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JANUARY – FEBRUARY 2019

Portugieser Perpetual Calendar. Ref. 5033: Virtually no other form of sport bonds us so closely with nature and technology as sailing. Gliding over the waves on a sailboat, you experience the elements full on. You need to read the wind correctly to make the right manoeuvres. For Portuguese seafarers like Ferdinand Magellan and Vasco da Gama, sailing ships were the key to the discovery of hitherto unknown sea routes and whole new worlds. For the explorers and discoverers of our era, sailing is simply the most stylish way to travel on water. The fact that individualists like these are equally uncompromising when it comes to their choice of wristwatch goes without saying. The Portugieser Perpetual Calendar in 18-carat red gold has a stunning, iconic design that combines elegance with a high level of functionality. And because this watch captures the ethos of the Portuguese mariners of old, it succeeds in creating something extraordinary: namely, a connection between the explorers and discoverers of today with kindred spirits of a bygone age. IWC. ENGINEERED FOR MEN.

Watch the video

ENGINEERED FOR MEN
WHO CONQUER THE ELEMENTS.

SOVCOMBANK

THE MOST PROFITABLE BANK IN
Central and Eastern Europe

SOVCOMBANK is one of the largest in terms of assets and most profitable banking groups in Russian Federation. Sovcombank identifies market niches with limited competition and focuses on achieving and maintaining strong competitive advantages in these niches. The bank management believes that a disciplined execution of this strategy enables it to maintain high profitability and excess capital through the economic cycles and to take advantage of market opportunities as they occur. Sovcombank achieved RUB 16bn of net profit for the nine months ended 30 September 2018. Return on equity (ROE) in annual terms was 20.5% (ROE of regular business was 18.7%).

The Sovcombank Group has two operating segments:

Retail: providing mass market financial services to low- and middle-income retail customers residing primarily in small towns. These services include issuance of mortgage, car and consumer loans, placement of term deposits and insurance products provided by third-party companies.

The basis of the Group's retail model is the "mini-office", which is a small office of up to 30 square meters staffed by one or two employees and supported by a centralized cutting edge technology platform supporting both customers and employees. Mini-offices represent 90% of the bank's retail network by number of branches as at 01 January 2019. Sovcombank has 15,681 employees and 2,666 offices located in 1,052 towns of the Russian Federation.

Corporate and investment business ("CIB"): extending loans
(both in form of bonds and loans) and providing investment banking services to the major Russian corporations and Russian regional governments and municipalities.

CIB services also include enabling small and medium businesses, individual entrepreneurs access to public procurement through the Group's digital platform for electronic procurement auctions and online bank guarantees.

In 2018 Sovcombank was included in Cbonds Arranger League Table (all issues) as No.6, Arranger League Table (market issues) as No.5 and Arranger League Table for municipal bonds as No.1. Sovcombank was also awarded «Best Investment Bank - Arranger for Second and Third Tier Issuers», «Best Bond Market Sales» and «Best Investment Bank – Arranger for Subfederal/Municipal Bonds» in Cbonds rankings.

"We started as a retail bank focused on pensioners as the target audience but over the past three years the bank's portfolio has been diversified. As of the recent acquisition of Rosevrobank's corporate business, we became a full-scale universal bank, which provides a full range of services both to individual and corporate clients. And uniting the business of the banks allows us to implement even more ambitious and large-scale projects."

Dmitry Gusev, CEO and Chairman of Management Board of Sovcombank

"We are pleased to note a significant increase in profits from regular operations, including interest and commission income in the retail banking. In the secured retail lending market, the bank is among the top five largest auto loan banks and the top 20 mortgage banks, while improving the quality of its loan portfolio. This allowed us to maintain high growth rates of the bank's assets and capital."

Sergey Khotimskiy, First Deputy Chairman of Sovcombank.

Since 2014, Sovcombank acquired a number of Russian banks and subsidiaries of international banking groups in Russia. The most notable acquisitions are:
- GE Money Bank Russia, a Russian subsidiary of GE Capital in 2014;
- ICICI Bank Eurasia, a subsidiary of ICICI Bank Limited of India, in 2015;
- Metcombank, an auto loan specialist Russian bank;
- Garanti Bank Moscow, a subsidiary of Turkish Garanti Bankasi A.S. in 2016;
- Rosevrobank, Russian bank with expertise primarily in corporate segment, in 2018.

Sovcombank PJSC Head office:
46 Tekstilschikov Avenue
City of Kostroma Kostroma
Region 156000, Russia
www.sovcombank.ru

IDEAS FOR THE FUTURE

We celebrate the new year with a series of future oriented themes, in the hope that they will allow you our dear readers to dream and to deploy new ideas and systems for the years to come.

In our exclusive interview with Audi's Chairman Bram Schot, he shared with us the exciting things to look forward to with regards to their journey towards electrification and digitisation and how they have once again proved to be a game-changer in the industry with the recent launch of the e-tron, Audi's first all electric-car.

We explored in an special feature entitled "Rethinking Future Higher Education" the realities of the "age of transhumanism" and how a lifetime education model with the support and incorporation of Artificial Intelligence and Cyber-Reality is urgently needed to meet the future demands of our business and society.

As part of our Top Executive Education with Best ROI series, we turn our spotlight on EMLYON - the French leading business school. We talked with their Director of MBA Programmes Professor Rhoda Davidson about how their programme design is truly future oriented by focusing on building capabilities for the professional and personal success of their participants.

The cover story of this issue features an exclusive interview with the CEO of IWC Schaffhausen Christoph Grainger-Herr, who is also the architect for the new IWC Manufacturing Centre. He reveals how the new building gives IWC a competitive edge by combining the traditional craftsmanship with sophisticated technology all in one place - first time ever in the brand's 150 year history, as well as his vision and future plans for IWC to prosper sustainably.

Further on the theme on Design Thinking and Luxury Strategy, Josemaria Siota and Thomas Klueter share with us why design thinking initiatives fail and the eight mistakes to avoid whilst implementing it in the innovation process of your organisation; Klaus Heine and Haibo Xue examine how luxury brands can benefit from personality-based branding and marketing.

Lastly, we invite all our readers to review your success in the past year and be alerted as you read the story of Nokia and the hard-earned lessons from the brand's near-death experience in 2012. Risto Siilasmaa, Chairman of Nokia, reminds us to recognise and prevent the toxicity of success.

We hope you enjoy reading this issue and we wish you success and prosperity in the new year 2019! **EBR**

THE FOUR TOXIC SYMPTOMS OF SUCCESS

BY RISTO SIILASMAA

Nokia Chairman Risto Siilasmaa at the company's shareholders meeting in Helsinki, Finland, May 2018. Photo Source: Antti Aimo-Koivisto/ Lehtikuva via REUTERS/File Photo

All companies make mistakes but success – especially huge success – can blind companies to their mistakes until it's too late to recover. Risto Siilasmaa, Chairman of Nokia, shares hard-earned lessons from Nokia's near-death experience in 2012: How to recognise and prevent the toxicity of success.

When I joined Nokia's board of directors in 2008, Nokia was on top of the world. In the late 1990s, Nokia had emerged from obscurity to become a powerhouse in the hottest new industry of the time: mobile phones. Its phones had cutting-edge technology and sexy designs, and people around the world were gobbling them up. The company owned over half of the global smartphone market. It had better brand recognition than Toyota, Intel, Walt Disney – better even than McDonald's.

Four years later, Nokia was fighting for its life. Blindsided by the iPhone and Android operating system, the company that once sold more cell phones than anyone else in the world had lost over 90 percent of its value. By the time I was appointed Chairman in May 2012, we had announced two profit warnings in three months. The value of the entire business was less than the value of our patent portfolio. Many industry analysts were predicting that Nokia might go bankrupt.

What happened?

It's easy to say that Nokia was caught by surprise. But that's not true. Nokia was very early with all the technologies that ended disrupting us. For example, we invented the App Store – and Apple is still paying us licensing fees. We had some of the first touch devices, including a separate operating system for touch devices, which was discontinued. In 2006, an internal brain trust was asked to name the ten things that Nokia would miss next. Number one on the list was an iPod with mobile connectivity, which is basically an iPhone.

> Blindsided by the iPhone and Android operating system, the company that once sold more cell phones than anyone else in the world had lost over 90 percent of its value.

So we can't say we didn't foresee all of this. We did. We just didn't act. What made us so slow to understand the threat and unable to mitigate it?

A significant factor was the toxicity of success. All companies make mistakes but companies blinded by their own success may be unable to admit or even see those mistakes and therefore become culturally unable to recover. Put another way, overwhelming success can lead to the assumption that past success guarantees future success. Call it arrogance or complacency: Either can be fatal.

Let me give you an example: In India, it's important to have dual SIM phones. People typically have several subscriptions with different operators and swap SIM cards so that they always use the one that is cheapest at a particular time of the day in a particular city for a particular type of usage. So the ability to put two SIM cards into a device and change between them by pressing a button was much better than having a pocket full of SIM cards and always having to dissemble the phone to swap them out. Nokia knew this. But the reasoning was: We are so dominant that if we don't offer a dual SIM phone, there won't be a market for it.

In 2010, the competition brought out dual SIM phones and dual SIM phones quickly became an absolute requirement in the Indian market. Meanwhile, because Nokia had hard-coded the number of SIM cards a device could use into our operating system, it took over a year to reprogram the operating system and we fell badly behind in a crucial market.

Of course, the company didn't feel it was arrogant or complacent. The management team believed they were making logical decisions. The strategic goals made sense. To be sure, the warning signs were there. But out of the multitude of data points, it's so easy to focus on the 90 percent that are good and ignore the other 10 percent. The warning signs were overlooked.

Old models of Nokia phones
Source: Reuters

Many CEOs and chairmen of some very successful global companies have asked me, "How can we avoid what happened to Nokia happening to us?"

One of the most valuable lessons from this experience was learning to recognise the four toxic symptoms of success:

1 **Bad news doesn't reach you or your team.** People may be afraid to air negative news for fear of being criticised. Or if they insist on bringing bad news to you anyway and subsequently are fired or reprimanded, that sends a message for everyone else to clam up.

In board meetings, we discussed bad news all the time but the "news" was typically historical facts that could not be avoided. We did not discuss data points that indicated significant weaknesses in our future plans. Most importantly, we did not insist on understanding the root cause of the failures.

Today, one of my favourite sayings is, "No news is bad news. Bad news is good news. And good news is no news." Facts should always be a welcome opportunity, never a negative. Embracing bad news

All companies make mistakes but companies blinded by their own success may be unable to admit or even see those mistakes and therefore become culturally unable to recover. **Put another way, overwhelming success can lead to the assumption that past success guarantees future success. Call it arrogance or complacency: Either can be fatal.**

is the only way to make sure people will tell you and your team what's really happening.

Bad news needs to reach you but you also need to go hunting for it. You may justify in your own mind that while you are not investigating the root causes of the problems, the people reporting to you certainly are. And if they found anything significant, certainly they would tell you. But that may not be true. No news is bad news. That's why you are obliged to find out how things really are. That's why you must ask questions and not shy away from, ignore, or soften something you don't want to hear.

2 **Your team is focusing on the wrong things.** This is a major challenge for any team. How do you separate what is of utmost long-term importance from what is interesting from a tactical point of view but has very little strategic importance?

For example, during my first year as a Nokia board member, a very large part of each board meeting was spent on topics like reviewing past financials, reporting to the stock exchange, overseeing the auditors, following compliance topics, analysing the company's balance sheet, discussing shareholder distributions and share buybacks, hearing about cybersecurity preparedness, and looking into our corporate social responsibility efforts. These were important topics but they did not speak to the core issue: our future competitiveness.

When I became chairman, I made a conscious choice to minimise the time spent on those topics of secondary importance and maximise time for the topics that really mattered. These were — and continue to be — the topics that affect the company's health and well-being: our sources of competitiveness; how

No news is bad news. That's why you are obliged to find out how things really are. That's why you must ask questions and not shy away from, ignore, or soften something you don't want to hear.

our core technologies and products compare with the competition's; what our customers are thinking; how our people are doing. If you start spending less time on these four topics, that should be a major red flag.

That's not to say that it can sometimes be extremely difficult to separate the essential topics from the trivial ones. My suggestion: Take a step back to determine with your team what is truly essential. That will inevitably take you closer to the right focus. You always benefit by stopping to think about this. If you don't, you will definitely miss something.

3 **You are discussing the right topics the wrong way.** Is your behaviour right for these circumstances? If you're not able to have deep and candid discussions, then the time spent talking about the right topics will not produce useful results. That's why the very first item on the agenda at my first board meeting as chairman was to determine the kind of environment that would be most conducive for us to solve our immediate and long-term challenges.

The guidelines we came up with crystallised into what we call "the Golden Rules". The eight rules defined how we would work together and the

Every time you start believing that your advantage is so strong that new entrants can't compete, you should slap yourself in the face and say, "I'm wrong even if I don't yet know how."

principles we would apply as we faced and tried to control the chaos confronting us. The first rule was very simple: Assume the best of intentions from others. Everything else stemmed from there. We wanted to build trust and encourage people to be open, to create an environment in which anyone could respectfully challenge anyone else – including the chairman or the person with the loudest voice – admit mistakes and learn.

These types of discussions are often dismissed – if they're even thought about – as not being pragmatic or ignoring the urgency of the situation. But they will pay off for years and years in a team that is more effective and, not unimportantly, one that is more pleasant to work with.

4 **There is often just a single plan with no alternatives.** To see alternatives and present them to others requires trust, the ability to discuss possible bad outcomes, and an open communication culture. Vice versa, a generic lack of alternatives in planning speaks of potential cultural problems. Any major decision taken without considering different scenarios is a warning sign.

On the old Nokia board, we saw the future as a dark landscape crossed by only one well-lit path – that was the official plan. But as we discovered time after time, the plan never worked out and instead of leading us to the future, the path left us wandering in the wilderness. That's why the new Nokia board decided that we had to explore unknown terrain. The only thing we could be sure of as we looked towards the future was that we would not follow the only lit path we saw in front of us.

Scenario planning enabled us to identify various ways to go forward. Even if we didn't strictly follow those paths, we had a better sense of the landscape they covered.

Always have alternatives. Alternatives free your mind to imagine everything from the best to the worst outcomes – and come up with an action plan for each option. The scenario work we do today

helps us to try to ensure that whatever happens is not a complete surprise.

Today, Nokia is an entirely new company, the result of a complete and fundamental transformation. We're one of the top two companies in the multi-billion-dollar global digital communications infrastructure market. Our entreprise value went up more than 20 times between mid-2012 and mid-2017. At the same time, we basically changed all the atoms in the company. Out of our 100,000 current employees, less than one percent carried a Nokia badge in 2012.

Today, we maintain a constant lookout for the warning signs. We think about the worst outcomes and we talk about them, prepare for them and plan specific actions to avoid or prevent them.

There are no guarantees – ever. You need to feel insecure. The moment you start to feel, "Hey, we have everything under control", you are already on the way down. Every time you start believing that your advantage is so strong that new entrants can't compete, you should slap yourself in the face and say, "I'm wrong even if I don't yet know how."

Conversely, by constantly maintaining a lookout for the signs of trouble, you can stay successful longer. ⬛

About the Author

Risto Siilasmaa is the Chairman of the Board of Directors of Nokia Corporation since 2012 and was interim CEO in 2013 and 2014. As Chairman he led Nokia through its transformation from an ailing devices company to a successful network infrastructure player through the divestiture of the Nokia device business to Microsoft and the acquisition of Nokia Siemens Networks and the acquisition of Alcatel-Lucent. He is also the author of *TRANSFORMING NOKIA: The Power of Paranoid Optimism to Lead Through Colossal Change* as well as the founder and chairman of F-Secure Corporation, a Finnish cybersecurity company.

Transforming NOKIA: The Power of Paranoid Optimism to Lead Through Colossal Change, By Risto Siilasmaa (McGraw-Hill Education, 2018)

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craftsmanship
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TECHNOLOGY

A conversation with
Christoph Grainger-Herr
CEO OF IWC SCHAFFHAUSEN

In the new IWC Manufacturing Center, IWC Schaffhausen combines traditional craftsmanship with sophisticated technology to produce high-quality timepieces like the iconic Pilot's Watches or the Portugieser. The building was designed by the brand's CEO, who is a trained architect. Christoph Grainger-Herr sat down to talk to us about recent developments and future plans for IWC.

Q **Christoph Grainger-Herr, we congratulate you and your team on the opening of the new IWC Manufacturing Center. How have the first months of operations been?**
A It has been an exhilarating experience. There has been an immediate shift in the working atmosphere. The IWC Manufacturing Center really ties together the character and identity of our brand with the pride that our people take in their work as watchmakers. For the first time in our industry, you see people together in an environment that reflects the brand, the craft and the individuals behind the watches. As you walk around, you sense all these things at the same time. No

"For the first time in our history, we have brought together the production of movement parts, movement assembly and case-making in one place."

other place communicates so thoroughly perfectly what IWC is all about. That's what's so beautiful about it.

Q Why is this such an important milestone for IWC?

A For the first time in our history, we have brought together the production of movement parts, movement assembly and case-making in one place. This enables us to configure our production processes in the best possible way to ensure that they run optimally and produce perfect quality. The entire process of creating value – from the raw material to the individual movement component and onto the finished movement, progresses in a logical order on a single floor. Like our founder Florentine Ariosto Jones in 1868, we combine craftsmanship with modern technology. We are, for example, using high-precision milling and turning centres to produce movement components within tolerances of just a few thousandths of a millimetre. The movement assembly process, on the other hand, is carried out entirely by hand using an innovative line concept that builds on the original entrepreneurial idea of our founder.

Q You are a trained architect and helped to design the new IWC Manufacturing Center. What requirements did you have?

A The new building needed to offer optimal conditions for production and excellent working conditions for our employees. It was also important to provide visitors with a unique experience. But we didn't just want to build a functional factory. We wanted to bring

"We are constantly learning and making improvements, and that's exactly the purpose of the new building."

Left: IWC Manufacturing Center exterior view main entrance by night. Right: IWC Manufacturing Center reception

to life our vision of how a watch-manufacturing centre should look in the 21st century by designing an aesthetically pleasing building that perfectly encapsulates the spirit of our brand. This is why we invested a great deal of time and thought into how to capture the essence of IWC in architectural form for our employees and visitors.

Q From where did you draw inspiration for the design?

A I was inspired by modernist exhibition pavilions. These pavilions allow countries to showcase their most significant artistic, technological and scientific achievements. This blend of gallery,

workshop and exhibition space seemed a fitting architectural foundation on which to base the design, and the classical modernist style is an excellent match for our brand. We are a manufacturer with a 150-year history, but we are also always looking towards the future.

Q How can architecture foster good working conditions?

A A crucial aspect is the proximity of the offices and production facilities. This means that different departments can communicate quickly and easily, and our teams can discuss quality issues and process optimisation in real time. It's an entirely new way of working. You

"We wanted to bring to life our vision of how a watch-manufacturing centre should look in the 21st century by designing an aesthetically pleasing building that perfectly encapsulates the spirit of our brand."

magnetic fields. It also inspired their uncluttered design in the style of a cockpit instrument.

Q **What novelties can we expect?**

A Our main focus this year will be the new Spitfire collection. The Spitfire was a British fighter aircraft that perfectly combined form and function. Its characteristic elliptical-shaped wings not only made it easy to manoeuvre but also gave it an iconic silhouette. To celebrate the visionary engineering of this iconic aircraft, all Spitfire models are fitted with IWC-manufactured calibres. Among the highlights are the two Spitfire chronographs with diametres of just 41 millimetres, featuring our in-house calibre 69 for the first time in a Pilot's Chronograph.

Q **IWC will be supporting the project "Silver Spitfire - The Longest Flight". Can you tell us what this is all about?**

A This unique project will take a beautifully restored Spitfire aircraft on an epic journey of 43,000 kilometres around the globe this summer. This is extremely challenging because with its limited range of about 750 kilometres, the Spitfire was not built to fly around the world. The project is the brainchild of Steve Boultbee Brooks and Matt Jones, two British pilots who founded the Boultbee Flight Academy in Goodwood – the first recognised Spitfire flight school in the world. When we heard their idea, it immediately sparked our interest. We see this as a great opportunity to celebrate the engineering and design of the Spitfire, and to share it with as many countries and people as possible. The "Silver Spitfire" is an original Spitfire built in 1943. It was painstakingly restored to reveal its iconic silhouette in a never-before-seen way.

Q **You are also launching a new TOP GUN collection. What is your highlight?**

A It's the Pilot's Watch Double Chronograph TOP GUN Ceratanium. As the name suggests, this watch is made of Ceratanium, a groundbreaking new material developed by IWC. It combines the lightness and robustness of titanium with the hardness and scratch-resistance of ceramic. Ceratanium is also resistant to corrosion, skin-friendly, and stands out for its jet-black colour. For the first time, it enables us to manufacture all components of the watch – including the push-buttons and the pin buckle – in

have an idea, then you design it on the computer, prototype it, test it, and walk over to the person working at the machine to exchange new ideas. We have already made many changes since the opening. We are constantly learning and making improvements, and that's exactly the purpose of the new building.

Q **2019 will be the year of the Pilot's Watches. Can you tell us why you chose to renew this collection?**

A Pilot's Watches are one of our most successful product lines. Their history goes back to the early days of aviation when pilots relied on celestial navigation to determine their position in the sky. For this, they needed accurate wristwatches that were optimised for use in a cockpit. IWC built its first aviator's watch back in 1936. The most iconic Pilot's Watch, however, is the Mark 11, which was engineered in Schaffhausen in 1948 to the specifications of the British Royal Air Force (RAF). This watch defined the technical functionalities for most of our modern Pilot's Watches, including the soft-iron inner case for protecting the movement from

Pilot's Watch Timezoner Spitfire Edition "The Longest Flight" (top) Pilot's Watch Double Chronograph TOP GUN Ceratanium (bottom)

IWC

SCHAFFHAUSEN

An American watchmaking pioneer named Florentine Ariosto Jones founded the International Watch Company in Schaffhausen in 1868. He drew on the help of eminently qualified Swiss watchmakers, modern technology and hydropower sourced from the nearby River Rhine to manufacture watch movements of the highest possible quality.

a striking black finish that is much more durable than any conventional coating.

Q Corporate Social Responsibility (CSR) is becoming increasingly important. Why is it crucial for a watchmaker to be socially responsible?

A I fundamentally believe that a luxury product, which people buy for its symbolic value and the pleasure it brings, needs to be made responsibly. This is absolutely essential. It means, among other things, that our products are entirely Swiss Made, we offer excellent working conditions and development opportunities for our employees, and we also source our raw materials responsibly and use energy as efficiently as possible. In 2018, we became the first Swiss luxury watch brand to publish a sustainability report in accordance with the Global Reporting Initiative (GRI) Standards. We closely measure and actively manage our progress, and we have established a clear set of targets for 2020.

Q How are you minimising the impact of your operations on the environment?

A We became a certified carbon-neutral company many years ago. We only use Swiss hydroelectric power that is generated with zero CO^2 emissions. In the new IWC Manufacturing Center, for example, we installed solar panels and draw water for cooling and heating from groundwater sources. We are reducing our energy consumption using automatic lighting control coupled with LED lights. In December 2018, we were ranked as the best-performing company in the Swiss Watch and Jewellery sector in a WWF Switzerland report examining the environmental impact of 15 brands. However, we realise that more work lies ahead, especially when it comes to transparency and documentation.

Q What is your vision for the traceability of a watch and its components?

A My goal is to be able to document every single detail of each watch. This could be done using a blockchain-type database or any other suitable technology. Imagine if every raw material or component and its origin were recorded somewhere. If a client wanted to know where the yarn for the strap was spun, they could simply look it up. This industry should be entirely about creation, craftsmanship and positivity. Luckily, our clients value our responsible approach to production and are willing to pay a certain premium for this.

Q As the CEO, you have a lot on your plate. What is you most rewarding task?

A Creating a new product and the entire universe around it, like the storytelling, the events and the in-store presentation. When everything comes together in the right way, and you are able to walk into a shop anywhere in the world and see the product on display and our clients enjoying it, it's extremely rewarding. We are always delighted when clients tell us how much a particular timepiece means to them, and which stories they associate it with.

> "In December 2018, we were ranked as the **best-performing company in the Swiss Watch and Jewellery sector** in a WWF Switzerland report examining the environmental impact of 15 brands."

Q What would you say is the most challenging part of your work?

A The most challenging part is keeping everything running smoothly. At the end of the day, you are trying to create a perfect product and a perfect customer experience. To be able to succeed, the components of such a complex system all need to be perfectly synchronised. Although it can be rewarding when it works, it can also be challenging – especially if you happen to be a perfectionist!

Q In a globalised world, is there anything like a globalised taste in luxury?

