

It's Rob Llewellyn here and welcome to another episode of transformation management. Thank you so much for joining me today. As always, I'm going to do my best to help you get better equipped to manage and lead transformation.

So, in this third episode I'm going to talk to you about five emerging technologies that you can use to inspire, enable and empower the digital transformation of business.

Most people listening to this don't need to be told that, as organisations transform themselves, the skillsets and mindsets of employees and leaders need to shift from what they used to be in the past. But that shift will be a struggle for some people. And possibly a struggle that many won't overcome. But the fact is, the Digital Transformation journey won't succeed without acquiring the right internal capabilities, nurturing the right culture, and ensuring senior executives and leaders embrace a digital economy mindset.

While leaders don't need an in-depth knowledge of technology, they do at least need to have a sufficient level of understanding of it - at least enough to have intelligent conversations and ask the right questions. And to appreciate the roles that different technologies can play in creating new business models and generating new competitive advantage.

What I want to do in this episode is give you a high-level introduction to five technologies that digitally savvy business leaders should be aware of.

With the growth of the new digital economy, all organizations are going to deal with digital disruption sooner or later. Consequently, all business leaders at all levels and in all industries need to educate themselves on digital technologies and start acquiring a managerial level of digital knowledge and skills.

One of the pre-requisites of digital transformation success is to build internal digital capabilities at both operational and managerial levels, in addition to a new transformation-orientated mindset among CEOs and their leadership teams.

If Digital Transformation involves the convergence of digital technologies such as Big Data, Analytics, Artificial Intelligence, Cloud Computing and Blockchain, leaders should at least have an appreciation of these technologies - rather than being as ill-informed as the senators who questioned Mark Zuckerberg in 2018, if you remember that.

Let's take a look at five emerging technologies, and let's start with data science.

1. Data Science

This is the collection, preparation, analysis, visualisation, management and preservation of large amounts of information. It also involves the interpretation and presentation of results to decision makers. In a nutshell, data science is a mechanism to extract insights, knowledge and wisdom from data by identifying patterns and predicting future events.

Data science is all about uncovering findings from data. Diving in at a granular level to mine and understand complex behaviours and trends. It's about surfacing hidden insights that can help enable companies to make smarter business decisions. Data science practitioners apply machine learning algorithms to numbers, text, images, video, audio, to produce artificial intelligence systems that perform tasks which have traditionally needed human intelligence. In turn, these systems generate insights that analysts and business users can then translate into real business value.

2. Machine Learning

Machine Learning is the technique based on a number of algorithms such as supervised learning, linear regression and classification, and then the unsupervised learning and clustering. Artificial Intelligence represents the highest level of maturity in analytics where the system autonomously makes a decision such as in the case in autonomous vehicles, flying taxis and drones.

There's a relationship between data science, analytics, artificial intelligence and machine learning with some algorithms. All of these terms are very much related and connected. Even the huge volume of data that we're then faced with can't be analytically processed by traditional technology. So there's a need for Big Data that can also deal with the speed of processing and the structured and unstructured types of data.

3. Analytics

There are multiple types of analytics. Let me introduce five types, which are: Descriptive, Diagnostic, Predictive, Prescriptive, and Cognitive analytics.

Descriptive analytics answers the question "what happened?" It juggles raw data from multiple data sources to give insights into the past. But alone, this creates little business value, so the key is to integrate descriptive analytics with other types of data analytics.

Diagnostic analytics enables companies to drill down into historic data and identify patterns and dependencies to provide deep insights.

Predictive analytics suggests what is likely to happen, and it does this by taking the findings of descriptive and diagnostic analytics to detect tendencies, clusters and exceptions, to predict future trends, which makes it great for forecasting - anything from which customers are likely to switch to a competitor, to enabling companies to forecast what might happen after making changes to its supply chain or branding, etc.

Prescriptive analytics suggests the action to take to eliminate a future problem or take advantage of a trend. For example, companies can identify opportunities for repeat purchases based on customer analytics and sales history. Advanced prescriptive analytics also uses sophisticated tools and technologies, such algorithms and machine learning.

Cognitive analytics applies intelligent technologies to provide a means to bridge the gap between big data and the reality of practical decision making. It applies human-like intelligence such as understanding the full context of spoken or written words and or recognising objects in an image that's among large amounts of information. Cognitive analytics is seriously intelligent, and it leverages technologies such artificial intelligence algorithms, machine learning and deep learning to do its work.

To be considered a leader in analytics, organisations must begin to incorporate prescriptive and predictive analytics into their business decisions, Because, while descriptive and diagnostic analytics offer a reactive approach, predictive and prescriptive analytics enables companies to really take advantage of data, to shape what they do in the future.

4. Industrial Internet of Things

The Industrial Internet of Things (IIOT) takes advantage of internet of things technologies to enhance manufacturing and industrial processes. It does this by combining machine-to-machine

communications, industrial big data analytics, cyber security, and HMI (Human Machine Interface), etc. with people at work. And IIoT is driving unprecedented levels of efficiency, productivity, and performance.

It's the network of a multitude of devices connected by communications technologies that results in systems that can monitor, collect, exchange, analyse, and deliver valuable new insights that have never before been possible. And the business value of these insights can then help generate faster and more intelligent business decisions for industrial companies. Together with other emerging technologies, the IIoT will enable autonomous cars, flying taxis, drones and other big machines, which will create trillions of dollars for the world's economy.

5. Blockchain

The fifth emerging technology on the block that I want to talk about is Blockchain. And it's going to make a revolution in how to store and compute our data. The cryptographic nature of immutable records with the transparency and decentralised and distributed network will change the way we use technologies and conduct business.

Blockchain involves the orchestration of other technologies to help drive down inefficiencies and unlock value - particularly where intermediaries are required to record, validate and reconcile transactions - without really adding any value to the actual transaction itself. Blockchain is going to enable the removal of those intermediaries and make them redundant. Basically, it's a system for digital interactions that doesn't need a trusted third party.

Blockchain is more of a business model enabler, than just a technology. And as so many companies have struggled with the concept of the purest form of transformation - which is transforming their business model - perhaps Blockchain will provide that missing piece of inspiration to really consider the prospect of creating new business models.

That's all I'm going to say on blockchain. If you want to listen to me talk more about that, wind back to episode one of this podcast which was dedicated to blockchain.

So they were five emerging technologies, which all leaders and managers should be sufficiently knowledgeable about, if they're to orchestrate successful transformation. Let's not for one minute forget the importance of people and culture and other components of transformation. Yes - most of us know that now. But don't put your head in the sand and think that the emerging technologies that enable these transformations to become a reality, are not important also.

These transformations - they're enabled by the likes of analytics, industrial IoT, and machine learning. And we all require a certain level of understanding of them. We can't claim to be digital economy leaders and managers, if we don't understand the digital behind the transformation. And I'm not talking about being technical. I'm just talking about understanding the business potential that these technologies can give rise to. And we need to become more innovative to learn how we can leverage these amazing technologies to create better customer experiences, better products and services, etc.

I appreciate you listening, and here's a quote to finish off the day from Albert Einstein.

"Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution."

How can your imagination take advantage of new emerging technologies to create new competitive advantage for the company you work with?

I hope you enjoyed this episode. Thanks for listening - Take care and I'll catch you in the next episode of transformation management. Bye.