Digital Transformation Report 2017
Norway

Creating a Digital-First Business
How the Largest Norwegian Companies
Address Digital Transformation

Contents

Foreword

Understanding the new era.

The world is changing faster than ever before. We are referring to this change as a revolution – the fourth of its kind. Microsoft's mission is deeply rooted in helping society move forward. We aim to empower every person and every organization on the planet to achieve more. Today, technology is playing an increasing role in everything we do, not only as businesses, but in society overall: it is shaping growth, re-disrupting industry landscapes, and providing the catalyst for transformation.

For businesses to survive and thrive in this new era, they must embrace digital transformation.

Our customers are engaging in new ways and demonstrating completely new behaviors. New business models are emerging, competition comes from surprising directions, and our customers experience disruption on many levels and with massive consequences.

It is therefore not a big surprise that, according to recent studies, technology is the #1 priority for CEOs.

To execute on this top CEO priority, leaders must move beyond the conceptual descriptions and newspaper articles on what digital transformation is. They must dive deeper to consider how their own business model is being challenged by digitalization and the increasing speed of innovation – and discover how these motions can be harnessed to create a new and sustainable competitive advantage. We are convinced that leaders who fully embrace technology as a way to accelerate transformation and amplify the impact of their strategy will be the ones to outperform their peers – in every industry.

Together with QVARTZ, we have conducted a survey with 29 of Norway's largest and most successful businesses. We have initiated this report to create a benchmark and enable the sharing of trends and best practices amongst Norwegian companies. By looking at the pioneers in digitization among Norwegian companies and studying what they do, we can learn from their experiences – and we can create a framework to better understand the initiatives and the progress we are making towards the new world.

I hope you will find the insights in this report useful and inspirational in your continued journey to digitizing your business.

– Kimberly Lein-Mathisen,
General Manager, Microsoft Norway

Key Highlights

Across the board, digitalization has claimed a solid position on the executive management agenda. The strategic importance of leveraging digital technologies to improve performance has certainly been acknowledged, and digitalization is perceived as a key enabler in transforming businesses within a new digital reality.

Driven by this new digital opportunity space, executives are continuously striving to adopt and develop new digital solutions and define the most effective internal structures to facilitate their digital transformation journey and ensure that the full potential of digital opportunities is pursued.

The focus of this study is to examine how top executives in Norway perceive the opportunities, threats, and challenges from digitalization and, more importantly, how they operationalize their efforts to succeed in reaping digital benefits. The study is based on in-depth discussions with executives from 29 leading Norwegian companies, with the purpose of truly understanding how they work to become "digital-first", and get their digital transformation journey right from a strategic perspective.

Key Highlights

There is no doubt that "digitalization" is more than just a hype. Across leading Norwegian industry players, executives are realizing the fundamental impact that digitalization has on their businesses. There is a broad recognition that the effects are real and that the pace and transformational power of digital developments will only increase in the future.

To cope with the new digital reality, executives are continuously trying to understand how to fully leverage digital opportunities when engaging customers, transforming products, and improving internal operational processes. There is a broad appreciation of the strong need to actively adapt to the new digital reality, and a true belief in the huge potential impact of getting digital transformation right.

Digital Transformation is at the Top of the Strategic Agenda

In-depth studies with executives across the companies clearly show that digitalization is a core part of the strategic agenda across all industries. In fact, 23 of the 29 participating companies list digitalization as the "*most important*" or a "*very important*" priority on their corporate strategic agenda. Additionally, the digitalization agenda enjoys strong support

from CEOs and executive board members who are generally taking active ownership and in some cases even driving the agenda.

Companies Struggle to Find the Most Effective Way to Organize Themselves in a Digital World

Whereas executives have realized the strategic importance of getting digitalization right, the implications on how to adjust the organization to enable more agile and innovative internal process are less clear. Many companies are well aware of the limitations of traditional organizational models, but are unsure how to adapt and change. As such, 17 of the 29 participating companies state that they only have "*some*" or "*low*" degree of functional clarity. Several companies are currently in the early days of implementing organizational adjustments with the purpose of ensuring leaner decision-making processes, but for the majority, the path is not clear.

Moving from Idea Generation to Implementation Is Challenging

The key to succeed with the digital transformation agenda and benefiting from successful idea generation lies in the ability to ensure rapid implementation. However, while most companies have adopted agile principles such as sprints, proof-of-concepts, and fail-fast methodologies on the surface, these

concepts are still not fully embedded and integrated into the ways of working and only three of the companies state a "*very high*" adoption rate. Whether in the development of customer-centric solutions or the transformation of internal systems and processes, companies are therefore struggling to drive initiatives with the pace required to maintain an edge over smaller, but more agile, competitors. Additionally, the power of implementation is further complicated by the widespread dependency on complex and slow legacy systems.

The Degree of Maturity Depends on the "Burning Industry Platform"

The study takes its point of departure in a broad sample of companies representing different industries and it seems clear that companies' digital maturity depends highly on industry affiliation. For companies in industries such as telecommunications, financial services, and media, digitalization is today a highly integrated part of everyday business, and these players are therefore significantly further ahead in their digital transformation efforts. For other companies within more traditional industries such as manufacturing and retail, the focus of digitalization remains a question of ensuring efficiency. As such, the general level of digital maturity is still relatively limited – only three companies are characterized as digitally "*Integrated*", whereas 21 out of 29 are characterized as "*Mobilized*" or "*Incubated*" and hence in the early stages of the digital maturity curve.

War for Talent Intensifies

A critical enabler for digital development is the ability to access the right pool of capabilities. As companies across industries are increasingly on the lookout for similar capability sets, the demand for the scarce specialized digital competencies increases exponentially. In this war for talent, the

ability to offer professionally intriguing challenges in high-competence digital settings becomes a key differentiating factor. However, today few companies have established strong learning environments and as the scarcity of digital capabilities increases, most companies will only be able to sustain small digital teams, which are insufficient for building and developing talent with the required pace and scale. As a result, specialized digital profiles will become consolidated in few, selected learning environments which in turn will be aggressively approached for talents.