A Despite globalisation, individual and local perceptions and tastes are not significantly globalised. You definitely notice that IWC is perceived differently in certain markets and that people associate our brand with different values. This is very interesting because our products only function in the context that people give them. If you take a luxury product out of its context and put it in the middle of a desert, for example, it's going to be very hard to understand it without all the symbols that are usually attached to it. In the Western world, there is an image of IWC that is apparently more oriented towards rugged tool and sports watches like the Pilot's Watches. In Asia, however, most markets are much more classically minded, and the demand for ladies' watches is higher.

Q What are your priorities for IWC in 2019?

A We will keep pushing to build awareness in key markets in Asia but also in the U.S., which is still the biggest luxury market in the world. I see tremendous potential for us going forward, and we have all the assets in place. I am here to build our brand sustainably. I want to develop IWC to create value for our shareholders, our clients and our employees. I am here for the long run, not just for a few years.

Q Which IWC watch would you take to an island?

A That depends on the island. If it were a deserted island, I would probably take the Aquatimer Split Minute Chronograph on a rubber strap. If it were an inhabited island, I would take my Big Pilot's Watch in stainless steel instead.

Q Thank you very much, Mr. Grainger. It was a real pleasure speaking with you. ▆▆

Top: IWC movement assembly line
Bottom: IWC visitors room

TOP
Executive Education
PROGRAMMES with the
BEST ROI

featuring

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BUILDING
competencies
that are *critical* for
FUTURE SUCCESS

INTERVIEW WITH
Professor Rhoda Davidson
Director of MBA Programmes
EMLYON Business School

Founded in Lyon, France in 1872 by the local business community and is affiliated to the Lyon Chamber of Commerce and Industry, EMLYON Business School is a French leading business school aiming to be more focused on the professional and personal success of their participants by transforming their business model in line with their commitment to executive participant success. Harnessing both hard and soft skills of their students, letting them put knowledge immediately to work using experimentation and high-impact learning experiences, EMLYON is truly a catalyst in boosting the careers and growth of their participants. To understand more about what makes EMLYON a triple accredited institution, abiding to their "Early Makers" motto and approach, we sat down with their Director of MBA Programmes, Professor Rhoda Davidson.

Q **Good day, Professor Davidson! Thank you for taking the time to talk to us today. Let's start this interview by giving us a glimpse of what a day looks like for an academic and business leader like yourself?**

A My role as EMLYON MBA Programme Director falls at a focal point between many different activities – formulating and promoting great programmes, working with faculty to deliver impactful courses, ensuring participant satisfaction, guaranteeing accreditation, and pursuing gains in the rankings. The perimeter of my responsibility covers both MBA and EMBA programmes, delivered in both English and French, in Lyon and Paris, as well as overseeing programmes delivered in China and Morocco.

My top priority is making sure that our participants are well-served. At the same time, I fundamentally believe that management is a service job and that motivated staff will create satisfied customers. So, my days are typically packed with meetings to ensure that my team and our support services are engaged and possess the resources they need to get their jobs done to a high standard.

That said, within the broader context, executive education is an industry in transition facing rapidly changing technology and increasingly tough competition. In my opinion, business schools need to be transforming their business model to be more focused on the professional and personal success of our participants. This needs to come in addition to the high quality of our research. Leading this shift within the business school is a difficult and challenging change management opportunity which takes up much of my time.

Q **As the Director of MBA Programmes at EMLYON Business School, what excites you most or what do you eagerly anticipate in terms of the school's present and future endeavours? What are some of the strongest executive programmes that EMLYON offers in the coming year?**

A The biggest endeavour that we have underway are projects related to our commitment to executive participant success. We are moving rapidly away from merely conveying knowledge to focus on capability building and measurement, which better serves our participants. Capability building consists of three things; gaining knowledge, demonstrating the ability to use this knowledge, and generating confidence to reuse it in the workplace. Managers are looking for more than gaining an understanding of finance, strategy, marketing, and operations. They want to know how to "get stuff done". Moving beyond knowledge to building

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capabilities demands a focus on experiential learning or "learning by doing". This is a huge change. The transition at EMLYON is by no means completed but is already well underway. Through our partnerships with companies such as IBM we are also harnessing digital approaches that allow our participants to set their own learning agendas according to their professional goals and to measure their own progress. With all of this transformation, it's an exciting time at the school.

Researchers tell us that learning that "sticks" needs to be tightly connected to our emotions. The Early Maker approach puts knowledge immediately to work using experimentation and high-impact learning experiences.

emlyon business school: A HIGHLY RECOGNISED FACULTY

- The members of the faculty are all highly qualified with 90% of our 130 permanent professors holding a doctoral degree
- 7 teaching and research units in touch with the business world
- A business school incubator which has coached 1,350 participwwants in supported projects since 1984
- em**lyon business school** is among the 1% of business schools worldwide awarded:

EFMD
EQUIS
ACCREDITED

AACSB
ACCREDITED

AMBA
ASSOCIATION
ACCREDITED

Q EMLYON Business School has triple accreditation from EQUIS by the EFMD, AMBA, and AACSB. Can you tell us more about EMLYON's distinct characteristics and how it lives up to its motto i.e. "Early makers"?

A "Early Makers" is a natural extension of our belief that executives come to us to build competencies that are critical for their future success. As I just mentioned, this demands experiential learning. Researchers tell us that learning that "sticks" needs to be tightly connected to our emotions. The Early Maker approach puts knowledge immediately to work using experimentation and high-impact learning experiences. This might include working in teams on projects with clients, playing serious games (real-world simulations), creating and testing prototypes, experiencing foreign business environments, or researching and writing case studies. All these types of experiences are designed to trigger the neural circuits of emotional memory. By creating salient learning events that leave a trace in our memories and by taking the time to reflect with each other on experiences, our managers can use learning to guide future thoughts and actions. This in turn provides our executives with the confidence to reapply knowledge

and build long-lasting and relevant skills and competencies. This is the great strength of Early Makers.

Q Before working in executive education, you were a business consultant and established a boutique consulting company focused on strategic innovation partnering with large multinational companies. Can you tell us the most significant development you've witnessed in your expertise thus far?

A Over the last twenty years, I was lucky enough to experience at first-hand how the power of search and the transition to a world of ubiquitous knowledge has fundamentally changed the way in which we conduct business. As business consultants we coined the term "knowledge brokering" to describe using search to find answers to business problems rather than inventing solutions. We developed processes to decompose problems into manageable pieces and to search for answers that already exist in other industries and professions. This development was enormously powerful for strategic innovation and up to ten times more effective than conventional problem-solving approaches. It's these processes that are now taught in our MBA programmes to assist student teams working on business challenges for external clients. For instance, these skills are practiced in our Entrepreneurial Leadership Project, where student teams work on a company's business challenge for six months.

Q Your work over the last ten years has focused on creating and testing action learning techniques based on open innovation and design thinking. Can you tell us more about this? How do you cultivate a unique design for your executive programmes?

A Open innovation is another way of describing knowledge brokering because it involves looking outside the company, bringing in ideas, and overcoming the not-invented-here syndrome. Design thinking also plays a key role in allowing teams to recombine answers found through knowledge brokering with internal ideas in new ways that uniquely serves the company with the business challenge.

Another key finding from many years of action learning is that when working with real projects, both the individuals and the company need directly benefit from the experience. This may sound obvious, but it can be easily forgotten in the rush to "fix the problem". This is why at EMLYON we are totally focused on developing leadership and teaming skills in parallel to problem solving and also why we pay as much attention to building client relationship skills as we do to making smart recommendations.

Q How do you make sure that the results will be worthwhile for participants and their organisations in terms of knowledge acquisition, career advancement, long-term profitability for business, and other measures of ROI for an executive education?

A It's exactly that. We have to be ruthlessly focused on the value created for both the participants and, if they are taking a part-time EMBA, on the value for the companies where they are working.

Business schools in the past have mostly focused on research, which was driving the reputation of

At EMLYON we work on a one-on-one with our participants to boost their careers, whether this is being promoted, or moving industry, or relocating to another part of the World.

the school, and in which participants would share as a kind of "halo effect". Measures of educational success focused on input measures such as number of hours in the classroom, or the number of published papers of professors, or the number of faculty nationalities. Now we need to move to output measures, such as what our participants can actually do when they leave us, the success they can expect, and the value that they are creating for their companies and for society. This is a big change and challenges the assumptions on which most business schools operate. At EMLYON we are seeking to align all of our activities with these ROI goals. And we must not forget that some elements of the ROI, such as the amazing network that you get from an MBA or EMBA, can be rather hard to measure!

Q What's the most challenging when addressing the needs of your participants? How do you meet their expectations and have them better prepared upon returning to their respective workplaces?

A We spend a lot of time in our MBA programmes focusing on the skills and capabilities that are the most highly requested in the workplace. Employers require hard skills such as strategic thinking, finance, and the ability to solve complex problems. But it's the soft skills that are the ones which typically differentiate managers; drive and resilience, ability to influence others, ability to work in teams with a wide variety of people. These skills are harder to develop but are also a natural by-product of experiential learning and the "Early Maker" approach. Developing these more generic capabilities is challenging but manageable.

It's harder for us to tailor our MBA programmes to everybody's personal learning agenda. For instance, in our International MBA, we offer around thirty different electives and participants can choose ten to fourteen of these. Some of these electives offer further technical skills such as advanced financial management, supply chain, or digital marketing. Other electives address the business impact of new technologies such as IoT, blockchain, AI. We also provide more in-depth soft

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skills electives such as people management or negotiations. But with the ever-widening waterfront of business topics, its not possible to offer everything.

At EMLYON we work one-on-one with our participants to boost their careers, whether this is being promoted, or moving industry, or relocating to another part of the World. For instance, on our EMBA programme, participants complete an individual dissertation supported by project skill-building and faculty tutoring. These projects are typically focused on a company business challenge within the organisation where the participant is employed. As a result of this project, we expect each of our executives to be promoted.

Q **Over the years, your executive education has created positive impact on leadership development and bottom lines results. What have been the remarkable achievements and best feedback that you have received?**

A Over the years many remarkable executives have passed through the MBA programmes. There were those who were leading hugely ambitious transformational projects in their multinational companies or in smaller private enterprises, and for whom the EMBA was a vital toolset for their success; Or graduates that have built their own businesses from ideas that originated during our programmes. We receive, of course, news from many graduates sharing their personal successes, promotions, and achievements.

The feedback which perhaps gives me the most pleasure is when participants say that taking an MBA at EMLYON allowed them to better understand themselves as a leader and to take better career decisions that have led to a much higher level of personal fulfilment. To quote one of our Lebanese participants, Elie Maaloui, who now works for Nissan in Paris, "What you gain from the program is not only monetary; it is a network, a new way of thinking,

> **Maybe it's truer to say that we need more leaders than ever because of the ever-expanding population of our planet and the more systemic nature of our business challenges in an increasingly interconnected world.**

tools to better yourself, and the confidence to take risks in life and your career."

Q **As the world and businesses rapidly evolve, leadership becomes more challenging. What do you think are the important qualities a business leader must have in order to drive business functions successfully into the future?**

A I'm not sure that I agree with the question. In my mind leadership has been largely the same for the last 10,000 years. Leadership is about coordinating a group to deal with the challenges that the group faces, while at the same time serving the needs and aspirations of the individuals within the group. Leadership is a human thing and our DNA has not changed that much.

While it's true that the World's knowledge is growing, but at the same time the world is a less threatening place. We don't worry about the Mongol hoards or about being eaten by a dinosaur. And do you think that things were changing rapidly during previous industrial revolutions? Of course. Maybe it's truer to say that we need more leaders than ever because of the ever-expanding population of our planet and the more systemic nature of our business challenges in an increasingly interconnected world.

Q **One of the global advocacies we have nowadays is to empower women for leadership roles across all industries. As a female leader yourself, how could we progress in such an endeavour?**

A Our future highly interconnected business world is one where knowledge brokering, collective intelligence, and collaboration are all critical skills. This future is well suited to female leadership styles; rugged self-reliance is much less of an asset. We are at the beginning of the transition to these new ways of working, but we are already seeing the change and evolution as more women put themselves forward for political office and gain a voice though vehicles such as the #MeToo Movement.

In terms of pushing this forward, I'm a big fan of mentorship, where mentors can be women or men. I was mentored by an amazing business leader who made a significant difference to my leadership style and my view of the role of management. In turn, I am more than happy to mentor others. Perhaps the largest contribution of business schools is to help our female managers to find the right mentor and identify the best role models. As more women are mentored and subsequently become mentors then this will be a great viral accelerator of female empowerment in leadership roles.

About the Interviewee

Rhoda Davidson is an experienced educator, business consultant and entrepreneur. She has worked in executive education for over twenty years at top global institutions such as IMD, Duke CE, and EMLYON. She leads strategic innovation and corporate entrepreneurship programmes with large multinational companies. As a pioneer in business-driven action learning, her focus with MBA participants is on skill development through hands-on experience. Her research has appeared in practitioner journals including MIT Sloan Management Review and the McKinsey Quarterly.

Q **With your long-established career working on strategic innovation and change management, can you tell us in three words how we can ensure the success of a strategic initiative?**

A Service to stakeholders – Teamwork – Innovation. You will notice that it's mostly about the people.

Q **People in the upper echelons naturally have a lot on their plate. How do you make sure that you maintain a healthy lifestyle, both in your professional and personal life? What are your favourite routines?**

A I have not done as good a job as I would have liked. I believe you have to put in place structure and process to make sure you take care of the three key elements of health; self, family and friends, professional. The saying goes, "work flows to the competent until they drown". It's important to put boundaries around the amount of professional opportunity you are given, matched against the resources that you can access. In situations where the three factors are out of balance, the first element to suffer is paying attention to "self". And of course, with too little time for physical exercise or inner reflection then the other two elements of your life suffer. The only solution is to find more resources, or to place strict boundaries around professional work. Patrolling those boundaries must be an on-going activity because organisations will take everything you can give. It's tough to find the right balance!

Q **What does success mean to you? Any message you wish to share with our readers?**

A For me, during this phase of my life, its about giving back and about the service I can perform in creating tomorrow's leaders. Our World has lots of challenges and opportunities ahead. It's a time of enormous change in business and we also need to work together to keep our planet healthy. Forming our best and brightest leaders from every country, is an essential job that adds meaning and purpose to my life. I can only encourage others to step-up to these leadership challenges, find a voice, and join in.

Q **Thank you very much, Professor Davidson. It was a real pleasure speaking with you.** ⧉

Perhaps the largest contribution of business schools is to help our female managers to find the right mentor and identify the best role models. **As more women are mentored and subsequently become mentors then this will be a great viral accelerator of female empowerment in leadership roles.**

> **The successful launch of our Audi e-tron is, for us, the starting point of Audi's journey towards electrification and digitisation.**

"ELECTRIC HAS GONE AUDI"

An Exclusive Interview with Mr. Bram Schot

Chairman of the Board of Management, AUDI AG

In recent years, interest in electric cars has increased sharply which has led to a greater disruption and democratisation of the entire automotive value chain from bottom to top. Audi, one of the most valuable brands in premium automotive manufacturing, has once again proved itself a game-changer in the industry with the recent launch of the e-tron, Audi's first all electric-car. Chairman Bram Schot shared with us in this exclusive interview the exciting things to look forward to with regards to their journey towards electrification and digitisation.

Q **Good day, Chairman Schot! Thank you for taking the time to talk to us today. Let's start by giving us a glimpse of what your day looks like as a successful industry leader?**

A I start my day quite early, rising at 4:45 a.m. I don't eat breakfast, so I'm on my way to the office at 5.30. My schedule is tightly packed, with a lot of appointments ranging from strategic discussions to operational issues. Therefore, it's important to listen, stay focussed and in the moment. For me, that's the best method to tackle the challenges of my job at Audi.

Q **Having been appointed as Chairman of the Board of Management at AUDI AG, what excites you most about this role and what do you eagerly anticipate in terms of the company's present and future endeavours?**

A The automotive industry as a whole is experiencing times of intensive change, transformation and disruption. At Audi, we are facing these challenges head-on: with our

Audi stands for sporty vehicles, high build quality and progressive design – for "Vorsprung durch Technik." Founded in 1899 as Horch & Cie. Motorwagen-Werke by August Horch, today the company is among the world's leading producers of premium cars. The company's innovation capability is one reason behind its success. Audi has always had a tradition of making automotive history: from quattro permanent all-wheel drive, through lightweight construction based on the aluminum Audi Space Frame, to concept cars capable of automated driving. The first all-electric series-production Audi e-tron has been officially in production at Audi Brussels since September 2018 – on the world's first carbon-neutral volume automotive production line in the premium segment. Audi believes sustainable action starts with the procurement process and extends right up to the recycling of the vehicle. The company is active in more than 100 markets worldwide and is growing continuously. In 2018 the Audi Group delivered 1,812,500 Audi brand cars to customers. The company currently employs 90,000 people worldwide, of which over 60,000 are employed at the German sites in Ingolstadt and Neckarsulm.

Audi Transformation Plan. The company is growing from a pure car manufacturer into a system provider for mobility, offering comprehensive solutions on the market. This encompasses much more than technological innovation – it manifests in the growing importance of all the business aspects of our trade. To master these changes successfully, we need to change within. We need to question our culture, our structures, our processes. Our company has the word "listen" already in its name. I, therefore, asked all Audi employees to take this literally: To listen to what our customers need and offer them the right solutions.

> Our company has the word **"listen"** already in its name. I, therefore, asked all Audi employees to take this literally: **To listen to what our customers need and offer them the right solutions.**

◉ With your career mainly developed in the automotive sector, can you tell us the most significant development you've witnessed thus far?

Ⓐ The current shift from combustion towards electric engines definitely constitutes a landslide change for our industry. It already impacts the markets, the infrastructure and the way we produce and procure. Combined with the developments in the field of digitisation – from new connectivity options and shared mobility services to autonomous driving – this might mark one of the biggest changes in the automotive business since the invention of the assembly line.

◉ When we say "Electric has gone Audi", what do you want people to visualise? What are the unique features of your e-car that you pride yourself in?

Ⓐ Audi is a sporty premium brand. It is very important for us that our first all-electric production model is a true Audi: a premium SUV, fully electrified, sporty and absolutely suitable for everyday use. The Audi e-tron offers the driving experience of a new technological era. It is the perfect combination of efficiency, performance and comfort.

Furthermore, with the Audi e-tron, we offer our customers much more than just the car. We build a new ecosystem around it with premium digital services, like functions on demand, and a strong charging network. To put it in a nutshell: We merge the new world of electric mobility together with our over 100 years of experience in manufacturing premium cars.

◉ What are the inspirations behind the design of your e-tron?

Ⓐ A clear design statement is one of the main sales arguments for customers in the premium segment. Therefore, the design of the Audi e-tron has been a crucial centerpiece in the development of our first electric car. Its features make it clearly recognisable as a fully electric model. Just one example: The Audi e-tron has a special focus on aerodynamics. One of my favorite visual and aerodynamic highlights is the virtual exterior mirrors – the first time on a production-vehicle. Our designers have translated the brand's new design language for the electric age, both inside and out. And we're just at the beginning: The Audi e-tron lays the groundwork for the generations of e-models yet to come.

◉ What approaches do you take as a company towards the full realisation of your vision of emission-free mobility?

> **The Audi e-tron offers the driving experience of a new technological era. It is the perfect combination of efficiency, performance and comfort. It is made possible by merging the new world of electric mobility together with our over 100 years of experience in manufacturing premium cars.**

A The Paris agreement on climate change is our guideline. Therefore we are working on emission-free mobility on a multitude of levels: Our Audi g-tron models can be filled up with the green fuel Audi e-gas that is produced using renewable energy sources. This process takes place in Audi's own power-to-gas facility in Werlte in Lower Saxony, among other venues. Also, Volkswagen Group's development centre for fuel cell technology is located at the Audi plant in Neckarsulm. The Audi h-tron quattro concept study is only one example for the company's technology competence in fuel cell drive systems.

There's much more to come on the electric side as well, of course: By 2025, Audi will offer twelve automobiles with all-electric drive in the most important markets worldwide and achieve roughly one-third of its sales with electrified models. We will significantly expand our offering of plug-in-hybrid automobiles as well. In the future, nearly every market segment will include models that are powered by a combination of an electric motor and an internal combustion engine and can be charged via a socket.

Q What are your views on the trends and future of electric cars? What is your assessment of the market readiness in terms of consumer acceptance and charging infrastructure?
A We are looking at many different trends and developments around the world at the moment. Therefore, the future success of electric mobility and its consumer acceptance is closely linked to the question of charging and infrastructure. Audi is ready for electric mobility and is hitting the market with a comprehensive ecosystem. Our electric portfolio will cover every relevant market segment from the compact to the full-size class.

Q Audi has set another milestone in the history of premium car manufacturing with the introduction of your first fully electric car. How will Audi revolutionise autonomous mobility?
A Audi is already offering its customers a wide range of driver assistence systems: Adaptive cruise assist, Audi parking and garage pilot or efficiency assist to name a few. Of course, we are already thinking strategically ahead: With the Audi Aicon design vision, we presented an autonomous Audi of the future – with no steering wheel or pedals. As a design concept, this study leaps ahead to show the exterior and interior design of the coming decades. As a technology demonstrator, it combines innovations relating to the drivetrain, suspension, digitalisation and sustainability in a visionary manner.

Q Since getting into the automotive space in 1909, Audi has come a long way. What are the new initiatives you are working on at the moment towards another chapter of Audi's successful history in the luxury vehicle market?
A Audi is changing from being a pure car manufacturer to becoming a system provider for mobility. Besides the electrification of our fleet, we are, therefore, working intensively on the development of new mobility services like "Audi on demand". Also, the development towards autonomous driving is keeping our engineers occupied.

Audi Brussels: Audi e-tron final inspection

"I'm rooting for a hands-on approach to leadership: Direct exchange and honest feedback are very important for me. It's the key to future success. Its foundation, in turn, is based on Audi's corporate values – appreciation, openness, responsibility and integrity."

Q What are your most significant challenges? How do you strike a balance between the short-term and long-term growth?

A Managing the transformation of our company is the most important goal for me at the moment. Short-term volatility can be a side-effect of such a transformation process. As long as we don't lose sight of our long-term goals, we're bound to succeed in the long-run.

Q As the world and businesses advance, there are changes in leadership style and focus. What do you think are the features of a remarkable leader today?

A I'm rooting for a hands-on approach to leadership: Direct exchange and honest feedback are very important for me. I'm there for all Audi employees. Especially in challenging times such as ours we need a strong team mentality. It's the key to future success. Its foundation, in turn, is based on Audi's corporate values – appreciation, openness, responsibility and integrity.

Q Leaders atop a company naturally have a lot on their plate. What are your favourite routines to keep yourself focussed and healthy at and off work?

A I am always trying to stay in the moment, to tackle the challenges ahead clearly focussed and without diversions. Also, sports like football and running help me to unwind and stay fit.

Q What does success mean to you? Any message you wish to share with our readers and the people behind Audi e-tron and the company's milestones?

A Success enables me to continue on, to do what I love and to work with the people I respect and admire. The successful launch of our Audi e-tron is the best example: For us, it's the starting point of Audi's journey towards electrification and digitisation.

Q What are the three things you will not leave home without?

A My smartphone, the keys to my Audi e-tron and a cup of tea in my stomach.

Q Thank you very much, Chairman Schot. It was a great pleasure speaking with you. BR

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Rethinking Future Higher Education

BY MARIO RAICH, SIMON DOLAN, PAWEŁ ROWIŃSKI, CLAUDIO CISULLO, COURTNEY ABRAHAM AND JAN KLIMEK

"Education is a sustainable way for cultural change and transformation."

The world around us has already changed dramatically, and the pace is accelerating exponentially. So far, the so-called "education" has not been able to catch up with this fourth industrial revolution. Visionary people are already looking beyond it, talking about the "age of transhumanism"[1]. In view of the accelerating development of Artificial Intelligence (AI) and Cyber-Reality (CR) it becomes mandatory to define human uniqueness vs. intelligent machines and Cyber Entities.[2] The new reality requires a lifetime education model, which is truly future oriented, and proposed to be based on four pillars: learning, research and design, development and deployment. This article stretches our imagination and hopefully will serve as a creative reference allowing educators to dream and deploy new systems.

INTRODUCTION: REVISITING THE FUTURE

Curiosity and the joy of creation are the power engines of education!

If we look 25 years into the future from now, we can see a different world. The Cyber-Entities are supporting people everywhere and in all aspects of daily life and work; in politics and arts, in science and technology, in education and in entertainment; in "Our-Reality" (subjective) and in the Cyber-Reality (objective). It is a useful co-existence and collaboration, which has become an integral part of human civilisation. Robots and smart machines are taking care of large part of the physical and administrative work. A large part of the human population lives and works extensively in the Hybrid Reality composed of "Our-Reality" and "Cyber-Reality". The lifetime education is also increasingly shifting into the Cyber-Reality.[3]

With the Virtual-Reality becoming seamless to Our-Reality, the boundaries between the different realities are increasingly blurry, the world has dramatically changed. Additionally, physical and mental abilities have been augmented thanks to advanced technologies and techniques. The mentally enhanced humans are considered as the intellectual elites with coaching and mentoring duties towards the rest of the population. They create the talent pool of scientist, technicians, engineers, future researchers and future designers, but they may also include some selected politicians and spiritual leaders.

