

CHAPTER 1: The Nature and Impact of Digitalization

(Hans Gillior, 2020)

“Digital is the main reason just over half of the companies on the Fortune 500 have disappeared since 2000.”

Pierre Nanterme

It is the age of globalization and digitalization. An era where information, capital, services and production means flow across national, cultural and corporate borders with ease. Industrial barriers built by regulations, capital needs, and patents are reduced and, in many cases, crushed completely. All transfers are enabled by digitalization – where services, processes, information and IT are not contained to a culture, region or country. It does not matter if a product or service is produced in Mumbai, Beijing or Stockholm – they all compete on the same market. It is an era where products and services are produced and managed where it is most cost beneficial and value creating. If the total value of service is higher being produced in Mumbai – then that sets the standard for that service. Location is not the key determinate in the value equation. What is important is that I can consume the service or product when, where and how I see best fit. How the service or product support my lifestyle and personal branding. The downside to the age of globalization and digitalization (often called “new normal”) is that societies and companies compete on an international scale with high unpredictability, and where work is moved around in a quite chaotic way. This is the reality of “new normal”. No one is protected in the unpredictable digital landscape.

“There are no boundaries or borders in the digital age”

Karim Rashid

The key effect of globalization and digitalization is revolving around the concept of “Value creation” – how well we create value and experience for the end-customer. The fact is that globalization and digitalization will enable continuous movement (into a new equilibrium) in the business environment to ensure that value is optimized to the end customer. New player will succeed if they can create more value than traditional players to disturb or disrupt the market equilibrium. Companies will move production or service to where more value is created. Companies will keep those employees that contribute to the experience of the end-customer – the rest will not be used (phased out). This is harsh reality but is the way that corporations and organization are developing today. Value creation must directly or indirectly be linked to experience of the customer.

SECTION 0: Introduction

I have studied Digitalization for several years and the more I study the phenomenon, the more complex it becomes. The complexity primarily lies in the fact that Digitalization changes in nature rapidly over time. The way digitalization was defined in 2010 is not how it is defined today. The reason comes from the rapid evolution of technology, social behavior, political regulations and directives, economic trends etc. that in combination is hard to predict and master. What we can conclude is that any simple attempt to define the phenomenon Digitalization will fall short and be irrelevant in a couple of years. Also, we see today consultancy firms, research companies and digital gurus trying to contain the phenomenon Digitalization by creative definitions. Today (2020), digitalization has become a buzzword including all and nothing. How to break through the static wall of opinions and focus on a definition in the right context? In this section, I will give definition a try, but it is necessary to

start from its roots and master its context define trying of defining Digitalization. Why is Digitalization relevant now – and what has changed?

SECTION 1: A Brief History of Digitalization

Digitalization or Information Technology is not anything new. Humans' ability to store information on different mediums (wooden and bone carvings) have been around for thousands of years. 5000 years ago, the Sumer civilization developed an advanced information system where clay and wooden tablets were used to store information about taxes, laws and contract (as part of bureaucratic infrastructure) that needed to stand the test of time. The technology and mediums have changed over time, but information has played a vital part in developing and administrating societies.

With industrialization in the 18th century, digitalization took a new step in its evolution. The French Jacquard looms could around year 1803, weave different complex patterns with the help of punched cards. In the middle of the 19th century, electric telegraphs were developed to send information through the wire. In 1849, the news about the election of the Prussian King Fredrik Wilhelm IV to German Emperor was distributed 500 kilometers in less than one hour. The following years, the Anglo-American Telegraph Company connected United Kingdom and USA via Canada with a telegraph cable. The transmission speed was 8 words per minute and was an enormous break though. The British Empire became connected in a complete telegraph network.

What we need to understand when tracking the evolution of “digital” technology is that each evolutionary step creates a new business environment and opportunities. The introduction of the telegraph enabled new companies, business models and customer expectations in the information domain – which in turn is a necessity for the next step in the evolution. In each technical break-through, a large part of companies will be phased out (unable to adjust to new business landscape) and hence replaced by new companies adapting the new technology. It is a natural industrial and business evolution.

In the turn of the century, “mechanic” computers and typewriters gained importance in business administration with global companies such as IBM and Swedish FACIT. The “mechanic” computers were then challenged by electronic digital machines in 1950's and were phased out during 1970's with cheap electronic devices.

Digitalization (or Computerization) can be traced back to the 1940s with the invention of computers and the code cracking at Bletchley Park. During the 1950s, new computer companies arose from university research and IBM took a lead in the development of computers and software. The Space Race and Military investment boosted the development of computers for many years. In large corporation, computers continued to support and develop all business administration. Computers became a common part of the office landscape in the 1980's and 1990's.

“IT and digital devices has reduced the work force in our bank by 70% over the years!”

Swedish Bank Manager 2015

The personal computer (PC) was launched in 1980's (used by one person) and started a journey that would change society. With introduction of internet (web browsers) in 1990's, regular people gained access to information, knowledge and services in a completely new way. Companies could sell products and services online! Still, consumers were limited to the

stationary computer in the home or at the office. It resulted in a .com boom where new internet-based services and business models were launched with mixed success. The .com era was enabled by new innovative ideas in combination with new technology and almost endless access to risk start-up capital. However, the consumers were not ready to purchase services and products on-line at that time – and the .com companies had problems to deliver stable delivery chains and payment solutions. The .com crash temporarily halted the digital transformation of the society.

What has happened the last 15 years is a normalization of internet and digital solutions in our daily life. Consumers trust the digital infrastructure to a much higher degree today than 15 years ago. Buying or using services or products on-line is today normal behavior. In 2006, the Apple iPhone (first smart phone) was launched and it took digitalization to the next step. Consumers were not limited by stationary computers but could find and consume any information, anywhere and at any time. Always connected! Facebook, Uber and Airbnb (to name a few new services) revolutionize our lives and challenged traditional industries. Digital technology enables the borderless flow of capital, information, production means and services around the globe at a fraction of a second. New high-speed data networks (4G) made it even possible to stream media directly in the phone. The 24/7 access to information and service is changing the society in its foundation and the evolution is continuing to progress in a rapid pace.

