Novo Nordisk’s Triple Bottom Line approach to business

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GOING DIGITAL IS ABOUT FUTURE PROOFING

Vincent Turgis, Senior Vice President of Corporate IT in Novo Nordisk, explains why digitalisation can be an enabler for long-term value creation and how he encourages colleagues to take the bigger perspective.

A man came upon a construction site where three people were working. He asked the first, “What are you doing?” and the man replied: “I am laying bricks.” He asked the second, “What are you doing?” and the man replied: “I am building a wall.” As he approached the third, he heard him humming a tune as he worked, and asked, “What are you doing?” The man stood, looked up at the sky, and smiled, “I am building a cathedral!”

In my 20+ years of experience within IT, I have often thought of this story. It describes three people doing exactly the same job but with very different attitudes – and although it’s an old story, I think its message continues to be relevant today.

In my job heading up Corporate IT in Novo Nordisk, I encourage myself and my colleagues to think beyond the tactical “brick laying” part of our jobs and take the bigger perspective. Our day-to-day tasks might be about operating systems, servers and applications but at a higher level, the cathedral level, our job is about creating global IT solutions and processes to ensure that Novo Nordisk’s operations are effective, secure, stable and reliable and to develop digital solutions that provide value to the millions of people who are living with diabetes and other chronic conditions and who rely on us every day.

I also like to think that digitalisation is about future proofing our business. Both because it can be a way to increase the treatment benefits of our products and because it can enable us to work smarter and more efficiently and effectively.

This thinking is very much in line with Novo Nordisk’s Triple Bottom Line (TBL) business principle – our way of balancing financial, social and environmental considerations in decision-making – which we consider a prerequisite for creating long-term value. I am therefore happy that this issue of TBL Quarterly will look at digitalisation from a TBL lens, focusing on its financial, social and environmental implications and highlighting both benefits and challenges.

“Many people think that working with digital solutions is only about technology, but actually it’s all about people.”
It’s about people
Many people think that working with digital solutions is only about technology, but actually it’s all about people. The formula is quite simple – digital solutions are only successful when they benefit the user.

Take the example of digital health which covers health offerings that use insights gained through digital technologies to address unmet needs of patients, healthcare professionals and payers. This holds great potential because it can improve health outcomes by offering more personalised, accessible and intelligent care. It can connect different actors in the healthcare ecosystem in new ways and across borders.

As a healthcare company, we must be ready to develop new offerings that leverage the potential of digital technology. And acknowledge that we need to partner up with others who have the needed capabilities if we want to play in this space. In this issue, you can read about how Novo Nordisk has partnered up with Glooko and IBM Watson to generate data leading to valuable health insights that can be used to develop new tools for people with diabetes. But in the pursuit of new digital solutions, we must not lose sight of what drives human behaviour and where digital may also fail to drive better patient outcomes. At the same time, we must be ready to safely store, protect and use health data as well as derive insights from this huge amount of information. Just to put into perspective, by 2020, healthcare data is forecast to be equivalent to the contents of 500bn filing cabinets.

Reshaping the way we work
I have been in Novo Nordisk since 2001 and during those years, the company has grown extremely fast and become a global organisation. IT has played – and is still playing – a key role in supporting our growth by implementing global solutions and processes that meet our business needs. Across Novo Nordisk, we have created a truly global IT organisation with all the challenges and opportunities that this has to offer. There is no doubt that IT has changed the way we work and mainly in a positive way as it enables us to work smarter and opens up for new ways for collaborating and recruiting across borders. On top of that, digital solutions can also help our company reduce its environmental impact, for example by reducing travel.

However, the digital way of working also exposes us to risks such as cybercrime. Breaches of security could have a severe impact on patients’ or other individuals’ privacy as well as our ability to produce and safeguard product quality. This means that we of course invest heavily in information security.

With all of this in mind, I feel confident that every brick we lay in the digital sphere contributes to prepare our business for the future and create positive impact for people in the real world every day.

I hope you will enjoy the (online) reading.

Vincent Turgis
Senior Vice President, Corporate IT
Novo Nordisk
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1) Bigger data for better healthcare, Intel, 2013.
WHEN CULTURES COLLIDE

The role of shared purpose in fuelling the digital health revolution

Text: Adam Pittard

The snowballing digitalisation of healthcare has brought with it a proliferation of partnerships. And, if anything, joint ventures have become the prevailing basis for many of the sector’s most ambitious and promising enterprises. New digital health entities have sprung up and across the globe, start-ups have combined forces with vast multinationals in their bid to evolve the delivery of the healthcare of tomorrow.

If NICE1 and the FDA2 are anything to go by, the partnership approach seems to be working. In December 2016, they themselves came together to explore how best to pave the regulatory and policy paths for the exponentially growing number of diagnostic and medical technologies coming to market.

But, while corporate press releases and polished congress performances leave the observer with an impression of harmonious collaboration, when small tech firms partner with multinationals, disparities in culture and approach are inevitable.

According to Professor Stan Kachnowski, Chair of the Healthcare Innovation and Technology Lab, INC (HITLAB) and witness to many a successful venture in the health technology space, achieving great things can only happen when partners have aligned values that enable them to overcome these cultural differences.

“If the core mentalities are not properly aligned, then the chances of a successful partnership are seriously damaged,” he explains. “The most impressive partnerships are ones that have both value systems and mindsets aligned so that the institutions are able to build a long-term, mutually beneficial relationship.”

In his view, the precedent of overcoming differences in culture and values to improve health is nothing new. He points to the eradication of smallpox – achieved in tandem by NGOs working hand in glove with both Western and Soviet governments to deliver a vaccine – as the shining example of a coming together of alternative mindsets to tackle a health challenge.

Learning on the job

While the objectives of digital health partnerships are multiple and diverse, the key principles and challenges of alignment remain the same as Jeff Chang, Product Manager at Glooko, provider of a leading remote monitoring system for people with diabetes testifies. Jeff works on a daily basis with Novo Nordisk Digital Health towards combined new offerings and has experienced first-hand the challenge of combining skills and resources in a new partnership.

“Organisationally and operationally we are fundamentally different. We are small whereas Novo Nordisk is large. We turn around our solutions in a matter of days or weeks whereas Novo Nordisk is more familiar with much longer-term projects. Recognising and accepting this has meant we have been able to make a good job of working together in partnership.”

Jens Birkenheim, Associate Global Project Director at Novo Nordisk, agrees with Jeff and credits the partners’ ability to quickly identify differences in their respective approaches with the success of the partnership to date.

“Together, we have been able to learn on the job. Glooko have quickly understood the stringent legal and compliance processes commonplace in a pharmaceutical company. In turn, we are changing the way we operate to more closely align with the rapid turnarounds involved in effectively delivering digital health solutions.”
The fact that both partners have a passion and commitment to deliver improved health outcomes for people with diabetes is what allows us to come together in the first place.

