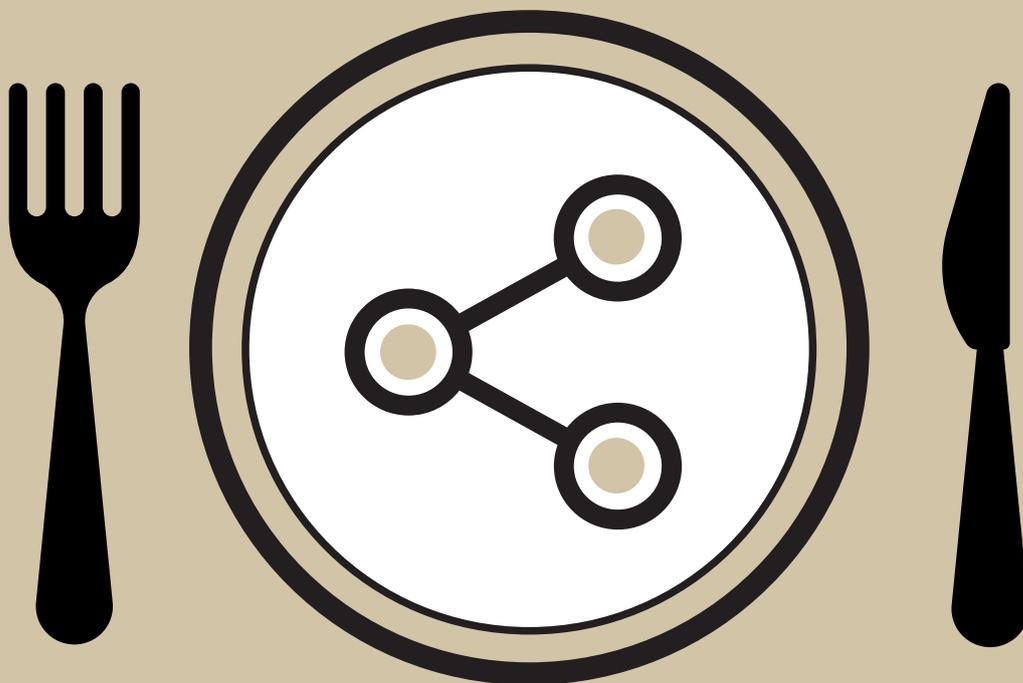


SUMMARY OF THE SWEDISH LUNCH 2017 IIIRD EDITION

Where are we today as we
head towards the WEF 2018?

During the World Economic Forum, Davos, Switzerland at the Hotel Schatzalp



THE SWEDISH LUNCH IIIRD EDITION

Machine Era Perspectives on Sustainable & Equitable Growth

WEF-techies perspectives for 2018

Rising Digitalization in the Fourth Industrial Revolution: The Rise of Fintech, Technology Inequality, Geopolitical Stability, Cybersecurity, Autonomous Transport, Nanotechnology, Artificial Intelligence, Algorithmic Liability, Digital Infrastructure & the Future of Food.

STRATEGIC
PARTNERS
2017



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Preface



As the founders of the Swedish Lunch we are overwhelmed and proud to see the growing response for this forum. Over the last four years, we have seen what began as little more than a WEF friendly lunch with eight attendees rapidly evolve into what is today a forum gathering approximately 400 world leaders from wide ranging industries and disciplines across the world.

FROM FORMER Heads of State to disruptors at the forefront of cutting edge technologies such as blockchain –as a technology and not as a cryptocurrency–, the Swedish Lunch seems to have filled a vacuum, bringing together high level multi-sector dialogue in a friendly and impartial environment. We have a vision of a material world fully reliant on technology, and our goal is to provide a neutral forum anchored in values of innovation and equality in order to freely discuss ideas and perspectives on how to arrive to the best possible world for the majority of the people. The best possible world will only unfold if we ensure technology is used in a positive way to humanity, and particularly with the highest ethical standards. Therefore, as technology is the main driver of growth, even beyond the industrialized countries, we aim to promote the spread of technologies that aim to reduce the inequality gap, care for the environment and lay ground for inclusive and sustainable economic growth.