Why is digitalization disrupting industries today? Why did it not happen 10-15 years ago? There are two main reasons to why digitalization is changing our society today. First, an increased trust and adaptability among citizens to use digital devices and functions in their everyday life. Looking 15-20 years back, we can see consumers skeptical of new technology – for example of online payment, integrity and security issues, and information validity. Today, the situation is different. Today, digital technology is seen as enabling to a better life and the previous insecurities are far gone. Digital technology is the norm for the digital society and we maybe have too much trust in the digital systems. Secondly, Moore's Law have provided faster processors (double capability each year) to a rapidly reduced cost (half the price each year). Today (2020), we have reached a point the relatively cheap and excellent processors that support new innovations that were unthinkable just 10 years ago. Today, we see for example real-time artificial intelligence, robotics and internet of things that process enormous amounts of data momentarily. With Moore's Law, it is a matter of time until computers reach the same capability as a human brain – and later the capability of a group, company and country. Technology is embedded in our everyday life in a fantastic way.

Digitalization is a driving force transforming society! Many companies insist that digitalization is all about boosting internal productivity and sales with business technology (for example - automation, artificial intelligence, robotics, mobility, and internet of things). These technologies have huge impact on business, but these capabilities are still used for responding to the new laws of business (sometimes called "new normal"). The new laws of business are not driven by new digital capabilities but rather by new digital companies acknowledging and leveraging the nature of the digital society and the new customer behavior. So, if the digitalization had not changed the society and not given rise to new digital firms – would anything happened? No, we would be stuck in 1986 (pre-digital era). It is the change in society and industries (driven by technology, society, customers, etc.) that is the catalyst for digitalization. By understanding the way digitalization affect society, we can start to define the phenomenon and master it.

THE STORY OF FACIT

The story of Swedish company Facit is the classic story of how a global leader is phased out of the market when innovation changed it completely. The company was a leader in mechanical calculators during the 1960's, had subsidiaries in over 100 countries and experienced exceptional growth and profits. The success was built on patents of physical components that made the calculators exceptionally good. In early 1970s, the company was at the peak of its success but there was a dark cloud on the horizon. Japanese companies (such as Sharp) started to conquer market shared (with digital calculator – cheaper and better performance. The disruption instantly made Facit's mechanical calculators obsolete. For the next 15 years, Facit struggled to change and recover, before it was put out of business in 1988.

When studying the minutes from the board meetings in the 1960's and 1970's, it reveals that the board and executive management were aware of the disruption of digital calculators. The topic was thoroughly discussed in the board room, but nothing was done. They failed to acknowledge the superiority of modern calculators and that the demand had fundamentally changed. It was a business and technical mutation that completely disrupted the market – phasing out those without the leadership and capability to change.

*The **Creative Destruction** phenomenon was first described in 1950's by Joseph Schumpeter and describes a process of industrial mutation that revolutionizes the economic structure within, and destroying the old one, creating a new one. He believed that entrepreneurship and innovation were the fundamental factors behind industrial growth and revolution.*

The story of Facit is one of numerous examples of Creative Destruction in history where technical advances have, together with creativity and new business models, changes the rules of an industry. Brands such as Xerox, Polaroid and IT intensive industries such as printed media have all undergone creative destruction where new technology have eroded old technology and business models.

SECTION 2: Definition of Digitalization

Defining Digitalization is a difficult mission. It rapidly changes in meaning, scope and importance over time, a definition today will not be accurate in a couple of years. For example, Gartner defined digitalization using the Nexus of Forces in 2012 (Mobility, Social Media, Big

World Economic White Paper: “Digital Transformation of Industries: Digital Enterprise” 2016

“The democratization of technology (driven by its plummeting cost), increased access to funds and a rising entrepreneurial culture means that there are now hundreds of start-ups attacking traditional markets”.

“Successful digital transformation demands a culture sponsored by the leadership that promotes innovation, encourages risk taking, and empowers employees at all levels.”

“Corporate decision making has been a long-drawn-out process in the past, with scenarios such as decision-making spread over a year not unheard of. Organizations are to speed up their decision making by moving away from a centralized control-oriented decision-making body leading to decisions being placed in the hands of a few, to a set-up where employees across the organization are empowered to take decisions leading to increased self-management ”

Data and Internet of Things) and re-focused on Bimodal IT 2014 (two speed IT). It is also depending on perspective and our view of the world and business. Someone working 40 years in a traditional company will have a different view on digitalization than a 20-year-old digital native. Who is correct? Probably both from their different perspective. It can also relate to different cultures, line of work, and interest. The fact is that we all have some general idea of what digitalization means without any firm definition. Here is a definition I like:

Definition: Digitalization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized (technical evolution and customer behavior). (businessdictionary.com, 2020)

The definition implies that digitalization is a mega trend influencing and changing our everyday life by new digital technology. It is digital tsunami that will change everything we take for granted and how business operates. The fact is that we do not know how exact digitalization will affect business and society in the long run but all we do know is that it will not be the same as today. We see digital natives (growing up in a digital landscape) questioning the importance of banks, travel, information, democracy and our relationship to media – driving change that will impact business and society for many years. What we have accepted as the backbone of business and society will change.

Let us describe the nature of Digitalization:

- A global mega trend – **unstoppable**. Digitalization is together with Globalization and Urbanization re-shaping society, business and economics.
- Driven by **rapid evolution** in digital technology affecting our everyday life (services and information accessible anytime, anywhere and with anything)
- Creating an **unpredictable** business and social environment: we do not know what the future will look like.
- **Revolutionizing** business models, the customer journey and everything in between. Challenging traditional business capabilities.