About Glooko
Glooko is the leading remote patient monitoring platform for diabetes. Glooko syncs with over 160 diabetes devices and major fitness and activity trackers and enables patients to easily track and proactively manage all aspects of their diabetes care. Over 1 million people with diabetes and 6,000 health systems in 27 countries use Glooko’s FDA-cleared, HIPAA-compliant Mobile, Population Health and Clinic Upload applications with an aim to improve health outcomes for people with diabetes. Glooko is collaborating with Novo Nordisk to develop digital diabetes management solutions.

About Novo Nordisk Digital Health
Novo Nordisk Digital Health aims to contribute to the organisation’s mission to improve patient outcomes globally through access to innovative treatments. To achieve this, Novo Nordisk Digital Health is establishing a network of sustainable partnerships that provide access to capabilities and tools that complement the company’s portfolio of treatments and connected device technology.

"The fact that both partners have a passion and commitment to deliver improved health outcomes for people with diabetes is what allows us to come together in the first place."

About HITLAB®
HITLAB® is a healthcare innovation lab that helps leading organisations ideate, create, evaluate, and diffuse technology-based solutions to improve the quality and accessibility of healthcare worldwide. HITLAB® acts as an advisor to Novo Nordisk in the area of digital health.

In any partnership there are Eureka moments – that point in time when the parties realise that it is all coming together. For Glooko and Novo Nordisk, that moment came when they were able to put their joint app in the hands of diabetes patients for testing, ahead of its launch in the US.

“Seeing the response of people with diabetes to our product has been very satisfying,” explains Jeff. “Through the positive feedback we could immediately see the rewards of our effective collaboration and we are confident that our work will contribute to improving the lives of these people.”

Both partners credit their shared core values of patient centricity and innovation with enabling them to reach this milestone.

“The fact that both partners have a passion and commitment to deliver improved health outcomes for people with diabetes is what allows us to come together in the first place,” says Jens. “It’s this overarching philosophy in our partnership that motivates us to work harder and better together.”

1) The National Institute for Health and Care Excellence (NICE) is an executive non-departmental public body of Department of Health in the UK. NICE provides national guidance and advice to improve health and social care.

2) The Food and Drug Administration (FDA) is a federal agency of the US Department of Health and Human Services. Among other things, the FDA is responsible for protecting the public health by ensuring that human and veterinary drugs, and vaccines and other biological products and medical devices intended for human use are safe and effective.
When Kevin from New York talks about his experience with digital health and type 2 diabetes, he touches on a problem facing technologies that are collecting, monitoring and sharing health data. “I tried to use a website where I would enter all kinds of data – food, exercise, BG [blood glucose numbers], etc. but I never got any benefit from it. It was too much work and I don’t even know the purpose with it.” In short, what’s in it for me?

According to anthropologists Eva Tang Vangkilde and Kirsten Lauritsen, Kevin’s lack of enthusiasm for digital health solutions is based on knowledge that has been around since 1925 – there’s no such thing as a free lunch. “Digital health is an exchange and it needs to be balanced,” says Eva. “When people share their personal body and behavioural data on a health app, website or device, they want to feel that the value of what they get in return is equal to what they give.”

In their study, Eva and Kirsten view people’s relationship to digital health through the lens of Gift Exchange Theory1, stating that a “free” gift that is not returned is a contradiction because it cannot create social ties. Viewed as a shared value relationship, Kevin’s reaction is due to a violation of the principles of gift exchange – we all have an obligation to give, to receive and to reciprocate.

“In diabetes, there is a huge ecosystem of data being exchanged, much of it tightly associated with the doctor and his or her care team,” says Eva. “If we understand the logic of this ecosystem from the patient’s perspective, we might be better equipped to develop successful digital health solutions.”

Sharing and caring
To gain a better understanding, Eva and Kirsten used ethnographic methods, interviewing type 2 diabetes and asthma patients in their homes. Nine people from New York and New Jersey and 12 living in San Francisco and the surrounding areas.

Through the research, they established a map of the data exchange ecosystem (see graph on next page). They identified six actors in the ecosystem that are either sharing and sending data or processing data and advising. For example, a patient is someone sending and sharing data, such as through an app that sends the information to his or her doctor. An engine could be a company that would be processing and advising, such as pooling large amounts of data to determine which treatments work best in the real world.

Getting back to theory, a patient may act on their obligation to give, and the data crunching engine may receive, e.g. via a device app or website, but is there reciprocation? And what value is expected in return?

Eva explains that when a patient shares body data with a doctor, a health team or a company, the patient is giving away much more than the actual data. “In the case of sharing health data with a doctor, the patients are giving their personal life, including revealing secrets about themselves,” says Eva. “Numbers can also reveal shameful and ‘bad behaviour’ related to personal lifestyle choices and other intangible elements of one’s managing of type 2 diabetes.”

From the patient’s side, now that they have given this valuable and personal information, the doctor for example is likewise expected to give back much more than the medical prescriptions. According to Eva and Kirsten’s research, the doctor is expected to give an understanding of the context in which data is collected and provide social and emotional support in the format of listening, encouraging and cheerleading.

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1) The Gift Exchange Theory was developed by the French anthropologist Marcel Mauss and has had a great impact on anthropology and the social science in general. The theory origins from studies of primitive societies in Polynesia, Melanesia and North America exploring how the economies in these societies are established and maintained by different exchanges without economic institutions or money being involved. The logic behind the Gift Exchange Theory is based on three obligations: the obligation to give, the obligation to receive and the obligation to reciprocate.
“The exchange relation breaks down if the doctor gives back discouragement in the format of raised fingers, blame, punishment or accusations,” says Eva.

Eva points to some digital health solutions that work, citing Endomondo and Fitbit as examples of people sharing data and finding satisfaction in sharing their successes.

“There is a very recent example from diabetes that, though not perfect, does align with theory,” says Eva. “A patient was using an app that pays real money to log his food, do his exercise, etc. The funny thing about this example is that he has found a good enough reason to share his diet data, but he doesn’t necessarily care what he is eating.”

**Finding the right balance**

Shelton living in San Francisco, defined what kind of value he would like to receive during one of Eva and Kirsten’s interviews. “I need my doctor to see me as whole person and to support me in my efforts to make a difference, not only to see and treat me as a body.”

To fix the broken link in the exchange, Eva and Kirsten point to solutions that return more empathy and individuality, thereby creating value and support that can maintain a balance in the data exchange relationship.

“Solutions that fail to support and maintain a balance will be short lived,” says Eva. “There are no such things as gifts totally ‘free of charges’. All gift exchanges involve the obligation to give, to receive and to give back.”

