

Rethinking the Impact of Disruption on Enterprise Risk Management Tools and Processes



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Introduction

In today's world, it has never been more critical to understand the definition, sources, and economic, social and operational impacts of disruption on an organization. In fact, the ability to detect and recognize sources and impacts of risk and disruption, whether due to technological innovation, shifts in societal values, or unintended consequences of pandemic disease control, may determine the commercial survival of a business or organizational entity.

This paper covers the basics of emerging risks and business disruption, the drivers of disruption, and what role the SRM/ERM practitioner can have in better preparing and managing corporate disruption. We assert that the role, skill set and tools used by the risk practitioner changes depending on whether the company is trying to identify the risk in disruption or respond to it. We also argue that building awareness and knowledge of disruption better equips the SRM/ERM practitioner to support their leadership team. We suggest that by using enhanced techniques and tools to uncover potential impacts to business models and strategy, leadership will be better able to determine the appropriate response options, enabling organizations to anticipate and meet the challenge and opportunity of disruption and disruptive change. We also point out that the usefulness of tools may differ in impact and result depending on whether the practitioner is part of a "disruptor" or "disrupted" organization.

In 2016, the Association of Chartered Accountants and the Institute of Management Accountants commissioned a report written by Dr. Paul Walker of St. John's University titled "Innovation and ERM: Partners in Managing the Waves of Disruption." The report views disruption as a series of "waves" that could adversely affect perceptions of risk and decision-makers' ability to read and recognize threats and opportunities for the organization. The report posits that successful or "smart" companies can use enterprise risk techniques and processes to anticipate and interpret risk, so they can be better prepared for the first wave of potential risk and disruption coming at them. In response, companies can then create their own strategic second wave of disruption. This report builds on that study and emphasizes the importance and sources of

disruption, the difficulty in seeing disruption, the impact of disruption on the business model, and the changing role and toolset of the ERM leader during each wave.

Disruption and Current Disruptive Changes

As this paper was written, the global economy was experiencing unprecedented disruption and economic lockdown from the COVID-19 pandemic. According to the International Monetary Fund, ABS News/McKinsey, Morgan Stanley, and the National Bureau of Statistics of China:

- The global economy is forecasted to contract by levels not seen in 100 years
- The impact and consequences of the pandemic is expected to leave more than 170 countries with lower GDP per capita by the end of FY 2020
- In Europe, 50 million jobs are projected to be affected
- U.S. GDP is expected to decline nearly 40% in Q2 FY2020 versus prior year
- First quarter of negative economic growth in over 50 years is expected in China

These global changes not only create disruption but can also accelerate the negative social and economic impacts of disruption that may have already existed.

Key Drivers of Disruption

A 2018 St. John's University survey showed that most risk executives believe risks are growing.¹ Not only that, disruption is growing as well. Even before COVID-19, there were significant drivers of disruption mostly generated from quantum improvements in technology hardware and software applications, which dramatically lowered the "cost of failure" where a particular application or approach does not achieve a target commercial monetization level. Some of the key drivers of disruption are:

- The cost of computational hardware has dropped precipitously in the past 10 years, making it much more affordable to purchase or lease large blocks of computing capacity and processing and faster, more powerful and robust computer systems.
- Software running on more powerful computing equipment is orders of magnitude

more robust and capable of handling large data sets and conducting complex "big data" statistical analysis.

- The cost of failure has been reduced to negligible, if not immaterial, levels, making it possible to conduct very complex computational experimentation or application development without worrying about the economic costs of the experiment or whether the application is commercially viable.

With the reduction in price of systems hardware and the robust enhancements and connectivity of analytic and machine-learning software, there has been a trend towards developing system "platforms" where a constellation of tools and capabilities are bundled together to allow for a broader user base. For platforms to be successful, they generally need to be open source to allow for user development of minimally viable products or tools that can be used in a specific product/service context. The platform can enable innovation or disruption, depending on the application.

What this means is that disruption can be a planned or strategic business value proposition. In effect, disruption is now increasingly becoming a business model. Echoing the elevated risk and disruption connection, a recent ERM Summit at the Center for Excellence in ERM at St. John's University revealed that 95% of risk executives believe that digital disruption is one of their top risks in the immediate future.²

This has been occurring for a while. For example, Thomas Friedman has identified 2007-2008 as a fundamental pivot timeframe where many of current sources of disruption originated.³ Some of the technological innovations from that period include:

- Apple iPhone is introduced
- Facebook opened its platform
- Twitter opened its platform
- Open-source use accelerates
- Netflix streams its first video
- VM Ware that enables cloud computing goes online
- The internet crosses the one-billion user threshold
- IBM launches Watson, the world's first cognitive computer
- The cost of hardware and software drops