People have become very "Cyber savvy". The use of the highly sophisticated and smart technology has become quite easy to handle. The social and professional life is shifting increasingly into the Virtual Reality. So are the crime and even wars. In countries ruled by powerful Lords the advanced technologies are also used for control of the citizens.

With the Virtual-Reality becoming seamless to Our-Reality, the boundaries between the different realities are increasingly blurry, the world has dramatically changed.

Almost all areas of life have changed or are in the process of being changed. Sustainability of nature and natural resources is the leading principle of the hybrid civilisation. Transportation, heating, cooling, lighting and the production of packaging and all kinds of wrapping no longer require fossil fuels. New solutions have replaced plastics. Circular supply chains are enabling permanent reuse of most raw materials. The production of food has shifted to the cities and to food producing factories. Animals are not needed anymore for the production of meat. Cities, countries and enterprises are competing in the race for self-sustainability and zero carbon footprints. The cleaning up of the environmental mess created by the exhaustive capitalism of the 20th century and the beginning of the 21st century, and the transformation towards an environmentally sustainable society have created an incredible amount of new jobs. The big challenge is how to maintain a level of comfort and prosperity, keeping a satisfactory quality of life in balance with the finite resources available and a biosphere with its life friendly durable ecosystems.

All of these require an incredible amount of human imagination to create and implement new solutions. Luckily the virtual labs and future design centres allow to experiment new solutions without causing a real harm to the environment.

REDEFINING EDUCATION: TOWARDS A CONCEPT OF EDU-ECOSYSTEM

"Imagination and dreams are an important part of our life; they must have their place in our education as well."

So, we wish to propose the four main processes that altogether encompass education:

1. **Learning, relearning and unlearning** knowledge, know-how and expertise. The example of our role models may have a big impact too.

Let's look at future education through the lens of Lea

Imagine that Lea is a digital native; she is in the mid thirty, born at the time when the iPhone was introduced to the market. Her parents were both active in the ICT industry. She grew up with an iPad and a Smartphone in her hands. Social Media, YouTube were her companions from early days on.

At the time when digitalisation was raging, she was still at school. It was a traditional school where digital devices were not welcome. She was still pursuing her formal education, preparing her master, when augmented reality was spreading fast into the industry and was slowly introduced into education. Like all other students, Lea passed through the talent assessment and led a talent challenge project in scientific research at the beginning of her studies. She found out that her talents would be best deployed in applied research.

At the same time, the development of virtualisation was picking up speed on its way to "seamlessness" with "human reality". The breakthrough came, to the big surprise of experts, because of the deployment of VR in medicine helping to contain the cost explosion and for virtual sex due to the lack of women in several large countries, the unwillingness for sex of the young generation in some other countries, and the draconic laws for sexual harassment in the so-called developed world.

Advances in Artificial Intelligence were also spreading into the workplace and daily life. Education was still reluctant to fully leverage it. Education was still focussed on learning, but the importance of transmission of knowledge was already vanishing. The world was clearly in transition.

Lea opted to work in the area of care and repair of the environment. But before she started to work in the environment cluster, she went through an extensive virtual simulation about the first ten years of engagement. She also took several "virtual practices" in this domain. Additionally, she also started to create her own individual development network.

When Lea finally joined the "workforce", the idea of lifetime education started to become reality. The concept of education was extended towards the four pillars approach: learning, research & design, development and deployment. Pilot programs for lifetime education have been deployed all over the planet, focussing in particular, on the "post-formal" education.

The hybrid reality also started to impact work, daily life and education. People started to work in different realities: "our reality", digital reality, augmented reality, and virtual reality. Since Lea has a master in "Care and repair" with a focus on environment and a specialisation in water, and she is a sustainability engineering scientist, she started to work as a research scientist in the "Environment Care and Repair Core Competency Cluster". The work on "environment" is a global key issue, and is encompassing the areas of air, water, soil, climate and the living nature.

In view of the catastrophic situation of almost all eco-systems, most people activities are shifting into the virtual reality. But the world disasters needed to be taken care of in order to recreate sustainable environment for life. Human species are at risk! Growing number of people started to work on projects aiming at leaving the planet and moving into space and other planets of the solar system. There was even a hope to move someday soon to planets around nearby stars.

Lea has an assigned Cyber-Entity watching the status, monitoring her talent development, and ensuring she was up-to-date on the scientific and technological development relevant to her professional activity. In addition she is an active member of several professional networks and participates in the educational activities of the "Global Virtual Academy" in the areas of sustainable development and environmental care and repair. Finally, she is preparing for future research in these areas.

2. **Research, search, exploration, discovery and design.** Exploration of the future and creation of a vision of the desired future of life purpose; who we are; what do we want to become, etc. (= Future View)
3. **Development.** Deliberate purposeful training and development of core skills, abilities and competencies. Personality development helps the person become mature, responsible member of the community.
4. **Deployment.** Application of core competencies in practice and further development. In this way the core competencies are becoming talents. Experiencing real life situations. Continuing to learn, research and develop enhancing talent and enlarging its scope.

In other words: **Learning** should lead to focus on selected domain expertise. Research, should lead to the development of a mature, self-driven personality. Development and deployment of the core competencies will facilitate the development and creation of talent. One needs to remember that this is an ongoing process and can occur simultaneously. The same four processes are necessary for transformation (changing existing into something new) and innovation (creating new values). Some scholars separate personal development from competencies in explaining the development of talent but we think this is artificial. In reality they intertwine with each other.

Edu-Ecosystem

Edu-Ecosystem encompasses all the elements described in Exhibit 1: It includes formal and post-formal education, Edu–Platform; Edu-Guide, Personal Development Network; Development & Talent Communities and peer support.

We are living through moments of deep transformation in education. We argue that higher education will and should not be left to academic institutions alone, but should encompass other

Educating the Einstein way

Education is a lifelong process causing an inherent and permanent change in a person's thinking and capacity to do things. Education is enabling a permanent adaptation to changing life circumstances. Education goes far beyond school and teaching.[4] All of us are confronted with formal and informal education.

The main objective of education is the development of mature, self-responsible personalities, able to cope with the challenges of life. Education also helps in the development of personality and competencies necessary and useful at all stages of life.[5] It helps to develop and to deploy creativity and entrepreneurship for a successful life.

Education plays also a key role in the development and maintenance of the fabric of human society. Well-educated people are enhancing life quality of the society.

Education is a life-long mesh of activities and experiences necessary for development of skills, knowledge, know-how, expertise and competencies, talents, personality, in addition to development of thinking, reflection and the ability to do things.

And here are four short quotes attributed to Albert Einstein when made references to the system of education during his era (and unfortunately it has not been radically changed since). We really insist that Einstein's observations are still valid today:

- "Education is what remains after one has forgotten what one has learned in school."
- "Imagination is more important than knowledge."
- "Knowledge of what is does not open the door directly to what should be."
- "The only thing that interferes with my learning is my education."

players such as corporations (i.e. corporate education and executive education), as well as new institutions. Some corporations and enterprises will become new important players in the new higher education. Lifetime learning, and unlearning, development and transformation are here to stay. The time of more of the same seems to be over.

We are living through moments of deep transformation in education. We argue that higher education will and should not be left to academic institutions alone, but should encompass other players such as corporations (i.e. corporate education and executive education), as well as new institutions.

Exhibit 1: Components of an Edu-Ecosystem

impact of unexpected transformation and innovation and the expected fully developed Cyber-Reality, we need a life-long education model. Thus, the big challenges that needs to be addressed relates to "Lifetime Education". It will be characterised by cycles of unlearning and re-learning at the pace of constant innovations generated by Cyber-Reality and fast developing Artificial Intelligence.

Worthwhile to note the following in supporting our argument:

- There is a generic shift from pure learning towards research, development and finally deployment.
- The "non-formal" education which goes beyond any formal education (and this applies to all ages) needs to be enhanced and intensified.
- Self-driven education needs to play an essential role in all kinds of educational activities.
- Personal development needs to be intertwined with the competency and talent development.

The two main drivers of education are achievement of a level and the life stage. Education needs time for the corresponding experiences and the deployment of developed competencies.

We propose a new terminology for the different stage's lifetime education process as depicted in Table 1 and the full model is shown in Exhibit 2.

In order for the model to be fully understood, it is necessary to organise individualised life-long learning and development into levels, stages and scope in order to secure relevance and meaningfulness of education. Higher Education plays a particularly important role because it takes care of key talents. But for it to be effective, it needs to focus on individuals and be extended way beyond the traditional time frame, in parallel to the lifelong talent development, as well as work on the development of our personality. Personality development is the relatively enduring pattern of thoughts, feelings, and behaviours that distinguish individuals from one another.[7] Personality is what makes a person a unique person. Everyone has his/her own pace

Peter Diamandis, best known for being founder and chairman of the **X Prize Foundation**, cofounder and executive chairman of **Singularity University**, presents a fascinating future model for future education based on five guiding principles: Passion; Curiosity; Imagination; Critical thinking and Perseverance in pursuit of long-term goals.[6] He also presents a fascinating layout of modules and deployment of exponential technologies in classrooms. Although his model is addressing elementary school level, we believe it is also applicable for later stages of education.

LIFETIME EDUCATION (LTE)

"The expected future is highly uncertain and fragile. We can either anticipate and explore the future of education, or create it. This is our choice."

What a pity that at times when many existing working activities are/will be taken over by AI-based machines and robots, we are still focussing our education on traditional skills and competencies. To cope with continuous contextual changes, the disruptive

of development and a specific talent. Talent Groups and professional development communities can be useful to gauge own development.

Changes in the composition of the work environment – the emerging workforce consists of a mix of people, robots and Artificial Intelligence based programmes and entities and there is the need to create new jobs which will replace the digitalised ones and to provide work for the growing population – a new definition of workplace seems to be emerging.

The most critical period for the development of talents takes place during the so-called "higher education". Thus, we argue that talent development will become the core element of higher education, which will be extended at least for the time of active working. We further argue that education should focus on individuals, because only individuals have talents. An innovative way for individual talent development connected to organisation development is what we label "collateral talent development". The latter was recently designed by the **e-Merit Academy**. There, an explanation is offered on how to create a process for which talent development practices will be spread across all levels of the organisation and their eco-system. This will eventually lead to a transformation of the organisational culture that will become more innovative and experience higher levels of entrepreneurship.

The proposed model for life-long education (Exhibit 2), can serve as a blueprint for the talent development path. One thing is certain – current education cannot do the job. As talent development and deployment will play a key role in the future, extended higher education will have to come to bear. However, it needs to be connected to the contextual changes and personality development.

Table 1: Achievement and life stage of Education

Level	Terminology	Objectives	Age
L1	**Basic Education** • Pre-formal • Primary formal education	Basic Skills & Competencies Life-, Social-, Mental-Competencies; New Media Literacy General Knowledge, know-how and behaviour Reinforcing and deliberate development of personal characteristics	Early youth < 10 years
L2	**Secondary Formal Education**	Deliberate Training of Key Skills Focus Knowledge Domain Professional- Business- and Work Competencies Developing Core Competencies & Talent Searching Purpose of Life & Creation of Life Design (Life & Work View)	Teenage youth 10-20 years
L3	**Higher Formal Education**	Deliberate Training Key Skills Professional-, Business and Work Competencies Talent Development & Deployment Implementing Life Design; Building personal relationship network Research of present, emerging and future context	Young adults 20-35 years
L4	**Post-formal Higher Education** • Corporate • Organisations • New solutions	Deliberate Training Key Skills Domain Enhancement or Shift Professional- Business-, and Work Competencies New Core Competencies Research: creation of new knowledge	Mature adults 35-65 years
L5	**Senior Education** • Reflexive	New Competencies Knowledge to Wisdom Sharing Life Experience & tacit knowledge Mentoring & coaching Research about the future	Senior age 65+ years

Exhibit 2: A model for Lifetime Education

Note: Other important personal characteristics proposed in this model include: tenacity, resilience, zeal, focus, autonomy, decisiveness, initiative, empathy, and passion.
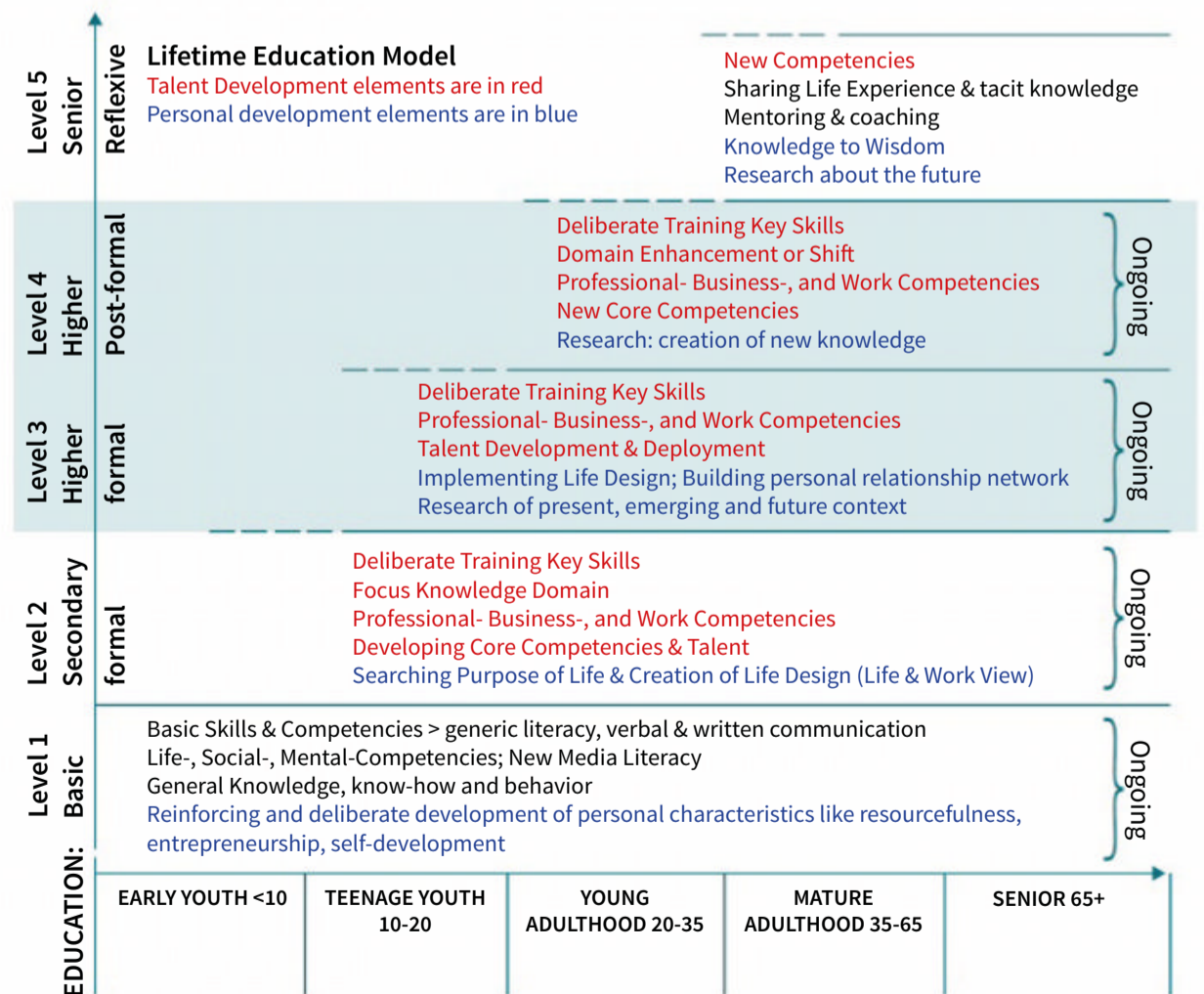
The most critical period for the development of talents takes place during the so-called "higher education". Thus, we argue that **talent development will become the core element of higher education, which will be extended at least for the time of active working.** Education should focus on individuals, because only individuals have talents.

Hess and Gozdz claim that organisations will need to become "hyper-learning communities" and leaders enablers of human development and large scale-hyper-learning.[8] We would add to their assertion only the following: "with focus on individual development and in partnership with the Cyber-Entities".

ON THE FUTURE HIGHER EDUCATION

"Passion is certainly one of the strongest drivers for our actions. But passion is like fire: it can warm or burn us."

Top Universities' administrators and presidents suggest that the contemporary university will fundamentally be transformed by distance education and technology, mass enrollments, increasing vocational-focussed programs, and privatisation. The early 21st century is a period of both crisis and transformation for higher education globally. And it is entirely possible that some sectors of higher education will change fundamentally or risk at vanishing altogether.[9]

One more time – What is the purpose of Higher Education?

Development of professional talents requires academic focus domain, (i.e. advanced and deep knowledge in a discipline, know-how and expertise). On the top of it, and based on learning, research/life design, development and deployment, competencies for the development of real talent can be rendered.

Deployment and achievement serve also to test the development level of talents. Competency and talent certification can also serve as confirmation for readiness of employment and career steps.

Regular reviews and specific challenge projects are securing the actuality and relevance of claimed ability to perform. This is confirmed by "Re-certification". And the latter, can probably be replaced by relevant achievements in practice.

<u>Levels:</u> Promising talent, junior talent, advanced talent, senior talent, and mature talent.

Similar steps may exist for development for academic career. Professors will be increasingly becoming: tutors, coaches, designers and finally mentors. Focus will be on individual talents with supervision and support. Regular progress reports based on achievements corroborated by peers, customers and superiors will be issued.

In the future, we will need a two-tier higher education, with a dynamic balance of academic and corporate involvement. It will be a kind of "dual higher education" with two stages: formal higher education and post-formal education. Both levels will be using collateral education, peer consulting and tutoring; creation of personal education networks (PEN). Higher education, thus, must be based on the four proposed processes.

<u>Formal higher education</u> will be driven by the "academia", led by professors and academic tutors, focusing on deliberate skills training, knowledge, know-how and expertise of the focus domain and its eco-system. In addition amply interim assignments in corporations and organisations should be available. Every "student" will have to make a talent assessment and perform a Talent Development Project. The transformation of Higher Education will also encompass the faculty. Professors will also be increasingly learning from their students.

Today the best example of practice oriented higher education is the "Fachhochschule" (University of Applied Sciences and Arts), a type of higher education that emerged from the traditional Engineering schools, highly popular in Germany, Switzerland and Austria, focussed on practical knowledge or industry oriented studies.[10]

Table 2: Lifetime higher education & lifetime education needs

Academia Formal Higher Education (on- and offline)	Corporations, Enterprises, Organisations Post-formal Education	Politics Policies
Graduate Education	Corporate practices Graduate Trainee Programs	
Formal Postgraduate Education Personalised postgraduate education	Executive Education Personalised Talent development Post-formal development programs	• Quality control
Professional Development Focus Domain		• Accreditation of post-formal education and self education modules e.g. YouTube
Certificate programs	Corporate Education	
Massive online courses (MOOC)	Corporate on-line courses	• Protecting "workers" and not jobs e.g. Sweden
Custom designed offerings	R & D; Innovation; Creative Problem Solving; Key Issues Management	• Fostering postgraduate and post-formal education
Hybrid learning solutions with virtual experiences	Hybrid solutions for Life Design Academy, Global Talent Development, etc.	
Platform for learners of all ages giving access to rigorous high quality learning experiences	Corporate hybrid development communities in the extended reality	• Co-funding post-formal education and tax reliefs
Whole Adaptability (AQ) and EQ development Personal Development Network person	Holistic education: talent development, personality development, fostering domain expertise, solving corporate key issues and deployment Teamwork, collaboration, project development, entrepreneurship, creation, imagination	• Policies supporting re-education of 'workers' at risk • Replacing part of working time with post-formal education
Hybrid learning communities in the extended reality	Corporate professional education communities in the extended reality	

Corporations and other nonacademic organisations, led by executives and professional coaches, will drive post-formal Higher Education. The main aim is to deepen the domain expertise by exposure to corresponding practice; deliberate training of core skills in particular, with respect to the core competencies; development of core competencies and deployment within the focus domain. This will lead to talent and personality development with supervision by academic tutors, based on specific Talent Development Projects. This allows also improving the skills of collaboration. In such manner, the Higher Education Institutions will be ready to better prepare students for a transformed and increasingly challenging workplace. Development of everyone goes on her/his specific individual pace and progress. The milestones of progress are achievements.

To cater to changing requirements, formal society and business Higher Education Institutions will need to create alliances with leading media, social media and corporations focussing on corporate core competencies. This may be linked to the creation of corporate core competencies clusters. This will qualify them to participate in the post-formal education as well.

Postgraduate programs will become the bridge between academia and real life (e.g. corporations). But they will have to bear practice and experience orientation. They need to include: collaboration, cooperation, partnership, teamwork, co-existence and communities based on three elements: common ground, open communication, mutual trust and respect. Successful "togetherness" requires those three key elements.

Some ideas for postgraduate programs

Postgraduate programs: e.g. Talent development based on Talent Challenge
- Talent Academy as Talent Forgeries: executive talents, professional talents, etc. Development and offering of specific talent development
- Leadership Development; Business Leadership, Political Leadership, Social Leadership, Strategic Entrepreneurship etc.
- Talent development communities

- Programs created from the merger of academic, corporate education and gaming technology: Simulations; Challenges; Life Design; Future View; Interactive Videos; VR journeys and explorations; VR Labs; Future anticipation, exploration and design
- Hybrid solutions for Life Design Academy, Global Talent Development, etc.

Education Dilemma

So far we have proposed a shift from education that focusses only on learning in classes towards development of individuals. But education is also creating the fabric of society and communities. Thus, it needs to take care of development of collaboration and co-creation of humans, and humans with Cyber-Entities. It needs to develop people's empathy to overcome the raging egoism and "me first" attitude.

Ideas for solutions

- Everyone creates his/her personal education network (PEN)
- Individuals are encouraged to make development experiences in diverse, different communities
- Development of community specific characteristics e.g. empathy, responsibility for others, collaboration and co-creation
- Shift from classes towards communities of mature motivated, self-responsible individuals. This is particularly important for higher education and the postgraduate education
- Create development communities for life-long education with common development needs
- Involve people in the "reflexive age" for coaching and mentoring of such communities

An interesting example are the highly successful programs form the MTA (Mondragon Team Academy): An undergraduate Leadership, Entrepreneurship, and Innovation Degree; a postgraduate International Executive Master Program in Intrapreneurship and Open Innovation, and the Team Mastery Training: A program to start, train & become an MTA certified Team Coach.[11]

Can think tanks be part of the solution for post-formal education?

A Think Tank is an organisation with the purpose to provide interdisciplinary research and advice on selected specific issues using specialised knowledge and knowledge platforms.

Think Tanks will play an increasingly important role as intermediaries between academia and corporations, due to the ongoing transformation of the education and the necessary lifetime education. They may even play a major role in higher education. The Think Tanks could create, together with an associated academic institution, global

Table 3: Shaping future Higher Education (HE)

FUTURE HIGHER EDUCATION (Examples for programs and modules)		
FORMAL HIGHER EDUCATION	**HYBRID HIGHER EDUCATION**	**POST-FORMAL HIGHER EDUCATION**
Academia, Universities Students	Think Tanks, Research Universities, Research Institutes. Academies. Students & Talents at work	Organisations, corporations, SME's Handicrafts, Self employed People at work
EXPERTISE, FOCUS AREA Learning & Development	Research & Design, Development	PRACTICE, Research & Development, Deployment
Academic Postgraduate programs	**Hybrid Postgraduate programs**	**Corporate Postgraduate programs**
	Future Research & Design	
Global Key Issues →	Talent Development Challenges	← Corporate Key Issues
Creativity & Entreprneurship (Theory)	Creativity & Entrepreneurship (Development and design)	Creativity & Entrepreneurship (Deployment)
	Development of the future work	Executive Education
	Converging Innovation:Business, Pedagogy, Technology and History of Ideas	
	Transformation & Innovation	
	Strategic Development of SME's	
	Converging topics: e.g. Biotech, Informatics, Neurotech, genetics	
	Interdisciplinary programs: e.g. History of Ideas, History of the Arts, Economy and Business	
Life Design	Future of work	Career Design

Exhibit 3: Positioning of a Think Tank

POLITICS
Government

Co-Financing programs
Accreditation of
quality controllers e.g.
Academy of Science

SOCIETY
Communities
TALENTS

Individual Development
Network (IDN)
Talent Challenges
Life Design

THINK TANK
FUTURE RESEARCH
Research Universities
New Solutions

Context Research
Future Research
Publications

ACADEMIA

Content provider
Focus Domain
Expertise
BASIC RESEARCH
Lectures
Publications

ACADEMY of SCIENCE

Accreditation of content
Acknowledge "scientific"
Transform R&D to
knowlege and tech

Corporate Education

CORPORATION
Business Practice

APPLIED RESEARCH
& DEVELOPMENT
Products & Services
Solutions

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postgraduate development programs. They will also elaborate "Future views" for specific topics and make recommendations.