Kevin makes the case fairly simple. “If there is a logical reason to share data – I would. Give me a good enough reason.”

For the future of digital health, Eva and Kirsten’s research offers priceless food for thought.

According to Geert Reyniers, Vice President of Digital Health at Novo Nordisk, anthropologists are making a key contribution to the development of digital health solutions for people with diabetes.

“Insight into the everyday lives of people with diabetes is critical as we work towards the delivery of digital solutions to support their health,” Geert explains. “If what we develop is not user-friendly, intuitive and reflective of the lived experience of the end user, they simply won’t be motivated to engage with it. The work of our anthropologist colleagues will ensure that the potential of our digital technologies are realised to the maximum in the future provision of diabetes care.”

Curious to know more? Contact Eva and Kirsten on evtv@novonordisk.com and kiel@novonordisk.com
Every healthcare business must embrace new technologies to be more collaborative.”

Peter Lacy
Global Managing Director, Growth, Strategy & Sustainability at Accenture Strategy

How do you see business models changing in the short- and long run as a result of the digital transformation?

The healthcare industry is being disrupted not just by technology advances, but also by socioeconomic changes and scientific breakthroughs. Organisations must pursue new business models and strategies to claim their role in this new landscape, and we’re seeing several approaches rapidly taking shape.

Some companies are focused on being lean and managing costs efficiently. Other companies are striving to improve the patient experience, be more product-centric, or focus on the patient journey, using analytics to improve outcomes. Others are intently focused on using digital to achieve global scale and to collaborate with the greater ecosystem. Regardless what model you choose, every healthcare business must embrace new technologies to be more collaborative.

How do you think digitalisation can enable businesses to have a more positive impact on society going forward?

Digitalisation is dramatically changing relationships with consumers. Suddenly, we have a vast amount of information about their health and we can act on that data. Consumers have come to expect personalisation, and healthcare now can deliver on those expectations. We can focus on prevention, treat illnesses with individualised treatment plans and we can empower people to more proactively manage their own health and care.

Digital also enables better collaboration, which means entities from across industries can work together to develop innovative products and services that maximise impact on society by solving social and environmental issues. If we put in the right checks and balances to ensure innovations are focused on societal needs, amazing breakthroughs can happen.

What are some of the negative impacts that digitalisation may have going forward?

The rise of data-driven business models and increasing sophistication of technology has the potential to erode trust especially where companies have access to increasing volumes of patient data and move towards more personalised, tailored health services.

Automation also will create huge shifts in the jobs that are available and the skills required to do them. Accenture Strategy Future Workforce research found that 95% of people believe they need new skills to stay relevant at work. Whilst digital technologies will help doctors and nurses to be more effective for example in diagnosing, they also have the potential to displace workers in more process orientated roles.
How can digital technologies enable businesses, public sector and other actors in society to work better together?

Digital has blurred the boundaries between traditional industries. Now, governments, healthcare companies and technology leaders can come together to create offerings or develop new services that transform patient outcomes. For instance, Novartis is teaming up with Google to develop a micro-engineered contact lens that can help people with diabetes by non-invasively monitoring glucose levels in tear fluid. This breakthrough has immense potential to benefit global health, as one in 10 people in the world is expected to have diabetes by 2040.²

By sharing data, pooling resources and capabilities and cultivating innovation, healthcare ecosystem players can drive the next wave of industry disruption, rather than be disrupted by it.

What would be your best advice to business leaders when it comes to the digital transformation?

Leaders need to understand that successful and enduring companies have a clear purpose that serves society. Those who work for the company must understand the organisation’s purpose, and align around that purpose. Then, they must understand how digital technologies can drive competitive advantage in the pursuit of that purpose. In this way, you’ll reap the value both to business and to society.

Embrace digital technology but with your eyes wide open.”

John Morrison
Chief Executive at the Institute for Human Rights and Business

How do you see business models changing in the short- and long run as a result of the digital transformation?

We are currently at the beginning of a fundamental transformation: sometimes called the “fourth industrial revolution”. We are increasingly a knowledge economy. But with big data, knowledge itself is becoming the commodity – the purpose of many new businesses. This will be disruptive to current business models.

Two aspects are already with us – the “gig economy” changing the nature of employment and “automation” increasingly displacing manual and clerical jobs. These trends will continue and fundamentally challenge the nature of business – for better in some ways but also posing some new challenges for society.

How do you think digitalisation can enable businesses to have a more positive impact on society going forward?

Digitalisation gives business much more information about its consumers. In the case of healthcare this means patients – allowing for more rapid and precise interventions to prevent and cure both communicable and non-communicable disease. The benefits will be profound, with real time digital communication between patient and healthcare company – an immediate feedback loop.

With 3D printing, this will allow for prosthetics to be produced within primary health care, or for genetic records to be kept on every patient flagging key risk factors relating to diet or lifestyle. This should not just mean benefits for the rich but also the poor – think for example the role that the data derived from cell phone networks can play in fighting epidemics by tracking the spread of symptoms among large populations.

1) For more information, see https://www.accenture.com/us-en/future-workforce
What would be your best advice to business leaders when it comes to the digital transformation?

My advice is to embrace digital technology but with your eyes wide open. The power of data and automation comes with huge benefit but also the need for new responsibilities. Now is the time to educate yourself about the nature of these responsibilities – fundamentally how to put the human rights of patients and wider populations at the centre of the analysis. Ensure that the appropriate policies and procedures are firmly in place, with adequate governance and oversight.

There is also no need to face these challenges alone: bring around your business peers from your industry, experts and societal actors to ensure that human rights due diligence becomes the standard in every market.

What are some of the negative impacts that digitalisation may have going forward?

With all the new benefits come new risks. The “gig economy” and the growth in temporary work will require new labour protections. Big data is growing at an exponential rate and will largely sit in private hands. Algorithms and machine to machine communication increasingly take much decision-making out of human hands.

The first risk is data privacy. Businesses will increasingly collect personal information about us all. We might consent to hand over information about our DNA to a pharmaceutical or cosmetics company in exchange for a bespoke product but is this really informed consent?

A second concern is discrimination. We already know from apps used by landlords or the “Black Lives Matter” campaign in the USA that algorithms are not neutral but can discriminate against minorities that are already marginalised.

And finally, perhaps the biggest dilemma will be how companies will manage the “positive duties” that might arise by having so much knowledge about so many people. The algorithms might find new patterns in the data in years to come, some of which might provide for new healthcare interventions if they were handed over to another company or a government agency. This desire for business to continually solve societal problems might conflict with commitments to individual privacy and meaningful consent.

How can digital technologies enable businesses, public sector and other actors in society to work better together?