¹ Dr. Paul L. Walker, *The ERM Journey*, Center for Excellence in ERM, St. John's University, 2018

² Dr. Paul L. Walker, *Digital Disruption and Transformation Risks*, Center for Excellence in ERM, St. John's University, 2018

³ Thomas Friedman, *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations*, New York: Farrar, Straus and Giroux, 2016

A Digital Age of Disruption

In addition to the technological changes that are enabling disruption, we seem to have entered an entirely new age—the digital age. Denise Garth, senior vice president of strategic marketing for Majesco, developed a very useful framework for thinking about how disruption as an economic force has transpired over time. In Figure 1, we see that time has been divided into the Industrial Age, roughly 1940–1960, the Information Age, from around 1960–2007/8 and, finally, the Digital Age, emerging from around 2007/8 through today. The chart also describes the market characteristics and the new technologies that were developed and brought to market in these three ages.

Note that Garth identifies the Industrial and Information Ages as evolutionary stages. In effect, the market attributes and technologies that originated from the 1940s on were being “improved upon” and “redeployed” within key market characteristics. It is only in the Digital Age that we see exponential disruption around market characteristics, technologies and innovation. The chart also shows a steady broadening of automation, efficiency and effectiveness through to about 2007/8, after which there is an explosive focus on innovation. When one thinks more carefully about the products, services and operational platforms leading up to this period of exponential innovation, we might postulate

that ERM tools and perspectives may not have kept pace with the changes.

Why might this happen? As noted earlier, there were a number of key technology innovations that drove explosive innovative change. On top of this, the ever-growing list of global risks continues to loom large. According to the World Economic Forum, the top 10 risks to the world in terms of impact are:

- Climate action failure
- Weapons of mass destruction
- Biodiversity loss
- Extreme weather
- Water crisis
- Information infrastructure breakdown
- Natural disasters
- Cyberattacks
- Human-made environmental disasters
- Infectious diseases⁴

Similarly, Aon has identified the top 10 risks for the C-suite:

- Business interruption
- Commodity prices
- Accelerated rates of change in market factors
- Increasing competition
- Cyberattacks/data breaches
- Economic slowdown/slow recovery

- Damage to reputation/brand
- Cash flow/liquidity
- Regulatory/legislative changes
- Failure to innovate/meet customer needs⁵

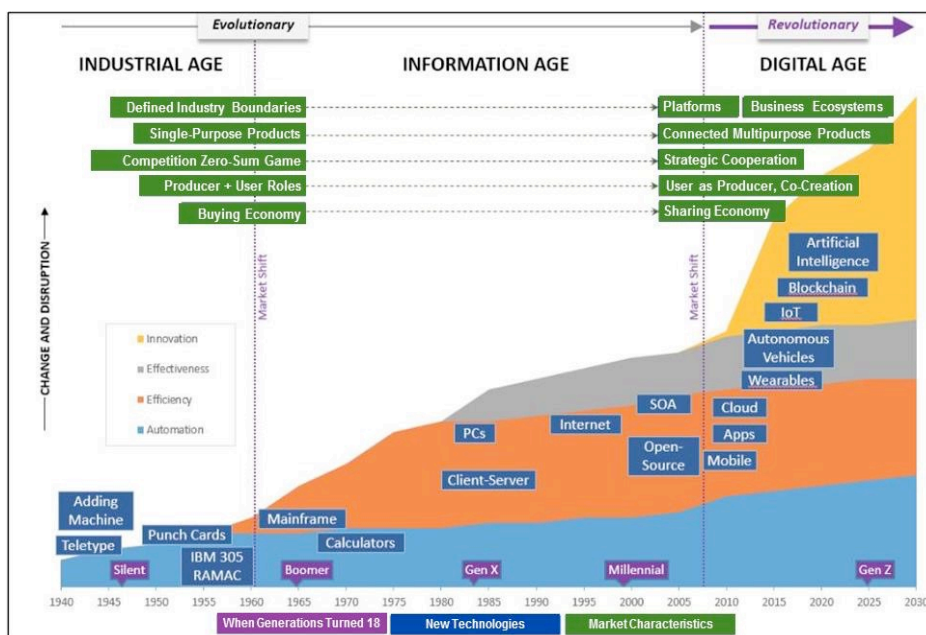
As Walker notes, there is a wave of change and disruption coming for companies, but companies can also create their own wave in response. Given the tremendous amount of disruption, change, and ever-increasing new risks, it only makes sense for ERM leaders to rethink their role and skill set. Talent and skill set agility may become the new norm. (Note also that nowhere among the C-suite risks is the possible impacts of non-property damage business interruption such as what we are now experiencing with the COVID-19 pandemic.)