IN THIS REGARD, there is no room for doubt that the fourth industrial revolution's rocket has launched both literally and figuratively, as Astronaut and Professor Christer Fuglesang highlighted during the Swedish Lunch 2017. All these new technologies are imperative

for our ability on achieving the UN's 2030 Sustainable Development Goals. Decarbonizing the world economy (necessary to maintain world temperature under 2°C) entails in itself an energy revolution. Similarly, ending poverty must be preceded by ending hunger which translates to building the capacity to feed sustainably 8.5 billion global citizens by 2030, this represents in itself an agricultural revolution. Autonomous systems will similarly represent a transportation revolution creating frictionless movement of people and products. A healthcare revolution is also in the making, based on a combination of Big Data, wearables and new bio-technologies. The list goes on including the Internet of Things, 3D Printing, Nanotechnology and other industries. All of these concurring changes are happening parallel to a transformation of the protocols of our economy, new financial systems have more capabilities and can be more inclusive and wider reaching while supporting transformations in every other realm.

DURING THE implementation and spread of the aforementioned technology transformations, new challenges have and will continue to arise, risks will have to be continuously leveraged as new vulnerabilities continue to emerge. Cybersecurity threats have been escalating rapidly. Allegations of digital meddling in national elections and citizen data kidnaping for cryptocurrency ransoms are only few examples of crime that has had a profound effect in the geopolitical situation of our world. As geostrategic fissures re-emerge, we remain cautiously optimistic because those same tools empower millions of actors with the right intentions, giving us an unprecedented opportunity for co-creation and collaboration in a worldwide effort to improve the state of the world.

WE ARE ALL stakeholders in this transition and the Fourth Industrial Revolution's unprecedented challenges and opportunities will only be successfully encountered if the global community works together. Technology by itself is neutral, only defined by what we do with it. We look forward to welcoming you at the Swedish Lunch to discuss the future of technology and furthermore the future our world.

"Blockchain was discussed as a technology, not as a cryptocurrency"

"American politics were not the focus as leaders turned their attention to technological transformations"

"Technology is the main driver of growth, even beyond the industrialized countries"

Forward



The 2017 Davos World Economic Forum was particularly eventful, as the conjunction of world occurrences -as perceived by global business leaders, high-ranking government officials and key academics- has permeated the WEF global community with a shared understanding of an ongoing technological transition towards a new machine era. Sceptics about the fundamental impact that new technologies represent to the complex machinery of our economy have been debunked. Apple's historic overtake of Exxon in market capitalization in 2011 was only the tip of the iceberg. Today, the four biggest companies in the world by market capitalization are tech companies. This leaves it up to global leaders to predict, adapt and smoothen the profound transformations that this Fourth Industrial Revolution will entail. The nature of finance, security, work, transportation, logistics—and basically anything that can be strengthened or replaced by new digital technologies—will need to re-define itself in order to be consolidated, or fade away. Everyone is a stakeholder in this transformation; and during the Davos World Economic Forum, the Swedish Lunch gives voice to some of the world's most authoritative leaders from the tech sector and delves into the direction of the world economy. It is important to hold this type of neutral forums, where ideas and perspectives can be freely discussed with the sole aim of improving the state of the world. We believe that the rise of digital technologies greatly empowers our capabilities to positively transform our world and meet the United Nations' 2030 Agenda for Sustainable Development. Allowing stakeholders to under-

stand the nature and implications of the technologies that are rising is the only way to build strategies to create a better world and facilitate strategies for imminent technological transitions.

IN THIS REGARD, we believe that one of the most relevant transitions in technology is currently happening in finance. Movements in the tectonic plates that underlie our economy will culminate in what is perhaps the most significant financial revolution since Genoa's implementation of double entry bookkeeping. Other industries have showed that it tends to be outsiders who take the lead as first disruptors, and established, traditional stakeholders who follow. As technology author Tapscott puts it, "Netflix wasn't invented by Blockbuster, iTunes (Spotify) wasn't invented by Tower Records and Amazon wasn't invented by Barnes & Noble." In this regard, a global financial unicorn has yet to emerge. Several fintech companies have already began to tap into the financial sector in what some perceive as akin to the Chinese form of torture known as lingchi (death by a million cuts). A small number of such newcomers have even secured banking licences; however, it is still unclear how these new banks are fundamentally different from their peers—that is, besides having more user-friendly interfaces or apps, more flexible debt instruments and slightly lower rates. However, despite these differences, many of their products and protocols are still similar, or complementary, to traditional banking systems. That is to say, the fundamental technology underlying the transactions and operations of most of the biggest newcomers in fintech is at least not visibly revolutionary, though it is nevertheless disrupting the business of many traditional institutions of retail banking.