Primary Focus on Sustaining and Optimizing Core Business

As highlighted by 26 of the 29 companies across industries, digitalization is first and foremost a lever to create impact within the core business offering. Adjacent and new business areas are currently only explored sporadically or in industries where digital pressure on core offerings have been intense. As companies move up the digital maturity curve, focus might shift somewhat, but in the near future, it is expected to remain on the core business. At the same time 22 of the 29 companies state that digital transformation is a key lever to sustain its current market position and gain internal efficiencies whereas only 11 companies prioritize digitalization as a distinct enabler of growth opportunities.
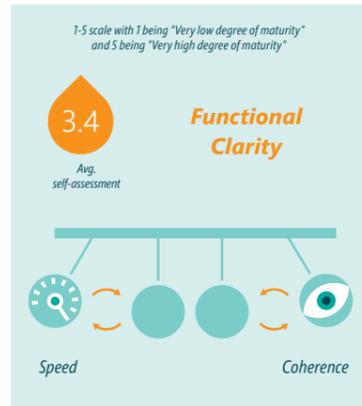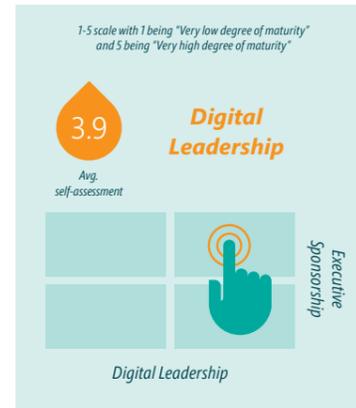
> '*Going from understanding to action is the key to future success – however, this is easier said than done. Changing our mindset and the way we work is the main challenge*'
>
> **— STOREBRAND**

Digital Leadership
Executive sponsorship and digital leadership is crucial to ensure prioritization of digital transformation – but apparently no easy task

Digital transformation is at the core of the strategic agenda, and is perceived as one of the single most important focus areas for companies going forward. Due to this strategic importance, it comes as no surprise that across most participating companies, there is a strong degree of buy-in among the executive sponsorship and leadership when it comes to supporting the development of the digital transformation agenda. However, whereas executive sponsorship is high, the in-depth and more practical understanding of the opportunities and challenges related to digitalization on a concrete level is less developed among leaders

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.9 *Avg. self-assessment*

Digital Leadership

Executive Sponsorship

Digital Leadership

Functional Clarity
Striking the right balance between a centrally-defined digital direction and local execution power to secure speed and agility is challenging

A crucial factor for companies to succeed in driving agile execution of the digital agenda is a clear overall company-wide direction, clear definition of responsibilities and mandates as well as efficient decision-making processes. Often, the dilemma in creating the right functional clarity boils down to whether the responsibility for digitalization should be placed in a separate unit or within the traditional line function. Establishing a separate unit ensures the required oversight and allows for coherence with an overall direction and possibilities of reaping synergies across initiatives. However, allocating responsibility closer to everyday operations in the line function promotes a more efficient transition from development to implementation.

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.4 *Avg. self-assessment*

Functional Clarity

Speed — *Coherence*

Ways of Working
While many companies have introduced new and more agile concepts, the full adoption of new ways of working has been limited in reality

Inspired by startup environments, most companies in this study have to some extent introduced new and more agile ways of working. Within some of the front-runner companies, the new approaches have gained a strong foothold on the digitalization agenda, and a "digital first", customer centric mindset has started to develop. However, the full adoption of these new and agile ways of working are still more the exception than the rule and companies are still in the very early stages of testing out new concepts like sprint and lean methodologies within pockets of the organization.

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.4 *Avg. self-assessment*

Ways of Working

Startup mindset — *Scale with confidence*

Competencies
The war for talent intensifies as the demand for specialized competencies increases across sectors – but strong internal digital environments promotes development and retention
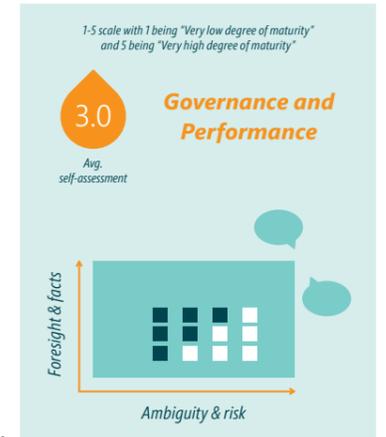
Identifying, attracting, retaining, and developing the right competence profiles is one of the most important drivers of getting digital transformation right. However, the high demand for specialized digital competencies makes the war for talent a key challenge across industries and competition comes not only from traditional larger players, but also from smaller scale startups, which can often offer work cultures that are more attractive to the sought-after profiles. A key feature highlighted both in relation to attracting the right talent and to the ongoing retention and development of the digital competencies is the importance of creating specialized environments around key digital resources.

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.4 *Avg. self-assessment*

Competencies

Identify — *Attract* — *Retain*

Governance and Performance
To ensure digital development there is a need for more adaptive governance models, which supports incremental change and a tolerance for failures

Traditionally, companies have been organized with an emphasis on ensuring stability and predictability, and based on a risk-averse mindset set up for linear development trajectories. However, today's continuous and fast-paced digital reality requires companies to re-think organizational models and classical governance structures and set up more adaptive governance models that spur explorative approaches, allow for iterative processes, and tolerate failures. In general, there is a strong recognition among the surveyed companies that current governance models need modification in order to cope effectively with digitalization, but while there is a will to get this right, many executives struggle to establish the right organizational setup that supports the desired agility and speed.
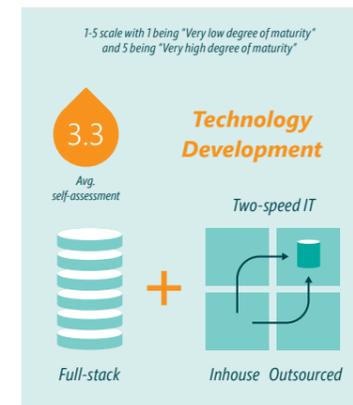
1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.0 *Avg. self-assessment*

Governance and Performance

Foresight & facts

Ambiguity & risk

Technology Development
Companies are struggling with rigid and complex legacy IT infrastructure, which often hinders speed and focus on digital exploration activities

Ensuring an agile digital development setup that enables fast tracking of development activities without compromising the operational IT is a critical aspect of succeeding with the digital transformation agenda. However, the majority of the interviewed companies are highly challenged by rigid legacy IT systems with a scale and complexity that have evolved over time into a patchwork of separate systems. The need to work with two speeds to ensure the stability of daily operations through existing legacy systems, and at the same time secure the agility of digital development initiatives, is therefore a prerequisite for being able to execute on the digital transformation agenda.

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.3 *Avg. self-assessment*

Technology Development

Two-speed IT

Full-stack — *Inhouse Outsourced*

External Collaboration
Companies have started to collaborate with external partners to gain inspiration - but the depth and openness of collaborative efforts is still limited.

Drawing on expertise from external partners in an open and dynamic environment supports the internal capacity to drive digital transformation. This realization is driving leading digital companies to engage in external networks and ecosystems defined by a mindset of open collaboration. While most companies are engaging in some forms of external collaboration, the efforts are in general sporadic, and companies are still not leveraging the full potential of partnerships on a structured basis. As the level of commitment and required openness is still limited, many struggle to define the right model for cooperation and engagement that allows for outside expertise to inspire and enhance the digital transformative capacity.