ERM in the First Wave

The “first wave” refers to the risk and disruption coming at companies. Risk leaders must identify the disruptive risks facing the organization and make a timely decision about what to do about them. Both the COSO and the ISO frameworks suggest that the enterprise risk management leader should be involved in these considerations. For example, the ISO framework has a principle called “dynamic.” That principle addresses risk that can emerge, change or disappear as the external and internal context changes. Similarly, COSO has a principle called “substantial change.” That principle states that the organization needs to identify and assess change that could substantially affect strategy. COSO adds that change can come from the external or internal environment. Many risk leaders believe that these two principles strongly suggest that an ERM framework should include an emerging risk process. In today’s volatile and disruptive environment, it seems imperative that that emerging risk process should also address and include disruption.

A white paper by St. John’s University’s Center for Excellence in ERM describes an approach called the “noise to signal to business model process.”⁶ The risk leader must search extensively to understand the potential noise in the market. This search can include risks listed by other firms and global risk lists (such as the lists mentioned earlier). However, in today’s disruptive world, just searching for a list of risks that may impact the company is not enough. Risk leaders need to also search trends and disruptions that might impact their business.

Figure 1. Ages of Disruption



⁴World Economic Forum, *The Global Risks Report 2021*

⁵Aon Global Risk Survey, 2019 - 2020

⁶Dr. Paul L. Walker, *Noise to Signal to Business Models*, Center for Excellence in ERM, St. John’s University, 2017

Some have used a STEEP process that includes looking at trends in the social, technological, environmental, economical and political areas. Others look at publications about megatrends. Some companies use artificial intelligence or machine learning and search news and social media for trends that might impact their business. Given all the disruptions noted above, the search must also include innovations, potential disruptions, and ultimately, the impact on the business model. These searches can produce a large list of noise that must be filtered down to what is a signal, and eventually to what will impact the business model of the organization. Scenario analysis can be applied to some of these risks and disruptions to help leaders better understand how their world and business model might need to change.

This is a difficult task because some of this disruption occurs when a new platform is started, a new innovation is created or is escalating, or a new competitor appears out of nowhere. Other sources of potential risk and disruption include the level of venture capital funding in your area, the number of unicorns that could impact your organization, the number of new patents, current financial performance of your organization and other incumbents, and the number of new entrants or startups.

Clayton Christensen's innovation research also points out that identifying disruption can be difficult because sometimes the disruptive innovation comes after a customer that you are not paying much attention to because you make less profit on that customer. Disruptive entities start with these customers and later move up to capture your more profitable customers. His research notes that it is important to understand the entrant's disruptive trajectory, how fast they are moving to capture your market, and what innovations and technology are accelerating that trajectory. After all, disruptive risks are the ones that can put you out of business.

Other strategists highlight that sometimes disruption creates new customers and new product or service dimensions that are more sought after than the ones you currently offer. Simply identifying emerging risks is not enough. Not seeing and monitoring these disruptive risks can be an organizational death wish. Companies that go big on a new strategic plan at the exact time when a disruptive innovation is pointing in a different direction

are making a fatal mistake. As Peter Drucker has pointed out, companies should regularly challenge their theory of the business. This means they should question the assumptions in the environment and context, the assumptions about their mission and vision, and their assumptions about the core competencies needed to be successful.⁷ They should also develop an early diagnosis of warning signs.

Leveraging New ERM Tools

As noted previously, risk leaders will need to search for emerging and disruptive risk, but they will also need to make sure that they understand how these risks and disruptions impact the business model. The key here is to substitute the impact on the business model for the existence of a business control. What we now see in a typical ERM/SRM application is a focus on identifying observable operational risks in the entity and establishing whether appropriate controls are in place to mitigate or transfer the economic impact of the risk. While controls are useful, the focus should be on understanding disruption at the business model level. If there are numerous risks pointing to potential disruption of the business model, or even one big one, then the business model itself is at risk and that is a survival issue. All organizational leaders want to know if their organization is at risk.

There are a variety of ways to link these risks to the business model. Some companies document their value chain and examine the risk at various parts of the value chain. Other companies document the business model and value proposition and think through the risk associated with each component of the business model. Other companies continuously reestablish the value proposition, ensuring that customers understand that proposition and that it is still relevant in the market. Other companies conduct black swan or value-killer workshops that focus on strategy and the business model and any key assumptions that are built into that business model. Some risk leaders conduct opportunity workshops to identify the strategic opportunity presented by the risk and disruption.