Given the powerful positive effects of digital technology but also the great risks, it cannot be left to governments alone to solve these. Regulation will have an important role to play, but many of the dilemmas will be deeply contextual and will need social licence from all societal actors.

There are many parallels to medical ethics and “digital ethics” will need similar oversight and accountability. Technology itself will help enable some of this scrutiny. For example, it seems that block-chain is well placed not just to drive financial transactions but also to trace the flow and impact of data in human lives.
How do you see the delivery of medicine changing in the short and long run as a result of the digital transformation?

In the near future, most pharma companies will need to demonstrate value creation beyond development of medicine. Our service offering will increasingly form part of a greater ecosystem consisting of e.g. wearables that are collecting and analysing health data in an increasingly transparent world.

This development opens up for new ways of collaborating, for example with tech firms who are already now disrupting the way healthcare is traditionally delivered. We are facing a new reality where healthcare companies increasingly need to access complementary capabilities from external partners and new alliances. I believe it’s a journey that will not be completed overnight but one that holds great potential.

What do you think digitalisation can enable healthcare companies to have a more positive impact going forward?

As a medical doctor working in the Insulin Digital & Health team in Novo Nordisk, my job is to make sure that we connect our clinical strategy and digitalisation in the best possible way.

Today, an increasing amount of health data is being collected through smart digital platforms and analysed by companies with artificial intelligence (AI) capabilities which can give us more valuable insights into diabetes management and treatment outcomes.

Digitalisation also opens up for many new ways to support patients 24/7 in their treatment and care, e.g. through their smartphones. This can result in better adherence and usage of the drugs, fewer complications and higher quality of life which is obviously beneficial from a societal point of view.

What would be your best advice to business leaders when it comes to the digital transformation?

Think beyond patents. Make sure to enter into strategic alliances early on. Consider this a new way to improve your company’s capabilities and minimise the risk of getting disrupted by others.

You have to take some chances and have a corporate culture that incentivises trying out new things that are not necessarily within the comfort zone of your core competencies. If you want to be a winner in the digital health space you have to realise that access to data is key.

What are some of the negative impacts that digitalisation may have going forward?

I think technology is making our lives easier and increases our ability to learn new things, so the impact is overwhelmingly positive. However, we must acknowledge that it may sometimes come with a price, such as a perceived loss of human interaction and empathetic skills.

From an industry perspective, the increased amount of data collected also poses challenges. Earlier, pharma companies used to be in control of all the data created with development of their drug but today the usage of the drug and the patient outcomes in the real world is shared among many actors in the healthcare ecosystem. This is positive in many ways but also puts higher demands on the pharma industry where close engagement with patients hasn’t traditionally been a core competency.

How can digital technologies enable businesses, public sector and other actors in society to work better together?

The biggest opportunity lies in using digitalisation to collect and transform data into insights that can help improve health outcomes in the real world. This requires new ways of collaborating – which may not always be easy – but in the end I think it will create better results for the patient which is what we are all aiming for.
Health social networking is on the rise, helping people living with chronic diseases to connect, offer support, and learn from one another.

Brianna Wolin naturally attracts people with her ambition, eloquence, and thousand-watt smile. And yet, Brianna, a 2016 University of Michigan graduate who lives with type 1 diabetes, had had times when she felt so alone.

“With a campus swarming with 40,000 students, I couldn’t find one who could look me in the eye and tell me that they knew what it was like to have a hypo episode during an exam or talk to an awkward first date about what that tube was that you pulled out of your pocket,” she said.

So the then biomedical engineering student took matters into her own hands, creating a mobile app that connects college students who share chronic conditions. The app, called Find Your Ditto, facilitates on-demand, in-person peer support. “Nobody has to be alone,” she says.

Brianna’s story taps into a growing trend: health social networking. Online support communities fill a void by helping patients meet others who are living with or have experienced similar health issues. These communities have included traditional chat rooms and listservs, but with social media, the possibilities – Facebook groups, virtual meetups, and apps, to name a few – have multiplied.

A 2014 Pew Research Center study found that 1 in 6 adult internet users in the US had gone online in the past 12 months to find others who share the same health concerns. They are finding one another sites like typeonenation, a social network created by JDRF; Diabetes Sisters, which sponsors events, meetup groups, and educational opportunities; and RareConnect, which helps people with more than 100 rare diseases worldwide develop online communities.

Some sites also serve a scientific purpose. Patientslikeme encourages its 500,000 members to “donate your data” to researchers, healthcare professionals, and industry. Recognising that academic publication is a very slow process, patientslikeme shares patient-reported outcomes about symptoms, therapies, and treatments to accelerate the pace of care improvements.

The response hinted at the app’s commercial potential, and Find Your Ditto – which Inc. magazine labeled as one of this year’s “coolest college startups” – was born. Today, Brianna, Find Your Ditto’s CEO, and Parisa, its Chief Product Officer, crisscross the world, pitching Find Your Ditto to...
potential sources of seed funding. The two are also establishing partnerships with healthcare institutions, many of which Brianna says struggle with providing for mental health concerns of chronic illness patients.

“I want to be that entrepreneur who gives back and makes that impact that I’ve always wanted to see come to me,” says Brianna.

Brianna recently won the first Lyfebulb–Novo Nordisk Innovation Award, presented to patient entrepreneurs for the best medical device, consumer product, or healthcare IT product that supports diabetes management. Novo Nordisk sponsors the award competition in conjunction with Lyfebulb, which bridges patients with industry and empowers patient entrepreneurs. The award was given to Brianna after finalist pitches before a panel in Copenhagen last December, and represented the first time a large pharmaceutical company had engaged directly with patient entrepreneurs.

**Engagement and pitfalls**

A study found that people involved in health social networking are highly engaged – a good thing, since patient engagement often leads to better health outcomes. Patients who connect directly with one another also receive the kind of social support that enables adherence to a goal.

But health social networking is not immune from some of the pitfalls inherent in online communities. The founders of patientslikeme observed that when patients receive advice from other patients, they treat it differently than if it were coming from a healthcare professional. Patients trust their peers.

And that may open avenues for misinformation to spread. Continued belief among some parent groups in the now-debunked theory linking vaccines to autism is a classic real-world example. A hypothetical example may involve a patient with diabetes who abandons a medication that had successfully controlled HbA1c in favor of an herbal regimen, claims a miracle cure, and gains followers as a result.

The US Food and Drug Administration warns that testimonials like “it cured my diabetes” should be a red flag. Health-product scams dominate social media, with followings on Facebook and Twitter. The problem gives greater visibility to an underappreciated issue: health literacy, specifically the ability of people to critically evaluate claims about health products.

As with many things, it comes down to common sense. Technology provides an opportunity – we have to use it wisely.