What we see is a great tsunami of change with an unpredictable path that can hit business and society anywhere. It is like sailing and going from calm and pacific water into a heavy storm with unpredictable winds and tides. What we know is that we need a completely new approach

to sailing if we want to reach our destination. It is these four trends that affect the characteristics of business and society that digital company or organization need to master.

But why are some companies more successful than others when it comes to digitalization? Is it a matter of perspective or luck? Let us explore these areas more in detail to understand how digitalization works.

“What turns me on about the digital age, what excites me personally, is that you have closed the gap between dreaming and doing. You see, it used to be that if you wanted to make a record or a song, you needed a studio and a producer. Now, you need a laptop”

Bono

SECTION 3: Digitalization is an Unstoppable Force – Mega Trend

During the last couple of hundred years, we have seen several global mega trends and events that changed the world community. For example, Liberalism, founded on the ideas of equality and liberty, evolved in the Age of Enlightenment and was defined by John Locke in the 17th century. The mega trend of Liberalism travelled quickly in Europe through secret meetings, newspapers and general word of mouth. The force of liberalism was a grass-root movement that erupted, disrupted and could not be stopped – despite attempts by various rulers and governments. Ambition to contain the mega trend Liberalism resulted eventually in revolution, great war and the crash of empires – to eliminate all resisting forces. Most mega trends cannot be contained and those who survive the fundamental shift in the society are those how quickly grasp its potential and find new ways to leverage the new ideas. Those who try to resist (or don't acknowledge the shift in market/society) will by all certainty be phased out. That history can tell us – and current mega trends are no different.

Digitalization is not a technical evolution but rather an industrial and/or social revolution – driven by citizens and customers on grass-root level. There are endless possibilities to change the way we live, work and communicate with new technology, and the change is appearing in a speed we have never seen before. Even our social and political structure, based on democracy and social liberalism, will probably be adjusted in some way by digitalization, globalization and urbanization mega trends. Scary! But what is important is that is that the mega trend force cannot be stopped – it will find new ways to disrupt. One interesting example is the streaming or peer-sharing (bit torrent) of media (for example The Pirate Bay). It is a movement enabled by new digital technology and challenge the social, legal and economic structure of the society. People can share protected content through the internet without any (transaction) cost. Media content became worthless over-night. The over-mature media industry is severally challenged by new digital movements. The question I ask myself, without going into the ethical dilemma, is whether this movement can be contained by legal actions? Sites can be closed, but if the force is great enough, the digital movement will find new ways to disrupt. The media industry does not have a chance stop the mega trend – and is forced to adapt to survive! Today we see new digital companies (for example Netflix) addressing media streaming with new technology and business models – driven by changed customer demand and expectations. We can see the same trend with other movements in Uber, Airbnb, Ryanair, Skype, Spotify, etc. We saw taxi companies in uproar against Uber demanding legal actions to stop the new digital company – the result was taxi companies adapting new digital business models and focusing on customer experience to compete with Uber. The “traditional companies” decided to follow the digital

movement to survive. The traditional players trying to protect a status quo in the industries does not stand a change! Why resist?

It takes a “traditional company” 18-24 months to react to a digital trend – what can happen in that window of time? What can Google do in that time?

Business has no sentimentality. Companies that cannot compete will be phased out without pardon. Companies that learn how to align to the new market pre-requisites will survive. But what is remarkable in this industrial revolution is that many “traditional companies” resist the digital mega trend – by legal actions, by keeping its “traditional” corporate governance or pretending that it still year 1985. We all know how that is going to turn out. Even though all companies acknowledge the need for speed and agility, most companies keep its traditional corporate governance system with opposite effect. Again, digital transformation is not about technology but rather about leadership, change and governance - all captured in corporate governance. Those who understand this paradigm shift have at least a chance to survive. Still most “traditional” companies regard digitalization as a technical evolution and not a management and governance revolution. Be ready to be phased out!

To transform one’s corporate governance system is probably to most daring and challenging task to do. I have full understanding that many senior executives resist any change of the corporate governance system as it might jeopardize the company’s performance and their own position. Why embark on a journey into the unknown when the current system works quite well? What if the market predictions are wrong and we embarked on a devastating journey for no reason? How can we motivate our staff to be part of the change journey after decades of heavy control and demotivating positions? These questions are relevant, but I would probably ask myself – what if you don’t change?

SECTION 4: Implications of Digitalization

To master digitalization, we need to understand the digitalization implications on the market or industry where companies and organizations operate. What can company, and organization expect when moving into a more digital market? Digitalization is continuously changing color and form, and it is difficult to predict exactly how it will impact companies and organizations going forward – but here are some observations we have from companies on the digitalization journey.

- **Unpredictability:** the rapid development in technology, disruptive trends, customer behavior and regulations are creating an unpredictable business environment. We frankly do not know how the business climate will look like in the next 3-5 years. In more IT-intensive industries, the business predictability is reduced to 3-6 months.
- **Reduced Barriers of Entry:** Protective barrier (due to capital intensity, infrastructure, regulations, intellectual property, or competence) of markets and industries are being reduced, meaning that it is easier for small firms (regardless of geographical location) to compete on different markets. No one is protected in the digital market.
- **Changed Customer Behavior:** Digital Natives are reshaping the markets with new customer behavior where all impressions and experience are mashed-up. Digital consumers pay for personal value and not for irrelevance. The Digital Natives show no loyalty but follow the value and experience.