1-5 scale with 1 being "Very low degree of maturity" and 5 being "Very high degree of maturity"

3.3 *Avg. self-assessment*

External Collaboration

Inspiration from outside vendors — *Value-creating partnerships* — *Multiple unexpected collaborations*

'Over the past 18 months, digitalization has been placed more centrally on the agenda. The challenge is not to develop the digital strategy – it is to understand how to execute and implement it.'

– TELENOR

Participating Companies

Much research on the topic of digitalization takes a high-level perspective when assessing the business impact of digital trends. Often, focus is centered on executives' expectations towards the effects of digitalization on future business or market growth, or expectations regarding corporate investment levels in digital initiatives. Other perspectives on digitalization approach the topic with a more practical lens, adopting a highly technological perspective that zooms in on concrete digital solutions and systems, and less on the strategic business implications.

To move beyond a very broad perspective of digital transformation, while avoiding a too narrow technical focus, this study seeks to balance the two perspectives through a highly practical focus on the day-to-day operationalization of the digital transformation agenda.

To explore this topic, we have conducted 29 interviews with selected Norwegian companies. The interviews have facilitated in-depth discussions around the companies' general approach to digitalization, how they work to develop agile and dynamic digital-first companies, and what challenges they face in leveraging the full and growing digital business potential.

Participating Companies

Executives Representing 29 Leading Norwegian Companies
The study is based on 29 in-depth interviews with executives from a selection of Norway's leading companies across telco, media, finance, retail, manufacturing, energy, and transportation. The interviewed executives are all actively involved in the development and implementation of their companies' digital transformation agenda on a strategic level.

Broad Selection of Industries
The broad industry coverage ensures that the study captures findings that are applicable across industries, and at the same time, it allows for a perspective on the key differences between industries that have historically been affected very differently by digitalization. As such, one of the early findings clearly reveals that the large variations in level of digital maturity and adoption of a digital mindset

are highly industry specific and depends on the level of pressure that industries has experienced from the new digital reality. Companies operating in B2C, for example, have generally come further in applying a customer centric digital mindset, and have been forced to increase development speed to adapt to a fast-changing customer landscape, whereas pure B2B companies still maintain a stronger internal perspective with a focus on fixing basic IT infrastructure.

Participating Companies Represent Industry Leaders
The interviewed companies represent a selection of leading Norwegian companies. 5 out of 10 of Norway's largest companies are represented in the survey, and all 29 participants are leading players within their respective industries. This scale ensures a selection of companies with the size and resources to work actively and structured towards ensuring

a successful digital transformation, and where the potential upside of getting digitalization right can prove to be game-changing. However, at the same time, the inherent complexity of these large organizations presents executives with significant challenges in regards to facilitating the right setup for fast-paced digital development and open mindsets ready for change.

Respondents are Executives with Strategic Responsibility
To facilitate discussions about digitalization on a strategic level, the respondents in the survey represents executives with combined strategic and technological responsibilities. This ensures the right balance between understanding concrete digital initiatives, opportunities, and challenges, while maintaining a general focus on the strategic implications of digitalization.

Comprehensive Study
This study provides a comprehensive account of the state of digital transformation across leading Norwegian companies – from the executives' point of view. It offers a unique peek into the concrete strategic and operational considerations of the executives, revealing different states of maturity.

Eight industries covered in the study

Industry & Manufacturing · Energy · Services · Telco & Media · Transportation · Retail · Finance & Insurance · Consumer Products
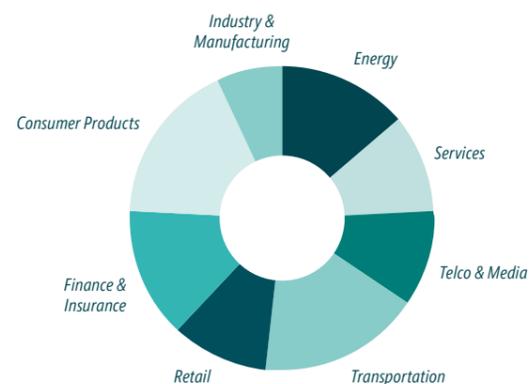
Leading Norwegian companies with significant scale

6 out of 10
largest companies in Norway represented

~70%
of companies with revenue of NOK >10 billion

Respondents Report Mainly to CEOs and Executive Committees

13 report to CEO

13 report to Executive Committee

3 report to top management

Respondents Represent Several Different Corporate Functions

Digital function	IT	Corporate strategy	Commercial	Business development	Innovation
8	7	5	5	3	1
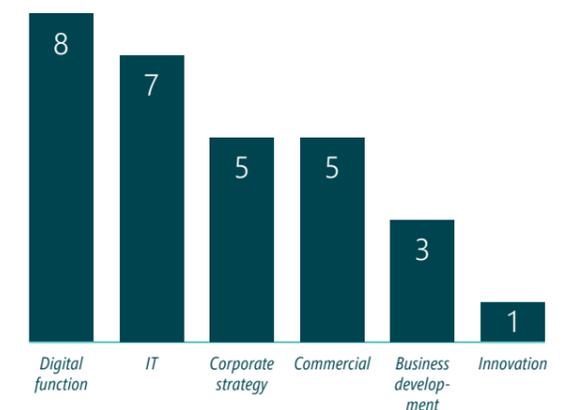
Participating
Companies

Agder Energi	Amedia	BKK	Bama	Bane NOR
COOP	Circle K	DNB	DNV GL	Eidsiva
Elkem	Gjensidige	Helse Sør-Øst	MøllerGruppen	NSB
NorgesGruppen	Orkla	Posten	Reitan Convenience	Ruter
SAPA	SR Bank	Schibsted	Sporveien	Statnett
Storebrand	Telenor	Tine	Widerøe	

DNB

Case Study

Few industries are more intensely impacted by digitalization than the financial services industry. The advent of digital mobile payment solutions is completely transforming the payment space by offering new and smarter solutions. At the same time, banks need to protect their customer relationships as new regulation opens up the banking space to non-financial services players such as Google and Facebook.

To succeed in this new digital reality, DNB realized early on the need to target the payment market head-on by developing a strong digital payment solution. DNB created the mobile payment solution Vipps, which quickly gained significant market traction. Today, Vipps has 2.1 million active users, of which around 1.2 million are non-DNB customers, and in 2016, approximately 3,000 users joined the platform daily.

'In our experience, it becomes easier to attract qualified people as it becomes increasingly visible that digitalization is high on DNB's agenda and that we have prioritized resources to develop digital solutions.'

'I think more will happen within banking in the next 5 years than in the past 100. We are well-positioned vis-à-vis the general industry. However, our real concern is the pure digital and technological companies that start completely from scratch. These are the type of competitors who will challenge us in the future.'