For pure support purposes, the digital world is forever changing the ways in which patients connect, inspire and be empowered to live with chronic conditions. That’s what motivates Brianna, who says, “You should be able to look someone in the eye and say, ‘Me too. I get it. Ditto,’ give them a hug, have a cup of coffee, and get on with your day.”

**“You should be able to look someone in the eye and say, ‘Me too. I get it. Ditto.’”**

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2) Health Affairs: What The Evidence Shows About Patient Activation: Better Health Outcomes And Care Experiences, Fewer Data On Costs. Available at: [http://content.healthaffairs.org/content/32/2/207.full](http://content.healthaffairs.org/content/32/2/207.full)


5) FDA: 6 Tips-offs to Rip-offs: Don’t Fall for Health Fraud Scams. Available at: [https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm341344.htm](https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm341344.htm)
IS DIGITAL THE NEW GREEN?
Text: Camilla Crone Jensen

Digitalisation can help companies work smarter – can it also help them reduce their environmental footprint? Two examples show that the answer may not necessarily be straightforward.

When the device goes digital
Many people with diabetes use injection pens for the delivery of insulin and like most other devices in our everyday lives, they are also becoming digitally connected.

With a built-in electronic component – similar to the technology used in contactless credit cards and mobile phones – the injection pen can be connected to e.g. a smartphone. This can give healthcare professionals the information they need to ‘fill in the blanks’ between their patients’ clinic visits as the connected device stores the dosage data and time of injection every time the patient injects insulin.

Novo Nordisk recently launched its first connected pen as a pilot in Sweden and more connected pens are in the pipeline, according to Thomas Miller, Vice President, US Device Research, Novo Nordisk. He believes connected devices offer great potential to improve treatment options for patients in the future because it will become easier to support patients in injecting the right amount of insulin and identify potential issues with adherence. However, he also acknowledges the potential environmental downside.

“We are continuously supporting the demand for virtual collaboration platforms,” says Susanne Kany, Manager, Client Services in Corporate IT, Novo Nordisk. “We are offering training in these platforms and run various campaigns for users to get acquainted with them along with extensive support and quick guides.”

Susanne notes that in 2016, Skype for Business meetings increased by 25%. The company now has 350 VCON systems and five state-of-the-art telepresence facilities around the world which are open to all employees. The use of telepresence as an alternative to face-to-face meetings has increased by 128% compared to last year.

It’s still early to conclude on the actual effect of the virtual meeting platforms but the potential is there, especially when it comes to reducing internal meetings which account for 50% of employee air travel.

Susanne emphasises that on top of the environmental aspect, there are additional upsides.

“Virtual meetings enable us to work more efficiently and save costs, so it is also beneficial for the other bottom lines.”

When the meeting goes virtual
For the past decade, the main focus of Novo Nordisk’s climate action has been on reducing CO₂ emissions from its own operations. More recently, the company has widened its scope to also encompass indirect emissions such as business travel. But how to reduce travel in a global company with affiliate offices in 77 countries and production sites spread out on five continents?

First of all, there needs to be some well-functioning alternatives in place. Therefore, a key priority for the Corporate IT department has been to implement virtual meeting platforms like Skype for Business, video conferencing (VCON) and telepresence and encourage its use by offering continuous training and support.

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1) Novo Nordisk corporate travellers’ well-being survey, 2012 (internal data on file).
WHAT’S NEXT IN TECH?
Text: Jakob Ibsen Jensen

Digital technology trends move at a very high pace, continuously providing new opportunities for patients and business. So what’s “the next big thing”?

Many technologies that were almost science fiction a couple of years back have become an integral part of today’s work and life, without us even noticing it.

Connected mobile devices enable patients to constantly monitor their health while sharing the outcomes with health care practitioners. Sophisticated virtual collaboration tools provide us with the feeling of being in the same room as colleagues sitting on the other side of the globe.

These are just a few examples of digital technologies that went from being emerging trends to being key elements of our everyday lives within a very short period of time.

But what’s the next big thing – the emerging digital technology of today that will shape the way we do business, work and live tomorrow?

Cognitive Computing and Robotic Process Automation (RPA) are two examples of emerging digital technologies that Novo Nordisk Corporate IT follows closely and explores to meet the patient and business needs of tomorrow.

Introducing intelligent systems
Cognitive Computing is the term used for software or systems designed to mimic the functioning of the human brain – enabling them to “learn” and adapt as information changes, and as goals and requirements evolve.

In a healthcare context, this is extremely interesting to better understand and utilise the vast amount of data generated from e.g. apps and fitness trackers.

“By using cognitive technologies, we can create revolutionary new tools for people living with diabetes,” says Thomas Angelius, vice president, Digital Health IT, Novo Nordisk. “They can speak in natural language and get individualised support. The potential is big and the work is really exciting.”

To unleash the potential in cognitive computing, Novo Nordisk has partnered with IBM Watson – the first commercially available cognitive computing platform. The platform processes vast amounts of big data to uncover patterns and insights, understands complex questions posed in natural language, proposes evidence-based answers, and learns from each interaction.

The robots are coming… to help us
When people hear Robotics, they might imagine a shiny robot moving around a factory building. But it’s not – in reality it is a piece of software – a software robot that can perform the repetitive tasks that otherwise would require human handling, e.g. transferring data from emails, spreadsheets or applications to e.g. resource planning systems or customer relationship management systems.

“Robotics Process Automation (RPA) is the future way of working! Just like computers revolutionised our world, RPA has a huge potential to change how we work,” says Christian Holm Jönsson, vice president, Corporate IT India, Novo Nordisk.

“Given the growth in tasks and complexity of work, it’s an exciting opportunity for us to leverage technology to help us with tasks that are repetitive, transactional and tedious in nature; while we and our colleagues can focus on the more value-adding tasks.”

Christian notes that it is possible to complement your existing workforce with RPA in any area of the business where you have structured, rules-based and repeatable processes.

From a societal point of view, the automation of certain jobs will have implications for the work force as less transactional work will be done by humans and more by robots – giving humans the opportunity to engage in value adding work instead – which may eventually accelerate innovation.

This calls for increased focus on continuous education and training since RPA cannot be used for processes where people add value, e.g. when interacting with customers, making value judgements, or interpreting data that a system cannot do.