- **Power of the Social Network:** New business models and services is based on (virtual) social networks. It enables reduced transaction cost of services as information moves quicker in the social network. Our trust is based on the opinion of our peers and not on corporate marketing.
- **Periphery is the New Center:** The traditional structure of society is changing central functions (business, administration, schools, social facilities, etc.) are more on-line to the place of the citizens (periphery). New business and service started in started in the periphery by ordinary people interacting with other ordinary people.

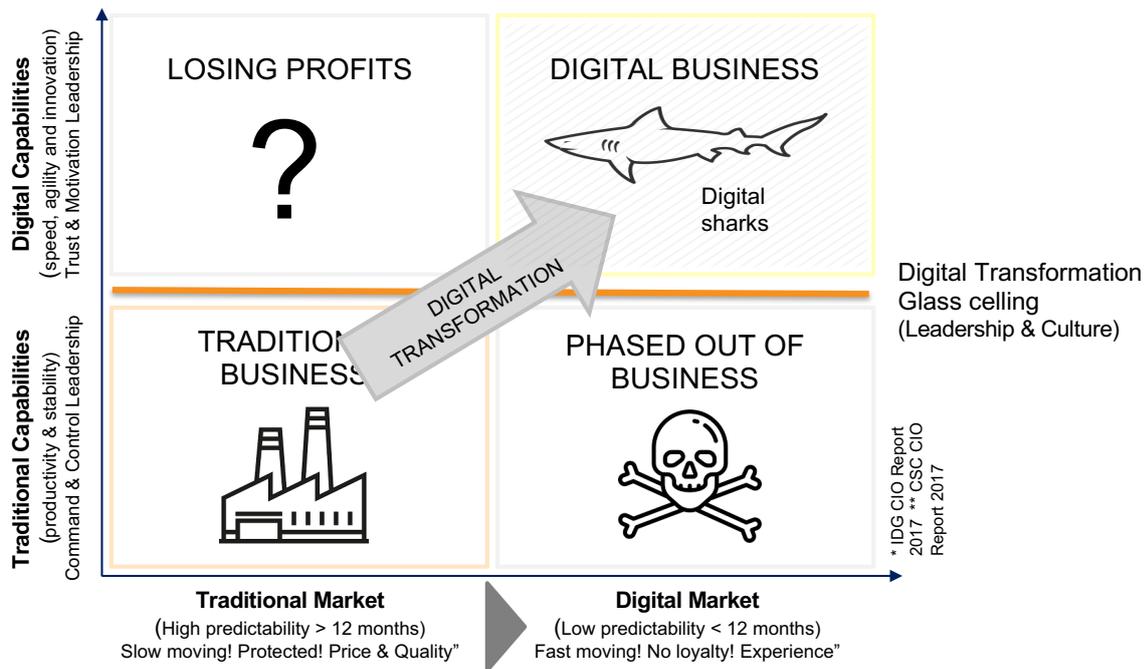
There are probably more observations of how digitalization has impacted society and business. What is interesting is that these observations are enabled by new digital technology. Digitalization is not the technology itself but the implication of technology on people, society and business. It challenges how companies relate to business, customer and society – and how their company is governed and lead. Companies who cannot adjust itself to the new digital pre-requisites will be phased out.

It is important to understand that different industries are impacted by digitalization in different ways and magnitude. For example, traditional manufacturing companies have a different view on digitalization than a media company. The industries are hit in different ways considering the five “implications” above.

Peter Hinssen (“The New Normal – Exploring the Limits of the Digital World”) expressed the consequences of digitalization in five basic rules of the digital landscape. The rules apply both for the internal and external customer:

- **Customers have no patience for non-relevant information**
- **The customer requirements will change constantly (unpredictability)**
- **Customers want to be approached in different ways depending on situation**
- **Customers want the services they need to be successful**
- **Customers want their services immediately without trouble! (No waiting time)**

These basic observation and Peter Hinssen’s rule of digitalization create a feeling for the nature of the digital industry and the change in competitiveness.



Digital Transformation Matrix (Gillior, 2016)

Picture 1: Digital Transformation Diagram (Gillior, 2017)

The Digital Transformation Diagram is capturing the essence of the impact of digitalization and digital transformation. The Digital Transformation Diagram should be viewed from the two dimensions – market competitiveness and corporate capabilities.

Market Competitiveness:

All business competitiveness is based on the company's ability to manage the market (people) pre-requisites and expectations. The Digital Transformation Diagram describes, in simple words, how competitiveness is influenced by increased digitalization. Traditional Competition (pre-digital) is a highly predictable and protected industry (due to political regulations, capital requirements and patents) with loyal customer. The effect of digitalization (based on the observations above) is a shift to the right recognized as Digital Competition. It is an unpredictable and unprotected industry and market based on non-loyal customer expecting value and experience. A general trend we see today are companies and organization moving right due to increased IT intensity in the industry – from a traditional industry to a digital industry with completely different pre-requisites.

Corporate Capabilities:

Corporate Capabilities define how the company creates value to the market (for example: organization, leadership, governance, skills, technology, services, business models and offerings). Traditional Capabilities are based on the principle of stability where all capabilities are considered static. These companies focus on stability and productivity, 'command and control' leadership and culture (operational excellence) as their main source for competitive advantage. Digital companies view capabilities from another perspective and view capabilities as something dynamic that continuously change and follow the market trends. These companies focus on speed/agility, innovation and 'trust and motivation' to cope with the pre-requisites of digital competition. Being agile and responsive is their competitive advantage!

“The more complex the environment (digitalization), and the ‘tighter’ the targets (performance), the more flexibility the control system (governance) must have: ‘only variety can absorb variety’. Failure to provide ‘requisite variety’ will result in instability (boom and bust) and ultimately system failure.”