In anticipation of new regulations that will open the payments space to new players such as Google and Facebook, DNB chose to invite 100 other banks into a collaboration to build Vipps as the winning mobile wallet also in the future. The real battle is global and not national, and hence, joining forces on a national level may be a prerequisite to succeed in the long term.

The focus is now on developing Vipps as a complete payment solution covering all payment needs, i.e. peer-to-peer, in-store, e-commerce, and invoice payments. Vipps has also taken the first steps towards becoming an ecosystem for companies to derive insights and target customers and non-customers through e.g. individualized communication and marketing initiatives.

About DNB

DNB is Norway's largest financial institution, serving private and corporate customers in the Nordics as well as globally within a broad range of industries. DNB offers a full range of services, including loans, savings, advisory services, insurance, and pension products.

DNB

In just 1.5 years, DNB was able to create the leading mobile payment solution in Norway, Vipps. Going forward, DnB will need to continue the strong focus on developing the Vipps offering into a full-service ecosystem to remain competitive and fend off intensified competition within the payment space.

Why?

'Digital transformation is anchored with the Board as well as with the corporate management team. Our chairman has a strong focus on digitalization, which the management team in turn has adopted, and this has been an important driver of the agenda.'

– ORKLA

We look closer at the importance of digital transformation at the highest executive level compared to other strategic priorities.

We dig deeper to understand whether digitalization is primarily a key lever to improve and sustain core business, or rather a lever for building tomorrow's business through a focus on adjacent or entirely new business areas.

Moreover, we detail how far the companies have come on their overall digital transformation maturity journey.

Why?

The Importance of the Digital Transformation Agenda at the Highest Executive Level

Not important	Less important	Important	Very important	Most important
0	0	6	12	11

1: 'Digital' articulated as not important

2: 'Digital' not articulated as part of top management agenda

3: 'Digital' less important than other priorities on the top management agenda

4: 'Digital' among the key strategic priorities

5: 'Digital' singled out as the most important strategic priority

Importance of Digital Transformation

Out of the 29 surveyed companies, digitalization is the *single most* important focus area on the executive agenda for 11 companies, and for another 12, digitalization is rated as *one* of the most important priorities. 6 companies identify digitalization as important, but prioritized alongside or below other strategic focus areas.

Hence, our discussions with executives confirm the great strategic importance of digitalization across industries and underlines the fact that digitalization has moved beyond a mere technological focus to the core of companies' strategic agenda.

Create business from the core

Create business in adjacent areas

Create business in new areas
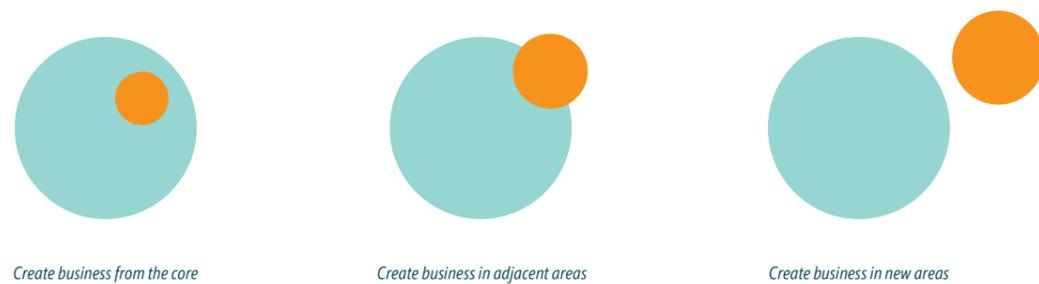
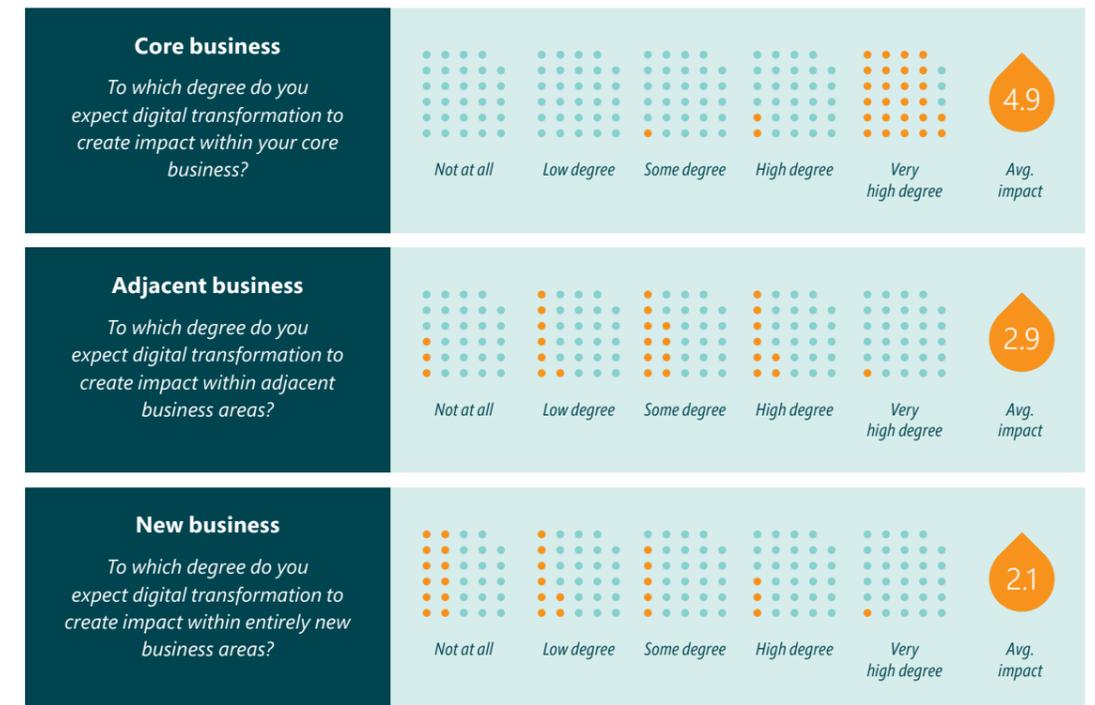### Business Focus in Regards to Digital Transformation

We asked executives in which part of their business they believe the implications of digitalization will be most comprehensive. Will the impact be highest within the *core business*, through the adaptation of existing products and services, in more *adjacent business* areas that are bordering the company's current core business, or within *new business* areas where digitalization could open up for entirely new business models?

Discussions concerning the impact of digitalization often focus on disruptive opportunities and the development of new business models. However,

for the vast majority of the interviewed companies, expectations are clear; the main impact of digitalization will be on the core business. This is a general conclusion across industries – independently of whether companies are considered digitally mature or whether digitalization is primarily an internal tool to achieve operational efficiencies.