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The benefits of Robotic Process Automation (RPA):

- **Value-adding work**: Employees can focus on complex, value-adding tasks
- **Employee turnover**: Reduces attrition (caused by repetitive work)
- **Productivity**: Significantly faster handling time and able to work 24/7-365
- **High quality**: Consistent output with minimal error rates
- **Low cost**: Lower cost of operating robots compared to full-time employee costs
- **Quick rollout**: Non-invasive software, with no IT integration

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Programmatic computing vs. cognitive computing

**Programmatic computing**:
- Leverage traditional data sources
- Follow pre-defined rules (programs)
- Provide the same output to all users

**Characteristics of cognitive computing**:
- Taught, not programmed
- Learn and improve based on experience
- Interpret sensory and non-traditional data
- Relate to each of us as individuals
- Allow us to expand and scale our own thinking
- Allow us to pose questions and receive answers
DIGITAL HEALTH: GOING BEYOND PILOTS

Text: Camilla Crone Jensen

Digital technologies are rapidly expanding health coverage in low-resource settings. From strengthening people's access to care to increasing efficiencies in healthcare delivery, digital technologies have shown great potential. Still, more is needed to truly reach scale.

Much of the progress within digital health is thanks to the mobile phone. In just over a decade, mobile-cellular subscriptions have outpaced internet access substantially throughout Africa. In 2005, mobile subscription rates were approximately 12%, and only 1% had internet access in their home. By 2015, mobile subscriptions had reached 73% while home internet access was slightly above 10%.

In the past five years, the number of digital health products and services has doubled in in low- and middle-income countries. But a large number of these remain in pilot or informal stages. It seems that more than the mobile phone is needed.

A serious case of “pilotitis”

According Lesley-Anne Long, Director of a collaborative new digital health initiative housed at PATH and supported by USAID, FSG and other partners, the digital health landscape is plagued by “pilotitis”. Initiatives are too often implemented as individual solutions, rather than part of an integrated national strategy to strengthen health systems with digital technology. This means that projects rarely reach scale.

“Short-term projects that typically are not designed for national level use have led to a graveyard of digital tools, products and systems that are left behind once a project ends,” she says. “To respond to this challenge, we need to think at more of a system level and align investments behind one digital health “solution” that connects all the others together and is fundamental to treating and managing each and every disease: an overarching digital health architecture.”

Lesley-Anne further explains that what is needed is a focus on interoperable digital health systems that connect everything, from patient electronic health records, to health facility registries, to mobile phone applications, resulting in real-time, high-quality data that can be used to maximise health outcomes.

“It’s important to scale data collection tools that have been proven to work, and that are adaptable in multiple contexts,” says Lesley-Anne. “By doing this, health workers, for example, have more holistic information about patients and health sector managers at all levels spend less time aggregating and reporting data because there is one standard tool – as opposed to dozens – being used.”

Taking ‘SMS for Life’ to the next level

Marcel Braun works in Novartis and with many years of experience within development assistance, he knows very well the challenges of implementing sustainable digital health solutions on the ground.

“The biggest challenge around implementing digital health solutions in low-resource settings is ownership,” he says via a mobile phone connection while traveling in Nigeria. “I believe the owner of the solution must always be the local healthcare authorities and Novartis should only be an enabler.”

Marcel is the Programme Head for Novartis’ ‘SMS for Life 2.0’ which was launched in Nigeria in 2016. It aims to increase the availability of essential medicines and improve care for patients by using simple, available, and affordable technology. The programme is a joint public-private partnership between Novartis, the Kaduna State Ministry of Health and Vodacom.
where there is a willingness to carry partners and we only collaborate aligning expectations with local of Nigeria. “We spend a lot of time healthcare workers in local facilities for Life 2.0’ will enable training of other diseases. In addition, ‘SMS maternal and infant deaths and seven surveillance parameters of malaria, The programme will also monitor when stock levels are low. notifications to district medical officers vaccines and HIV treatments, and send of essential antimalarial medicine, will be able to track stock levels Kaduna State. Local healthcare workers at peripheral healthcare facilities in to address key operational challenges smartphones and tablet computers The new programme will use smartphones and tablet computers to address key operational challenges at peripheral healthcare facilities in Kaduna State. Local healthcare workers will be able to track stock levels of essential antimalarial medicine, vaccines and HIV treatments, and send notifications to district medical officers when stock levels are low.

The programme will also monitor surveillance parameters of malaria, maternal and infant deaths and seven other diseases. In addition, ‘SMS for Life 2.0’ will enable training of healthcare workers in local facilities using on-demand eLearning modules.

Most importantly, the programme is in line with local health priorities of Nigeria. “We spend a lot of time aligning expectations with local partners and we only collaborate where there is a willingness to carry on with the programme after Novartis has pulled out, typically 2-3 years after launch,” says Marcel. This is also why Novartis has chosen to focus on fewer countries but where the programme is likely to reach larger scale.

A change in mind-set
Despite the challenges with implementing digital health solutions, Lesley-Anne hopes to respond to the associated challenge by providing a mechanism that enhances coordination and therefore, efficiency of investments. She believes that the new initiative can help to promote investments into technologies that can be reused, adapted, and integrated into national digital health systems.”

And the private sector plays an important role. “Engage the private sector! is a common charge in development circles these days, and there’s a reason for that,” she says. “The private sector is fundamental to long-term success in global digital health, and not just as an important financier of digital technology solutions. They can be critical thought partners and strategic advisors.”

According to Marcel, there has been a considerable change in mind-set in recent years. “For a long time, NGOs and the public sector had reservations about collaborating with the private sector but today there is much more appreciation and acknowledgement of each actor’s strength. Collaboration between the private, public and third sector is not an exception anymore,” he says.

“In the long run, companies now see digital health initiatives in low- and middle-income countries as business opportunities and not just philanthropic engagement, hence making it more sustainably embedded in their operations.”

And while these initiatives seek to tackle enormous challenges, their long-term potential is significant.

“Just look at the African continent which today is home to 1.2 billion people but this is expected to double by 2050. A lack of well-trained health workers to provide quality healthcare is already predictable and new solutions need to be developed. Here, digital health initiatives have a huge potential – if they are well coordinated,” he adds.

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1) Digital health encompasses technologies that enable better collection and sharing of information, improved quality and reach of health service delivery, and better decision-making by governments, health workers, and individuals. ITU. Key ICT indicators for developed and developing countries and the world (totals and penetration rates), 2015. 2) GSMA, The Mobile Economy 2015. 4) Wilson, K., Gertz, B., Arenth, B., & Salisbury, N. Journey to Scale: Moving together past digital health pilots. Available at www.path.org/publications/files/TS_dhs_journey_to_scale.pdf 5) PATH is an international nonprofit organization with a mission to save lives and improve health. For more information, see https://www.path.org/ 6) For more information see https://www.linkedin.com/company-beta/11163514
Digitalisation has opened up new ways of attracting talent. But while digital recruitment has made global talent attraction easier and more cost-efficient, it can also present challenges for in-house resources and employee retention.

Technology has dramatically changed the way human resource departments approach their work and what candidates expect from a job search. Long gone are the days when companies passively awaited responses to job ads from candidates who often applied with limited amount knowledge about the company or its values and culture. For both employers and talent, today’s job market is proactive and transparent.