Ross Ashby’s Law of Requisite Variety

WR Ashby, "An introduction to cybernetics", London, Chapman & Hall, 1956. [\[1\]](#)

There is a clear correlation between the market competitiveness and corporate capabilities. The more dynamic the market (digital), the more dynamic capabilities are required to manage its fast-moving pre-requisites. A shift to the right also requires a shift upward in the model! Let us study four different corporate positions in the digital transformation journey.

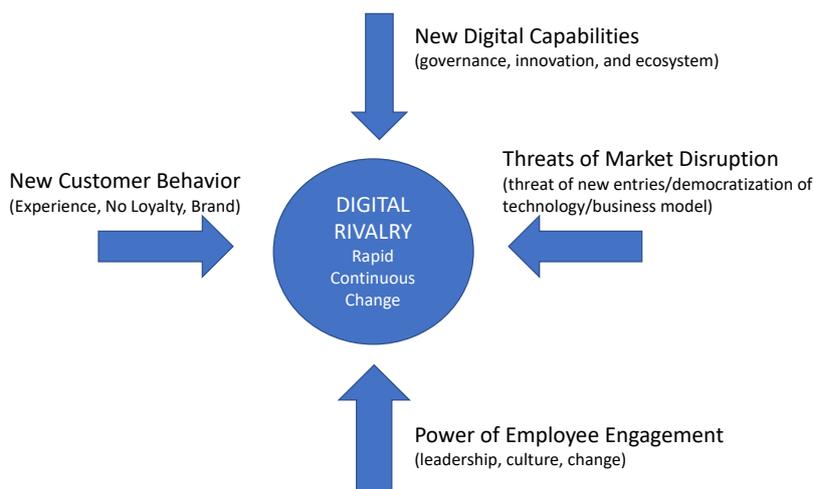
- **Traditional (Pre-digital) Business:** Traditional businesses operate in a traditional market and business with its roots in the matured industrial era of manufacturing. It is an industry of high predictability, barriers of entry and customer loyalty. Most companies compete on efficient operations supported by a “command and control” leadership and culture. Low IT intensity and low change awareness! There is some limited awareness of digitalization but often takes industrial or technical perspectives. Here we find large corporations in manufacturing, automotive and public industry.
- **Digital Transforming Business:** Digital Transforming Businesses compete in rapidly changing market environment characterized by increased IT intensity, innovation, changing customer behavior (reduced loyalty) and reduced barriers of entry. Digital Transforming Businesses desperately need to change their business model and structure to compete in the new market condition – to create value for their customers. It is brutal awakening for Traditional Businesses where governance, leadership and culture need to be adjusted to the pre-requisites of the digital market. Most companies do not respond quick enough to new trends and are often phased out. Here we find large corporations in Bank & Finance, insurance, Telecom, Travel, Automotive, Logistics.
- **Digital Business:** Digital Businesses are new digital companies or companies that have transformed from Traditional Business. These companies live in hyper-IT markets where business models, innovation and governance start from IT. These companies have adapted the new rules of the digital arena and have successfully set-up more agile, innovative and value focused governance, leadership and cultures. These companies are built to manage unpredictability and uncertainty. These companies will challenge and disrupt traditional industries. Here we find small and medium size companies in Gaming, Media, Publishing and Telecom. Successful start-up companies!
- **Business Disruptors:** Business Disruptors are traditional companies that capture the opportunities in digitalization and a new way of working. These companies are driving the digital development of the industry and hope to be disrupted and change the rule in their favor. It is a risky journey where brave companies and leaders challenge themselves and their own existence. It is a temporary position. These companies have a higher chance of surviving the industry digitalization. Here we find companies in all industries.

It is important to understand that the “right-ward” shift is often dictated by industry forces whereas the “upward” shift is driven by the company in response. This is what we call a “digital

transformation”. What we need to understand is that fast-moving digital companies operate in the Digital Business quadrant waiting for new industries to shift right. Business predators ready to disrupt yet another industry.

SECTION 5: Digital Five Forces

The implication of digitalized markets (section 4) can be summarized in The Digital Five Force (loosely based on the Porter’s Five Forces model) - indicate that new forces in the industry effect the digital rivalry, market attractiveness and profit levels. The digital forces embrace the new competitive environment and pre-requisites, and thereby indicate how to be successful in the digital era.



Picture 2 : Digital Five Forces (Institute for Digital Transformation, 2018)

The Digital Five Forces shows that four concrete forces (internal and external) affect the digital rivalry and attractiveness of an industry or market. There are four forces for the senior leadership to be aware of and to actively manage in order to sustain competitiveness.

- **Threats of Market Disruption (external):** When an industry increases its IT intensity, the industry will attract new digital companies with modern business models and technology. The aim is to disrupt the traditional (conservative) market with shorter product/service life cycles and revenue models – based on creating optimal customer experience.
- **New customer behavior (external):** Customer behavior is undergoing change as new social and digital platforms sets the standard for future digital services. The digital customer wants the right services at best price to be delivered at once without any hesitation. There no longer a sense of loyalty to traditional brands but rather purchase services and products that can boost their experience, well-being and social status.
- **New Digital Capabilities (internal):** The fast-technical evolution enables and requires new digital capabilities to provide customer value. The customer requirements change rapidly and therefore the digital capabilities (see diagram X) need to be continuously challenged and updated.
- **Power of Empowered Employees (internal):** Digital competitiveness is more than anything a cultural competitiveness. The company with the most engaged, creative and

change willing employees have a higher change of competing in the market. Gallup research shows that traditional companies (western world) have an average of 14% engaged workforce (decreasing) while digital companies have multiples of that engagement level. The research also shows that companies with high level of engaged workforce outperform traditional companies in terms of competitiveness and revenues.

- **Digital Rivalry (center):** Digital competitiveness is derived from mastering the digital forces through rapid continuous change. When companies enter a new segment of the digital transformation journey (left to right: see diagram X), the digital forces will increase in magnitude and hence affecting the conditions and attractiveness of the market. Re-positioning the company in a new segment might seem attractive as it would attract new customers, but at the same time, it will invite to new digital competitors and challenge the current governance, leadership and business model.