Extending the ADECCO experience:
Some reflections

Some of the Adecco Group's programs could be developed into collateral programs spreading the learned practices across the entire organisation. The key elements of collaborative education are: self-education; tutoring peer-to-peer; and finally, top-down coaching and mentoring. Simple techniques like constructive feedback; collaboration and cooperation; creative problem solving; etc, introduced for working teams and project teams as well available on-line are powerful enablers and drivers.

The "CEO for One Month" could be expanded towards all executive core competencies, covering leadership, entrepreneurship, management and business acumen. This could be the beginning of collateral leadership development.

Another excellent element would be the creation of an Executive Future Board with young executives focussed on future business, with mentoring and coaching of their corresponding holders of functions on the Executive Business Board.

Finally, the collateral Talent Development as offered by e-Merit Academy could be a boost for

THE ADECCO GROUP CASE

The Adecco Group is the world's leading HR solutions provider and a Fortune 500 Global Company. It has developed some highly interesting innovations in this area.[12] They are oriented towards making the future work for everyone.

How is the Adecco Group impacting Education?

- The Adecco Group is hosting **"Work Days"** on own campuses globally where youth aged 10+ join to learn about our environment, the types of careers that exist and shadow a variety of our colleagues. The participants can develop together solutions for talent challenges based on a real life scenario. In 2018, the Adecco Group employees became mentors for one day, sharing their expertise with thousands of young people. 4,000 colleagues participated. 8,000 youth had a work experience. 47 countries celebrated Experience Work Day.

- The **"CEO for 1 Month"** program is providing outstanding opportunities to talented young people around the world. As a career beginner, it's often difficult to find a job because of a lack of work experience. With "CEO for One Month", the Adecco Group addresses this issue and offers young people an exceptional opportunity for a special kind of beginning to their career. The finalist will not only gain work experience during his/her internship but will also be given the unique opportunity to skip a few steps on the career ladder and get a glimpse of a position that would normally take years to reach, and would usually require a wealth of professional experience and very specific circumstances.

Each year, the Adecco Group opens the application process around the world to apply to be CEO for One Month in local countries where they do business. The finalists are invited to interviews and assessment bootcamps. The applicants are assessed on a wide range of skills.

"CEO for One Month" runs in 47 countries, where the first step for candidates is to apply to become CEO for One Month in their country of residence, before making it to a shortlist of 10 top performers. Of the final 10 candidates, 1 will be chosen to become Global CEO for One Month. Very strong applications are also considered for exciting

Education is also creating the fabric of society and communities. Thus, it needs to take care of development of collaboration and co-creation of humans and humans with Cyber-Entities. It needs to develop people's empathy to overcome the raging egoism and "me first" attitude.

internships through our brand network of companies where we actively place talent on assignments and exciting future opportunities.

In 2018, the 47 CEO for One Month nominees from all of our countries competed for a chance at the helm of our global organisation. This Global CEO for One Month works under the direct supervision and mentorship of our very own Alain Dehaze, CEO of the Adecco Group. The selected Global CEO for One Month gains a taste of how to run a multinational company with 34,000 employees and 20 billion euros in revenue. The highly qualifying experience could be a huge boost to any career!

How is the Adecco Group leading innovation in the world of work?

The Adecco Group's purpose is to make the future work for everyone – that means embracing innovation, investing in innovation and leading innovation. Innovation is one of the core pillars of the Adecco Group's corporate strategy – Perform, Transform, Innovate. The Adecco Group employees are encouraged to innovate, here are some outcomes:

- The pioneering recruitment-on-demand app Adia was the brainchild of a former CEO for One Month finalist Ernesto Lamaina
- YOSS – our groundbreaking freelancer platform – was co-founded by another TAG team member Guillaume Herrnberger
- Adecco has established AGX – an in-house digital incubator to pilot and deliver new solutions and services e.g. YOSS
- Through collaboration with industry leaders – Microsoft (YOSS)/ Infosys (Adia)
- Adecco's Foundation acts as a social innovation lab to improve workforce vitality and support the work readiness of underserved populations
- Adecco's is embracing technology in the way it operates in-house – transforming our systems to improve how we deliver our services
- Offering the kinds of talent services and support that Adecco's customers need to innovate in today's changing world with:[13]
  - ~ Up- and re-skilling through General Assembly and Lee Hecht Harrison
  - ~ YOSS and Adia – solutions to innovate how we connect for work
  - ~ A 360 degree ecosystem that covers the entire work-life cycle

AGX the Adecco innovation incubator and a key step towards post-formal education.

Role of Academies of Sciences and Research Universities

It is rather unusual to discuss the role of academies of sciences in the context of education, but we are convinced that missions of the academies of sciences will orient (if not doing so already) towards educational matters. Note that even today some academies emphasise their educational mission, e.g. French Academy of Science mention in its Status the mission *to watch over the quality of science teaching and take action in order to facilitate the achievements of scientific development to pervade the human culture of our times.* The concerns of the Academia are not only related to the training of future researchers, but they also include the objective that all pupils acquire high scientific culture, which will be vital for them as they grow into responsible citizens. ALLEA, the European Federation of Academies of Sciences and Humanities, fulfills its mission among others, through working groups. One of them is the ALLEA Working Group on Science Education, focussing on fostering science education and improving its quality by raising the awareness of politicians about the importance of science education.

Nonetheless, academies of sciences throughout the world have different structures and roles. In some countries they are basically learning societies consisting of the elite distinguished groups of scientists but in other countries they are an umbrella organisation for research institutes (e.g. Austrian Academy of Sciences, Polish Academy of Sciences). When academies play a role of research centres there is a vivid debate whether to transform it into the best educational institutions in their countries. For example, a domestic discussion has recently swept through Poland whether to create a new university that will not compete against existing domestic universities but serve them by fulfilling the role of a centre of scientific and academic excellence. Such a university could be formed by harnessing the potential of the institutes affiliated with the Polish Academy of Sciences. It is being designed as multidisciplinary

and international in its nature and it is claimed that it should systemically provide services for other higher education establishments in Poland and act as a centre of excellence that can be used and benefit from. Such institution should have a lightweight, central structure, and its institutes should enjoy a high degree of autonomy, necessary for the implementation of independent research missions and "agile" management. No matter if the project turns out to be a success in the nearest future, it seems to be a desired kind of mission within the anticipated educational ecosystem of the future.

Irrespective of the current structure of an academy of sciences, it seems that in the future they all might play a role as quality assurance in education. Academies are the only highest-level organisations independent of educational system itself that are qualified to accredit educational curricula and contents at various levels. Whether or not some academies of sciences will transform into research universities, such institutions will increasingly be created in various countries since it becomes clear that "in a knowledge intensive society, the research university is a key institution for social and economic development".[15] The key feature of such institutions is the production of new knowledge. Chan (2016) argues that "university research is now the most powerful impulse for human progress" and as such cannot be forgotten in the debate on future education.[16] There are cases of completely new institutions of that kind and it seems they might constitute a kind of a vertex on an educational path. A good example is Okinawa Institute of Science and Technology, which aims to contribute to the development of science and technology worldwide by conducting internationally distinguished education and

to McKinsey Report "Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages in 2030", between 400-800 million people may lose their jobs, because of automation.

research. Such institutions foster a global innovation ecosystem to create new businesses and industries based on R&D on one side and are also excellent platforms for developing various kinds of talents.

Other possible new education entities
- Hybrid, individualised, but part of teams, communities and circles
- Edu-Tanks, Hybrid social circles; Talent championships
- Virtual Education Academies for specific core competencies and talents
- Cloud Education securing access to education for remote areas for free
- Global Virtual Meta-Network encompassing many education networks

and entities. A kind of "Virtual Education Amazon"
- Global Virtual Academy. Virtual practice; Life preview: design → options → choice → decision → preview of potential future 5-20 years
- "Virtual art" → virtual role play
- "Cyber Education Academy" encompassing Universities and Research Universities

Postformal education for non-academics

Beside the big gaps in lifetime education for people with higher education between mid twenties and mid sixties, there is another even bigger gap; it is the education of people without academic degree after their formal basic education. This is the case for most of the employees of the large corporations, the SMEs, the self-employed and the handicraft workers. They have decades of work and life experience but their activities and even jobs may be at risk to be taken over by smart machines and robots. According to McKinsey Report *"Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages in 2030"*, between 400-800 million people may lose their jobs, because of automation, but also 375

million people will have to switch their occupation and learn new skills.[17]

The big question is how to secure lifetime education for this kind of working people, and keep them employable. The most urgent issue is certainly to make them digital savvy, able to work in a digitalised environment and to collaborate with the Cyber Entities.

What could the Higher Education look like and contribute to employability? Could it be collateral education, or perhaps, peer to peer, assigned experts?

Could working people exchange their know-how and experience against education provided by qualified people from younger generations? Should qualified students after their studies be paid for a six to twelve months practice helping working people to enter the digital and subsequently to the virtual age? How could virtual practice-oriented programs look like and help sustain employability?

At the same time, there are many jobs where skills required are unique; jobs that need creativity and imagination like hairdressers, designers, photographers, and carpenters. Customers nowadays are looking for new, different, unrepeatable solutions, handmade product. Therefore in many countries skilful people for this kind of jobs are needed, well paid and hard to find. Currently there are not sufficient talented craftsmen to address the needs, so imagine what will happen if the vast majority of people focus on competences in the digital and virtual sectors. It seems that very soon talented craftsmen, whose work is comparable with artistic jobs, will be unique, even better paid and always desirable.

Therefore, we need to make sure that education system in vocational schools is not being neglected and meets the following requirements:

1. Enhance the perceived and real value of the vocational jobs. For example with certificates from higher education institutions. Offer such certificates along the lifetime education.
2. Open up avenues to higher education for people

with several years of practice, based on their working experiences.
3. Create lifelong career counselling.
4. Facilitate access to the newest technology, technology labs, and new solutions in practice.
5. Implemented system of lifelong education, create lifelong education centres combined with update and know-how exchange. Secure access to coaching during and after studies.
6. Make sure that teachers are aware of their role and requirements.
7. Education programs should be flexible and easily manageable, there is a need for mechanism that would allow changing programme according to the needs of the market, employers and environment. Vocational education has to follow the needs of the market.
8. The development of soft-skills should be mandatory part of vocational training.

Certainly people at work will need more self-responsibility and self-development in their on-going education. The real big issue is, what can be transferred into the work of non-vocational workers, and what role could Higher Education play in this respect. This is a theme that we plan to address in a separate future essay.

THE CORE CONCEPT OF TALENT DEVELOPMENT

In the Cyber-Age, talents are the most valuable assets of the organisation. Talents are the guarantee for human uniqueness in business! They are the gems, which needs to be discovered, shaped and cut.

Talent

Talent is in its essence a successfully deployed core competency. A core competency consists of a core skill deployed within a focus domain of expertise. Development of skills needs intense deliberate training and practice.

The four pillars of Talent Development

LEARNING

RESEARCH

DEVELOPMENT

DEPLOYMENT

The big question is how to secure lifetime education for this kind of working people, and keep them employable. The most urgent issue is certainly to make them digital savvy, able to work in a digitalised environment and to collaborate with the Cyber Entities.

Development of competencies of talents happens through recurrent deployment. The focus domain needs as well continuous learning, up-date and practice. We need to understand the "uniqueness" of people due to their personality and talents on one side and those of smart machines on the other.[18] In addition we need to explore the synergies and the collaboration of people with smart machines. Probably there will not be an either-or situation. The smart machines will enter just gradually into many job areas enhancing people's work. In general, it will be a rather complementary collaboration, rather than competitive one. But no doubt, there will be also total shift of many activities from people to Cyber-Entities.

Talent Development

A core competence based on a core skill can become a talent, but it takes a lot of deliberate training, development and deployment to get there. Talent deployment is purposeful application of talent within the selected domain of expertise. The milestones of progress are achievements in the deployment.

Talent development is an essential element of the Life-Long Education. It starts ideally in the teenage period. Then, any student entering the university should know and reassess what his or her talent is. This should become a mandatory module for all studies.

There is no talent development without the four pillars: Learning, Research, Development and Deployment. Therefore, higher education needs to support deep learning about the focus domain and related domains, reinforce deliberate training of key skills, focus on individual development, foster self-responsibility, enhance the development of personality, and take care of the development and deployment of core competences.

Future competencies and talents

The fast-changing context requires new competencies. We are experiencing growing uncertainty, volatility, complexity and ambiguity. Nevertheless, several things are visible:

- The increasing need for digital and recently virtual competencies and global connectivity
- Changing work environments. More and more people must work beside smart machines and even with them in a team.
- Increasing parts of the work are being taken by smart machines
- Growing need for collaboration and co-creation
- Higher focus on human competencies and talents
- The need for adaptability, Resilience, Scientific approach

Thus, the main individual competencies should include:

1. **Life competencies (SELF):** Generic and digital literacy, verbal & written communication, negotiation, critical and future thinking, imagination, creative problem solving, generic entrepreneurship, inner strength and resilience
2. **Social competencies (OTHERS):** Relationships, life partnerships, collaboration, trust & respect
3. **Work competencies (WORK):** Professional competencies; Leadership; performance, value creation, adaptation, collaboration and co-creation etc., techniques of the scientific research
4. **Core executive competencies LEMBA** (Leadership, Entrepreneurship, Management, Business Acumen) and **executive key drivers APASO** (Acceptance, Power, Achievement Status, Ownership)

If we look at the top key competencies required for work in five to ten years from now, we will find out that they are mainly related to specific human competencies:

- **Thinking** rational and irrational thinking, common sense & sense making, computational thinking, cognitive flexibility, finding creative solutions, complex problem solving, critical thinking, future thinking, design thinking, transdisciplinarity; also scientific thinking
- **Social competencies** (empathy, collaboration, virtual collaboration, negotiation

- **Meaningful creation and destruction** based on creativity and entrepreneurship and intuition based on empathy and imagination
- **Meaningful and purposeful action** based on free will and autonomy
- **Caring** (social and health caring, sustainability, service orientation)
- **New media literacy** (social media, visual media)

Collateral Talent Development (CTD) and Life-Long Education

Collateral development is spreading and sharing talent development know-how upwards, downwards and laterally to peers, infusing talent development practices into organisations' culture. It begins with the focus on individualised talent development of executive talents completing an executive challenge with collateral development of competencies and talents of the project team. Later on leads to a rollout into the organisation.

The participants of the project team working on a Talent Development Project can be enabled to become coaches for talent development of their peers. Collateral development links talent development to solutions of organisational key issues and future development of the organisation. In this way they are creating and enhancing entrepreneurial spirit in the organisation. But this requires involving top executives from the organisation as mentors and coaches. In addition, external talents are also getting involved on a virtual basis attracting them towards collaboration with the organisation.

Education and the future of work[19]

Within the next decade – we will have a massive reduction and transformation of human work due to the Cyber-Entities, some estimate it to be as high as 50%. But this is unevenly distributed, which means that some jobs will vanish while others will only slightly be affected (5-10%). The vast majority of jobs will be enhanced by Cyber-Entities.

Many jobs are already affected today by Cyber-Entities, like computers, smartphones, the Internet, digitally enabled production, 3D printing, etc. Often efficiency and quality have been improved. Sometimes it is

THE CASE OF e-MERIT ACADEMY

e-Merit Academy has created a new framework involving outstanding academics and executives, which helps talented executives and their firms deal with the new landscape that is shaping up due to the transformation based on digitalisation, virtualisation, and globalisation. It opens an important path towards the new world of Cyber Age.

This new way of development is designed and targeted for high potential executive talent. In the digital age information became a value. In the virtual age talents will have to be treated as value. The ability of partnership with the non-human entities will be of high value as well.

e-Merit Academy offers an innovative personalised Executive Talent Development, which is also linked to corporate development. It is labeled as: Collateral Talent Development. It is a new framework that helps talented executives and their firms deal with the new landscape that is shaping up due to the transformation based on digitalisation, virtualisation, and globalisation. It opens an important path towards the new world of Cyber Age. e-Merit Academy is supporting the in-house development of executive talents. The executive talents do not need to leave the company throughout the development.

just convenience more than a requirement. Computer savvy is a standard requirement for many jobs. Communication without smartphones is often not possible. In sum, the job mix will include the "old" jobs, modified jobs due to Cyber-Entities, and new jobs, most of them not known today.

It also means that we will have to deal with several major issues:

1. **Continuous skilling and re-skilling of the workforce and reinventing talent development.** This must be done within the lifelong education concept.
   - We need to develop models for the converging academic and corporate education.
2. **Talent development will become the core element of the lifelong education.**
   - This requires innovative talent development and deployment models.
3. **Finding solutions to cope with the massive reduction of human work due to AI based automation and robots in the next decade.**
   - Developing solutions like enlarging the scope of paid work to non-paid value creating activities, e.g. social, care homework; developing new working time models and models focussed on outcome;

reduction of working time for humans and using more often flexible working time.

4. **Change the existing tax system from income taxes to taxes on value and wealth creation.**
   - New tax policies will be needed.

5. **Prepare the workforce to collaborate with the Artificial Intelligence powered Cyber-Entities.**
   - People must learn how to collaborate and co-create with the Cyber-Entities.

6. **Getting ready for the AI based Cyber-Reality and dealing with social and political consequences.**
   - Start preparing for work in "Hybrid-Reality"economy where in 10-15 years most of the new jobs will be available in the Virtual-Reality. Key for this will be the"hybrid education".

CONCLUSIONS AND IMPLICATIONS

"People have dreams, computers don't! We need an education focussed on the desired future and not just on the expected one."

Our world is in midst of digitalisation and is fast shifting towards a world dominated by virtualisation and artificial intelligence. People will work and live in collaboration with smart machines. This will lead to awkward distortions and disruptive contextual changes. We are at

Computer savvy is a standard requirement for many jobs. Communication without smartphones is often not possible. In sum, the job mix will include the "old" jobs, modified jobs due to Cyber-Entities, and new jobs, most of them not known today.

the dawn of a deep transformation with sizable scope that the world has never seen before; it is a world with fully developed virtual realities equipped with artificial intelligence. It is a journey into the big unknown and the bad news is that there is no way of going back. To cope with this deep transformation, we will need a life-long education that encompasses various forms and multiple levels of learning and applications.

The new landscape will embed four pillars that encompass education: learning, research, development and deployment. There will be a strong focus on individual personality and talent development. Talents are the most valuable human assets!

Transformation of education is a "massive transformative purpose", which is highly aspirational for an individual or group. This, perhaps, will become the biggest and most relevant one for our civilisation, and is crystal clear "why" we should be doing it.[20]

Higher Education has a future, but the transformation of the entire higher education system is inevitable. Time has come to start designing the future with an emphasis on the formal and the post-formal Higher Education. Otherwise we may have more of the same, just labeled differently. All key stakeholders: academia, enterprises, corporations and organisations, society, culture and politics need to be involved in this process.

Recommendations and suggestions
- Explore permanently the changing context. This is a joint challenge for "faculty", "students" and people at work.
- Explore the opportunities for the creation of a global digital on virtual education platform for an "Edu-zone" (I.e. the "Amazon" of education). Global education can act as a source of competitive innovation; provide

THE CASE OF THE GLOBAL FUTURE OF WORK FOUNDATION (GFWF)

GFWF is a "non-profit organisation" created by a group of leading academics, C-Level Executives and Senior consultants, committed to develop concepts, methodologies and tools to educate and better prepare private and public institutions, as well as high potential talents, to the realities of the future. The idea was born following a series of discussions held, for which one common observation emerged: We are facing a lethal combination of three simultaneous forces that are transforming the landscape of tomorrow. Work in the future will never be the same. Most workplace stakeholders are ill-prepared or not prepared for this new workplace at all. These three forces that drives the transformation are: rapid advancement in digitalisation technologies, increased globalisation and the quest to constantly create concepts, paradigms, products and services.

GFWF assembles a global group of experts in various related fields, disciplines and professions (i.e. academia, business and politics); they forge a synergy to develop innovative events and projects connected with the future of work.

opportunity for attracting the best talents for competitive advantage. It can become a valuable pipeline for new ideas, concepts, business models and start-ups.

- Prepare for the next wave of technology deployment with high impact on education: AI, CR, cognitive computing; Internet of Things; 3D printing; drones; block-chain etc. Focussing on the future developments can help education to be prepared for the opportunities offered by new and proven technologies.
- Enable individuals to take care of their own individual education eco-system. They must create their own development network and become part of a talent community. Support organisations become "hyper learning and transformation communities".

Implications

- Each level of education has a certain number of mandatory elements e.g. progress in the expertise of the focus domain; catching-up with the relevant technology; updating the knowledge about the context changes, etc. This requires tight links to professional activities and achievements track record.
- Shift from academic class-oriented curricula towards individual life design[21]
- Higher Education should also teach students how to share knowledge
- Adapt the mix of guided development, and self-development is accordingly the level of maturity of the individual. Take the life situation of everyone into consideration, e.g. parenthood, partnership, nutrition, health etc.
- Future Higher Education, formal and post formal will require more impact from the practice; society, business and politics
- It is important to start looking at the education system as a whole. ■R

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How Luxury Brands can benefit from Personality-based Branding

BY KLAUS HEINE AND HAIBO XUE

Luxury brand management is identity–driven. Drawing on the concept of anthropomorphisation, Klaus Heine and Haibo Xue outline how to complement identity-driven with personality-driven branding; to create brand meaning in times of symbolic consumption, and how to start bringing your brand personality alive by answering five questions about the Big Five of Luxury Brand Personality.

Across virtually all societies, humans feel a need to anthropomorphise inanimate objects (Freling and Forbes, 2005). When asked to imagine a brand as a person, people show no difficulty in assigning human characteristics to brands as if they would describe other people. Brand managers often try to humanise their brands with anthropomorphisation techniques using brand characters, mascots, and spokespeople. Benefits include improved brand liking and closer brand-consumer relationships, which can even reach the level of brand love and 'irrational' loyalty (MacInnis and Folkes, 2017).

Paradoxically, anecdotal evidence suggests that many brand managers do not believe their brand to be people themselves, even though they may aim at creating anthropomorphised brands in the minds of consumers. For many brands, 'brand personality' still does not consist of more than a few traits that are used for brand personification (Freling and Forbes, 2005). Drawing on the concept of anthropomorphisation, the personality-driven approach to branding complements identity-driven brand management and takes it a step further.

What is Personality-driven Branding?

Personality-driven branding can be characterised by the following four main features:

1. **The brand is seen as a person by everyone inside the company:** The central idea of personality–driven branding is to enliven a brand internally in the minds of brand managers and company employees (MacInnis and Folkes, 2017). If managers aim to humanise their brand in the minds of their customers, first, they should start treating their brand as a person themselves.

2. **The brand personality has her own free will, in line with the brand vision:** One of the essential characteristics of humans is their
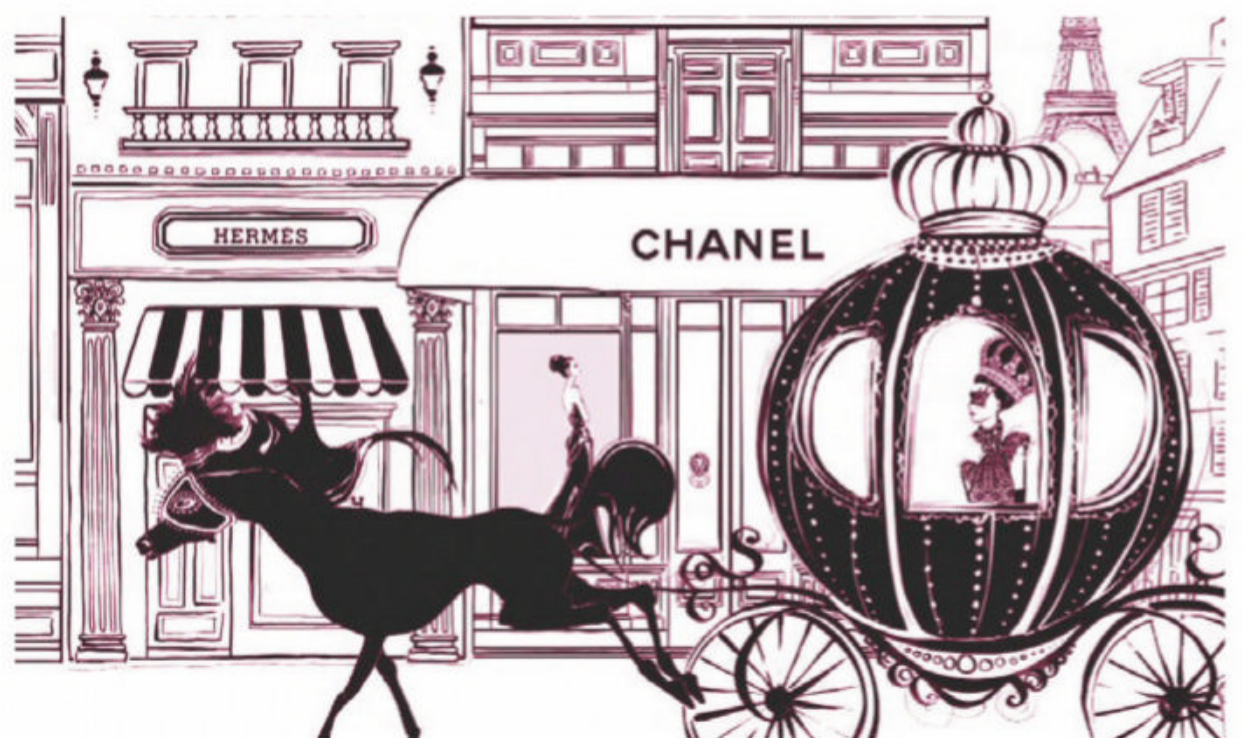
free will. Therefore, to anthropo-morphise brands, they must be seen as intentional agents – and their primary intention should be to pursue the brand's vision. When the brand becomes a strong character, it can spark both the employee's enthusiasm and the customer's passion for the brand.