ON THE OTHER hand, there are more disrupting technologies with financial applications, such as the Blockchain, offering to transform the fundamental technology behind different financial operations. Blockchain technology promises many opportunities by decentralizing the flow of information from users and transactions, letting data flow simultaneously through millions of servers which record information with an unchangeable time stamp as servers reach consensus. This means that financial systems can greatly increase the speed of financial procedures and expedite the protocols for the

Forward

storage and distribution of information. If widely adopted, a broad variety of new applications may become available, including transforming commodities or financial instruments into digital tokens. Other applications include the automatization of certain aspects of financial contracts where—if conditions are fulfilled— digital capital may flow unhindered in accordance to digital contracts; among many more possible applications. This would mean that, rather than using Microsoft Word, pen, paper, attorneys, auditors, and notaries, our agreements could become codified. Several

MAJOR BANKS, in varying degrees of scope and openness, are currently exploring applications in the blockchain space. Other companies, such as BP, for instance, are exploring how they can make trading more efficient and delving into the “practical and ethical implications of using blockchain in the energy sector.”

THE AFOREMENTIONED opportunities are relatively well understood, nevertheless, their implications, or how they will unfold, is still uncertain. As former CEO of Tidal Andy Chen highlighted “there is a fundamental change of culture when there is a platform shift” in regards to technology and our use of it. Earlier this year, the Governments of China and South Korea made it illegal to issue Initial Coin Offerings (ICO), which is the emission of virtual coins typically powered by a variety of blockchain technology, in a move which could aim at the centralization of ICOs by such governments. During the 2016 WEF, Christine Lagarde, Head of the IMF, and John Cryan, CEO of Deutsche Bank, forecasted that cash would disappear within the next ten years, raising the question of what type of digital currency technology the central banks would adopt. In this sense, at the 2017 Swedish Lunch, an increased government engagement with blockchain technologies was predicted, and this has materialized, as a growing number of countries around the world are seriously considering minting fiat digital currencies through the blockchain. The People’s Bank of China is currently exploring the technical and economic challenges and opportunities that a digital renminbi would entail. In a similar quest, the Swedish central bank published, on September of this year, a report exploring perspectives of its e-kronor, concluding that, if it were to be

minted, it would be a “complement to cash.” Other, more unconventional applications include the crypto-securitisation of listed companies’ shares, or the tokenization of real estate, in some instances raising the eyebrows of regulators.

IN THE LIGHT of an overwhelming array of applications, no one knows which of them will prevail; however, it is certain is that many will be adopted, and it is therefore imperative to hold wide-ranging discussions about the implications and challenges of the financial technological transition. Perhaps the greatest opportunity presented by digital finance is the opportunity to incorporate the approximately 2 billion unbanked individuals into the fold of our financial systems. Sam Cassat, Consensys’ CSO, explained during the 2017 Swedish Lunch that the technology will disseminate through people’s lives by adding new capabilities that people did not have before, from blockchain identity to the disintermediation of users’ information, offering “tremendous opportunities to innovate in emerging markets, offering great benefits to our entire civilization.” As mobile penetration continues its rapid increase, financial services will be able to reach underserved citizens. In this context, other questions will rise in regard to algorithmic accountability and ethics. For example, as new internet users from emerging countries acquire digital wallets, the imposition of strict rules to avoid predatory lending will be important to ensure inclusive growth. Overall, new players which are not banks play an increasingly important role in our societies. David Rubenstein pointed out at the 2017 WEF that the fintech revolution is changing the nature of banks and financial institutions, with China and India leading the way, and with the global fintech industry receiving 5X investment as 5 years ago and a projected 50% increase per annum over the next ten years.

BEYOND ISSUES of technical applications or algorithmic accountability, the more obvious security risks that result from new technological waves are security issues derived from cybercrime. As Inga Beale, Lloyd’s CEO, pointed out during the 2017 WEF “there are two types of firms in the world when it comes to cybercrime; those who know that they have been hacked and attacked, and those who don’t know that they have been hacked and attacked.”

The machine era implies the continuous digitalization of all sorts of information, which has created new types of vulnerabilities for our societies around the globe. As Big Data is now at the centre of technology companies' business models, information has become the new capital, and private companies face a huge challenge while gathering data and trying to secure its safe management and legal applications. In a more connected world, we have found that centralized models of defence are not working, and attackers are continuously finding ways to exploit our vulnerabilities. Andrew Keys, from Consensus, explained during the Swedish Lunch 2017 that we are "drowning in data and starving in wisdom" as automatized systems from private companies operate algorithmically on collected data, which can become problematic if not properly managed, as was shown in the recent weaponization of Facebook ads by Russian actors in an apparent attempt to influence the 2016 US election. Data regulation and standardization are extremely relevant issues that have to be debated among companies, governments and citizens. During the summer of 2017, a ransomware attack, described as being among the biggest-ever disruptions to hit global shipping, prevented cargo ships from meeting scheduled deliveries by disrupting their complex supply chain. The aforementioned cyberattack had even more worrying consequences, as the United Kingdom's National Health Service was also affected, impeding appointed surgeries and other medical procedures, shining a light on new vulnerabilities of centralized data systems, and having previously unseen consequences in the material world. Oren Falkowitz, the founder of Area 1, explained at the Swedish Lunch 2017 that "the only advantage attackers have is that they are imaginative," which means that our ability to confront the challenges of

CYBERSECURITY REMAIN constrained only by our ability to imagine the risks posed to ourselves as individuals and the organizations we work on behalf of.