Perhaps somewhat surprisingly, executives expect significantly lower impact of digitalization on adjacent and new business areas. Only four and nine companies, respectively, believe that digitalization will have a high impact on adjacent and new business areas going forward.

Where do you Expect Digital Transformation will Create Most Impact?

Core business
To which degree do you expect digital transformation to create impact within your core business?

Not at all	Low degree	Some degree	High degree	Very high degree	Avg. impact
					4.9

Adjacent business
To which degree do you expect digital transformation to create impact within adjacent business areas?

Not at all	Low degree	Some degree	High degree	Very high degree	Avg. impact
					2.9

New business
To which degree do you expect digital transformation to create impact within entirely new business areas?

Not at all	Low degree	Some degree	High degree	Very high degree	Avg. impact
					2.1

Digital Transformation Maturity Curve

14 out of 29

7 out of 29

5 out of 29

3 out of 29

Transformational sophistication

Mobilized

Incubated

Accelerated

Integrated

Digital ambition
articulated.

Sporadic initiatives
launched.

Explorative mindset
and approach.

Digital still treated in
a conventional way.

Many 'islands' of
digital activity.

Frontrunner in
selective areas.

Tolerance of new
ways of working.

Still limited business
impact from digital.

Emerging collective
digital experience.

Digital enabling of
core activities.

Translation of digital to
tangible results.

Clarity of digital game
plan and priorities.

Company thinks and
acts 'digital-first'.

Digital impact in adjacent
and new business areas.

Core business
model(s) reinvented.

Appreciation of
exponential speed.

Why?

Digital Transformation Maturity

Despite paying strong attention to digitalization, most Norwegian companies are still in the relatively early stages of their digital transformation journey. Out of the 29 participating companies, we have categorized only three as digitally "*Integrated*". These companies, by and large, think and act "digital first" in everything from customer interaction and product development to the optimization of operational processes. They recognize the exponential development speed required in the age of digitalization and have reinvented their core business models while in parallel leveraging digital opportunities in adjacent and new business areas.

Five of the interviewed companies are characterized as digitally "*Accelerated*". These companies drive digital initiatives with the purpose of developing their core offering and have achieved tangible results from digital development initiatives. There is a clear common understanding of the overall objectives of the digital agenda, which translates into a clarity of prioritizations and a digital game plan. Seven of the assessed companies fall under the

"*Incubated*" category. Incubated companies work actively with their digital agenda and drive selected activities within some business areas. Often, digitally enabling concepts such as new ways of working and two-speed development have been introduced, but are not fully adopted, and generally, the effects from digital initiatives are still somewhat limited.

A large group of 14 companies are defined as "*Mobilized*", which characterizes companies that recognize digitalization as a driving force, having moved it up on the agenda, but lack a coordinated and fully prioritized digital approach. These companies, which constitute the majority of the participants, have taken the initial steps towards defining a digital strategy, but are ultimately approaching digital projects with a conventional business logic. Due to lack of directional clarity, mobilized companies drive digital development with an explorative mindset, and initiatives often become sporadic.

> *'It all moves so fast, and we just have to get going and "learn by doing". If we fail, it will still be a learning experience and an investment in knowledge.'*
>
> **— NORGESGRUPPEN**

What?

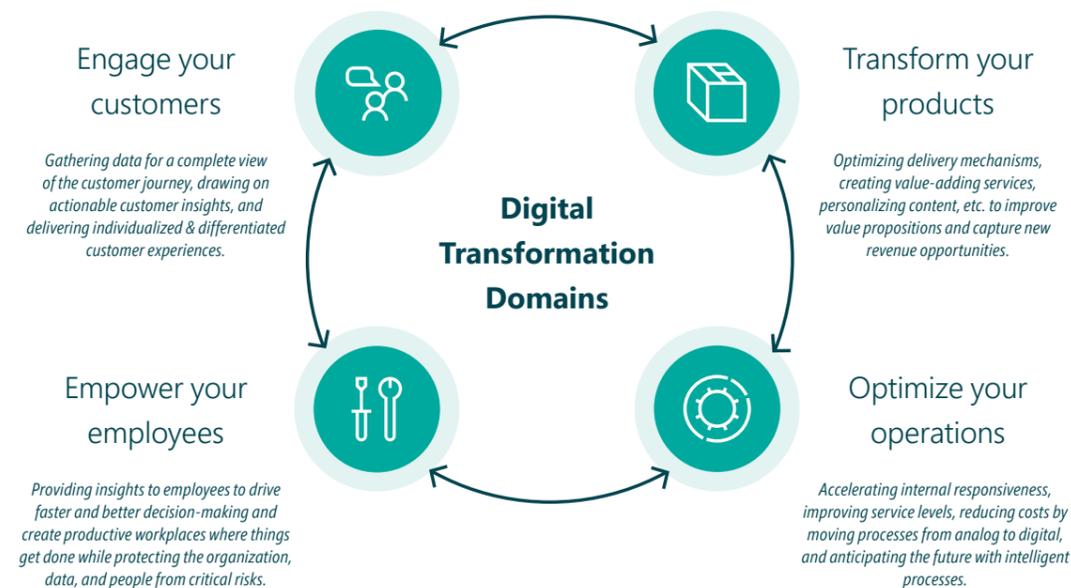Having outlined that digital transformation is a top priority on companies' strategic agenda and recognized that most executives are still in the early stages of leveraging the full benefits of digital transformation, we now turn our focus to the areas where digital development is prioritized the highest. These areas include *Engage Your Customers, Transform Your Products, Optimize Your Operations,* and *Empower Your Employees*.

What?

Digital Transformation Domains

Our point of departure for exploring the 'What' of digital transformation builds on a framework with four primary domains. This approach highlights digital progress within customer engagement, product development, operational processes and people empowerment, and by focusing on these four domains the approach provides a holistic perspective on companies' level of maturity on their digital transformation journey.

At the same time, it offers a perspective on how companies prioritize each of the domains in their digital development strategies and highlights how far they have come in leveraging digital initiatives to create real value and impact within each area.

Engage your customers

Gathering data for a complete view of the customer journey, drawing on actionable customer insights, and delivering individualized & differentiated customer experiences.

Transform your products

Optimizing delivery mechanisms, creating value-adding services, personalizing content, etc. to improve value propositions and capture new revenue opportunities.

Digital Transformation Domains

Empower your employees

Providing insights to employees to drive faster and better decision-making and create productive workplaces where things get done while protecting the organization, data, and people from critical risks.

Optimize your operations

Accelerating internal responsiveness, improving service levels, reducing costs by moving processes from analog to digital, and anticipating the future with intelligent processes.

