindset can help you spot issues with other areas of your strategy.

Linear risks overview

Successful businesses review the likely impact of relevant external drivers. Are new technologies threatening to disrupt your sector? Might there be threats from start-ups focused on your sector (for example, Airbnb for hotels, Uber for taxis) or from an established company moving into your space (eg Amazon moving into food and grocery deliveries)?

Using a risk framework helps you get clear on internal and external factors, reviewing business strategy and operations whilst looking externally at major trends and disruptions.

We’ve not included risks that we think apply to both linear and circular businesses, such as trade agreements, geopolitics, cyber-security threats, pandemics and so on.

PEST analysis (political, economic, social and technological) can highlight the risks and opportunities that already exist, or changes likely to happen. **PESTLE** brings in environmental and legal factors too. We can review these factors to spotlight potential business risks and to highlight opportunities. They may undermine or destroy existing markets, whilst simultaneously creating new ones.

PESTLE factors

Political factors include governmental interventions at regional, national and local levels, such as trade agreements, fiscal and economic policies, for example taxing waste sent to landfill. Geopolitical factors may include protection of strategic resources or subsidising key industries.

Economic factors, including inflation, economic growth or recession, and interest rates, affect how businesses operate and make decisions. For example, the ease and cost of borrowing can limit investment in research, new facilities and equipment and so on. Exchange rates affect the costs of exported and imported products and resources.

Social and demographic factors include population growth and demographic changes such as the age of consumers, availability of labour, health factors and employment status. There are 'soft' factors influencing people's lifestyles and decisions too, such as religion, culture and tradition, living standards and income levels.

Technological factors include developments in automation, digital, 3D printing, the Internet of Things, 'big data' and more. The rate of technological change is increasing, making it more difficult to keep up to date with technology that improves productivity, customer interactions and experience, supply chain management etc. Technology impacts cost, quality, and improvements in product and process performance.

Legal factors include regulations and laws on discrimination, consumer rights, antitrust and competition, employment and health and safety. Other regulations may cover international and national standards, local government by-laws, and voluntary sector or other corporate standards.

Environmental factors, such as weather, climate and biodiversity loss, affect many sectors and particularly those industries relying on agriculture. Increasing awareness of climate change influences business strategies and product offers, how governments are legislating and setting tax policy, and how citizens are living, working and travelling.



We must avoid treating risks in isolation (creating 'risk silos') and instead, should use a whole-systems perspective. For example, many environmental factors overlap with other risk categories – climate and weather changes may affect communities, causing migration and civil unrest, which in turn creates geopolitical pressures and economic risks.

Risks along the value chain

The **Linear Risks Matrix** (below) looks at all of these PESTLE factors for each stage in the value chain – from the materials you select, how you design the product, your overall business strategy, to your production methods and supply chain. And last – but definitely not least – the risks related to the use and end-of-use of your product.

- How secure are your sources of key raw **materials**? Is demand growing? Might you be competing for access with lots of other companies, or could your supplies and their costs be at risk from geopolitical pressure and speculation?
- Does your **product design** make it easy for your product to be maintained and repaired? Does its performance and durability meet customer expectations? If it fails soon after the warranty has expired, customers might not complain to you – but they might complain loudly to their friends and vow not to buy from your company in the future.
- If your **business strategy** relies on selling more products, to more people, is that a sustainable strategy? How much more are you spending on marketing, to find these new customers and convince them to buy your product? Marketing surveys, including one from Bain and Company, tell us that it costs 6 to 7 times more to acquire a new customer than to keep your existing customer. What if your competitors offered pay-per-use, or repairs and upgrades? Would that undermine your business? What 'circularity gap' might you be leaving open, for another business to exploit? Read more in our blog: [Who is exploiting the circularity gap in your business?](#)
- Have you already implemented zero waste policies at your factories, and at your suppliers? If not, what resources are you wasting - and even worse, what local land, water and living systems might you be destroying? Could you be recovering heat, steam, even carbon dioxide from production? What could you reuse in your own processes? What by-products and co-products might you develop instead?

- For your **supply chain**, can you identify all the suppliers you rely on? Or might some be out of view, used as sub-contractors by other suppliers? Do you know where all your materials come from, and whether they are from properly sustainable sources? Are those sources at risk of disruption, perhaps from climate-related events, or even geo-politics? What about supply chain ethics? Do you know who is making your stuff, and whether they work in safe, secure and fairly-rewarded jobs? Read more in our blog: [Worried about supply-chain disruption? Why circular economy approaches are more resilient.](#)
- What risks might exist whilst your product is in use, and once it is finished with? Can you be sure that the product and all its materials are safe, for both humans and nature? In the past, scientists said asbestos and tobacco were safe – and new research regularly uncovers problems with chemicals, plastics and other man-made materials. Where is your product ending up after it's used? Branded packaging popping up as 'frequent finds' on beach cleans and litter picks is damaging the reputations of big consumer brands .