3. **Thinking of the brand's personality should evoke mental pictures comparable to consumers' hold about real people:** Instead of just with a few terms, the brand personality should be described sufficiently detailed to evoke a metaphoric mental picture about what kind of person the brand aims to represent: How does the brand personality look like? What are her/his personality traits? What is her/his lifestyle? By bringing a unique brand personality alive, marketers are creating a whole universe of symbolic meaning as a basis for brand differentiation.

4. **The brand personality becomes the focal point of brand management:** While brand personality is often considered as an independent concept that affects brands only in some peripheral and marginal way, personality–driven branding turns it into the main source of inspiration for brand–building and the focal point for brand management; guiding all branding and business decisions. Having in mind a clear mental picture of their brand personality, marketers could ask: How would the brand personality design a new product?

Five distinct personality dimensions of luxury brands were identified including tradition, modesty, elitism, eccentricity, and sensuality.
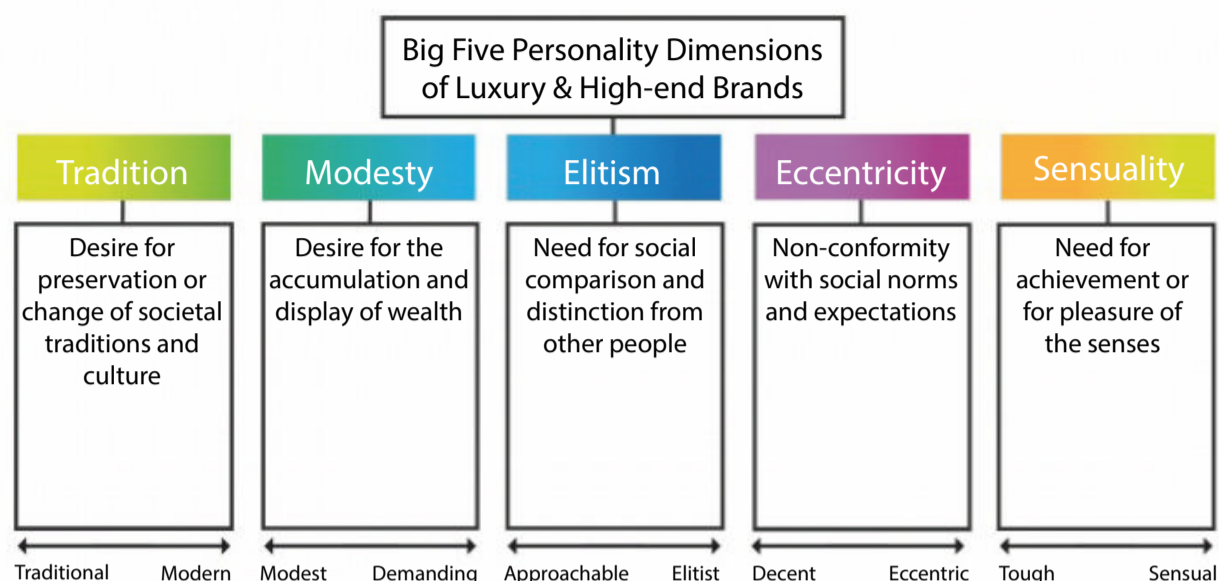

FIGURE 1: Dimensions of High-end Brand Personality

How would s/he design a website or flyer? Karl Lagerfeld, for instance, does not imitate Coco Chanel's style, but tries to understand her personality, take on the perspective of her ghost–soul and interprets her style and yet adapts it to modern times. The Chanel jewellery flagship store at Place Vendôme in Paris, for instance, was designed around the question: *"In what sort of interior would Mlle. Chanel live today?"* Designers used portraits of the founder, recreated her living room and some personal objects and as a result, the aura of Coco Chanel is clearly evident throughout the store (Dion and Arnould, 2011). When people inside the company align their actions by interacting with the brand personality, they are making the organisation seem acting as one person, which improves brand consistency. This can help reduce misunderstandings within the marketing team and especially in cooperation with external agencies.

How to bring a Brand Personality alive?
To bring a brand personality alive, it must first be described in detail, for

instance, on the basis of the major brand personality dimensions. Based on a number of studies, five distinct personality dimensions of luxury brands were identified including tradition, modesty, elitism, eccentricity, and sensuality (Heine et al., 2018). They capture the most important differences of possible brand personality characteristics in the luxury segment. Each of them reflects one of the key issues of the luxury segment: Tradition & culture, wealth & possessions, status & the role of other people, society & reference groups, and ambition & hedonism. Given that, many managers are inclined to find a lot of brand personality traits attractive, they can feel challenged to decide between them and are tempted to equip their brands with too many traits. As the dimensions of high–end brand personality are bipolar, brand managers are inevitably forced to decide between opposing traits to characterise their brand, which leads to more distinctive and consistent brand personalities. These Big Five dimensions can be thought of as five key questions about how brand managers

Louis Vuitton opens New Sydney Store with Australian actress Cate Blanchett. © Eva Rinaldi, Getty Images

want their brand to be. Each decision has a strong impact on the brand's character and appearance. Answering the following five questions may help you develop a clear mental picture of your brand personality:

Question 1 - Tradition: *Does your brand prefer preserving old–established traditions, heritage and culture, or is s/he rather open to progressive changes, reinventing society?*

This dimension reflects a brand personality's perspective on changes of tradition and culture in society. While a traditional personality looks much into the past as a source for inspiration, a modernist may rather refer to the present or future. While tradition is typical for many luxury brands such as Hackett and Rolls-Royce, it is still not an essential characteristic, which is proven by the success of modern brands such as Tom Ford or Richard Mille. However, while a traditional worldview contrasts with liberal ideas on society, it was found that it can still

Whether in an ostentatious or more subtle manner, conspicuous brands typically represent the lavish and glamorous lifestyle of the 'rich and famous' depicted in the popular media.

be combined with being open to new ideas, innovation and creativity. To account for that, Glisky et al. (1991) identified two independent dimensions of openness. The brand personality dimension 'Tradition' is closely related to one of them: 'socio-political liberalism,' the idea that society should be liberal, open, tolerant, experimental, progressive and individualistic.

Question 2 - Modesty: *Does your brand represent a personality who desires being a walthy and owning or collecting*

beautiful and valuable objects? Or does s/he prefer a rather modest lifestyle?

Unsurprisingly, the desire for the accumulation and display of wealth is a major issue in the luxury segment. The demanding pole is related to traits such as aspiring, discerning and extravagant and corresponds to the human personality trait of materialism — the desire to accumulate possessions. Possessions can be accumulated to show one's wealth through conspicuous leisure or consumption (Veblen, 1899) or to leave something behind (for instance, one merely looks after a Patek Philippe for the next generation). Symbols of conspicuousness include ostentatious logos and valuable materials such as gold and diamonds. Louis Vuitton appears to be the embodiment of a demanding brand. Whether in an ostentatious or more subtle manner, conspicuous brands typically represent the lavish and glamorous lifestyle of the 'rich and famous' depicted in the popular media. This is reflected by the motto of Mae West: *"Too much of a good thing can be wonderful."*

The modest pole is related to being humble, moderate, frugal, down-to-earth and grounded and also idealistic, spiritual, intellectual, and philosophical. This is consistent with a rather simple or even ascetic way of life and with conscious instead of conspicuousness consumption. With a post–materialistic mindset, people may feel a desire for personal growth and self-transcendence and passion for some higher purpose in life. Typical examples for understated luxury include Bottega, Veneta, Loro Piana, Aman Resorts, and other forms of invisible luxury ranging from members–only institutions to the subtle aesthetics of Japanese Zen culture.

Question 3 - Elitism: *Is your brand generally approachable and sociable or is s/he rather differentiating from others, staying within her exclusive circles?*

Is your brand personality **tough–minded** and **self–disciplined** with a strong will to achieve her/his life mission or is s/he seeking enjoyment of life and pleasure of the senses?

Elitism refers to interpersonal aspects dealing with the role of other people and the need for social comparison and distinction. With an elitist disposition, the brand personality seeks status and exclusivity and is rather unapproachable to out–group members (who are not part of the target group), which is related to being reserved, distant, formal, refined, graceful, competitive, and authoritative. This can be symbolised by exclusive clubs and VIP areas.

The approachable pole, on the other hand, is related to heartiness, genuine joy, social responsibility, egalitarianism and to traits such as friendly, cheerful, cordial, considerate, trusting, generous, unpretentious, and outgoing. The post–modern 'democratisation of luxury' is limited insofar that luxury is by its basic definition not accessible by anyone at any time. Brands seen as elitist include Gucci and Rolex whereas benevolent brands include House of Dagmar and Ermenegildo Zegna. A study by Ward and Dahl (2014) suggests that brand desirability can increase under certain conditions when an aspirational brand personality is perceived as being unapproachable. However, a brand that is perceived as being too arrogant could cause a detrimental effect.

Question 4 - Eccentricity: *Does your brand personality prefer conforming to prevailing social standards or is s/he ready to break the rules?*
This dimension refers to a person's level of non–conformity with norms and expectations of society and within her reference groups. Decent personalities prefer to respect hierarchy, to be discreet, polite and well–behaved in order to 'fit in' and to be liked and accepted. In contrast, non-conforming or even eccentric personalities prefer to 'stand out', be creative, and imaginative or even a bit crazy, provocative, and rebellious. The brand personality dimension 'Eccentricity' is closely related to the other of the two dimensions of openness identified by Glisky et al. (1991) capturing love for aesthetics, curiosity, fantasy, and unconventional views of reality. While Hugo Boss appears to be the prototypical example for a brand that allows consumers to fit in, representative brands for the eccentric pole include Cavalli and Moschino. In order to gain an impression of the eccentric personality disposition, it helps to look at a picture of Salvador Dalí with his Colombian ocelot Babou. A central idea of luxury has been the self–determined use of one's time and freedom from duties and limitations, which extends to non–conformity with social expectations (Veblen, 1899). As shown by Coco Chanel, Christian Dior and Yves Saint Laurent, who all broke the rules of their times, some 'shocking' and the freedom of 'doing what you want' is engraved in the nature of luxury brands. However, this freedom may be somewhat limited as the slogan by Audemars Piguet suggests: *"To break the rules, you must first master them."*

Question 5 - Sensuality: *Is your brand personality tough–minded and self–disciplined with a strong will to achieve her/his life mission or is s/he seeking enjoyment of life and pleasure of the senses?*
This dimension refers to life goal–related aspects of brand personality and in particular to the level of strength to achieve ambitious goals and self–restraint from immediate gratification vs. sensuality and self-indulgence. Is your brand personality tough–minded and self–disciplined with a strong will to achieve her/his life mission or is s/he seeking enjoyment of life and pleasure of the senses? The **tough** pole is related to traits such as

These **Big Five dimensions** can be thought of as five key questions about how brand managers want their brand to be. Each decision has a strong impact on the brand's character and appearance. Answering the following five questions may help you develop a clear mental picture of your brand personality.

purposeful, ambitious, persistent, strong-minded, courageous, vigorous, active, dynamic, and energetic. On the other hand, the **sensual pole** refers to the pursuit of love, beauty and enjoyment and a happy and comfortable life, which is related to traits such as hedonistic, lighthearted, emotional, tender–minded, dreamy, sensuous and romantic. Archetypical representatives include entrepreneurs, creators and makers on the one hand and dandies, hedonists, gourmets and connoisseurs on the other. Hugo Boss is considered as a typical tough–minded brand and Jean Paul Gaultier as a typical sensual brand. This is reflected by their advertising, for instance, with a sharp–witted businessman giving interviews at a press conference versus a mystic princess riding on a rainbow with her unicorn. ⧉

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DESIGN THINKING:
Eight Mistakes to Avoid

BY JOSEMARIA SIOTA AND THOMAS KLUETER

When properly implemented, design thinking can result in higher success rate for innovation. However, the authors found that 63% of those involved in innovation processes said design thinking initiatives had not advanced. What mistakes should be avoided to be part of the effective one third?

You don't have to be a start-up in the fast-changing economy to benefit from design thinking. Even traditional sectors such as financial services, oil and gas, aircraft, and health care also stand to gain from adopting its customer-centric focus.

There have been notable success stories of companies in many sectors using design thinking, from Bank of America, to Shell, Brussels Airlines and the Rotterdam Eye Hospital. Design-led companies that are publicly listed in the United States outperform the benchmark S&P 500 Index by an eye-opening 211%.

However, there are obstacles to overcome in applying design thinking, which puts new demands on leadership, teams and individuals. One of our studies states that 63% of those involved in innovation processes said design thinking initiatives had not advanced. What mistakes should be avoided to be part of the effective one third?

Applying design thinking in five steps

Design thinking occurs where analysis meets intuition. It puts the end user – the customer – at the centre and creates a workplace atmosphere that encourages creative ideas and values diverse teams. In practice, it follows a simple five-step process:

1. **Empathise:** The customers' problems and needs should be understood. Tools such as "Day in the Life Of" (DILO) allow teams to get into their customers' heads.
2. **Define:** The team reviews the information, delimits the problem, and sets specific goals.
3. **Ideate:** Potential solutions are generated rapidly, often using techniques such as body-storming (role-playing) and brainwriting (recording all the ideas that come into an individual's mind and relating them to the next person to trigger solution ideas).
4. **Prototype:** The idea needs to get out there, fast, to start receiving feedback immediately.
5. **Test:** The team directly seeks feedback from end users.

Identify the stone that makes you stumble

Talking to a variety of companies, we identified some common problems in the application of design. A loss of focus, the lack of specific resources or an insufficiently detailed definition of the original problem to be solved, among other factors, often undermine results and lead to unfulfilled expectations across various levels of the organisation – leadership, team and individual. (See Figure 1.)

Design thinking occurs where analysis meets intuition. It puts the end user – the customer – at the centre and creates a workplace atmosphere that encourages creative ideas and values diverse teams.
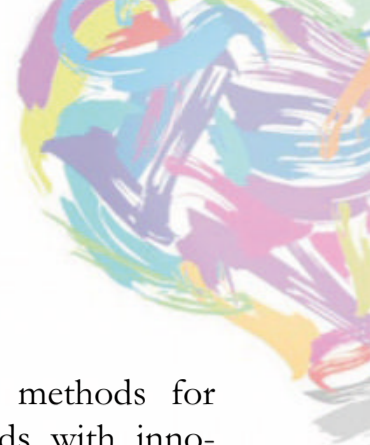
Working through these problems one by one, we suggest three layers of solutions to make the process go more smoothly.

1. **Leadership level:** Ensure awareness and buy-in from those in leadership roles. Leaders need to know that output may not be scalable, or not immediately so. The definition of the problem needs to be detailed clearly, as does the scope of the exercise.

2. **Team level:** Keep the focus not on what customers say but on what they do. With respect to the practical application, design thinking needs to be structured, with frequent deadlines and constant feedback, to prevent it from becoming an ongoing brainstorming exercise.

3. **Individual level:** Team members should be from diverse backgrounds, and that means team facilitators should have a hybrid profile. To combat a loss of focus among participants, there should be few but clear rules.

Success stories: from banks to hospitals

When properly implemented, design thinking has a proven track record. Bank of America increased online-banking registration by 45% after a user-centred redesign of its process. The oil and gas company Shell turned 3,000 ideas into 300 commercial projects: one of them "increased oil recovery by 1.5 million barrels within three years." Brussels Airlines experienced a 42% increase in its conversion rate in six weeks by creating a more user-friendly booking experience. The Rotterdam Eye Hospital saw patient intake rise by 47% in a decade and got an improved score of 8.6 (out of 10) in its customer satisfaction surveys by transitioning to a patient-centred strategy.

A promising solution

Industries are facing disruption over how things are done. Meanwhile, customers are adamant that they need better and more personalised products and services.

Based on designers' methods for matching customer needs with innovation in offerings, design thinking is uniquely placed to help maintain growth and respond to customers' needs, both spoken and unspoken.

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LEADERSHIP Level

Lack of a resource
Solution: Ensure the buy-in and continuous involvement of decision makers

Unrealistic expectations
Solution: Guarantee that the senior managers understand that the output, although it is a testable prototype, is seldom scalable

Poor challenge
Solution: Be as specific as possible in the definition of the challenge and the scope of the exercise

TEAM Level

Loss of focus
Solution: Focus is not on what customers say but on what they do. Also include team members from the revenue-generating department that will propose the product to the end customer

Time constraints
Solution: Structure the unstructured. Although the process is open, specify deadlines for intermediate steps in the design thinking process

Management issues
Solution: Iterate and gather feedback after each session about how to improve the process

INDIVIDUAL Level

Weak facilitator
Solution: Select someone with a hybrid profile who understands the styles of thinking and communication of the team members, and who understands the emotional intelligence of each member

Participant issues
Solution: Define few but clear rules and select each team member in advance to identify complementary patterns among participants' expertise

Figure 1. Mistakes to avoid and solutions to apply.
Source: Prepared by authors

The Five Essential Pillars of Multidisciplinary Process/Service Design

BY LILLA ASIR

Transforming the internal structures of companies by integrating design assets has been seen by many multinational corporations as a challenging process. Crafting services whether targeting external markets or in order to reformulate long-term internal strategies revolves around five essential main pillars every design manager should keep in mind.

In a market where the technical qualities of products are barely distinguishable, design can be the perfect differentiator. We live in artificial environments where our cities, tools and systems are a product of design processes affecting our everyday lives. In the midst of artificial intelligence, automation and machines, there is an ever-growing need for human creativity. Meanwhile, the highly qualified members of the knowledge-based economy, are increasingly more in demand of higher quality products in an ever competitive market with a bigger focus on the creative sector.

Design in this context no longer functions as a form but rather as a strategy. Transforming the internal structures of companies by integrating design assets has been seen by many multinational corporations as a challenging process that has generated an additional competitive advantage. Design management can't work in isolated silos. Support within the organisation is essential for the design field's methodologies to take shape effectively. There is a need for multidisciplinary collaboration with the various departments where the network generates the needed infrastructure, tools and information necessary to sustain the whole ecosystem. Tolerance, liberal receptive communities and technology are essential in the rise of creativity on a national as well as a corporate level. Creating the right environments for innovation where the members of the company are capable of adapting as a tool for collective action while preserving individuality is crucial. Whether design is used strategically or not it seems to be determined by three main factors:

1. The presence of a sponsor among senior management (such as the CEO/founder)
2. The role of the Design Manager/Director is crucial, especially when leadership support is lacking, as he/she must both influence and educate decision-makers about design.
3. Review and documentation of successes, especially when design has been capable of reflecting and strengthening the company's brand(s).

> Design management can't work in isolated silos. Support within the organisation is essential for the design field's methodologies to take shape effectively.

It's important not to force design thinking in the wrong context. Knowing when to use design and how, is crucial. Understanding the role of designers and design managers while re-evaluating their processes can help leverage the team's performance. Designers apart from being technical specialists with functional expertise, a lot of the times as part of cross functional teams, can bring shifting new perspectives to the table. Engineers for example, tend to focus on the technicalities of networks, the infrastructure and wireframes. Designers on the other hand, tend to reshape the balance by focussing on the end users, seeing things from the customer's perspective while designing touchpoints. Crafting a service for the market for instance may involve similar methodologies when compared to creating an internal corporate workflow. Creating and scaling services can feel overwhelming but by understanding the basic pillars that form the service design process, we can have a more structured approach. By improving our offering over the various touchpoints we can maintain a competitive advantage having a lasting return on investment. Service design is evidence-based, holistic, co-creative and user-centred.

A service involves various pillars, which may seem evident at first. When creating services, we tend to underestimate the power of structuring the workflow around these elements.

The world in the digital age has turned into a structure that lacks a clearly-defined shape or form, time and space diffused, previously incompatible states of being turned into one: self-actualisation and a strong sense of virtual community, individuality and intense form of collectivity. We can access everything, anytime, anywhere being omnipresent, omniscient at the verge of being omnipotent. With the intense need to control the digital realm and with the arising challenges of GDPR, there is a strong need to regain our roots in the physical world, gain real experiences, and see the bigger picture. Creating customer-centric solutions with increased restrictions on our collected data can turn such endeavours into an even more creative process. In the midst of all these contradictions, there is still space for an effective form of collective brainstorming and collaborative co-creation. This intense form of self-empowerment turns everyday users into efficient producers.

Actors

It is important to map the various stakeholders, as usually there is not one set of customer type but a chain of buyers, re-sellers, users and influencers. Although these groups might overlap, buyers in some cases might not be end-users per se. It is also important to note that we shouldn't just consider the tight boundaries of the customer sectors we are currently competing on. Stakeholder maps can help map the various actors we need to follow closely. Design, offering a set of anthropological tools, from observation methods, surveys, interview techniques and mapping techniques can help gather a lot of information incorporating technology into the process. We should analyse the demands and needs of non-customers also exchanging insight with lost customers, expanding our overview of potential offerings breaking into exciting blue oceans. Understanding the concerns of users on the boundary of customer vs. non-customers having only seldom interactions with our products can give great insight on the limitations of our services. By analysing complementary services and their users, we can look past current demands and customer bases, getting inspired from the expansion of opportunities. Actors aren't limited to our users. It is also important to take note of the various partners and stakeholders in the back-end and front-end departments affecting the processes that precede an actual "transaction". Exploring the various research techniques offered by design-led innovation from motivation matrices, to personas, mind maps, mood boards and storyboards can always give new insight. It is very important to interact as much as possible making use of behavioural insight, as mapping actors is hugely related to the human factor.

Exploring the various research techniques offered by design-led innovation from motivation matrices, to personas, mindmaps, mood boards and storyboards can always give new insight.

Ideas and creativity are the most important building blocks of modern economies, investing time, resources and effort into implementing them is crucial for innovation to lead the way to **customer-centred problem solving.**

Touchpoints

By re-evaluating pain-points throughout the various inter-actions, researching the causes behind roadblocks, the interrelation between the various actors can be re-designed. Customer journeys guiding us through the path of a poten-tial user before, during and after meeting our products and services can help understand the larger contexts in which our company operates. Business blueprints can help map the busi-ness in the back-end and front-end, redefining our various internal and external processes. Understanding the culture, the habits and trends, the effect of marketing and advertising on biases can be integrated into the process at this point.

Needs

By mapping the various actors and their journeys throughout the process, understanding the bigger context, we can look beyond existing demands and needs. Thoroughly understanding the expectations along with the deficiencies in the network of stakeholders can help highlight the real problems bubbling under the surface in need of urgent solving. Analysing trends (on a micro and macro level) affecting the market and the industry, tracking complemen-tary products and services, along with behavioural patterns and technological insights can help us think more creatively about arising needs in the market. It is not enough to focus on analysing the competi-tion or current customers, it is always efficient to widen the scope of the research to include non-customers.

Specific offerings

Ideas and creativity are the most important building blocks of modern economies, investing time, resources and effort into implementing them is crucial for innovation to lead the way to customer-centred problem solving. By constantly testing and reiterating products, we can better perfect our work leading to a major change in the quality of life we can provide. By connecting the digital with the real physical experiences, the lifecycle of an idea can go a long way. Perfecting our offering

requires lots of training. We need to educate our teams and make sure the flow of information in the company leads to the right milieu for collaborative co-creation, effective brain-storming and a fruitful implementation in tandem with the right partners. Communication is key throughout the process. Turning our research outside-in and constantly re-evaluating our internal structures in response to the demands and needs of the market leads to the evolution of our ability to come up with even more creative solu-tions. By better understanding our potential, we can craft better missions, visions, internal strategies and ultimately offerings to solve customer problems.

Experiences

Designers are increasingly working on creating value not just in terms of profit but in terms of processes that involve sustainability, transformation design, mobility, social good, integration and ownership. Shaping innovation not just when it comes to the output we create but also in terms of the systems, structures, networks and strate-gies we are bound by.