Engaging Your Customers

A key element on the digital transformation journey is the move towards a highly customer-centric mindset. Among the interviewed companies, 19 out of 29 rate customer engagement as a "*Very high*" or "*High*" priority. While many of these companies have still not fully adopted a digital and customer-centric end-user perspective, they are becoming increasingly aware of the need to step up their efforts in leveraging the digital opportunities to create customer engagement beyond a traditional transactional focus. However, in general, and particularly in digitally less mature industries, customer engagement is still prioritized lower than internal operational efficiency improvements. Hence, there still seems to be a significant potential across Norwegian companies to develop an even stronger customer-centric mindset to leverage digital solutions in creating even deeper customer engagement.

Transforming Products and Services

With the advent of big data, increased customer insights, and opportunities of augmenting products and services through new digital features, companies are seeing a potential in optimizing and individualizing their offerings. Despite this realization, the transformation of products and services is still a relatively limited focus area on the digital agenda. Some companies in digitally mature industries like media and telco have definitely moved into this space, but generally, companies are still in an exploration phase where the transformation of products and services are mostly in a test phase, and where tangible solutions on how to package the increased amounts of customer insights are being explored.

Optimizing Operations

"Optimizing operations" is prioritized the highest among the four identified domains. Digitalization is perceived as a key lever in optimizing the efficiency of internal operations, not only through ensuring basic IT infrastructure and effective back-end systems, but also through the development of technical solutions targeting for example the optimization of production processes, value chain improvements, or automation of customer service. Besides the potential for efficiency improvements and hence reduced resource requirements, companies experience that the new digital processes enable a higher quality of services, ultimately leading to a stronger product offering and higher customer satisfaction.

Empowering Employees

"Empowering employees" is the area that has gained the least attention to date, and many companies have just recently started focusing on employee enabling solutions. The primary focus of digital employee empowerment is still to ensure up-to-date computer systems and platforms to facilitate effective communication and day-to-day work processes. However, recently, some companies have started experimenting with more advanced digital HR solutions such as community based tools to facilitate inclusion, open dialogues and cross-functional collaboration as well as more data driven HR management tools to enable early, real-time feedback.

Focus on the Digital Transformation Domains

Engaging Customers and End-Users

The degree to which the company prioritizes digital-enabled initiatives to engage customers and end-users, e.g. by using concepts such as big data, self-service, VR/AR, and AI to create customer insights, personalize interactions, and improve the customer experience.

Not at all | Low degree | Some degree | High degree | Very high degree

4.0

Avg. prioritization
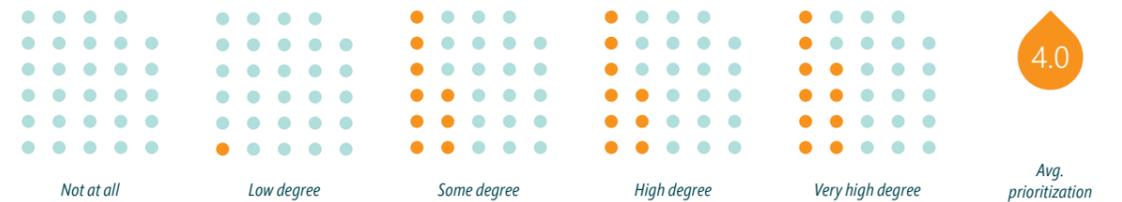
Transforming Products and Services

The degree to which the company prioritizes leveraging digitalization in order to transform their products and services, e.g. by augmenting existing products and services with digital features and functionalities, and developing entirely new products, services, platforms, and business models.

Not at all | Low degree | Some degree | High degree | Very high degree

3.6

Avg. prioritization
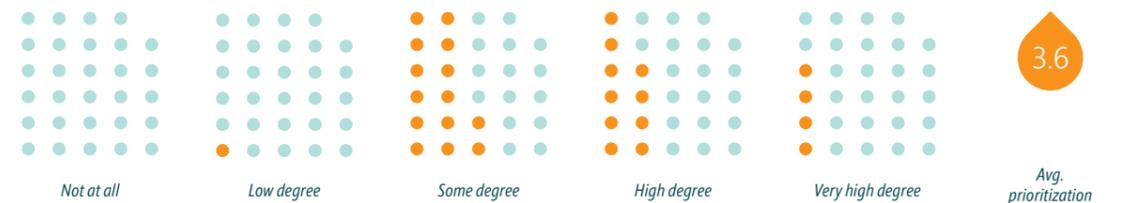
Optimizing Operations

The degree to which the company prioritizes the use of digital-enabled initiatives to optimize internal operations, e.g. by enabling process automation, real-time monitoring of operations, and predictive modelling to anticipate customer support requests, etc.

Not at all | Low degree | Some degree | High degree | Very high degree

4.1

Avg. prioritization
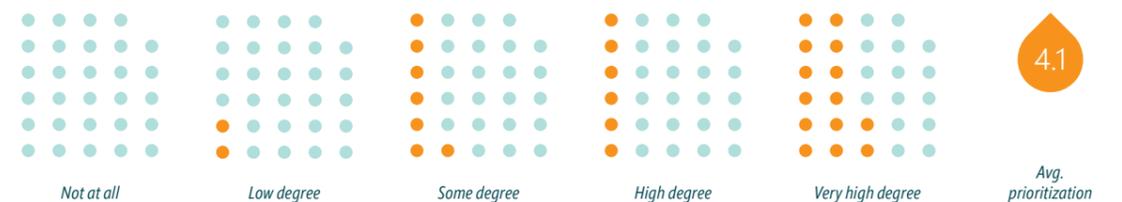
Empowering Employees

The degree to which the company prioritizes digital initiatives targeted at empowering employees, e.g. the use of digital tools and platforms to enable better communication and closer collaboration as well as improved employee productivity and flexibility.

Not at all | Low degree | Some degree | High degree | Very high degree

3.2

Avg. prioritization
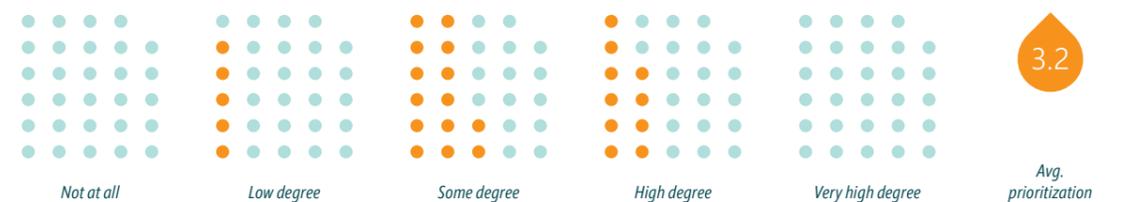
What?

What Digital Leaders Do to Rethink **Customer Engagement**

Extract value from both big and rich data to develop unique customer insights and gain a complete view of the customer journey to individualize engagement.