If you'd like help with examining risks and exploring circular opportunities, we can support you. We offer coaching services, plus talks, workshops and webinars to help your team understand the circular economy and get clear on linear risks. **We can support you at any stage** – getting to grips with what circular means, clarifying linear risks and other issues with 'business as usual', generating ideas to start your circular journey, making the business case, engaging your team and making it happen. [Get in touch](#) to find out more...



About us

We use circular, sustainable approaches to help you make a better world - for people, planet, AND your business.

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Linear Risks Matrix

		VALUE CHAIN ELEMENTS					
		<i>Materials</i> <i>Rely on virgin resources</i>	<i>Design</i> <i>Design for disposal</i>	<i>Strategy</i> <i>'Sell more' business model</i>	<i>Production</i> <i>Cost-down processes</i>	<i>Supply Chain</i> <i>Complex and long-distance</i>	<i>Use & end-of-use</i> <i>Waste & pollution impacts</i>
RISK FACTOR	Political & Economic	Demand exceeds supply for key resources Aluminium & lithium demand likely to rise >1000% by 2050		Investors switch to sustainable projects BlackRock CEO says sustainability is 'top issue'		Geopolitical issues; trade tariffs China may restrict export of rare earth minerals	Bans on international movement of waste 187 countries agree to restrict global plastic waste trade
		Resource costs impacted by tariffs & export limits 25% US steel tariff (March 2018) impacts automotive sector		Customers shifting away from ownership to services B2B trend towards Equipment-as-a-service		Value leakage' from failure to recover, repair etc Competitors exploit 'circularity gap'	Difficult to recycle/reuse products damages reputation >80,000 people ask Coca Cola to reduce plastic waste
	Social & demographic	Unsustainable resource use puts off customers & employees Big food brands criticised for failing on palm oil pledges	Planned obsolescence turns off customers & employees Customers sue Apple for slowing down old iPhones	Trend towards experience & sharing economy Cars, bikes, sports equipment most likely to be shared/rented	Cost-down approaches undermine safe processes Mining dam collapses result in deaths & fines	Best suppliers prefer to work with circular businesses Procurement policies prioritise circular suppliers	Not recovering own products creates competitors opportunities Other companies can resell, repair, or remake your products
		Consumers preferring sustainable products Growth of CPG* products marketed as sustainable is 5.6 times faster than other products.	Customers avoid items that are difficult to repair/resell 77% of EU citizens would rather fix their goods than buy new ones.	Difficulty in attracting & engaging employees Younger people prioritise jobs at sustainable firms			Customers avoid items that are difficult to reuse/recycle 46% of consumers boycott brands due to unsustainable products or practices
	Technological	Use of toxic/unsafe materials impacts worker's safety Increased research & awareness of toxins in products & materials	Failure to 'virtualise' offer Why Blockbuster went bust as Netflix scaled up	Overproduction for economies of scale leads to overstocks Large balance-sheet write-off and lost profit opportunity	Use of toxic and unsafe process inputs - worker safety World Health Organization: 10 chemicals of major public concern	Vulnerability to shocks eg extreme weather events Adverse weather moved from #8 to #5 in 2017 BCI Top 10 Threats index.	Mixed materials are difficult and costly to recycle Flexible and mixed-material packaging is not easily recycled
				Sales forecasting for trend-driven market is difficult Disposal costs for overstocks, obsolescence, etc	Improved technology reduces cost of closed-loop systems Chemical Leasing helps manufacturers reduce costs	Large-scale production lacks agility 'Big Food' only cost-effective if selling massive volumes.	Design for disposal inhibits disassembly & recycling Organizations fight back against planned obsolescence
Legal & Environmental	Tax on virgin resources (or incentive on recycled resources) Construction raw materials tax in Denmark & Sweden	EPR* regulations may add cost to short lifecycle products Packaging costs increase due to EPR* fees	Tax incentives for repairs or reselling Sweden reduces VAT & income tax for household repairs	Restrictions on discharge of waste & effluents Permits or bans introduced in developing countries	Carbon & clean fuel taxes drive up transport costs Clean fuel rules impact shipping costs	Green taxes eg on landfill and waste disposal New regulations eg China eg USA proposals	
	Regulations limit extraction, water use, land use change etc Example: UK proposal to curb overseas deforestation	Right to repair legislation - impacts product design As of 2021 all TVs, monitors, fridges, freezers, washing machines, washer-dryers, dishwashers and lighting products placed on the EU market will have	Right to repair legislation - needs service & spares	Right to repair legislation - higher costs eg no glues	Right to repair legislation -provision of spare parts etc	EPR regulations require producers to pay for end-of-life EPR policy moves gain momentum in 2019	
					Lack of transparency increases risk of failure/ESG issues Michelin called out for deforestation issues	Risk of claims from end-of-use pollution/illegal disposal Biffa fined £350k for shipping UK household waste to China	

Value chain stages adapted from Catherine Weetman's Circular Economy Framework 2.0 Risk factors - PESTLE (Political, Economic, Social and demographic, Technological, Legal, Environmental & regulatory).

* CPG - Consumer Packaged Goods * EPR - Extended Producer Responsibility: mandatory product stewardship requiring manufacturer's responsibility for ipost-consumer management of that product and its packaging.