Employers have won
For employers, the Internet and social media provide the ability to spot talent anywhere in the world. “In the old days, if you were looking for, say, a chemist from Belgium, there would be no way you could find him or her yourself, if you were looking for, say, a chemist from another country,” says Franz Veisig, Novo Nordisk’s global digital attraction campaign manager.

The talent has won
For job seekers, digital communication offers multiple avenues for learning about a company and, for would-be expats, what it’s like to live and work in another country. “Some years back, people talked about the ‘war for talent,’ but today it rather goes like this: ‘The war for talent is over – and the talent won,’” Franz says. “This means that we as a potential employer need to step up, be visible and work diligently to express what a life-changing career looks like at Novo Nordisk.”

Together with colleagues in Novo Nordisk’s digital attraction team, Franz maintains platforms like the Facebook, career page, LinkedIn page and the global career site on novonordisk.com, all different channels needed to run efficient global talent attraction. This for example includes videos starring employees who reflect on the corporate culture and their careers.

Those are some of the outward strengths of digital recruitment but there are internal benefits, too. Digital recruitment is far more cost-effective than the old ways.

Supporting diversity
It also creates opportunities for workforce diversity, for example in connection with Novo Nordisk’s graduate programme that each year attracts candidates from more than 100 countries. The programme even got an applicant from Fiji who responded to the campaign and wanted to start a career in Denmark.

Diversifying also provides a way to reach an untapped pool of talent to fill a global skills gap. The McKinsey Global Institute predicts a shortage of as many as 85 million qualified workers worldwide by the year 2020.1

Too much of a good thing?
But for almost every upside, there is a downside. Digital recruitment increases the number of applications, straining the internal resources needed to comb through them all. When the number of applications for Novo Nordisk’s graduate programme, for instance, topped 10,000, it forced a change in recruiting strategy.

Franz tells that they decided to embark on a “fewer and better” strategy, in which applicants were required to include a graduate programme in 2016. Part of Francesca’s application process involved the creation of a 1-minute video, which she used to differentiate herself by “transmitting a personal message that I could not have fully conveyed on paper.”

Avoiding a list of qualifications that all applicants could be expected to have, Francesca chose to communicate her approach and attitude toward her work. Her presentation on her approach, she says, was deliberately structured, but when she got to attitude, she made the most of the medium. “I made sure to use the advantage of a video: voice and image,” she says. “I used an enthusiastic tone and pace and tried to be natural and smile.”

She also understood that while a video application can “make” an applicant, it also has the potential to “break” one. Following a path recommended by others on Novo Nordisk’s graduate blog, Francesca chose to be herself. “I had the temptation to do something completely crazy, but that would have not reflected who I really am. Therefore, I decided to stick to my initial plan and record it on loop until I was satisfied with the outcome.”

The plan worked and Francesca is now savoring the many challenges of “new people, tasks, work environment, culture, and expectations” with each new rotation.

Perspectives from a Millennial

Digital recruitment strategies may feel most natural to Millennials, who have embraced multimedia platforms. That made Novo Nordisk’s graduate programme fertile ground for testing innovative recruiting techniques.

Francesca Passudetti is serving a marketing rotation in Novo Nordisk’s Panama affiliate, her second rotation after entering the
one-minute video with their applications. “The number of applications dropped considerably, but the ones we got were better,” says Franz.

The videos gave the recruiters a new level of insight into the personality behind the CV and cover letter by being able to watch how applicants presented themselves. And the candidates got an extra chance to show what made them the perfect match (see box).

Turning colleagues into “social professionals”

Another challenge of a digital job market lies in the speed of which social media can affect a company’s reputation. Social media makes a company vulnerable to criticism when something goes wrong and creates a need for a fast reply. “We need to be more agile and alert to what happens on third-party platforms like LinkedIn, Facebook and Glassdoor,” says Franz.

But it also presents a huge opportunity. Recognising that job candidates tend to trust their peers more than companies, Novo Nordisk has begun to tap into the potential to make each of its 42,000 employees an ambassador. 32,000 of them are on LinkedIn and the company is working on a pilot project right now turning a number of colleagues into “social professionals” by sharing content about the company on social media.

It’s all about relations

Keep in mind that if you are using digital recruitment to your advantage by targeting specific profiles, your competitors are likely using it to theirs as well. This can lead to greater turnover. This, too, however, creates an opportunity and underpins the importance of focusing even more on employee engagement and satisfaction.

Done ethically, targeted recruiting can help to develop relationships with candidates whose competencies may eventually turn into a hire. It’s all about creating a pipeline of relevant colleagues, especially for ‘hard to fill’ positions. “Those individuals may not want to change jobs now, but maybe there will be a perfect opportunity for them one year from now,” says Franz. It’s a strategy that Franz acknowledges “we need to become better at” and one that will require an investment in relationship management.

Want to go on a virtual factory tour?

To the digital attraction team, the evolution of analytics technologies – which allow companies to identify ideal talent profiles and seek out people who fit them – is one of the most exciting aspects of digital recruitment. “We can see which platforms work best, and these insights can inform future strategies,” Franz says.

He also sees a bigger role for e.g. virtual reality. Novo Nordisk has tested this recently to attract job applicants for its insulin manufacturing plant in Kalundborg. Applicants could go on a virtual tour of the factory and experience work life in the area.

“All in all, digitalisation increases our ability to not just tell but also show what it means to work for Novo Nordisk,” says Franz. “I can’t wait to see what the future brings!”

Three ways to a life-changing career:

Visit: https://www.novonordisk.com/careers.html

Email job agent: https://www.novonordisk.com/careers/working-at-novo-nordisk/email-job-agent.html

Follow us on LinkedIn: http://www.novonordisk.com/linkedin


In the old days, if you were looking for, say, a chemist from Belgium, there would be no way you could find him or her yourself, if you were sitting in another country.”
As Vice President of IT Security & Quality in Novo Nordisk, Lars Falch is responsible for keeping the company safe from cybercrime and other IT risks. Learn more about his approach and why he thinks basic IT hygiene is just as important as washing your hands.

Please describe your role?
I am Vice President of IT Security & Quality in Novo Nordisk which is the unit dealing with IT security matters across the company globally. Among other things, we are responsible for implementing regulatory IT requirements into our quality management system, ensuring smooth operations of our IT security infrastructure and supporting major IT projects with IT security guidance.

What does a day on the job look like when working with IT security in Novo Nordisk?
Working with IT security is very much a balancing act where we need to ask ourselves questions like 'how much money do we want to spend?' and 'How do we prioritise our time?'. I believe that achieving 100% IT security is an almost impossible task. So we need to make compromises. Where should they be? Which risks can we take? Or not take? My day is filled with a lot of these questions that must be answered.