Master new technologies such as machine learning, artificial intelligence, and virtual reality to deliver personalized service experiences and stand out from competition.

Transition from focusing on touchpoints to entangling customers in meaningful, recurring relationships that create mutual value and put customers in control of their own experience.

What Digital Leaders Do to Rethink **Product and Service Transformation**

Collect and apply data as a strategic asset for exploring new business opportunities and entering new markets

Shift focus from hindsight to foresight to innovate and develop new intriguing features and functionalities for products and services that are meaningful to customers.

Create new business models by embracing emerging trends, building digital services around traditional products, and augmenting physical offerings with digital developments.

What Digital Leaders Do to Rethink **Operations Optimization**

Automate processes to significantly increase quality and delivery speed, improve service levels, and efficiently manage people and assets to reduce operational costs.

Harness technology for next level of efficiencies e.g. by using IoT and sensors.

Anticipate and solve customer issues and operational risks through real-time monitoring of operations across a wide, dispersed set of end-points as well as predictive modelling.

What Digital Leaders Do to Rethink **Employee Empowerment**

Continuously develop the organization's digital skill level and productivity by focusing on optimizing proficiency through new technologies and platforms.

Use available data from multiple digital sources to gain insights about your workforce and enable informed strategic decisions related to optimizing the efficiency.

Establish digital platforms for open collaboration and communication to drive employee motivation, creativity, flexibility, and productivity.

Ruter

In fulfilling its mandate of increasing public transport, cycling and walking, Ruter faces significant changes in its customer landscape, and important drivers are altering traditional ways of thinking about transportation. Increased customer demands for simplicity and flexibility have been driving the need for more individualized offerings, while the development of digital technologies have revolutionized Ruter's opportunity space by enabling collection and usage of personalized customer data. In the midst of this changing environment, Ruter has altered its way of thinking transportation by focusing increasingly on the general concept of "mobility" and door-to-door services.

'We wish to develop our offerings and provide "door-to-door" services by individualizing our offering through leveraging new digital technologies. This offers a range of new possibilities and a completely new way of thinking "mobility"'.

A central element for Ruter in developing its customer offering is the central role of digital solutions. Ruter is currently working intensively on increasing the volumes of personalized customer data by combining the development of its existing and widely used mobile ticketing app with new sensor technology on its operating bus routes. When implemented, this will allow for real time tracking of customer travel patterns and allow for highly individualized offerings, e.g. through personalized pricing and real time information sharing. Ruter is working closely with the National Data Authority to ensure com-

'We are constantly working to involve and integrate our own employees in the development of our new digital solutions and then use external resources to handle more operational tasks. This is a gradual but crucial process in order to ensure future digital ownership and the required internal capabilities to move from digital ideas to digital implementation'.

pliance with applicable rules and regulations - and is also contributing to the development of Privacy Industry Norm.

However, on a longer horizon, Ruter is thinking bigger. By leveraging the "Internet of Things" and the increase in personalized data across multiple sources of public and private means of transportation, Ruter is working towards creating smart digital solutions that will transform the concept of mobility, and offer customers completely tailored transportation solutions, using a network of interconnected means of transportation.

To support the development of these solutions, Ruter has succeeded internally in developing open and agile ways of working, and an organizational adjustment has allowed for a two-speed development pace and a continuous process of idea generation through sprints, proof-of-concepts and piloting. At the same time, Ruter has benefited from external inspiration through the facilitation of open dialogue conferences where concepts like mobility have been discussed with partners from related industries.

Ruter⌗

To fulfill its general mandate of increasing the share of public transport, cycling, and walking, Ruter has adopted a "digital first" mindset in their work towards transforming our conventional way of thinking about mobility.

About Ruter

Ruter is the Public Transport Authority for Oslo and Akershus, responsible for planning, coordinating, ordering, and marketing public transportation services across bus, tram, metro, and ferries. The Oslo region is one of the fastest growing capital regions in the world, and Ruter's overall mandate is to increase the share of public transport, cycling, and walking despite the continuous population growth.

How?

Building on the knowledge from conversations with 29 executives, we examine digitalization on an operational level.

We investigate how the executives approach the uncertainties of operating in a new digital reality. How do they optimize their current business – while simultaneously preparing their business models for disruptive forces? How do they mobilize and develop their current workforce to ensure an overall and specialized digital competence level and a willingness to change?

We move closer into the machine room and examine how the business leaders approach digital challenges and solve dilemmas related to balancing the old reality with the new digital paradigm.

Identification and Scoring of Seven Key 'How' Capabilities

● Avg. self-assessment

Capabilities			1. Not at all	2. Low degree	3. Some degree	4. High degree	5. Very high degree
1	Digital Leadership	To what degree do you have executive sponsorship and broad, capable digital leadership of your digital transformation agenda?				3.9	
2	Functional Clarity	To what degree are organizational responsibilities for digitalization clearly defined, both with regards to articulating a company-wide direction and enable execution with agility and speed?			3.4		
3	Ways of Working	To what degree is a startup mindset and methodologies (processes and tools) adopted into the relevant parts of the business?			3.4		
4	Competencies	To what degree are you able to identify, attract, develop, and retain the necessary competencies to succeed with your digital transformation agenda?			3.4		
5	Governance and Performance	To what degree does your governance model support the desired future mindset, new ways of working, and agile decision-making process necessary to succeed with your digital transformation agenda?		3.0			
6	Technology Development	To what degree do you have an agile technology development setup that ensures fast tracking of build and scale development activities without compromising your operational IT?			3.3		
7	External Collaboration	To what degree do you leverage external collaboration in open and collaborative ecosystems to enhance your transformative capacity?			3.3		

Circle K

Case Study

In a global company of more than 100,000 employees worldwide, where the vast majority are customer facing, Circle K maintains a strong focus on employee engagement and a stable workforce to ensure loyal and satisfied customers. However, in recent years the company has struggled with increasing degrees of employee turnover for new hires. This has mobilized the company to develop better processes for ensuring the quality of its internal on-boarding program for site employees in order to increase early retention rates, increase motivation and drive improved employee engagement.

In addressing these issues, Circle K has decided to implement an integrated digital HR platform across the entire global organization, which transforms the company's current HR processes in a number of ways.

'We have launched a strong global brand for our customers - now we also want our employer brand to become equally strong.'

Firstly, a move away from a series of disconnected HR systems to an integrated platform allows for the development of standardized company programmes, such as the on-boarding program. Secondly, the platform provides one single user experience and give employees, who are mostly young

'The HR system has the potential to transform the entire way we do HR in the company. However, as a start we have chosen to focus on using the system functionalities to target our current primary issue, which is employee retention and engagement. Going forward we want to expand the opportunities, but implementing the system full scale from start may overload the organization and potentially prove counter-productive.'

and digitally savvy, the opportunity to connect to colleagues across the global organization to seek guidance, understand potential career opportunities or share experiences through a range of digital features and common interfaces. Thirdly, the system provides HR with a full analytics offering to enable effective workforce management and data driven decision making through integrated capability and performance overviews.

