

New technology emerges at an ever-increasing speed. More and more people talk about disruption rather than evolution or development. No doubt – to many – the concept of new technologies seems scary and daunting.

In this piece, I address two questions related to new technology:

- Can risk management help harnessing new technology
- Can risk management leverage new technology

Fortunately, the short and sweet answer to both is a resounding YES.

First ... what is new technology

The concept of new technology depends on your current use of technology. If you are in a computer company, I doubt you will see higher speed, more data or real-time analytics as very new. Yes – there is a development, but largely it is more of the same, faster. If, on the other hand, you are a consumer products manufacturer, I gather you will see predictive analytics, big data and social media as new, and to be addressed.

When Apple first created the iPod – it was just another application of known computer hardware – yet it changed the music industry for good, and it took the industry the best part of decade to get “back on its feet”. To the music industry, the concept of streaming (i.e. simple file download) was disruptive.

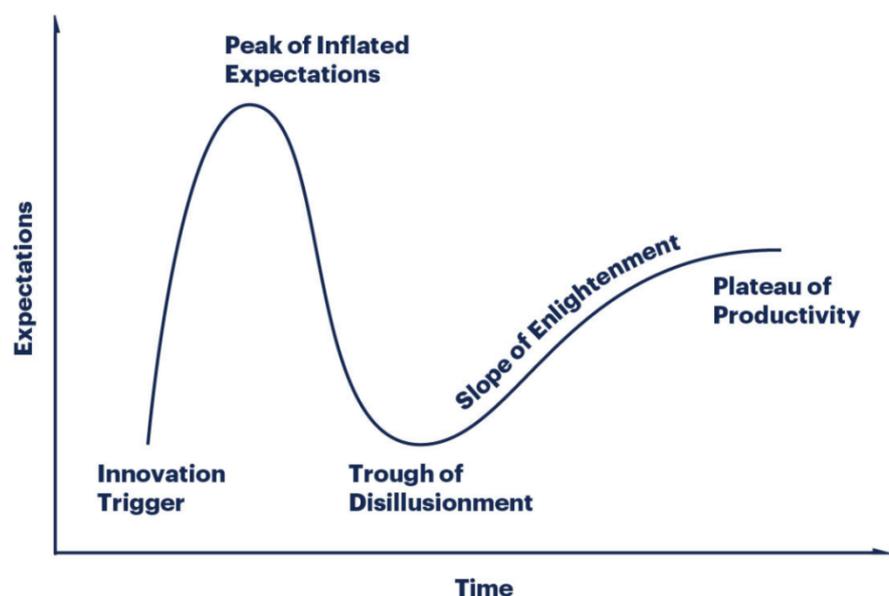
When Uber started it was just a different application of a social media network approach – yet it changed the taxi industry all over the world, to the extent it has been made illegal in some countries. Airbnb – same thing.

Hence, new technology is both technology which has not previously been available AND current technologies adapted to new applications in industries not usually leveraging this.

New technology often sees an implementation development like this curve, known as the Gartner Hype defined by the Gartner Group¹.

The latest development of blockchain money like Bitcoin is almost a textbook example of this.

There is no doubt that in future years, blockchain technology will change document handling, which will include financial transactions.



¹ <https://www.gartner.com/en/research/methodologies/gartner-hype-cycle>

Can risk management help harnessing new technology?

As indicated above, the answer is yes it can. Risk management is the profession working with uncertainties – both the known and the unknown, yet foreseeable. Properly done, I do not believe in the emergence of black swans ... they could have been identified, assessed and treated had the risk management process been sufficient. I believe the history of proclaimed black swans proves this.

However, we get to the notorious “how” question which takes ideas to action.

The traditional way is having someone bringing the emergence of a risk based on a new technology to the attention of the risk manager, and then address this new strategic/enterprise risk using the approach for all these risks. In many cases, this will be too little, too late – and based on risk aversity rather than intelligent risk taking.

To be more proactive, my suggestion is a process that looks like the below:

1. You team up with the specialists from around the company to one or more brainstorming sessions looking at potential new technologies.
2. You ask each of these to list, what is the “latest and greatest” you have seen/read about/heard rumours about within technology from your perspective. Do NOT limit the team to address what is/is not relevant for your business/company (yet) – simply get a list of developments. Add whatever you have seen as well – you are a specialist too.
3. For each, ask the team “how can this affect our industry/company”. If/when the answer is “it cannot” – push hard, and ask “really ... are you sure, and why?”
4. For those that can affect your industry/business start asking:
 - a. How can this technology be brought to service the needs of our customers?
 - b. How “big” can this thing be – within which timeframe?
 - c. How can we leverage this – what would it take and what would be potential benefits and opportunities?
 - d. If we don’t, what if competitors (current or new) leverage it, what would be the risk?
5. Which priority do we give to each of these?
 - a. Act on/leverage or mitigate NOW ... make sure this list is short enough to be feasible
 - b. Prepare for and monitor ... ensure you develop the needed plans
 - c. Ignore for now ... make sure you address these again a year or two from now
6. Sum up, our recommendations for management

I see this as a unique opportunity for the risk management function to “step up” and deliver real value to the company. Revisit/redo ever one or two years depending on industry.