A proof in favour of the optimist view of our capabilities to safeguard digital information is that the vast majority of cyberattacks are carried out by phishing, meaning that they can be prevented by not opening unsafe links or attachments. The tools to secure our data are available, but we need to cooperate at all levels in order to ensure such features are implemented efficiently by the companies and government bodies that collect our data.

THE COMPLEX machinery that powers this new fourth industrial revolution uses, in a way, data as the fuel of autonomous systems. As Mike Butcher, Editor at Large at TechCrunch, accurately mentioned at the Swedish Lunch 2017, machine learning has been available for years, yet low-cost Big Data for live-feeding machine learning systems is a relatively new feature in technology. All of our businesses are being re-imagined by software, and this will lead to a transformation of labour markets and the skills necessary to secure a job. The impact of tech on employment and society is a relevant issue in this sense. Alternatives for the transition, such as universal income and strategies to ensure the inclusion of all members of society, were also discussed during the 2017 Swedish Lunch, but this discussion is in its early stages, and given the fast pace of change, continuing the dialogue is imperative. Truecaller's Nami Zarringhalam stressed the important fact that "more and more people need to move into value creation opposed to intermediation –as the latter will be eventually automated– so that long term what matters most is the emphasis society takes regarding how to educate our children and re-educate those in need of new skills". As WEF-techies we might be ahead of the curve by our technical understanding of the changes that are currently unfolding, however, such clarity loses most of its value if it is not applied to enrich and broaden the dialogue while paving the way to corporate strategies and political articulation resulting in inclusive lines of action to smoothen technological transitions with initiatives

that range from capacity building to algorithmic accountability. I believe that there is a shared understanding at the WEF of the immeasurable impact of this

DIGITAL TRANSITION which has pushed global leaders together to cooperate at all fronts. Google's co-founder, Sergey Brin, expressed at the WEF 2017 that after being absent from Davos for eight years, he was "confused in a good way to see business executives and CEOs and everybody wondering how are people going to find purpose," adding "I kind of feel like I'm at Burning Man, except we are all wearing clothes." In this context, it is worth highlighting that Trump's inauguration day—an undeniable blow to the open global community—barely warranted attention from attendees at the 2017 WEF. From the conversations I held at Davos, besides an understandably gloomy Joseph Stiglitz, who may see the economic legacy he instated under the Clinton administration under threat, global leaders seemed to be more focused on tackling challenges and seizing opportunities of digitalization. The aforementioned shared understanding is a good start, but good will has to permeate the actions of global leaders as new job markets are formed, and as new financial and machine learning applications are met with regulation in order to maximize inclusive growth.

WE WILL HAVE to cooperate exhaustively in order to ensure a smooth transition into this new digital age. The ultra-high-speed of mobile internet penetration presents global opportunities for development unseen in previous stages of human history, but it also entails huge challenges. For the next 6 years, more than 1 million new mobile broadband subscribers will be added every day, resulting in an additional 2.6 billion people connected by 2020. Frictionless digital service provision in areas such as finance and education present enormous opportunities for development. At the Swedish Lunch, we believe that most of the UN's 2030 Sustainable Development

Forward

Goals can be achieved by 2025, attaining the ultimate goal of eradicating poverty in all its forms and dimensions, having universal literacy and access to quality education or capacity building. It is not a light statement but the argument follows a Leibnizian logic where in all possible worlds, parting from all factors being equal as they are today, it would indeed be possible to achieve the majority of the SDG 2030 by 2025. That being said, it would be naïve to assume that because it is possible it is going to occur, immense

global efforts have to be set into motion and at times irreconcilable interests will have to evolve in order to embrace long term sustainable development perspectives. For this to be possible it is an imperative to use new technologies inclusively, effectively and ethically. Global leaders ought to continuously hold multi-sector dialogue to tackle the upcoming challenges intrinsic to this technological transition, which is why efforts such as the Swedish Lunch are so essential in the building of a better future.

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