An important task on a normal day is to be an ambassador for IT security, making sure that we think IT security right from the beginning. The sooner, the more efficient. I also spend a lot of time communicating about risks and how to mitigate them.

All the feedback, thoughts and worries I receive from colleagues across the globe feed into the IT security direction we move in. This is how we ensure that we continuously improve our processes and our ability to respond to potential IT security incidents.

What types of cyber threats is Novo Nordisk exposed to?
Actually, we are facing the same threats as most citizens of the world. Somebody can steal our secrets, somebody can delete our data, or our computers can break down. This goes for both our private and professional life. Identity theft for you or loss of all your family documents and photos can be disastrous. To Novo Nordisk, it can result in loss of data or productivity which may affect our ability to serve patients.

A lot of threats and potential sources of IT security incidents start with an e-mail encouraging you to click on a link or urgently requesting a wire transfer. The attacker tries to trick you, just like when you go on holiday and get offered a "cheap" taxi ride in the airport. The links in those emails – if you click on them – can create so-called backdoors. This is the same as somebody copying your house key without you knowing it. They now have access to your house whenever they want. Only, in the e-mail case it is not your house but the company’s computers.
What is done to mitigate the threats? We have systems in place to limit this and prevent it from happening, but we cannot be 100% safe. Our colleagues in Novo Nordisk all have a role to play.

Some years ago, malicious e-mails were rather obvious to spot, but today the methods are way more sophisticated. Everybody can be fooled so we need to be much more cautious. Is it really your friend writing? Maybe you should ask before you click on the link or you could put yourself or the company in jeopardy. Look for anything that seems out of the ordinary. If somebody writes you about a package and you know you have not ordered one – ignore the e-mail. Or even better: contact the police.

How do you work with the police to investigate cybercrime?
In case we should experience a security incident, we will of course use all the expertise we can get, including that of the police. I have good relations with my peers in other big companies as well as the police. We meet once in a while to discuss what threats are “out there” and what can be done to protect against them.

How did you handle the recent WannaCry ransomware attack?
This was certainly an interesting weekend for everyone working in IT security! I was actually enjoying a day off with my daughter when I first heard about WannaCry and realised that this was something that might need my attention. One of the most important things to do to limit the spread of WannaCry was to ensure that the security patches from Microsoft were installed. This has been a very clear reminder to everyone about how important patching is, be that at work or at home.

Bear in mind that Wanna Cry was not aimed at someone in particular. So it could be just as devastating to Novo Nordisk or to any citizen as it was to the patients of the hospital in the UK affected by it. Luckily, in Denmark, it broke out on a national holiday and the weather was lovely. So a lot of us spent time with our family enjoying the weather instead of working on our computers.

How do you work to make employees more alert about the risk of cybercrime?
This is in the DNA of every IT security person in Novo Nordisk — we see it as our finest task to inform everybody we meet. Because that particular person might be the next person clicking on the wrong links or skipping a security patch.

We do various awareness campaigns – often based on current events, such as WannaCry. We train the IT organisation in how to identify the right level of IT security. And then we have made a turnaround in IT security, setting the IT security requirements into a business context. Relating IT security to the everyday lives of our colleagues results in a higher degree of understanding.

In the future, what will be some of the developments in cybercrime and what actions do companies need to take?
As we become more and more dependent on IT, the approaches of the attackers also change, which is something we must address. The attackers become more sophisticated and more targeted.

A virus like WannaCry was a new kind that we have feared for some years now. The people behind it will eventually become even better. This means that we must step up when fighting back. The law enforcement also works intensively to get better at dealing with large scale cybercrime that goes beyond an individual trying to make some easy money.

It will require more from the everyday life of every citizen in the world. They need to learn that basic IT hygiene is just as important as washing your hands to avoid, well, the physical kind of virus.

It’s the same as somebody copying your house key without you knowing it. Only, in the e-mail case it is not your house but the company’s computers.”

The big picture
Every year, Verizon publishes its Data Breach Investigations Report that offers a global overview of real-world data breaches* and security incidents. The 2017 report is based on an analysis of over 40,000 incidents, including 1,935 confirmed data breaches of organisations from 84 different countries.

Who's behind the breaches?

<table>
<thead>
<tr>
<th>%</th>
<th>Perpetrated by outsiders.</th>
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<tr>
<td>75%</td>
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<table>
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<tr>
<th>%</th>
<th>Involved internal actors.</th>
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<td>25%</td>
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<thead>
<tr>
<th>%</th>
<th>Conducted by state-affiliated actors.</th>
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<tr>
<td>18%</td>
<td></td>
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What tactics do they use?

<table>
<thead>
<tr>
<th>%</th>
<th>Breaches featured hacking.</th>
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<tr>
<td>62%</td>
<td></td>
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<table>
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<tr>
<th>%</th>
<th>Over half of breaches included malware.</th>
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<tr>
<td>51%</td>
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<tr>
<th>%</th>
<th>Hack-related breaches leveraged either stolen and/or weak passwords.</th>
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<tbody>
<tr>
<td>81%</td>
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Who are the victims?

<table>
<thead>
<tr>
<th>%</th>
<th>Breaches affected financial organisations.</th>
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<tr>
<td>24%</td>
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<table>
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<tr>
<th>%</th>
<th>Breaches involved healthcare organisations.</th>
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<tr>
<td>15%</td>
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<table>
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<tr>
<th>%</th>
<th>Public sector entities were the third most prevalent breach victim at 12%.</th>
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<tr>
<td>12%</td>
<td></td>
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What else is common?

<table>
<thead>
<tr>
<th>%</th>
<th>Malware was installed via malicious email attachments.</th>
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<tr>
<td>66%</td>
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<tr>
<th>%</th>
<th>Breaches were financially motivated.</th>
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<tbody>
<tr>
<td>73%</td>
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<table>
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<tr>
<th>%</th>
<th>Breaches were related to espionage.</th>
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<tbody>
<tr>
<td>21%</td>
<td></td>
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</table>

* A breach = An incident that results in the confirmed disclosure – not just potential exposure – of data to an unauthorised party.
Headquartered in Denmark, Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: haemophilia, growth disorders and obesity.

We believe that a healthy environment, society and economy are fundamental to long-term value creation. This is why we manage our business in accordance with the Triple Bottom Line business principle and consider the financial, environmental and social impact of our business decisions.

Interact with us

The best way to comment on any article is on:
Email: sustainability@novonordisk.com
Facebook: facebook.com/novonordisk
LinkedIn: linkedin.com/company/novo-nordisk
Twitter: twitter.com/novonordisktbl

For a deeper look at how Novo Nordisk works with sustainability visit our website at:
www.novonordisk.com/sustainability