Just to take some headlines on new technology sweeping the world today ... try addressing the above questions for:

- Social media
- The Internet of Things
- Big Data
- Predictive analytics
- Artificial Intelligence
- Blockchain
- Share economy
- plus “anything” green and sustainable

This is not a small task, but the outcome can be a matter of death or prosperity for your company.

Can risk management leverage new technology

Again, the immediate answer is yes. There are several technologies which may add to the accuracy and speed of risk management and help this provide even better guidance and management support.

Predictive analytics

In risk management known as “early warning indicators” is the option of analysing (e.g. machine) data to predict future performance. Weather reports are a commonly known example of predictive analytics – where past and present data are fed into some algorithm, which then predicts with some certainty, what will happen in the next period of time. As an approach, there is not much revolutionary about predictive analytics.

Already today, and leveraged in multiple companies, production equipment tracks a multitude of data, and having these analysed by a pre-defined algorithm will enable the machine to send a message to the operator “*You need to ... to avoid I break down in 15 minutes*”.

Your current risk management system probably already tracks a series of pre-defined early warning indicators – and know which values/development will trigger which actions/considerations.

You may start addressing how these can be even smarter, faster and more precise. Which other data can we collect to work as early warning signals for risks, where we are currently more “in the dark”

Artificial intelligence

There are multiple different definitions which describes what is, and what is not artificial intelligence. For the sake of simplicity, let me define this as “machine-based decision making”. Hence, this can be anything from automatically changing the flow of water in your radiators, when the thermostat indicates the temperature is above/below some pre-defined level to whatever you can imagine.

In contradiction to some human decisions, machine decisions do not emerge “out of the blue”, but are a result of a set of data which shows some properties/values that invoke the computer to act. This allows for fast/immediate action based on specific thresholds. Computer trading on the burses is one such example – and one, where it gives you a competitive advantage if your computer is just a tad faster than that of your competitors, or your algorithm is just a tad smarter.

This approach can be applied to many elements of risk and performance management as well. Now just imagine your strategic advantage if ...

- you knew the new hype of your industry in time to launch your product on the front of the hype.
- you knew of changed consumer preferences before these were common knowledge.
- you had strong indications of political/policy changes, before they were defined or perhaps even openly discussed.

Furthermore, assuming you have some issue, which you intend to address, and you have defined what you will do about it. Just imagine that you can even reasonably predict competitor moves and build these into your action planning and performance metrics.

The (wish) list is endless ... and to enable leveraging new technology into risk identification, analysis and handling will be extremely valuable.

Communication

Social media, direct business partner contact, close consumer relations and other approaches may leverage the way you communicate and liaise with employees, business partners, customers and consumers as well as the general public to an extent you can more effectively build your brand, mitigate potential reputational “disasters”, etc.

Communication technology is a Damocles sword. It may enable you to act faster, but it will also add to the need for you to act faster as bad news travel globally in minutes rather than days. John F. Kennedy is quoted to state “you cannot fool all of the people all of the time”. With the communication technology, the amount of people you can fool as well as the length of time in which you can fool them is decreasing ... fast – so don’t even try, it’s most likely a losing battle.

Closing comments

Technology provides the opportunities – as it always has. The industrialization changed the world, and both the 2nd and 3rd industrial revolution as well as the 4th which is in progress as I write this, will be certain to do the same.

To the extent you ignore or chose not to apply these technological changes, you face the risk of being surpassed by others who do. The almost standard cases in point are:

- Kodak, who were reluctant to jeopardize their cash-cow of film making, and hence opted not to pursue digital photography
- Nokia, who apparently missed the bat on smart-phone technology ... followed by Microsoft, who bought Nokia just to find that the market of smartphones was a battle of apps between the IOS and Android operating systems, and the market did not allow for a third operating system, no matter how good that would be
- Blockbuster, who for quite some time, failed to see that on-line streaming solved the problem/need/desire of seeing any given movie without the need to visit a physical store

New technology, or technology new to your industry will continuously change the world.

- Embrace it
- Leverage it

using intelligent risk taking...

...before you are being surpassed by competitors who leverage this or consumers who no longer need/want your product.

PS: In the above, I deliberately left out any comments on/related to cyber crime as this is a topic in its own right rather than a technology risk as such.

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