The Digital Five Forces is based on profound experience and expertise of digital transformation. The successful companies in the digital transition are those who acknowledge all the digital forces and actively address them through an internal transformation initiative. With a correctly conducted digital transformation – the digital forces become your friend (source for future competitiveness) rather than your enemy (threat of current competitiveness). However, recent survey indicates that only 30% of these transformation programs are successful. Most transform programs fail to deliver sustainable results and change – jeopardizing the future of the company or organization. The single most decisive factor affecting change success rate is about managing people, culture and leadership.

SECTION 6: Finding Meaning and Purpose of Digital Transformation

Companies do not need more ideas of what to do – but rather a purpose and meaning of (why and) how to create digital competitiveness. We are not looking for a light bulb in the darkness, but rather how we navigate – when blinded by overwhelming light. It all starts with purpose and meaning!

Many CXO are not searching in the darkness for a light to follow but are rather blinded and paralyzed by an overwhelming bright light when it comes to digitalization.

We see today endless articles about need for automation, robotics, and Internet of Things. These articles are address the question “what to do” (ideas) and not “why digitalization is important” or “how has the market/industry changed due to digitalization?” (purpose and meaning). As humans, we always try to simplify complex things and quickly come to a logical and rational explanation to things hard to understand. How we simplify and understand is much based on our previous experience and knowledge. Digitalization is yet another topic where this approach applies. But viewing digitalization from a “traditional business” perspective will give you a simple – but often the wrong logic that hinder you to fully grasp the potential of digitalization. An ambition to drive true change and show concrete steps toward digital competitiveness requires a profound understanding of the DNA of digitalization and how it affects corporations and organization on multiple levels and areas. This will provide the “meaning” and “purpose” of the digital transformation – not more ideas of what to do. Digitalization is not contained to IT, marketing or business models but rather captures the pure essence of business and competitiveness – how to compete in a market. How to get customer to select our products or services. It is the market conditions that set the rules – not the other way around! It is the political directives, economical progression, customer behavior, technical evolution and social

development that sets the scene and dictates how companies compete in the market. It is these forces that we need to understand and master to align our business-, operating- and governance model to the new reality. If the characteristics of the market did not change – there would be no need for any digital transformation.

Digitalization is challenging the essence of business and competitiveness – why are we relevant? How do you compete in the market?

My point is that we need a new approach to digital transformation – by understanding the core of digitalization (how it effects the company’s position in the market) and addressing the “purpose” and “meaning”. There is obviously a great risk of temporarily reducing the shareholder value but over time, there is no doubt that a correct approach will outperform any other approach. By the way, an investor will own a stock on average of three weeks – so much for the true interest in your company. Maybe it is time to address Corporate Value and how relevant the company is in the market over time. Only then can we design a “digital-proof” corporate structure to boost digital competitiveness. Without the right understanding, we will run change without the right goal or destination (is there a destination?). It becomes yet another costly transformation project without purpose – just because an advisor or consultant told you it was necessary.

SECTION 7: Disruptive Digital Business Model

What happened? We suddenly live in a society in full motion into a digital unknown – affecting all aspects of our lives. What we know is that the way we consume, communicate and interact is undergoing rapid change with the help of digital technology. The role of institutions such as banks and government agencies are being questioned and challenged with an increased demand for customer centricity and value-driven interaction. Size (power) is no-longer a decisive factor for success but rather how well these institutions adjust to customer needs and behavior – build trust with their customers and citizens. The fact is that the industrial barriers that have protected industries and institutions (based on required capital, regulations, and physical patents/technology) for decades have been reduced or eliminated – meaning that everybody can compete with a democratized technology, global capabilities and easy access to funding. Companies such as Airbnb, Uber and Spotify are a few examples of companies that have successfully challenged traditions and opened a door to a new digital rivalry. There are many factors and trends that have made this digital transformation possible. But why have these digital companies been so successful?

The question is very complex and includes many perspectives – such as culture, leadership, and governance. For example, we know that digital companies have a higher degree of motivated and engaged staff, shorter response time for trends, and view digital capabilities (for example: technology and information) in a different way. Competitiveness is based on quickly understanding, analyzing and acting (applying digital capabilities) on new trends and behavior – with focus on customer experience and value creation. The role of the business model plays a decisive factor in how the digital companies compete and acts as a basis for their role in the market.

“A business model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts.”

Wikipedia 2018

The business model takes its starting point from the organization’s assets and capabilities. Here we see a difference between traditional and digital companies in how they view their assets. Traditional companies tend to rely on physical assets (buildings, machinery, labor, and distribution) as a foundation for their business model while digital companies rely more on digital assets (information, business intelligence and digital platforms). Traditional hotels rely on the availability of physical buildings and rooms as basis for their revenue, while Airbnb (and other digital companies) focus on creating the optimal customer experience through digital services and data analysis (consumer habits and needs) leaving the physical building or room to someone else to provide. Traditional taxi companies rely on physical cars while Uber focus on customer experience of transportation without cars. We see this scenario in industry after industry where new digital companies emerge with new business model focusing on customer experience based on digital assets. This is the new normal.

Traditional Business Model	Digital Business Model
Based on physical assets (machinery, buildings, labor, distribution)	Based on digital assets (business intelligence, data and information)
Traditional Governance (slow iterations > 12 months)	Digital Governance (fast iterations < 12 months)
Value by increasing productivity and stability	Value by increased customer experience and value
Low growth and profit margins	High growth and profit margins

Table 1: Traditional versus Digital Business Models

If we take a step closer, we see that the digital business model includes a number of digital capabilities that supports customer experience and value creation. The digital companies excel in digital capabilities such as customer interaction (digital channels), digital service development/innovation, IT and information, (edge) competence and structure (including value chain and ecosystem) – all on a platform of motivating and empowering culture and change leadership. It is interesting to see how these capabilities work effectively together (never in silos) toward a common customer-centric vision and value proposition. These factors are a natural part of the digital company DNA making it easy (digital readiness) to compete in the new digital environment. In the end, it is about mind-set.