The experiences we create can lead to added value across generations, cultures and social classes. Do we want to create engaging micro-moments, or fully transform generational gaps over a decade? Are we bound by the rules of a certain culture or can we overcome cultural restraints blending new behavioural patterns learnt through years of experimentation? Do we plan to influence green projects or advocate our brand to more technology-oriented endeavours? Focus on the human factor or tip the balance towards artificial intel-ligence? And in case we choose, how does that affect our customer base?

About the Author
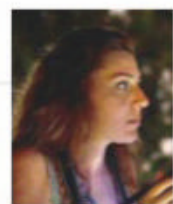
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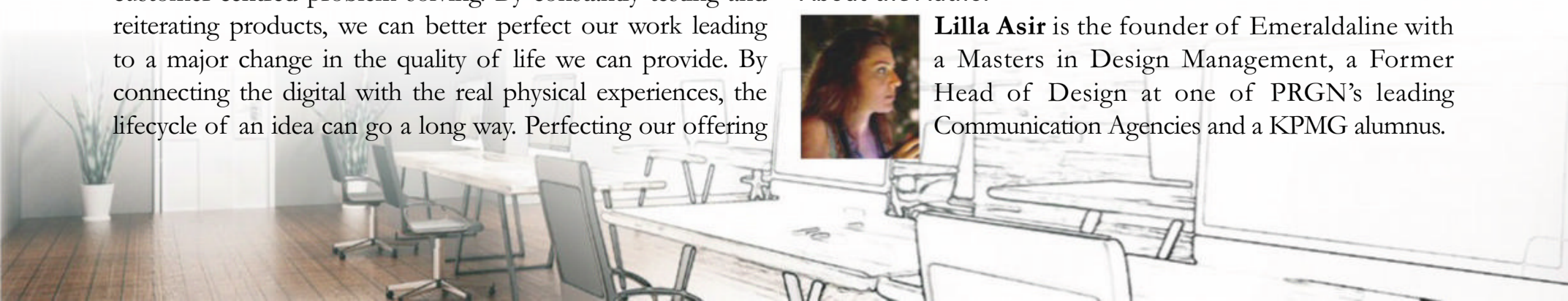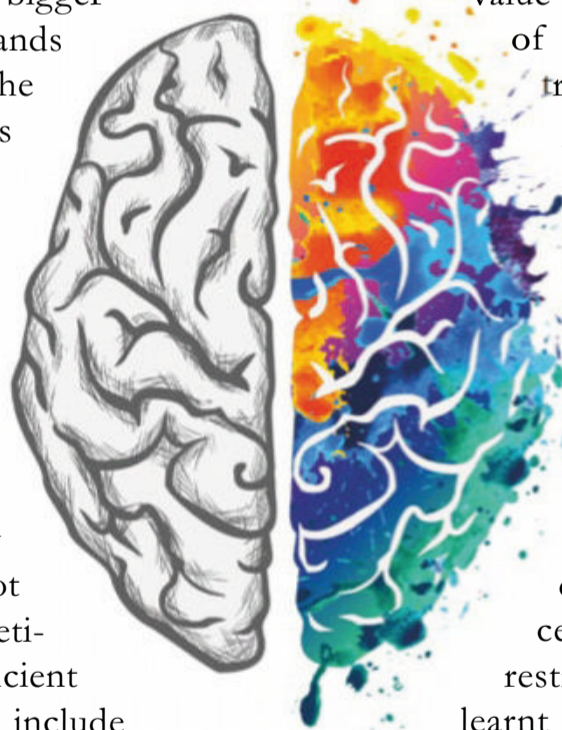
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Using Technology To Turn The Dial On Inclusion:
THE MENTAL HEALTH OPPORTUNITY

BY BARBARA HARVEY

The stigma long associated with mental health challenges is fading. Companies should turn that to their advantage. Technology can help.

Companies increasingly understand the value of having an inclusive culture at work. When a culture is open and supportive, employees are more likely to love their jobs, be more productive, and advance to more senior levels in the organisation over time.[i]

One area of inclusion that still gets far less attention than it needs, however, is mental health. That's unfortunate because, according to the results of a recent Accenture survey of 2000 workers in the UK, nine in ten individuals have been affected by mental health challenges – either their own, or those of a family member, friend, or co-worker.[ii]

How can companies strengthen – or jumpstart – their mental health offerings? Technology can be a useful tool in three ways: getting the word out; enabling support 24/7; and helping employees help one another:

Getting the Word Out

Although most of the C-level executives in an earlier Accenture survey were aware of the mental health services offered within their organisation, that number dropped to 50 percent for workers below the manager level.[iii] So as a first

step, executives can take to their email to alert employees about services that the company may already be offering.

They might also consider writing a blog, posting a video, or hosting a webinar about mental health support at work and the company's desire to normalise the topic. Opening up about challenges they themselves have faced can be powerful as well. Senior leaders, by their actions, can shift a culture quickly. Yet only 14 percent of our respondents had ever heard a senior leader talking about the importance of mental health. Just one in ten had heard a senior leader talk about being personally affected.

Enabling 24/7 Support

It is important for people to be able to access help when they need it, and to do so anonymously if they prefer. Online counselling services, chat rooms, peer groups, "open" around the clock, will typically allow individuals to remain anonymous, enabling someone who is not ready to talk openly to seek help.

In the UK, Accenture employees have access to the "Big White Wall," a confidential (and anonymous), professionally managed chat environment dedicated to providing mental health support.

There is an important caveat to consider regarding online support though. When offering access to external services, a company will need to screen each one thoroughly. And

there is not yet enough rigorous independent testing of these resources to facilitate that process. The good news is that with that goal in mind, one working group led by NHS England (which includes MedCity, the National Institute for Health and Care Excellence (NICE), Public Health England, and DigitalHealth.London) is developing guidance and standards to address the issue. More immediately, the Duke of Cambridge in September of 2018 launched an online platform called Mental Health at Work. The site serves in part as a forum on which to share the most effective tools for employers.[1]

Another concern, and one expressed by a majority of the respondents in our survey, is that seeking tech support for mental health challenges might delay someone from getting the professional help they might need. Company training can help employees to understand what needs can be met online and when it's important to get help from a medical professional.

Helping Employees Help One Another

Online classes and webinars can teach employees how to recognise the signs of stress, anxiety, and other mental challenges in themselves and in others. Online instruction can also teach someone how to respond if a colleague opens up to them. Of the individuals in our study who had opened up to someone at work, 61 percent said that they had shared their challenge first with a close colleague. Just 15 percent had chosen an HR or wellbeing specialist as their first point of contact.

At Accenture, we offer a variety of online courses in this spirit, including a straightforward overview of what mental illness is and what current treatments are available (and what they're like) in the medical field. We also have a "Mental Health Allies" program, through which employees can receive additional training that is initially classroom-based in the UK, with follow-up webinars to keep skills up to date, to become a designated source of front-line support for anyone in the organisation who reaches out to them.

Almost everyone in our survey saw some benefit in being able to open up to another at work. These benefits included a decrease in levels of stress, a decrease in feelings of isolation, an increase in confidence, and useful guidance on taking positive steps to get help.

Younger, Older, and In Between

Our findings suggest, perhaps unsurprisingly, that the youngest workers in our study – the digital natives – are more likely to take advantage of technology-based resources than others. But consider: Across England from 2016 – 2018, people increased their use of mobile technology to manage physical and mental health by 30 percent. During that same

When a culture is open and supportive, employees are more likely to love their jobs, be more productive, and advance to more senior levels in the organisation over time.

period, they increased their use of health-related wearable technology by 40 percent.[iv] Companies that follow this clear consumer trend can tap the power of technology to great effect, as part of a holistic approach to improving employee health and wellbeing, and creating and sustaining a powerful, increasingly inclusive culture.

Tech Support Advantages

Used well, technology has an important role to play in company support of employee mental health. It can be:
- **Empowering**: helping employees take responsibility for their own mental health.
- **Anonymous**: offering a confidential environment for those not ready to talk openly.
- **Accessible**: available wherever and whenever it's needed.
- **Relevant**: particularly for the rising generation of employees.
- **Scalable**: effective for businesses of all sizes. **EBR**

About the Author

Barbara Harvey is a managing director with Accenture Research. She is also the executive sponsor for Accenture's Mental Health program in the UK.

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[1]There are 11 partners behind this initiative: Heads Together, CIPD, the Federation of Small Businesses, the City Mental Health Alliance, Mental Health First Aid, the Work and Health Unit, Public Health England, NCVO, The Work Foundation, Time to Change, and the Institute of Directors.

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YOUR STRATEGY NEEDS 2 TYPES OF PEOPLE

BY CARSTEN LUND PEDERSEN AND THOMAS RITTER

Strategies, when executed to a perfect blend, can even end a World War. This is why organisations and corporations put considerable value on effective strategic planning whether it be conforming, deviant, or a mixture of both. In this article, the authors emphasise the essence of managing and synchronising two types of strategists in a company.

Strategic renewal is often fostered by internal tensions, rule breaking, and deviations from the formulated strategic plan.[1] The strategic necessity of internal conflict is best illustrated by a classic story from Hewlett Packard. In the early 1980s, David Packard awarded a Medal of Defiance to one of his employees, Charles H. House, for "extraordinary contempt and defiance beyond the normal call of engineering duty."[2] Charles had persistently pursued a project on a large-screen electrostatic monitor that the management team had ordered him to abandon.[3] Charles believed in the project and continued to work on it despite managerial orders to stop. In the end, the project "planted the seeds for a new market" and HP acknowledged the necessity of maverick behavior by praising Charles for his rule-breaking work, as his strategic defiance was needed to counteract complacency and

bureaucracy. In so doing, HP allowed for the strategy to be challenged.[4]

HP is not alone. Stories of strategic renewal often reveal tense internal disagreements concerning the right strategic course. For instance, Intel witnessed virulent internal debates about its move into microprocessors, a gang of unlikely rebels woke IBM up in time to catch the internet wave, and Disney discussed digital animation long before it finally acquired Pixar.[5] At the heart of most of these stories of corporate transformation is a struggle between those who support the current strategy, whom we call "strategy enforcers," and those who reject the current strategy in favor of a new opportunity, whom we refer to as "strategy mavericks." Your realised strategy is determined by the daily battle between these two types of people in your organisation.

Building on our previous work on strategic renewal, employee types, and competitive dynamics, we argue that corporate performance thrives when there is a constant tug-of-war between strategy enforcers and strategy mavericks.[6] Why is that the case? Strategy enforcers provide the consistency and alignment needed to secure corporate profits, while strategy mavericks ensure renewal and counteract complacency. If one side wins, the company loses. In other words, the checks and balances that

Strategy enforcers provide the consistency and alignment needed to secure corporate profits, while strategy mavericks ensure renewal and counteract complacency. If one side wins, the company loses.

the two employee types provide are lost if one side constantly wins. Hence, successful corporate transformations are comprised of tug-of-wars that never end. Therefore, your organisation has a winning strategy when both sides win sometimes. The following table illustrates the main differences between the two types.

	Strategy Mavericks	Strategy Enforcers
Strategy should be...	Challenged	Followed
They are...	Unreasonable	Reasonable
Their actions are...	Deviant	Conforming
Rules should be...	Broken	Enforced
They prefer...	Autonomy	Direction
They can bring...	Strategic Change	Strategic Implementation

Strategy enforcers take the predefined strategy as a given, and focus their attention on enforcing and executing it. For them, a strategic course should be dictated and employees should continually comply with its trajectory. As such, they are often aligned with the C-suite and the strategy- or business-development function operating at central headquarters. Strategy mavericks may view enforcers as control-and-command leaders who are overly bureaucratic. However, as Jonathan Trevor and Barry Varcoe put it, alignment is critical for firm performance.[7]

In contrast, strategy mavericks see the predefined strategy as something that should be challenged. For them, a strategic course should be disrupted and employees should not be bound by the predefined trajectory if a more promising path emerges. Mavericks are what Julian Birkinshaw calls unreasonable people who, he suggests, "seek to adapt the world to their view, rather than learn to fit in."[8]

They can originate anywhere in an organisation, but they can often be found on the front lines or in the operational core. Enforcers may view mavericks as troublemakers or as overly alarmist. However, as Amy Gallo states, "when faced with a strategy you think is wrong, you have an obligation to speak up."[9]

The tug-of-war between enforcers and mavericks offers organisations one way to succeed at ambidexterity.[10] In other words, it can help organisations excel at both exploitation and exploration. It is also consistent with advice found in studies on securing corporate longevity, as well as seminal research on how strategy actually unfolds.[11] As such, this simple categorisation not only illustrates how strategy formation typically occurs, it also offers a suggestion for how to overcome the classic dilemma in strategy between persistence and renewal.[12] Of course, whether you are an enforcer or a maverick depends on the context, and it can change over the course of a career. Therefore, it is more sensible to focus on maintaining organisational processes to ensure a tug-of-war than on emphasising the recruitment of certain individuals who fit the idealised archetypes.

Orchestrating a tug-of-war between enforcers and mavericks is not easy. We therefore propose three steps to help you along the way.

1. Make sure that you have both enforcers and mavericks. Enforcers ensure internal consistency and strategic persistence. However, if you only have enforcers, you risk blind spots in terms of the existing strategy. Mavericks challenge the current path and ensure renewal. However, if you only have mavericks, you risk chaotic tendencies that can result in strategic burnout.
2. Make sure that enforcers and mavericks are engaged in a balanced tug-of-war. In order for enforcers and mavericks to take part in a balanced tug-of-war, they both need an official mandate to pursue their strategic paths. Moreover, they should have the necessary autonomy and resources, and be able to influence decision makers.
3. Make sure that enforcers and mavericks continuously challenge each other. When one side wins a

Strategy mavericks see the predefined strategy as something that should be challenged. For them, a strategic course should be disrupted and employees should not be bound by the predefined trajectory if a more promising path emerges.

strategic battle, you need to ensure that the power balance does not shift permanently. Enforcers and mavericks need to constantly challenge each other. Most organisations have some form of strategy process that promotes alignment, but few organisations have processes in place to incorporate information provided by mavericks.[13]

For enforcers and mavericks to take part in a balanced tug-of-war, they both need an official mandate to pursue their strategic paths. They should have the necessary autonomy and resources, and be able to influence decision makers.

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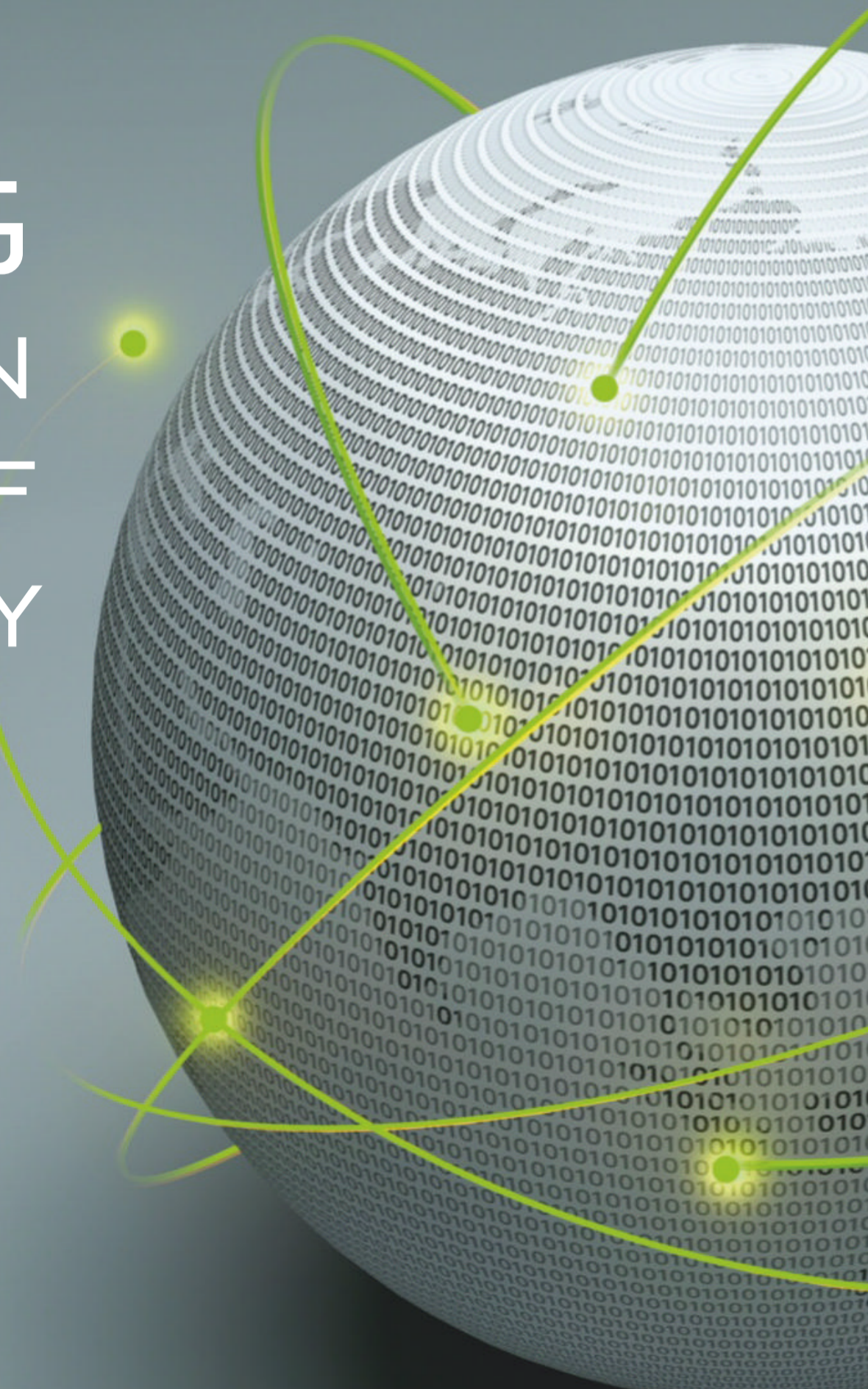
Big Business Models Are Back-to-Front

Create Long-term Value By Putting Shareholders At the Back-end of Cash Flow Distribution

BY PAUL STREBEL

Large firms have been treating their shareholders as their most critical stakeholders. In the short run this might make sense, but not in the long term. The author argues that in order to safeguard and increase the industry's long-term performance and cash flows, it is critical that big business starts to identify their critical stakeholders and adapt their mission.

President Trump has been pushing big business to give stakeholders other than their shareholders a better deal. For example, Big Pharma firms, such as Pfizer, Novartis and Merck have been persuaded to suspend price increases. Beyond giving his base something to cheer for, Trump's attacks have highlighted a fundamental economic flaw in the business models of big business.

Big business mostly has been putting shareholders at the front-end of cash distribution. In 2016 for example, S&P 500 firms spent more than 100% of their operating earnings on dividends and share buybacks. Large firms have been treating their shareholders as their most critical stakeholders. In the short run this might make sense since shareholders can drive down the share price and related

executive compensation if they don't like the distribution policy.

Yet the shareholders of established firms, apart from activists, have zero impact on the future cash flows that determine the long-term value of the firm. The value-critical stakeholders, those with the biggest impact on future cash flows, should be at the front-end of cash distribution, not the shareholders. Before distributing dividends and buybacks, firms should offer their critical stakeholders win-win propositions to the point where no additional firm-value can be created.

However, the boards and executive teams of large companies often live in rarefied worlds out of touch with the stakeholders who can make or break their business. They interact mainly with one another, and less frequently with analysts, consultants and regulators. They may have little if any ongoing contact with

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Suspending price increases will not be enough. Big Pharma will have to go further and **offer critical stakeholders win-win value propositions** that safeguard the industry's long-term cash flows. With Trump's attention and Amazon building out a direct online pharmacy channel, patients and their advisors have become value-critical stakeholders.

those who really know how to offer an attractive deal to the stakeholders most likely to affect their future cash flows.

In the case of Big Pharma, the shareholder-first business model will come under increasing pressure owing to the shifting contribution and threat to future cash flows from the industry's different stakeholder groups. Apart from the way Trump's tweets are undermining the effectiveness of lobbying in preserving the industry's pricing power, new entrants like Amazon's acquisition of the online pharmacy, PillPack, are threatening to disrupt the traditional pricing structure. In addition, the insurance and pharmacy oligopolies are pushing new reimbursement schemes to capture a greater share of the industry's pricing power. Consumer groups are promoting patient-centric care, generics, biosimilars and value-based payments. Fiscal authorities on both sides of the Atlantic are making it more difficult for the industry to reduce its tax bill.

Suspending price increases will not be enough. Big Pharma will have to go further and offer critical stakeholders win-win value propositions that safeguard and increase the industry's long-term cash flows. With Trump's attention and Amazon building out a direct online pharmacy channel, patients and their advisors have become value-critical stakeholders.

Offering them an attractive value proposition will require demonstrating medical benefits, justifying prices and providing digital engagement options. This will mean engaging with patients, as well as critical employees and experimenting with new direct online business models. Only after these moves can Big Pharma in the long run afford to distribute dividends and buybacks to shareholders. As the online channel picks up momentum the other intermediaries in the industry, such as wholesalers, benefit managers and pharmacies, will face an existential threat if they maintain existing shareholder payouts without identifying their critical stakeholders and adapting their mission.

The challenge goes well beyond the healthcare industry. The disruption unleashed by big data, artificial intelligence and robotics is creating new critical stakeholders undermining the shareholder-first logic of large firms in most established industries. Even the high growth hi-tech firms have new value-critical stakeholders associated with their socio-political impact. The sooner big business starts creating long-term value with their critical stakeholders rather than obsessing about short-term profits, the better the chances of ultimately rewarding rather than squandering their shareholders' investment. **ᴇʀ**

About the Author

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LITERATURE and its Role in the Cultivation of Ethics in the Business Environment

BY KYLE SCOTT

Literature is, by and large, invaluable in one's understanding of human nature and the world in general. It serves as a gateway to events of the past and an instrument to grasp different views of reality and to connect with our own humanity. But how can literature help in the cultivation of ethics in the business environment?

In 1957, Russell Kirk wrote, "I mean that American businessmen, like most other Americans, are deficient in the disciplines that nurture the spirit." A lack of engagement with the humanities – "that great body of literature that records the wisdom of the ages, and in recording it instructs us in the nature of man" – has dire consequences not only for the individual, but for the business he so values.

Engaging great works of literature has instrumental and intrinsic values for those who choose to engage. Engagement with great thoughts and great characters involved in great events shape the minds of readers. Readers of great literary works will be more inclined to act ethically, come up with creative solutions, and have the strength to act on their convictions.

ETHICS

Literature provides us with an awareness of humanity's depths and heights. Without examples we have nothing to model our own behaviour after or basis on which to identify potentially tragic flaws in ourselves or others. It is helpful to know of people like Rosa Parks, Mahatma Gandhi, and Mother Theresa in comparison to Stalin, Hitler or Mugabe. But historical examples have a way of seeming too distant, or their deployment in examples of heroism and evil is so common as to desensitise us from their value. Literary characters often feel more personal, more visceral, and even easier to connect with. Atticus Finch of *To Kill a Mockingbird*, Elizabeth Bennet of *Pride and Prejudice*, Raskolnikov of *Crime and Punishment*, and Romeo and Juliet seem closer to us; easier to connect with. Think of the rise in popularity of Alexander Hamilton now with his life story having been dramatised in an award-winning Broadway musical. His writings have been around for over two hundred years and historians have been writing about him for decades, but it is only now that people have formed a real connection with him.

Case studies serve as the basis of much of the business education and the foundation of ethical

Fiction reading enhances social cognition through its simulation of social content. This essentially means that fiction enhances the perception, recognition, and understanding of other individuals.

lessons and therefore most of our titans of industry have engaged in these "historical" texts. But, literature provides value that case studies do not.

Being able to think about problems and opportunities differently than others offers a decisive competitive advantage. Literature allows us to think uniquely.

Fiction reading enhances social cognition through its simulation of social content. This essentially means that fiction enhances the perception, recognition, and understanding of other individuals. An independent research by neuroscientists, Diana Tamir, David Comer Kidd, and Nicholas Carr has shown that through fiction we can deepen our understanding and appreciation of others. The advantages of literary fiction are based on comparisons to popular fiction, various forms of non-fiction and reading nothing at all.

We don't necessarily need sophisticated neurological studies to prove this

– though they help – just think of how much more impactful a story like *A Christmas Carol* is versus a chart put out by the World Bank. It's common knowledge that narratives and stories help to make points resonate more. Hans Rosling was able to reshape how we think about statistical realities through his use of examples in his TED talks and his book *Factfulness*.

Literature and the arts give us the ability to see the entire person. In business we oftentimes think of our customers as data points or objectify them as pieces of our strategy. Managers can come to see their employees as assets. Literature can have a humanising effect. It is far easier to take advantage of someone or to otherwise treat them poorly if we don't see them as people with hopes, fears, families, and hobbies but as objects to be used for our own objectives or obstacles to overcome on our way to generating more revenue. Art in general, and literature in particular, trains our moral imagination, it brings us an appreciation for humanity writ large and to see the value of things beyond their utility. An enhanced moral imagination changes our disposition by cultivating a greater sense of

connectedness, empathy, and familiarity.

