



RISK INNOVATION  
NEXUS

# SOCIAL & ETHICAL FACTORS

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The risk domain of social and ethical factors covers risks that are associated with how people think, feel, and act, and what they believe to be important, appropriate, and right. These risks are tied to personal and societal values and norms, and what is considered to be ethical behavior. They are also associated with how people see the world (their worldview), and their values and beliefs. And they are deeply affected by how people behave, including how perceptions, cognitive biases, and mental shortcuts (heuristics) affect the decisions they make and the actions they take.

This risk domain has six dimensions that lead to potential risks that are easy to overlook, but that can have profound consequences to sustainable growth if not identified and addressed early on:



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## Perception:

How people perceive a technology or product to threaten what they think is important--irrespective of whether their perceptions are based on evidence or logic--can have a profound impact on what they think and how they behave.



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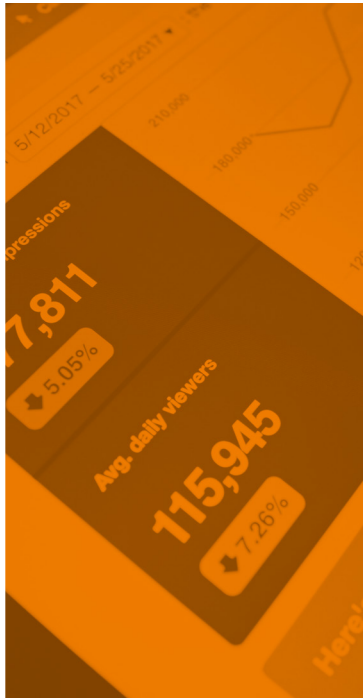
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## Social Trends:

Overlooking, misreading, or ignoring social trends--whether these are shifts in social norms, changing consumer expectations, or evolving cultural behaviors--can lead to risks that have the potential to blindside businesses.





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## Social Justice & Equity:

Technologies, products, and business practices that marginalize or disadvantage specific sectors within society--especially when these represent vulnerable or already-marginalized groups--can create barriers to businesses by compromising internal values and leading to a loss of trust.



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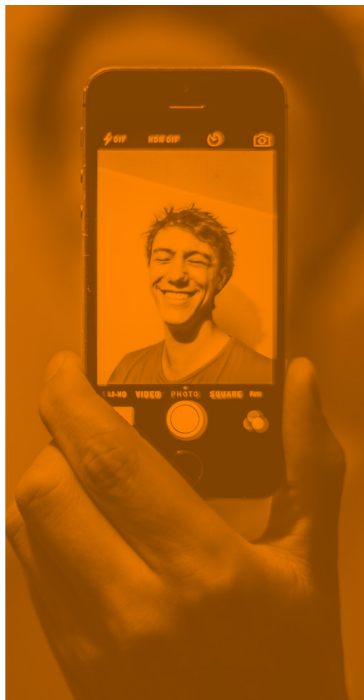
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### Privacy:

As new technologies blur the line between what is truly private, and what is known about or can be inferred about individuals, businesses need to be increasingly aware of the social pitfalls associated with the use and misuse of data; especially as attitudes toward data use can turn on a knife-edge as people become aware of how it affects their lives.





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### **Ethics:**

As new technologies open up novel possibilities, businesses are having to be more aware than ever of the often-indistinct line between ethical and unethical behavior, and how overstepping it potentially undermines their ability to operate effectively.



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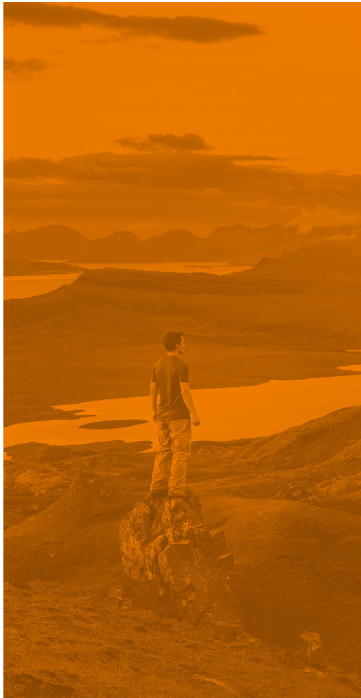
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## Worldview:

How people view the world around them and how it should function--whether based on their religion, their philosophy, their politics, or other deeply-held beliefs--greatly affects how they react to potential new initiatives and products; and social media and globalization are further-amplifying this.





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# UNINTENDED CONSEQUENCES OF EMERGING TECHNOLOGY

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The risk domain of unintended consequences of emerging technologies specifically addresses the often-unanticipated impacts of new technological capabilities. These are risks that often fall within conventional risks domains like health and the environment, but are sufficiently novel that they elude established risk assessment and management approaches.

This risk domain has six dimensions where unintended consequences can lead to orphan risks if they are not considered:

# UNINTENDED CONSEQUENCES OF EMERGING TECHNOLOGIES

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## Health & Environment:

Some new technologies, and the products they are associated with, behave in sufficiently novel ways that they potentially lead to threats to human health and the environment that are either not directly obvious, or are unconventional enough to be easily overlooked.