An interesting aspect of the digital and traditional business model comparison is how they perform. During the last couple of years, we have seen an increased business growth and margins in the digital business model. Why is that? Digital companies deliver higher value-adding service (what customers are willing to pay for) that traditional companies by capturing and managing their expectations in an effective way. For example, are customers willing to pay extra for a car mortgage to cover the bank’s high infrastructure cost? No, they could not care less. In the digital landscape, customer wants to pay for the capabilities and services in relationship to the value and experience they provide. Low value = low revenues!

What we need to understand is that there is a dependency between digital and physical business models. A digital business model (for example provided by Uber, Airbnb or Spotify) rely on a company or private persons with a physical business model. Digital business models cannot exist on their own. For example, what would Airbnb be if nobody provided rooms for hire, or what would Uber be if nobody provided cars and drivers for rental? What we see today is that companies are implementing hybrid business models with elements of both physical and digital models (sometimes in two different companies/units) to optimize the cost/quality, and customer

experience in the complete customer journey. The hybrid business model allows the company to continue to use digitalization to both reduce cost (improve productivity of current ways of working) but also increase revenues (providing new digital services and experience).

My view is that all companies need to understand the new digital prerequisites of business – and how they deliver value to their customers (business model). The business performance of companies will depend how well they deliver value to their customers in every moment. Any value gap/deficit will automatically result in All industries will, sooner or later, be challenges by new digital companies and business models as the industry becomes more and more IT intensive. It is an unstoppable mega-trend that we all need to relate to. The question we need to ask ourselves is what our role is in the new digital business landscape – continued traditional or upgraded digital. What do we concretely do when that moment comes? Are we ready for the digital transformation? A digital transformation will take years to complete (addressing culture, leadership, capabilities and governance) while disruption comes quickly – from nowhere.

SECTION 8: A question of time – temporary monopolies

A key challenge is how to be successful and make money in the digital era. During the last couple of years, we have seen companies in the pinnacle of the digitalization tsunami struggling to make money and are frankly fighting for survival. The digitalization journey has been (and still is) very painful and question the core reason for existence in the market. For example, we see newspapers and media companies constantly struggling how to make their readers and consumers to buy their product and services. Shouldn't the digitalization journey improve the financial statements and revenue streams? Why is it so difficult to be successful in the digital arena? Well, let us examine why digitalization is difficult to master and why some companies are more successful than others.

How to make money in digital arena:

“After an initial automation and cost reduction focus, the aim of our digital transformation initiative quickly changed focus. The aim was to increase revenues as well. This challenges our mindset and required a bit of creativity and inspiration to solve. We recognized that we were in the forefront of business intelligence and analysis in the industry. It led to an initiative to share (license) our data algorithms to European competitors. This new way of viewing the market and our own capabilities allowed us to make money on digitalization. What we learned was that we needed a more entrepreneurial mindset, challenge traditional and update our business model.”

CDO Energy Sector

Being successful in the digital arena is all about creating temporary monopolies with new services that competitors are not able to address. A few months ago, I had a discussion with a traditional telco company about how long time it took them to react to a new digital trend or threat (for Google). After a bit of calculations, the reaction time was set to 18-24 months. That is how long-time is would take for this company to respond to a digital trend (new service or product) in their market – creating a temporary monopoly for the competitor. During this time, the competitor has the possibility to redefine the market (setting new norms of market), attract

customers and revenues while the traditional company is stuck in its own governance processes. The situation is more severe than that! What if the digital competitor launched a new service or product every 6 months – it would create a constant monopoly and the traditional company will sooner or later be forced out of business. By not mastering the true nature of digitalization and failing to react fast enough with agile and efficient governance and leadership – they create temporary monopolies for their competitors. Even companies invest millions in digitalizing process with latest technology, it is in governance and leadership that determines whether temporary monopolies will occur or not. I think you all can identify a dozen digital companies that has been very successful in disrupting industries by creating temporary monopolies. Worth thinking about!

It is important to understand that all corporate functions and units are part of a game of optimizing customer value and experience – and responsible for eliminating digital waste.

The creation of temporary monopolies does not tell the whole truth. It is important to recognize that successful digital companies focus how to create optimal experience and value for their customers. I visited a company where they struggled to harmonize their IT landscape. My question was simple – “is the consumer on the street will to pay extra for your service/product because of you not running IT harmonized”? In other words, is the consumer ready to pay 1 EUR extra for a magazine because you have your own service-desk in a native language? The answer was clear – “no”. We could then harmonize the IT organization and cut 30-40 % of the IT budget – boosting digital initiatives that would create more experience and value for the customer. It is important to understand that all corporate functions are part of a game of optimizing customer value and experience. This is not concentrated to marketing or sales but maybe even more important for IT, logistics and production units. Functions and processes that do not create value or experience is pure waste and need to be eliminated.

“People don't buy what you do; they buy why you do it. And what you do simply proves what you believe”

Simon Sinek

My point of view is that digital revenue is the effect of mastering the digital arena and adjusting the whole company to its pre-requisites. It is based on in-depth understanding of the mechanics of the market and how to react fast to trends – eliminating temporary monopolies – and focusing on customer experience and value. To be honest, most companies (70%) I see do not address the true challenges of digitalization but rather follow what others are doing or doing nothing at all. That is not good enough in the digital era! Without the right approach and mindset, these companies will soon disappear from the market.