In business, this point is particularly important as we seek to enhance the value we bring to our stakeholders by making improvements to our processes, products, and strategy. But the constant push for improvement can force us to lose some of what it means to be human, and to disconnect with those things which literature and the arts bring us into contact with.

COMPETITIVE ADVANTAGE

Aside from ethics, literature will give us the power to make better decisions strictly aimed at building stakeholder value. Take for instance investment decisions. Even when models favour long term investment decisions over those that will lead to immediate returns, the pressure to pursue gains in the short term can be too difficult to overcome. Moreover, if one is in the minority in pushing for a more profitable but unpopular long-term investment it can be easy to cave to the majority.

The same body of research that proves literature can strengthen our ethical resolve argues that literature can strengthen our resolve to maintain steadfast in the face of strong opposition when evidence is clearly and convincingly on our side. Reading literature and engaging with the arts is fundamentally different from other types of learning activities and it has a more lasting and powerful influence.

We should also not discount the effects on creativity that engaging the imagination through great works of literature can have. In an ever-competitive marketplace where the proliferation of knowledge about products, developments, and competitors spreads more quickly than most of us can keep up with; a well-developed imagination is crucial. Being able to think about problems and opportunities differently than others

> Reading great literary fiction reshapes neural networks in a way that changes how we view situations and evaluate the value of others. By reshaping these networks, the calculus for action becomes less difficult as we are less inclined to find negative behaviour appealing or necessary.

offers a decisive competitive advantage. Literature allows us to think uniquely.

For instance, a senior sales executive with whom I had worked credited her reading of Tom Wolfe's *The Electric Kool-Aid Acid Test* in high school with giving her insights about grassroots marketing and understanding contagion.

A Director of Human Resources found ways his department could better organise and communicate with the rest of the company after reading Franz Kafka's *The Trial* with his son as part of a school summer reading project. He realised how jargon and disparate departments can be confusing and defeating to the average employee, so he rewrote manuals in common language and streamlined communication channels.

TAKING ACTION
None of this really matters unless it is actionable – which it is.

Literature reorients our worldview. A reoriented view will naturally yield better behaviour. Literature also broadens our horizons and brings forth a more complete picture of individuals, their environments, ourselves and a richer appreciation for experiences. Those broadened horizons lead to changes in behaviour that do not have to be premeditated – they just happen.

People tend to naturally act in accord with commonly understood ethical standards when there is a shared identity, purpose, and connection. That is, when we see others as fully human we are less likely to explain away our bad behaviour that can have negative consequences for them. For instance, I am far less likely to lie to someone about a product they are about to buy if I understand how hard they've worked for their money, the troubles they are experiencing at home, the hope they have for what they are about to purchase, or what they need from the transaction. If I can see some of myself in them, or empathise with them, I am less likely to take advantage of them. This isn't necessarily an intentional thought process, but it arises from a disposition brought forth by a moral imagination nurtured by literary works.

As already referenced, reading great literary fiction reshapes neural networks in a way that changes how we view situations and evaluate the value of others. By reshaping these networks, the calculus for action becomes less difficult as we are less inclined to find negative behaviour appealing or necessary.

CONCLUSION
For all the handwringing about how people no longer read or how society is changing because of technology, an understanding of history leads us to recognise that our time is not unique. The Greeks wrote mythological tales about the consequences of single-minded pursuit of domination and transformation through technological advancement. Plato and Aristotle lamented a youth undisciplined and unconcerned with serious matters of the mind.

What we do not need is a return to some time that never existed, but a recognition of the ever-present challenge posed by the human condition which moves us to shape the world around us yet the inability to do so without negative, unintended consequences.

Literature does not require an esoteric engagement with abstract concepts removed from reality. Simply review a high school summer reading list, or some other list of the top classics, and pick one that appeals to you. Read it. Put it down and see what happens. ❿

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Kyle Scott is an Affiliate Faculty Member at Baylor College of Medicine, Center for Medical Ethics and Health Policy. He has held several university teaching appointments and currently serves at the head of international development efforts at a U.S.-based manufacturing firm. He has academic publications in the areas of business ethics and political philosophy. His work has also appeared in popular outlets such as Huffington Post, Houston Chronicle, Christian Science Monitor, and others.

The CYBERSECURITY CHALLENGE in a High Digital Density World

BY SANDRA SIEBER AND JAVIER ZAMORA

In this article the authors present a framework to help managers to implement a structured approach to manage cybersecurity in the context of a digital transformation process. Businesses should start with addressing cybersecurity at the highest organisational level by including cybersecurity in business strategy, using secure-by-design principles, ensuring business continuity in case of cyber threat and treating cyber risk as part of a holistic risk management approach.

I. A New Environment of High Digital Density

Alarms are sounding louder and louder: with the digital revolution come not only great opportunities and profound changes in the business models of companies of all sectors, but also great threats. One of them, perhaps even the main one, is the lack of security of emerging digital ecosystems. We constantly receive disturbing news about ransomware, denial of service, or data theft. However, it does not seem that companies around the world pay enough attention to them, nor are they aware of what cyberattacks mean to the smooth running of their businesses.

In fact, it was clearly summed up by Inga Beale, CEO of the insurance company Lloyd's at the World Economic Forum meeting in Davos in 2017, when she stated that there are currently two types of companies in the world in terms of cybersecurity: companies that know they have been attacked and those that have been attacked but do not know it. This leads us to the inevitable conclusion that if we think that we have not yet been the victims of a cyberattack, we inevitably are part of this second group, living in a fallacious ignorance.

The increase of Digital Density as the percentage of connected data that an organisation uses to create, deliver and capture value leads to an increased complexity of the business. The exponential growth of connections, representative of the 4th Industrial revolution, allows users an easy access to huge amounts of data, which has many benefits for businesses, such as obtaining a greater efficiency or creation of innovative services and products.

However, this digital revolution also carries its dangers. Until recently, only some computers in organisations were connected to the Internet, and the dilemma of data security was simply to protect the digital perimeters of the organisation itself. However, increasing Digital Density has forever changed the playing field: nowadays not only individual devices get connected to the Internet or to other networks, but the whole digital and physical realities are blended. This has exponentially increased the surface of attack of the organisation. Therefore, more than ever it becomes important to treat cybersecurity as the "business function of protecting an institution from the cyber-attacks", especially considering such constraints as "other business objectives, resource limitations, and compliance requirements".[1]

There are currently two types of companies in the world in terms of cybersecurity: companies that know they have been attacked and those that have been attacked but do not know it.

In this article, we propose a framework for the management of cyber security as an integral phenomenon in the context of a digital transformation process, which includes designing value propositions using secure-by-design principles, good technical management, the establishment of governance at the highest level, and the active and safe participation of any manager or user in the organisation.

II. Why look at the cybersecurity issue holistically?

We all live now in a world of high Digital Density, which increases as the number of organisations, people and things get more and more connected. A mere decade since the first smartphone, these connections now number in the billions. As Digital Density intensifies, the once sharply defined lines between the digital and physical worlds begin to fade, forging a new blended environment, in a process known as digital transformation.

The exponential growth of Digital Density creates a unique new terrain, in which digital becomes an environmental factor, spreads beyond the boundaries of the organisation, provides greater transparency and enhances connectivity with the world outside. Digital transformation is accelerated by three main phenomena: consumerisation, democratisation and new business logics:

- **Consumerisation** means that consumers have access to advanced technologies which change the way consumers interact with organisations.
- **Democratisation** means that technology innovations translate into a substantial drop of the entry barriers for many businesses by increasing speed-to-market, lowering costs and delivering value proposition more effectively.
- **New business logics** based on platforms, where the value proposition is the result of the participation of many actors in a given ecosystem.

The above-mentioned processes lead to a substantial shift in many industries: from established linear value chains to complex and heterogeneous ecosystems connecting different actors, suppliers and collaborators that can play a critical role in reshaping business strategy and creating a new value proposition. For organisations to be successful in this new environment of high Digital Density and to embrace digital transformation fully, they need to build a solid IT infrastructure that supports its business strategy and a new organisational model.

Therefore, in any digital transformation process we usually look at three main business dimensions placed in the context of an industry and environment (Figure 1). Whereas organisations can control internal processes of how their value proposition is constructed and brought to market, there also exist industry and environment specifics (e.g. regulation) that the complexity of the value proposition depends on (complexity of value proposition refers to the complexity of offering, such as products and services, of an organisation).

The three business dimensions are the following:

1. Creating a business strategy that would allow companies to create a fresh value proposition for the market.
2. Establishing an IT infrastructure to support the new business model.
3. Setting up an organisation that is "fit for purpose" in terms of organisational culture, governance and capabilities.

In a world of increasing Digital Density, organisations have an opportunity to enhance their business models and deliver completely new value propositions to the market by using the connected data and the interactions that it offers.

By doing so, organisations can achieve higher automation; use huge amount of connected data to describe, predict or recommend courses of action; build new value propositions by coordinating disparate actors; and create a fully customised product or service for their consumers.[2]

However, these changes also create new challenges that organisations need to recognise and address, related to privacy, integration, reliability and security. The problem of privacy relates to the exponential growth of data, however the ownership of it is not clear and is not fully regulated, therefore businesses have to be transparent in their use of personal data to build trust with their consumers. The integration challenge relates to multiple players taking part in creating a shared value proposition, lack of standards in participating in IoT (Internet of Things) and ways of sharing value derived from the connected data. Another issue in a high Digital Density environment is the reliability of the software and technology. Last but not least, there is the challenge of security derived by the increase of Digital Density as hyper-connected data exponentially increases the surface of a potential cyberattack.

As Digital Density intensifies, the once sharply defined lines between the digital and physical worlds begin to fade, forging a new blended environment, in a process known as digital transformation.

Figure 1. Framework for digital transformation (left-side) and its application in cybersecurity (right-side)
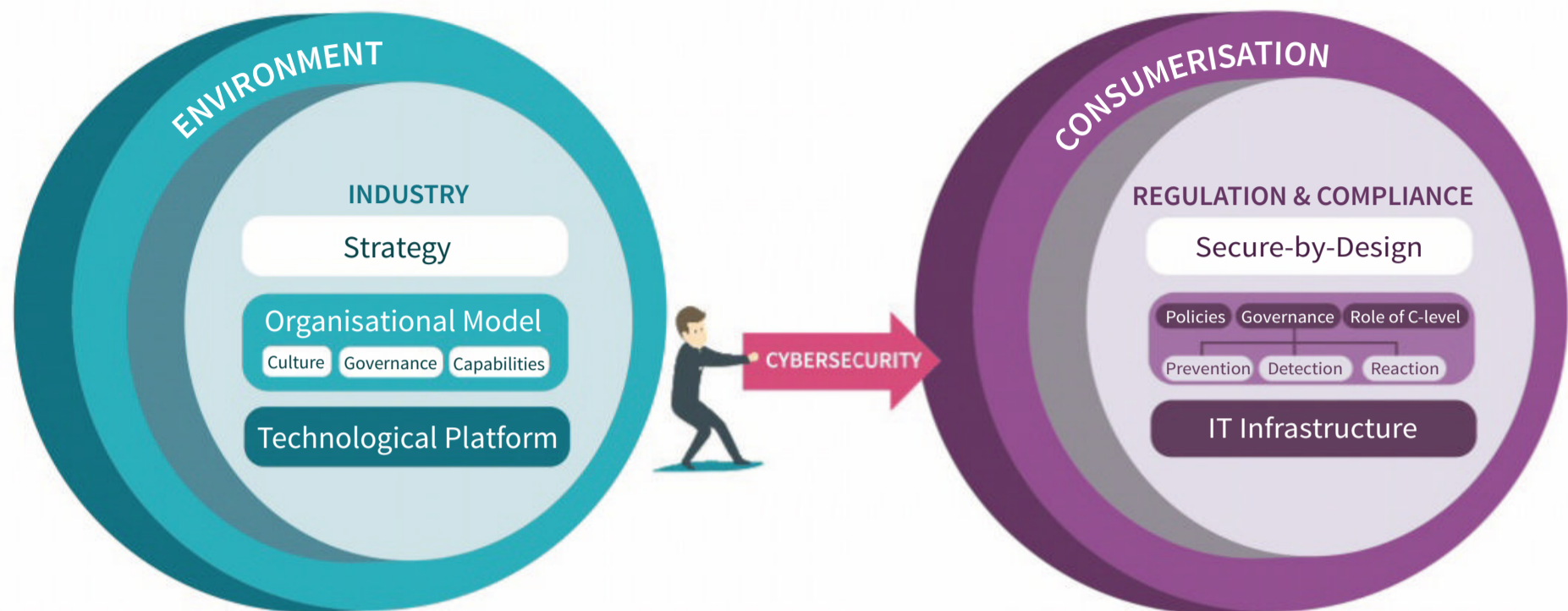
To protect the reputation and build trusting relationships with their customers, who will ultimately influence the sustainability of the business itself, managers have to be aware of all advantages, but also risks that digital transformation brings. Therefore, we cannot treat cybersecurity as a mere mechanism to protect the organisations in the face of new threats, but rather need to regard cybersecurity as an integral part of a digital transformation process. To this extent, we should apply the aforementioned Digital Transformation framework in the context of cybersecurity.

Accordingly, we should focus on incorporating secure-by-design principles into the business strategy, enhancing business processes by focussing on such aspects as culture, capabilities and governance (encompassing three phases of prevention, detection and reaction), improving employee behaviours inside the organisation and establishing robust technological controls (Figure 1). These measures help protect company assets, reputation and the broader ecosystem, including customers, partners and vendors.

In addition to the above-mentioned dimensions, each business operates within the context of a specific industry and its wider environment, which have different regulation and compliance requirements based on the posed risk (e.g., systemic risk, risk to human lives and well-being, etc.), and different levels of complexity of the value

Implementing Secure-by-Design principles can help build a digitally resilient organisation and maximise the expected organisational benefits while lowering potential cybersecurity risks.

proposition (e.g. high complexity of self-driving cars vs. low complexity of value proposition in media industry). Particular aspects of the industry and environment dictate the way organisations conduct business within the market.

III. Business Strategy. Secure-by-Design
The main purpose of a successful business strategy is implementing a business model, which creates and captures value:

- Value creation is related to designing the value proposition, which is aligned with the needs of the customers and is reflected by back-end and front-end activities:

  ◊ Back-end activities, or all the key activities, key resources and partners involved to put together the value proposition.
  ◊ Front-end activities, or all the activities (delivery channels, customer relationships) organisations put in place to deliver the value proposition to the different customer segments.

- During value capture stage the focus is on the monetising of the value proposition. When capturing value for the business it is important to evaluate potential risks from lack of cybersecurity management (e.g financial risks, reputational risks, etc.) and assess the total economic impact of cyber security processes on the company (see section "Organisational Governance").

More often than not, new value propositions are the result of multiple interactions of different internal and external actors (partners, suppliers, customers and technology vendors). To that extent, the resulting new products and services also get increasingly connected and that expands the surface of potential attack dramatically. Hackers will target the weakest link. As a matter of fact, half of the breaches originate in an external actor participating in the value proposition. Therefore, organisations should approach the issue of cybersecurity as a broader ecosystem and ensure that all the life cycle of a product or a service is secured, including back-end and front-end activities. Implementing Secure-by-Design principles can help build a digitally resilient organisation and maximise the expected organisational benefits while lowering potential cybersecurity risks.

Whenever a new product or service is designed, every new added feature should be evaluated from the point of view of the communication process, to identify weak points. Additionally, we should question if that given feature should be included by default or as an option. Finally, we should put ourselves in the shoes of a hacker to consider multiple scenarios of abuse of that given feature in order to minimise the surface of attack.

However, organisations need to make a trade-off between protecting the new products and services and achieving high levels of customer experience and usability. These trade-offs will depend on the cost of opportunity of the cyberattack. For instance, customers will accept a stronger control while accessing their bank accounts, which could result in a higher latency in the access of information. Nonetheless, a similar stronger control could damage customer experience and/or customer acquisition in an e-commerce environment. Therefore, businesses should carefully evaluate customer preferences and implement right risk controls without hurting customer experience.

In order for cybersecurity to become an integral part of the product development process, it demands a transversal and tight integration of the product development team with the cybersecurity experts. This new imperative may be challenging as in the past these teams used to work independently and sequentially since cybersecurity usually was considered an afterthought once the value proposition was already developed.

Once the new product or service is already in use by the consumers, establishing data privacy is critical to build trust with them, requiring additional focus on security in the front-end activities. To that extent, it is important for front-end employees to be prepared to address customer questions about security. Training and close cooperation between corporate cybersecurity and sales teams can improve the relationships with concerned customers. Clarifying security issues into contracts with providers and partners will ensure that they share the same commitment to security as your organisation does.

IV. Organisation. Culture, Governance and Capabilities

We hear a lot, that cybersecurity is everyone's job, but what does that actually mean for an organisation? Below we consider how an organisation should approach such dimensions as culture, governance and capabilities in order to build a proper cybersecurity function.

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Culture

Creating a cyber-risk awareness culture in an organisation is an important yet a challenging task as it requires both personal and organisational accountability, as well as, a mind-set and behavioural shift of employees. To that extent, cybersecurity is analogous to what happened with the introduction of quality processes in the 80s. Initially, it was the responsibility of one department, but with time it became an organisation-wide approach.

Well-deployed cybersecurity culture should start at the top of the organisation with senior management and be based on sound employee policies, enterprise-wide communication and raised awareness of cyber threats, training and also reward and recognition schemes.

Senior management serve as role models for an organisation and their commitment is an important start for a culture change. We consider the importance of business leaders' roles in cybersecurity in the section "Organisational Capabilities" below.

Sound employee policies should provide clear guidance on an organisation's attitude towards security and ensure that all personnel (including vendors and third parties) understand the ten basic principles of handling personal and company data, which include[3]:

1. Password management and updates
2. Periodic software updates
3. Using original licenses
4. Avoiding public Wi-Fi
5. Distrusting USB keys
6. Not clicking on links
7. Doing back-ups
8. Using antivirus programs
9. Using corporate email
10. Being careful with personal applications

To implement security policies and rules, all employees should respect them and understand the potential consequences of not following procedures. Awareness and communication programs become critical to engage different groups and address their concerns accordingly. Additionally, organisations have to provide the necessary training and tools for employees to follow new behavioural paths and learn how to deal with security issues at work. Systems of penalties and incentives may reinforce security messages in an organisation, which, in turn, will create a stronger cybersecurity culture.

For an organisation's security strategy to be successful, employees and third parties have to be fully engaged and share the common understanding of what cyber secure culture means.

For an organisation's security strategy to be successful, employees and third parties have to be fully engaged and share the common understanding of what cyber secure culture means.

Table 1. Prevention, detection and reaction activities

	Prevention	Detection (Monitoring)	Reaction
Organisational Model	• Cyber security is part of the agenda for the Management Board. • Investments in governance, risk management and compliance GRC) programs. • Cyber and data breach insurance. • Creation of a cybersecurity incident response plan. • Cybersecurity and risk management frameworks aligned to business goals and general strategy. • Redesign core business processes to minimise risks.	• Dashboard and continuous surveillance. • Operational procedures (automatic algorithms / cyber SOCs for monitoring).	• Incident Response team for investigation and reporting. • Recovery and follow-up procedures. • Public relations and communication procedures. • Law enforcement.
IT Infrastructure	• A comprehensive organisation-wide cybersecurity platform.	• Threat detection software (Triggers, alarms and malware scanners.) • Intrusion detection systems. • Integrity checking.	• IT forensic tools. • Malware analysis tools.

Organisational Governance (Prevention, Detection and Reaction)

A strong cybersecurity governance should address day-to-day operations and internal business processes. It should provide real-time risk management with solid prevention, detection and reaction mechanisms. Moreover, it should bridge the physical security, information security, business continuity, and crisis management protocols to minimise the risks and eliminate duplication of processes or creating silos.

The organisation must work on three main fronts. Firstly, try to reasonably protect the organisation from cyberattacks (prevention). Secondly, have mechanisms for an early detection of cyberattacks (detection). And thirdly, have a rapid response system with ways of containing damage and restoring normality of business after an attack occurs (reaction). Table 1 outlines the main mechanisms used in prevention, detection and reaction stages.

Ensuring that cyber risk programs prioritise the relevant threats, outlining initiatives to minimise risk and continuously fine-tuning business-continuity and crisis plans would help business get ready in the event of data breach.

Prevention

Prevention actions should provide risk mapping (categorisation, classification, and taxonomies) for cyber threats, so an organisation can assess risk, vulnerability, and prioritise actions. Investments in governance, risk management and compliance (GRC) programs help evaluate risks across the business and can improve an organisation's ability to detect and escalate a data breach. Due to the changing nature of cyberattacks, the organisation should re-evaluate periodically all business processes by identifying new potential security issues, whether it requires re-designing core processes or establishing additional controls where needed.

As connected data is becoming the main asset of a company, it is imperative to classify all data based on its sensitivity. Users should be segmented following the "need to know" principle, in particular only allowing access to the most important data to trained users and providing third parties with the minimum information needed only. In addition, consumerisation translates into another security challenge which appears when employees demand access to corporate networks through their personal

Table 2. Types of cyber threats (adapted from the McKinsey article "A new posture for cybersecurity in a networked world", March 2008 and European Union Agency for Network and Information Security ENISA & The SANS Institute)

Assets	Threats	Explanation
DATA	• Data Breach (through SQL injection and targeted attacks).	It is the intentional or unintentional release of secure or private/confidential information to an untrusted environment.
	• Misuse or manipulation of information (through defacement).	Break into databases and applications, and change information contained in those systems, rather than stealing data and holding it for ransom.
	• Corruption of data (through brute force).	Data becomes unusable, unreadable or in some other way inaccessible to a user or application.
PEOPLE	• Identity Theft (through account hijacking and phishing).	The fraudulent practice of using another person's name and personal information in order to obtain credit, loans, etc.
	• "Man in the Middle".	An attack where the attacker secretly relays and possibly alters the communication between two parties who believe they are directly communicating with each other.
	• Social engineering.	The act of directly gathering information from individuals relies on the trusting nature of individuals.
INFRASTRUCUTRE	• Distributed Denial of Service (DDoS).	An attack in which multiple compromised computer systems attack a target, such as a server, website or other network resource, and cause a denial of service for users of the targeted resource.
	• Manipulation of Hardware.	Break into and modification of hardware, usually targeted attacks of known high-value systems and organisations.
	• Botnets.	Computer gets infected with a program that allows it to be remotely controlled by an attacker, often payload of Trojans, worms, and viruses.
	• Network intrusion / malware (e.g. malvertising or malicious PHP script).	Any unauthorised activity on a computer network. Most often it involves installing malware, which enters a computer system without the owner's knowledge or consent.
APPLICATIONS	• Manipulation of software.	Break into and modification of software with malicious intentions.
	• Unauthorised installation of software.	Tricking users into installing unauthorised software, which increases the attack surface for adversaries.
	• Misuse of information systems.	Inappropriate use of information systems and data, which can be both intentional and non-intentional.

mobile devices. Employee monitoring, although it may sound paternalistic, is necessary to ensure the safety of an organisation. It may include regular risk assessments of vulnerable employees and networks, monitoring outgoing traffic or installing malware detection systems. Among the main causes of a data breach are malicious or criminal attacks, system reliability or human error. A strong end user education, including practices for handling data and recognising phishing attempts, should also be among preventive measures for the business. Most importantly is the need to provide customised training and attend to particular employees' behaviours and deal with them, rather than teaching generalised principles.

In a world of high Digital Density, the value proposition is the result of the participation of many actors interconnected in an ecosystem. To that extent, special attention should be given to the partner and provider selection to ensure that their cybersecurity practices are aligned with the standards of the organisation.

Besides the above-mentioned prevention techniques, organisations should invest in a cyber and data breach insurance, which can help manage the financial consequences if an incident occurs. The "2017 Cost of Data Breach Study" by Ponemon Institute shows that insurance protection and business continuity management reduced the cost of data breaches following the discovery of the incident. Business continuity can be ensured by developing a written cyber incident response plan that outlines cyberattack scenarios and sets out appropriate responses. Having a well-outlined incident response plan will help to identify and act on the data breach quicker, which will lower the total costs of the breach. An incident response team should be supplied with all tools necessary to analyse the breach and act on it quickly.

Detection (Monitoring) of breach incident
Detection and monitoring actions normally would include investigative activities, understanding the type of attack, an assessment and audit services.

Investigation would allow the company to:
- Gain a fuller understanding of a computer or any connected device (tablet, smartphone and IoT) intrusion.

- Increase its chances of identifying the attacker.
- Detect previously unknown security vulnerabilities.

Cyber risk exists on different levels and targets different assets, such as data, infrastructure, people and applications. In order to help detect a breach incident it is useful to understand a taxonomy of cyberattacks and classify responses according to most common cyber threats.