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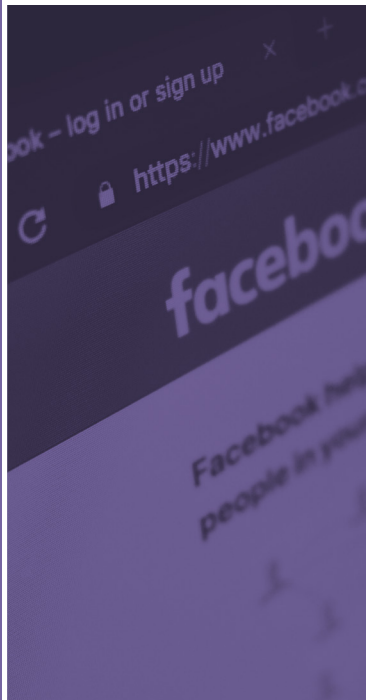
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## Co-opted Tech:

Technologies and products that are used by individuals, corporations, or even governments, in ways that undermine the intention of the original business or business owner, can threaten the values and operations of an enterprise. This is especially the case where products designed to benefit people are co-opted for military purposes, or to otherwise intentionally cause harm.





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## **Intergenerational Impacts:**

Where emerging technologies have the potential to have impacts from one generation to another, special care is needed to ensure possible risks have been identified and addressed. This is particularly the case with germline gene editing in organisms (including humans), or the use of materials that potentially lead to heritable genetic alterations, including epigenetic alterations.



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## Product Lifecycle:

With a growing emphasis on sustainability and the circular economy, it's never been more important to understand the potential unintended impacts of a product, from where the basic materials are sourced from (and how they are sourced), through manufacturing and use, to its eventual disposal and reuse. Product lifecycle incorporates material risks that may adversely impact a business if not strategically addressed; but it is also connected with a number of social risks.



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## Black Swan Events:

Black swan events are very low probability but high impact events that, if not prepared for, can create substantial hurdles for businesses. Some black swan events are unpredictable and/or unmanageable. Others though can be anticipated or prepared for, either by making contingency plans, or by developing resilient business practices.





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## Loss of Agency:

Technologies, products, or business practices that reduce the ability of organizations and individuals to make decisions potentially raise novel risks, as they lead to a lack of accountability and traceability in consequences arising from decision-making. This is particularly relevant to the use of algorithms based on technologies such as machine learning, where there is a lack of understanding around how and why decisions are made.







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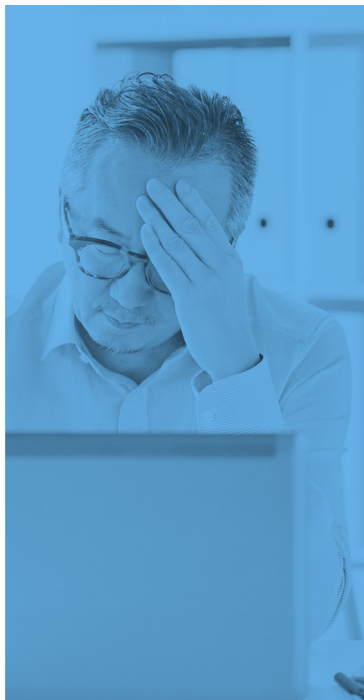
# ORGANIZATIONS & SYSTEMS

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The risk domain of organizations and systems concerns the orphan risks associated with how businesses operate, and the broader social, economic, and political environment they operate within. It addresses often-overlooked risks associated with internal culture, and tensions between foundational values and organizational practices. It also addresses the sometimes-intangible risks associated with maintaining reputation and trust, and navigating a complex and shifting national and global governance and regulatory ecosystem.

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# ORGANIZATIONS & SYSTEMS

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## Bad Actors:

With the fluidity of expectations, standards, and regulations around emerging technologies, some enterprises may behave in ways that are ethically questionable or that lead to unacceptable harm. The damage done by these “bad actors” - whether it’s perceived or actual - has the potential to muddy the waters for other businesses, and undermine the trust of investors, consumers, regulators, and other stakeholders.



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## Organizational Values & Culture:

Most businesses are based on a set of values that reflect what is important to their founders and their members. Internally, the environment created through the interaction between management, team members, and business operations has a profound impact on the success and integrity of a business. Externally, values that are not protected and operationalized can severely compromise a business' ability to operate effectively and responsibly.



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A photograph of a person climbing a steep, icy mountain peak, overlaid with a blue tint. The climber is positioned on the left side of the image, ascending a vertical ice face. The background is a clear blue sky.

# ORGANIZATIONS & SYSTEMS

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## Reputation & Trust:

Most businesses recognize that their reputation and consumer/stakeholder trust are two of their most important assets. As a result, overlooking threats to these, whether they come from behaviors, perceptions, or even attitudes, can severely impede operations. Yet most businesses have only a rudimentary understanding of how their behavior and actions strengthen or weaken reputation and trust, and the importance of establishing practices early on that help avoid risks down the road. In particular, the risks of actions that signal a lack of trustworthiness are often overlooked.



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## Governance & Regulation:

Laws, policies, and practices that govern and guide business operations create a complex landscape that businesses need to be able to map, understand, and successfully navigate.

As this landscape evolves, businesses need to ensure they are not blindsided by unexpected changes in regulations and expectations--especially where they are using technologies and developing products that push the boundaries of current regulations and governance mechanisms.





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## Standards:

Standards create an operational framework for businesses that spans legal requirements at one end, to informal guidelines, norms, and codes at the other. Lack of engagement with this framework, and how it is changing, can reduce access to markets, jeopardize partnerships, erode trust, and undermine investor interest. This is particularly the case with novel technologies and products, where a rapidly evolving framework of standards can leave unengaged businesses out in the cold.



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## Geopolitics:

In today's globalized world, lack of awareness of geopolitics, and a lack of strategies for navigating a shifting geopolitical landscape, can lead to unanticipated barriers to success. These barriers span misreading the implications of global trade laws and agreements to misunderstanding the risks and opportunities associated with social and political norms in a global marketplace.