Section 9: Surviving Digital of Creative Destruction

Many companies in traditional industries lying off people to prepare for the digital challenges ahead. Industries has been heavily impacted by globalization and digitalization, with new and more intensive competition, changing the characteristics of an industry where they have been very successful. This is not unique. We daily read about businesses affected by digitalization and globalization – and respond in the same way by reducing cost levels and employees. This is about meeting a new business situation with old IT governance tools (traditional governance, planning, budgeting and leadership) – it will not work!

When studying the major technology shifts in history, we see that the winner of the technical evolution was those that could adapt to the change – and create a business advantage of the new technology. Those that can be creative to see the opportunities and challenge coming their way aiming to revolutionize a business. The phenomenon is called “*Creative Destruction*”.

Definition: “Process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” – Wikipedia 2014

There are numerous examples of Creative Destruction in history where technical advances have, together with creativity and new business models, changes the rules of an industry. Brands such as Xerox, Polaroid and IT intensive industries such as printed media have all undergone creative destruction where new technology have eroded old technology and business models.

“Companies which made money out of technology which becomes obsolete do not necessarily adapt well to the business environment created by the new technologies.”

Wikipedia 2014

What is interesting about this phenomenon is that Creative Destruction today spreads quicker and broader than ever before due to globalization and digitalization. It is fascinating that an online news site such as Huffington Post is leading the creative destruction movement in the whole newspaper industry. In the last 25 years, the number employed by traditional newspapers have fallen by 50%, and the same time, the number employed by internet publishing has increased by 400%.

When I read news, probably online, about a traditional company reducing its cost levels in panic, I see yet another successful attempt to address increased digitalization and creative destruction in the market. From my point of view, it all has to do with what tools you have to address the new situation – new or old tools? In the “old days” with high stability (high predictability), the traditional strategy of laying off people might have worked because of temporary setbacks in the market. But today, there is no such thing as temporary setbacks, there is only increased digitalization, globalization and high unpredictability demanding higher agility and more creative creation. Trying to solve today’s problems (digitalization and unpredictability) with traditional tools (laying off people) will not work. It is just a matter of time before Creative Destruction happens in your industry challenging your position in the company. Are you ready?

SECTION 10: Customer Journey – Moment of Truth

A reoccurring message from Digital Companies was the importance of Customer Experience. It is defined as the ability to exceed customer expectation by aiming for their emotional senses. That when we enter a store or website, we feel connected to the image and service provided by the brand, location and employees. But when does the customer experience work and how is it influenced by digitalization? And how can digital technology contribute to Great Customer Experience?

Let us first go back a couple of years to the mid 80’s and Jan Carlzon (former CEO of Scandinavian Airlines). In his aim to re-orient the airline, he coined the expression “moment of truth” to describe the interaction between company and customer. In his own words, a company that recognizes that its only true assets are satisfied customers, all of who expect to be treated as individuals and who won’t select them as their airline unless they did just that. The Moment

of Truth for Carlzon was every opportunity to make a difference when in contact with customers, on the front lines.

***Definition:** In customer service, instance of contact or interaction between a customer and a firm (through a product, sales force, or visit) that gives the customer an opportunity to form (or change) an impression about the firm. (businessdictionary.com)*

The “Moment of Truth” concept still plays a pivotal role in many industries today. Customer Experience is formed in every “moments of truth” no matter where in the purchasing cycle it appears. When we as customers do not feel (emotionally) connected with the firm in a “moment of truth”, we will leave them and seek a new “partner”. But what is interesting is that with new digital technology, the “moment of truth” expands to include all aspects of the firm’s appearance (for example social media). An unethical behavior or bad store service will spread rapidly in social media creating a new “moment of truth” when we re-evaluate our impression about the firm.

The customer expectation is today not static. During many years, the customer behavior was static, easy to understand and interpret, and adjust marketing messages to. The digital era, on the other hand, is re-shaping the competitive landscape and new technology and new companies are here to continuously challenge our perspectives, expectations, emotional connects and loyalty. Key is to understand that digitalization drives a constant change in customer behavior and expectations. For example, I don’t believe that customers were unsatisfied with Kodak and their products (probably many loyal customers) but new technology (digital photo) changed the customer perspectives and behavior, and hence the basis for customer expectations. Without the ability to react to the new level and form of expectations, Kodak could not compete, and the rest is history. Kodak did not survive the “moment of truth” in the new digital era. The point is that digitalization is constantly re-shaping the level and form of customer expectations and our ability to deliver customer experience. The opportunities are endless with access to the world of information and peer influence just a click away.

What is interesting in this discussion is that “moment of truth” and Customer Experience is not isolated to the relationship between firm and customer, but in any professional relationship (also private?). For example, the same concept exists all along the value chain, as well as between the employees and the firm. The IT department need, in every contact with business, manage its expectations and form a great impression of its work. It is not isolated to the delivery of a specific service, but to every contact it has with business – to achieve Great Business Experience.

SECTION 11: Time for Reflection and Exercises

This chapter has introduced the concept of digitalization and its implications. It is now time to reflection on what this actually means in in our daily context. I have therefore gathered a number of questions to be discussed to get a more profound understanding of digitalization:

1. What does Digitalization mean for your company or organization? Is it a threat or opportunity? How well are you prepared for the increased digitalization?
2. Why has your company or organization initiated a digital transformation? What is the meaning and purpose of that journey? What are you attempting to achieve?

3. How is the market your company or organization operating in affected by digitalization? Use the Digital Five Forces to describe the forces that impact your industry.
4. What is the basis for your company's or organization's business model (physical or digital assets)? How does your competitors create value to its customers? Is there room for digital disruptors in the industry with a new business model?
5. How vulnerable is the industry for temporary monopolizes (with a rapid business development process)?