This list (Table 2) represents the identified attacks and techniques. However, the most disturbing fact is that currently over 40 percent of attacks are of an unknown nature. Breaches occur, not because a defense solution is inefficient, but because adversaries find ways to penetrate networks in-between the very tools, processes, and teams put in place to keep them out.

Reaction to a breach incident and recovery
Consequences of cyber-attacks can seriously affect the value capturing of a given business model. In a recent McAfee report,[4] the cost of cybercrime accounted close to $600 billion per year, or 0.8 percent of global GDP. This is up from a 2014 study that put global losses at about $445 billion.

The consequences of a cyberattack could be the following:
- Financial losses and direct damage to revenues.
- Lengthy processes of restoring the data and reputation.
- Legal proceedings.
- Indirect damage, such as reduced operational efficiency, lower employee morale, or broken customer relationships.
- Catastrophic consequences for society (e.g. hacking an industrial plant or furnace explosion).

Therefore, the right reaction to a breach incident is as important as the prevention and detection of an attack. Besides cleaning up the hacked system and restoring the "day to day" operations, it is important to conduct a thorough investigation led by the crisis incident response team and communicate results to executive management, board of directors, vendors and customers.

Upon restoring computer (or any connected device) systems, the company should aim at

Besides cleaning up the hacked system and restoring the "day to day" operations, it is important to conduct a thorough investigation led by the crisis incident response team and communicate results to executive management, board of directors, vendors and customers.

By having a threat management system providing security event monitoring, **cybersecurity teams can quickly, accurately, and measurably identify, prioritise, and respond to threats, and also secure company and customer data.**

repairing the affected systems and bringing the repaired systems back online timely. However, it is also important to update the cybersecurity plan to prevent similar incidents from reoccurring and evaluating how the response team executed the response plan.

It is also important to execute well-thought external activities, which should cover informing the consumers and clients as well as sharing learning points from the breach with industry experts and authorities. The cyber incident response plan may outline how press releases and other public announcements about the cyberattack should be handled. While addressing customer or end user concerns in an adequate way may help restore consumer confidence and loyalty (for example after theft of a credit card), sharing with experts and authorities will create a solid ground for joint resistance to future cyberattacks.

Capabilities

When a sophisticated corporate governance structure exists, certain attention should be paid to the capabilities within the organisation:

- Clearly defined roles of line-management responsibility and accountability throughout the organisation (between headquarters, regional teams and subsidiaries).
- Transparent decision making at all levels throughout the organisation.

The biggest differentiator of a company's preparedness for a cyberthreat is engagement by the board in cybersecurity, yet, according to an IBM survey,[5] not all members of the

C-suite feel equally engaged in cybersecurity. For example, CFOs, CHROs and CMOs report they do not feel prepared for cyber threats, though these roles own the data most desired by cybercriminals. So, which behaviours could C-level executives adopt to ensure that the company is well-equipped in a cyber space?

Role of CEO is critical in creating a risk-aware culture among executives and across the entire organisation[6] by executing the following actions:

- Ensuring that the board regularly receives security briefings and incident reporting and understands them.
- Treating cyber risk as a risk management issue, not an IT problem and demonstrating that cybersecurity principles are the top priority.
- Using collaboration both internally and externally to manage threats and secure the organisation's most valuable digital assets.

While creating cybersecurity frameworks and implementing technical solutions is in the hands of CIOs and their teams, right compliance behaviours and communication to the rest of organisation should start with CEOs.

Role of CIO (CSO, CISO, or CDO)[7] is to prove that investment provided by the business goes to strengthen cybersecurity risk programs by setting up policies and procedures for employees and to monitor the occurrence of cyberattacks. It might be difficult to make comprehensive risk assessments of cyber space activities as a large portion of those have an unknown nature. However, CIOs should ensure a comprehensive cybersecurity framework exists, which also covers for a rapid response as cyberattacks will still happen despite the best efforts. To that extent, CIOs should:

- Ensure the organisation-wide cybersecurity framework is connected to general business strategy.
- Learn the most effective way to communicate with core executives to ensure cybersecurity is on the Board's agenda. Behavioural science research offers a number of approaches to build more effective communication with C-suite. For example, CIOs could use clear narratives when talking to senior executives and shift

executives' focus from building the right system to building the right process.

- Apply metrics that would evidence cybersecurity improvements, such as allowing "white hat" hackers to search for vulnerabilities in the system and reporting the number of faults they have discovered.

Role of the rest of C-suite is to engage into cybersecurity topics, collaborate with IT on managing a good cyber "hygiene" in their respective departments by means of implementing and enforcing data security and privacy policies, procedures, and controls to help minimise potential damages and reduce the chances of a data security breach.

V. IT infrastructure

A solid IT infrastructure is the basis for implementing cybersecurity policies in any organisation. Strong architectures for data, systems, and security should be established to ensure "security by design" and to build long-term digital resilience.

Traditionally IT systems provided security within an organisational perimeter, however nowadays many organisations migrate its data to the cloud and even physical value propositions (e.g, car, home automation, etc.) are connected through the proliferation of IoT. This new scenario requires an utterly new security model. To address the challenges of The Fourth Industrial Revolution, forward-looking companies have to protect organisational roles and data rather than devices. It requires new and creative ways in approaching data protection, like distributing sensitive information over several databases or restricting access to only a limited number of employees.
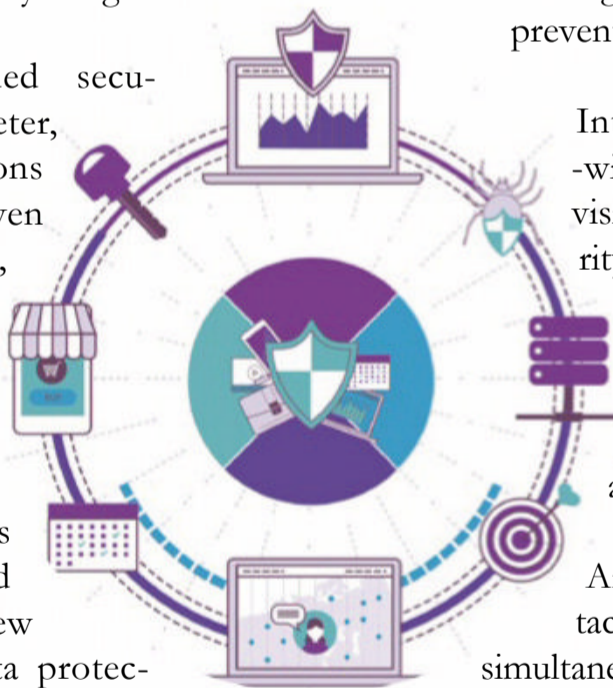
IT infrastructure should be up-to-date and require investments in the right technologies. IT in house efforts should also include:

- Having the company's database on a different web server than the application server.
- Applying the latest security patches.
- Protecting all passwords.
- Using read-only views of documents and materials when possible.
- Maintaining strict input validation.
- Developing network security architecture.
- Encrypt sensitive data.
- Monitoring activities and procedures of third-party contractors with access to the computer system (whether direct or remote).
- Performing network scans to assess activity on the network.
- Comparing outbound network traffic to baseline operations.
- Choosing names for tables and fields that are difficult to guess.
- Having up-to-date intrusion detection and prevention systems (IDS/IPS).

Introducing a comprehensive enterprise-wide cybersecurity platform can offer visibility across the high volume of security data. By having a threat management system providing security event monitoring, cybersecurity teams can quickly, accurately, and measurably identify, prioritise, and respond to threats, and also secure company and customer data.

Besides that, companies can begin to use Artificial Intelligence (AI) to detect cyberattacks and react to data breaches. However, simultaneously AI is deployed by hackers, which brings cyberattacks to a more sophisticated level. This increases the importance of investing more into cybersecurity's newest technology.

Businesses should start with addressing cybersecurity at the highest organisational level by including cybersecurity in its business strategy, using secure-by-design principles, ensuring business continuity in case of cyber threat and treating cyber risk as part of a holistic risk management approach.

VI. Conclusion

In the current world of increased Digital Density there are three main reasons why organisations currently struggle with cybersecurity.

First, it is due to not including cybersecurity into organisational strategy and struggling to provide a valid business case for cybersecurity investments as probability of any given attack and potential costs are unknown. Cybersecurity often gets treated as a "problem to be solved" by the IT Department rather than as the ongoing iterative improvement process, which in turn leads to uninformed choices and heightened risks for the business. Second, it is due to not having any sophisticated governance frameworks, practices, policies and capabilities in place to secure the business. Third, organisations are at a high risk of breaches when they do not invest in IT infrastructure and do not extend security processes to third party providers, partners, vendors and consumers, which are outside of the "perimeter of an organisation".

Cybersecurity should be based on a solid technological base to protect the organisation, therefore the IT department should be aware of recent developments in defending business systems against cyber criminals.

In this article we offered a framework, which addresses the above-mentioned challenges and allows managers to implement a structured and sophisticated approach to managing security in their organisations. Businesses should start with addressing cybersecurity at the highest organisational level by including cybersecurity in its business strategy, using secure-by-design principles, ensuring business continuity in case of cyber threat and treating cyber risk as part of a holistic risk management approach.

Concurrently companies should establish a fit-for-purpose organisation by educating every member of the organisation to behave in a cyber-secure way, building right capabilities throughout the organisation and introducing a sophisticated governance framework with solid prevention, detection and reaction mechanism.

Finally, cybersecurity should be based on a solid technological base to protect the organisation, therefore the IT department should be aware of recent developments in defending business systems against cyber criminals.

To be effective in the new world of digital transformation any organisation needs to address cybersecurity as a continuous effort that requires dedication, efforts and senior management involvement and include cybersecurity principles from the very beginning when designing an organisational structure, product or service.

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COMPETITIVE ADVANTAGE THROUGH SOFTWARE:
Contrasting Enterprises & Startups

BY GRANT HULL

I have an interesting vantage point whereby one portion of my professional life I work in the innovation scene with startups and entrepreneurs, in the other, my company service medium to large enterprises with digital transformation. There are expected differences between these two commercial segments, but in the area of software use and digital strategies, the former is performing considerably better than the latter.

As the world increasingly becomes driven by software and algorithms, corporations still find themselves playing the cost optimisation game, where IT is a means to that end. Meanwhile, startups are gaining an advantage by configuring and investing in their own software unique to them.

Startups and enterprises are often at opposite ends for obvious reasons. On one hand, you have entrepreneurs, aspiring innovators from university or industry-backed incubators, who have (mostly) nothing to lose and everything to gain. They are agile, experiment frequently and can happily pivot when needed.

On the other hand, enterprises with existing - often mature - products to protect, find it hard to adapt their business models. Adding to the common understanding just mentioned, this article explores the contrasting journey between enterprises and startups in how they approach IT, and the new software paradigm.

"We're not a tech company"

This is what most enterprises not purely in technology space would say. They think of themselves as technology users, not software companies.

For instance, a manufacturing company naturally thinks about technology as their machinery and equipment, and the multiple systems that run those machines. Hence when considering software, it is natural for them to desire all-encompassing IT systems such as ERP packages, especially those offered by "proven" vendors.

But does this motivation behind buying software or IT systems help or hurt, considering the wake-up call by GE's then CEO in 2014: "If you went to bed last night as an industrial company, you're going to wake up today as a software and analytics company"?

Multinational bank ING heeded this when they doubled down on digital and penetrated the Australian market. By being a branchless bank, ING relies on their digital infrastructure being reliable and nimble to serve an increasingly digital-savvy customer base. Instead of implementing cumbersome enterprise-grade system, ING opted for a more modular, pick-and-choose software architecture that allows them to ship new features on a regular basis[1]. In short, ING doesn't think of themselves as banks, but as someone who provides banking to customers.

Yet today, many non-tech companies are just embarking on an ERP

implementation journey that might or might not end well two years down the track.

History of enterprise software

Before jumping to any conclusions about enterprises, let's try to understand how this mindset came about.

Software started out as single purpose aligned with a single business function such as accounting or inventory management. Over time, more software was created to serve more business capabilities. At the time, software was expensive to buy and maintain as updates required major work and carried risk to the systems' availability. Keep in mind that software used to be implemented on-premise and wasn't connected via internet.

These factors made dealing with a single vendor appealing and efficient, which in turn propelled single software vendors to address multiple business functions - a virtuous cycle for enterprise software vendors.

It was only a matter of time before functionally discrete software packages became monoliths intended to do everything. The desire for integration across enterprises was so great that the Enterprise Resource Planning (ERP) system came about as the epitome of enterprise monolith.

Rightfully, ERPs were put in place to increase efficiency through information sharing across business departments and organising this data into a central repository for decision making. Unfortunately ERPs have instead become the 'ball and chain' of enterprises.

Why? Monolith software vendors would persuade buyers that they have all things covered in one application, and have little motivate to allow other software to work with it. In preserving their "lunch", ERP providers put in measures such as packing in more features, putting a wall around their software and make their software so big that businesses become reliant on a limited supply of domain experts.

Hence, enterprises either need to get in line and pay an exorbitant amount for customisation, or employ and maintain dedicated staff. Even when the Internet came around and software started to be installed off-premise, or on the cloud, incumbent software vendors might not be motivated to do it any other way. Their huge existing software asset is likely to induce sunk cost fallacy.

> The desire for integration across enterprises was so great that the **Enterprise Resource Planning (ERP)** system came about as the epitome of enterprise monolith.

What are other drawbacks of software monoliths?

From a risk management point of view, large scale projects such as ERP implementation carry inherently larger risks as there are just more moving parts to be taken care of over a longer implementation period. Cost overruns are not uncommon here.

As mentioned briefly above, the monolithic system can be too complex for one person to understand. Users might be motivated to find workarounds, such as picking other non-mandated software solution, or sticking with manual processes.

Monolithic software is often built on closed architecture rather than open standards. Thus from a technical standpoint, worsening the lack of talent pool that creates or maintains such software.

Is ERP dead?

This brings us to the question in the title of this section. Back in 2000, Gartner predicted that by 2018, the concept of using ERPs and monoliths would be "dead."[2] The research group pointed out that enterprises were buying the unwritten mantra of ERP vendors "providing all things to all people,"

The spectrum of enterprise software starting from off-the-shelf
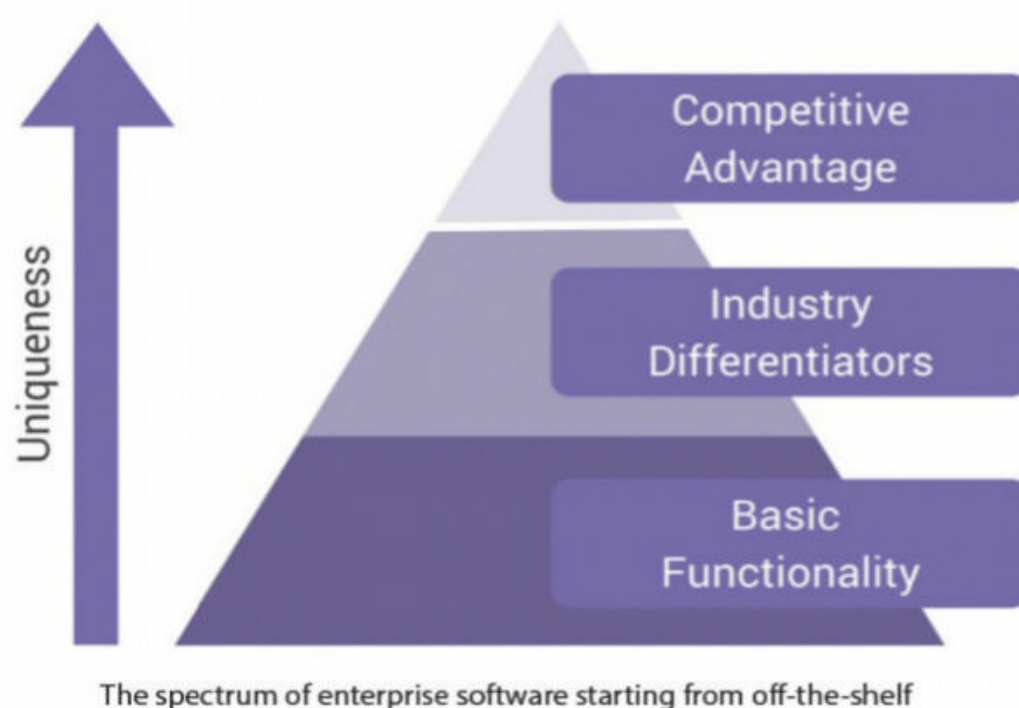
and that monoliths go against the future direction of more external connectivity.

To reiterate, enterprise IT systems are implemented to solve internal problems and optimise the business according to industry standards and perceived best practices.

That means purchasing off-the-shelf enterprise software will only help enterprises achieve the basic functionality (e.g. accounting, database management) required by their industry. The merits of this software are only to take care of business activities that have no opportunity for competitive advantage.

Most software vendors will provide a little more customisation towards the needs of a specific industry, e.g. CRM for hospitals, inventory management for heavy industry.

At the top of the pyramid is competitive advantage. Trying to achieve this section by configuring out of the box software is very expensive and complex. Most of the risk in budget blowouts and project overruns originate with this activity.

In short, by thinking of themselves as merely users of software and operating with the "optimisation" mindset, enterprises might run into these risks:

- Using the industry standard which make them standard in the industry
- Following what is considered 'best practices' may only mean watering down their competitive advantage

Why? Because everyone in the industry is doing the same thing. Similar cycles have happened in the past. For instance, enterprises used to buy a mainframe to better manage their business, and so did their competitor.

This means enterprises cannot create a point of difference for their customers amid shifts in customer preferences and behaviours.

The new software paradigm

In contrast to enterprises, successful startups don't immediately think about putting in IT systems to support their business. Rather, they focus on customer problems that can be tackled through any means they have, which is usually software.

Unencumbered by industry best practices, startups start with a clean slate, develop their solution around a small set of problems and optimise to solve them really well.

Uber app on mobile phone © FinanceBuzz

It used to be expensive to build software. But things have changed as software started to "eat" the world[3]. Software building tools and Internet-based services which we will touch on below, have become more powerful and cheaper over time.

As mentioned previously, when Gartner predicted the "death of ERP", they also proposed a change in business strategy to enable more open and collaborative processes. In line with Gartner's predictions, there has been a visible shift to the cloud architecture - pioneered by innovative tech companies.

But they did not simply shift a software monolith to the cloud as it only meant the same ball and chain on a different computer. Those companies decided to abandon massive teams building software monoliths in favour of having smaller teams focused on building smaller, limited purpose software elements called Microservices.

Microservices started as a software architectural style whereby a specific, well-encapsulated business capability or domain area is developed as a suite of small services. The idea is the

Unencumbered by industry best practices, startups start with a clean slate, develop their solution around a small set of problems and optimise to solve them really well.

To sum up the two contrasting approaches to IT: **enterprises** solve internal problems, **startups** solve customers' problems.

microservice dedicated to that capability is the best it could be.

The microservices are independently deployable, i.e. not dependent on each other. To make sure the whole software package works in a coherent manner, there is a well-defined "contract" between these microservices that specify how they should communicate to each other. These agreements are called Application Programming Interfaces (APIs).

To give an example, the Uber app consists of a bunch of microservices, each dedicated to a specific function such as payments, trips, vehicles or background checks.

How innovative businesses innovate with Microservices

Equipped with the tools in the new software paradigm, startups assemble software to serve customer needs at affordable costs, in less time while being able to reiterate on it frequently.

Microservices-oriented software allows incremental enhancement without fear of breaking the whole system. As mentioned above, microservices are independently replaceable, thus upgrades or repairs to the modular components can be done in an agile manner.

Unlike monoliths, microservices carry less risk of downtime as functionality is dispersed across multiple services, hence less likelihood of a single point of failure.

Ticking the boxes for efficiency and incremental improvement, microservices are also the enabler of experimentation, which can lead to new product or service innovation that better serves customers.

For instance, WeChat – China's equivalent of Facebook – is constantly innovating and adding new services to help users manage more life aspects, e.g. payment, ecommerce, taxi hailing. Their architecture of more than two thousand microservices allows them to build, test and reiterate new features without having to make changes to the whole system. Imagine how long this would take if they had a cumbersome ERP to navigate.

What enterprises can learn from startups

To sum up the two contrasting approaches to IT: enterprises solve internal problems, startups solve customers' problems. Enterprises deploy industry-standard ERP or system and have a point of parity. Startups build their own software with high velocity deployment using innovative architecture and create a point of difference.

It is worth noting ERP is not a piece of software, but an activity or objective. When Gartner predicted the death of the ERP concept, they introduced ERP II. Enterprises can still conduct ERP activities but not with a software monolith, rather, with a different strategy that involves a "loosely coupled and federated microservices ERP environment."

This environment gives enterprises the chance to think outside of the cost optimisation domain and more on delivering customer value. Using the same tools as startups, enterprises can combine best of breed software products with their own microservices, configured to their unique business model and processes.

Now enterprises can win with software, rather than be eaten by it. ⧉

About the Author

Grant Hull, **CEO and Director at Enabled** Apart from guiding Enabled, Grant is also a popular presenter and speaker in the digital space. He has delivered innovation courses at several Australian universities and masterclasses to executive groups. Grant is also appreciated across the tech innovation scene, where he acts as mentor on developing new business models and designing great user experiences.
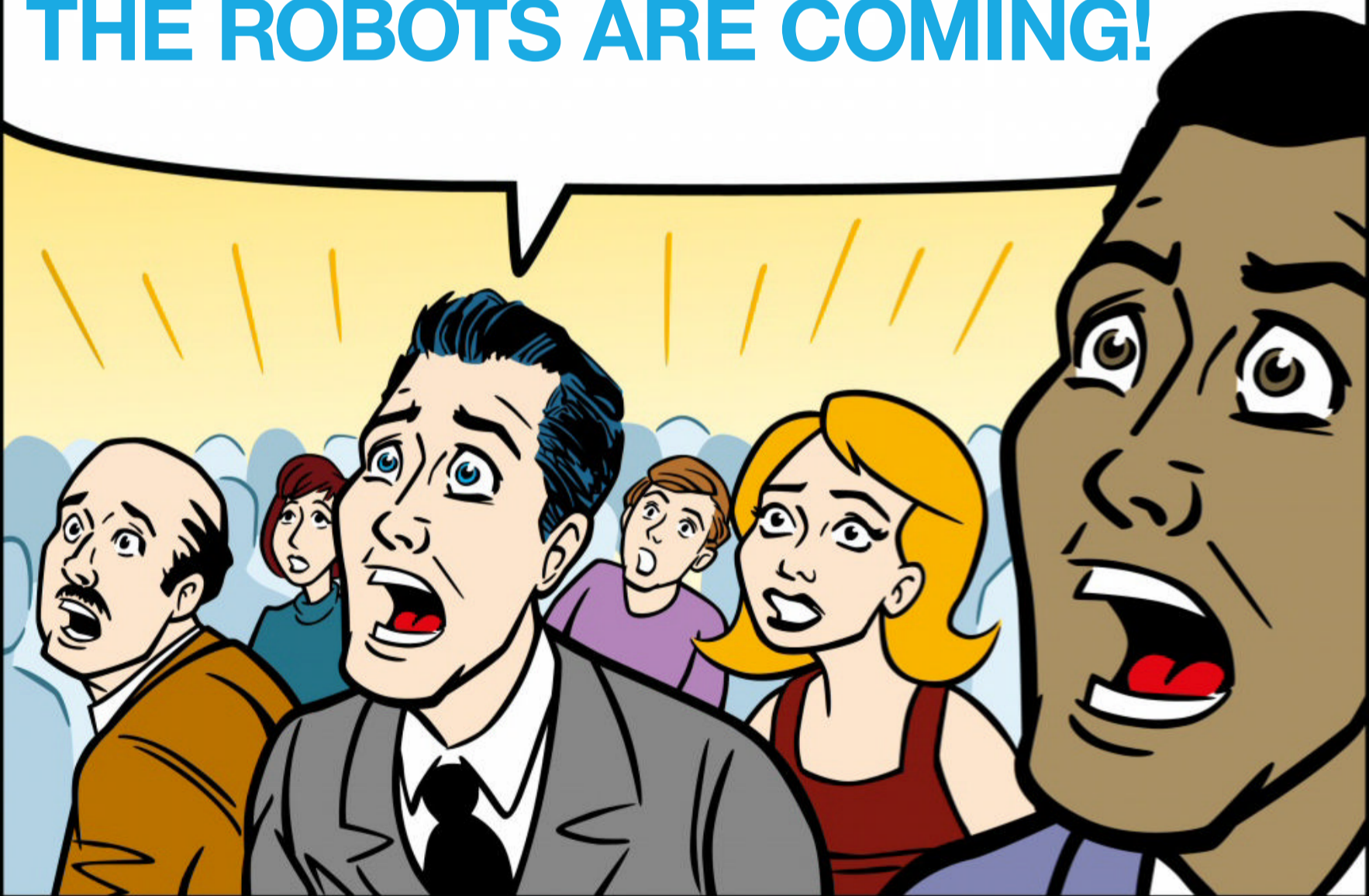
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