As the velocity and consequence of disruption increases, risk leaders will need to upskill themselves on disruption awareness, strategy, business models and value propositions. Risk leaders will also need to change their risk awareness questions after they reimagine

or recalibrate the business model of the organization under conditions of disruption. Key risk indicators linked to the business model impact can be quite valuable here. While it is true that other next-generation tools need to be developed to help companies and risk leaders interpret and understand disruptive risks, some potential tools for risk leaders in addressing first wave disruption risks include:

- Emerging risk search and analysis
- Disruptive risk search and analysis
- Value chain, business model and value proposition analysis and calibration
- Matching of strategy to expected competitive and economic environment
- Value-killer workshops
- Black swan workshops
- Strategic bow-tie analysis
- Mind maps
- Strategy canvas
- Implication wheels
- Risk deep dives
- Pre-mortems
- Scenario analysis
- Game theory workshops
- Opportunity workshops

The Role of ERM in the Second Wave

As noted previously, the "second wave" encompasses when an organization chooses to respond strategically and innovate by creating its own wave of disruption. The role of the risk leader changes in this wave. For example, while Ford or GM might be conducting black swan workshops, Tesla likely is not. Thus, the skills and toolset might also need to change. Below is a suggested list of potential tools for this area (adapted from Walker, 2016):

- Building a culture of disruptive innovation
- Being more involved in new strategic directions
- Applying Drucker's theory of business, challenging long-held assumptions
- Providing an enterprise view of new strategic initiatives
- Becoming an agile organization or developing agile practices

⁷ Peter Drucker, *The Theory of the Business*, Harvard Business Review, 1994

- Embedding ERM into the organizational DNA beyond the creation of risk registers and more towards viewing disruptive risks from the perspective of the “disruptor” or the “disrupted”
- Incorporating disruptive risk into the innovation processes
- De-risking projects through process management, risk transfer or avoidance
- Viewing a portfolio of risks to understand the total innovation risk and deriving a disruptive risk appetite that concentrates on managing targeted risk volatility,
- Identifying the key risks in an innovation or idea
- Helping the organization understand their ability to manage any risk in strategic projects
- Conducting risk post-mortems for projects or conditions that succeed and, more importantly, when they fail (even marginally)
- Risk-adjusting analysis
- Develop opposing teams to both prove the worth of a new idea and to flush out the weaknesses
- Considering fully autonomous, independent teams that attempt to cannibalize the business
- Putting innovation on the risk map
- Building innovation governance system
- Continuously innovating the business model to incorporate situations where the entity is the disruptor and knows when it is being disrupted

Risk practitioners can lead these workshops or simply encourage them. Outputs from these workshops can also be brought to executive and cross-section risk teams to help develop a broader and integrated risk view.

Organizations have known for a long time that they need to have adaptive strategies and promote innovation. But with all the disruption and risk occurring today it is also clear that companies must get better at incorporating risk into innovation and strategy. One way to get better is by building a culture of innovation. Many companies believe that a culture of innovation—one that allows risk taking, time for idea generation, and time for creativity—is a key to future success. There is also a belief today that becoming an agile organization and adopting agile practices are another key ingredient for success when things are moving so quickly and disruption is so rampant. Both of these approaches work best when risk is embedded into the organizational DNA. When risk is not embedded, it is more likely that risk is ignored in new innovation and in agile approaches.

Other tools in this area include incorporating risk into the innovation process or de-risking projects. Incorporating risk into the innovation process can help organizations to see the risk and manage it sooner, thereby increasing the likely success of the project or idea. De-risking projects is a way of uncovering the assumptions and risks and then testing or removing risk until the level of risk is acceptable. Unless companies have an infinite amount of resources, they also need to understand how the innovation projects fit into an overall innovation risk portfolio. An additional technique involves examining any project that did not succeed and understanding what the risk assumptions were so that new projects can be recalibrated to better manage that risk.

Another potential countervailing consideration is the extent that a “disruptor” entity, seeking to displace or replace the current status quo of economic or commercial enterprises, uses risk management techniques. Could the use of legacy risk management tools and platform serve as a signal to a disruptor organization

to target the legacy company? Could the risk maturity model that evaluates the level of risk capability and structure exercised within a corporation by prudent risk practitioners actually be the beacon that attracts disruption? As pointed out earlier, if the cost of disruptive failure is effectively economic zero, should we expect to see a new breed of risk practitioner evolve to use ERM tools as a change accelerator? We are already experiencing this phenomenon on a global basis as predictive data analytics, behavioral recognition and biomedical genetic research changes the way we passively or consciously consume a variety of products and services. Will it better to be the disruptor or the disrupted entity?

Conclusion

Organizations face an ever-increasing set of risks in an uncertain world. Risk leaders play a key role in helping companies see not just emerging risks but also disruptive risks. Disruptive risks have a major impact and can threaten the entire organization. To identify these risks, companies will need to change where and how they look for emerging and disruptive risks. They will also need to change their toolset to increase their ability to link these disruptive risks to the business model. Once the company is responding and creating its own future and wave of disruption, the risk leader can be a valuable partner in helping it identify and manage the risks associated with the plans, goals and initiatives, thereby improving resource allocation and increasing the chances of success.