In addition, to providing Circle K with hands-on improvements in current HR practices, the potential for increased employee engagement across the global organization is a key priority. The launch of the global brand in 2016, which was a huge success, established a strong and coherent customer brand. Now, it is equally important to create a strong global employer brand, and by adopting this interactive cross-company employee platform, this is an important step in the right direction.

To succeed in maintaining high service levels and satisfied customers, Circle K is dependent on strong employee engagement across its many sites. To promote this engagement and retention of its site employees, Circle K is implementing an integrated digital HR platform that connects employees across the organization and allows for standardized development processes.

About Circle K

Circle K is a global fuel and retail convenience chain with ~12,000 outlets globally of which 500 is located across Norway. From previously operating as several different brands, Circle K was integrated under a global brand in the spring of 2016.

Capability 1:

Digital Leadership

Executive sponsorship and digital leadership is crucial to ensure prioritization of digital transformation – but apparently no easy task
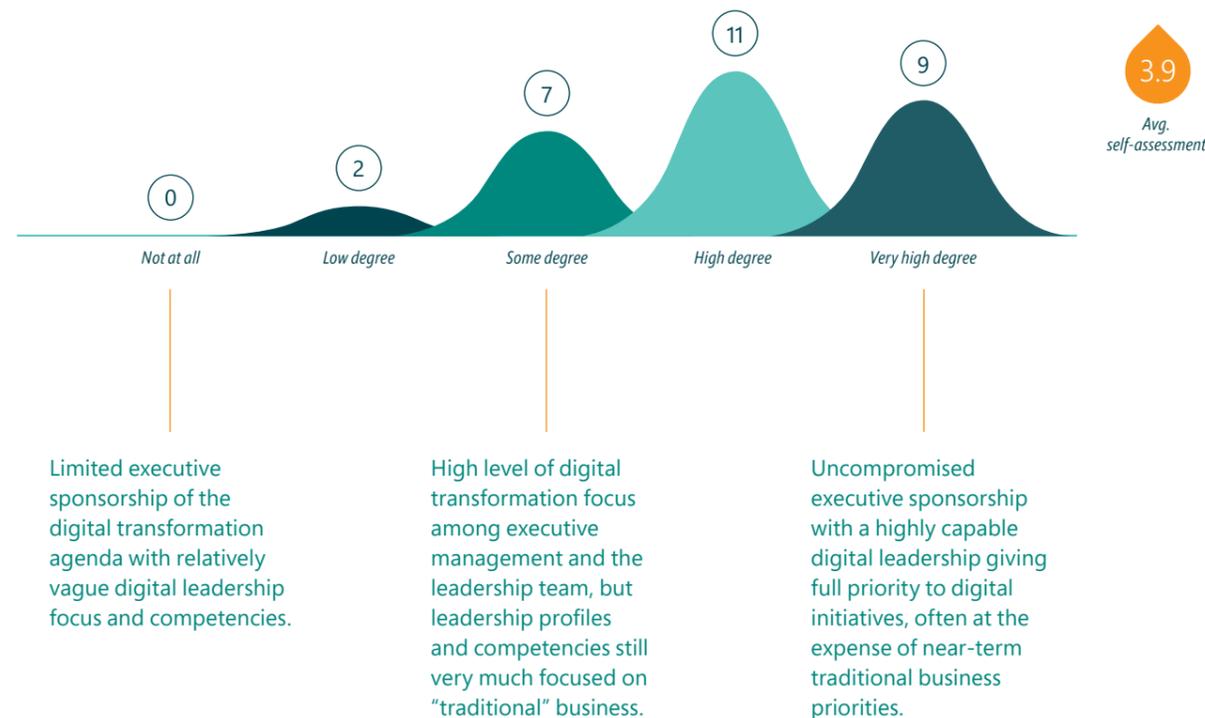
Leading practice

Uncompromised executive sponsorship and digital leadership is the essential starting point for your digital transformation. Executive sponsorship entails that a representative from the executive management owns the digitalization agenda and takes part in driving progress – either in person or through a dedicated, capable next-level leader. Digital leadership is a new breed, and it involves having the right visionary and daring mindset as well as capabilities within digital opportunities, ways of working and judgement of required capabilities.

How?

Digital Leadership

To what degree do you have executive sponsorship and broad, capable digital leadership of your digital transformation agenda?

| 0 | 2 | 7 | 11 | 9 | 3.9 |

Not at all | Low degree | Some degree | High degree | Very high degree

Avg. self-assessment

Limited executive sponsorship of the digital transformation agenda with relatively vague digital leadership focus and competencies.

High level of digital transformation focus among executive management and the leadership team, but leadership profiles and competencies still very much focused on "traditional" business.

Uncompromised executive sponsorship with a highly capable digital leadership giving full priority to digital initiatives, often at the expense of near-term traditional business priorities.

'Management has gone all-in on succeeding with our digital transformation program. We have changed from being a process-orientated organization to becoming a customer-centric matrix organization.'

— RUTER

As shown from the results, digital transformation is at the core of the strategic agenda, and is perceived as one of the single most important focus areas for companies going forward. Due to this strategic importance, it comes as no major surprise that across most participating companies, there is a strong degree of buy-in and executive sponsorship when it comes to supporting the development of

Executive Sponsorship

Digital Leadership
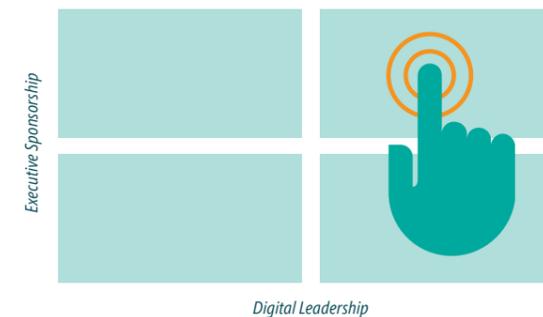
the digital transformation agenda. In several companies, executive management or board members are often vocal, both internally and externally, in their prioritization of the digital agenda, and active in setting expectations for overall objectives and digital accomplishments.

However, whereas executive sponsorship is high, the in-depth and more practical understanding of the opportunities and challenges related to digitalization on a concrete level is less developed among leaders. The lack of practical and hands-on experience becomes a challenge in terms of creating an overall executive alignment in management teams and boards. The missing alignment is typically related to whether digitalization should "just" be perceived as a tool for efficiency, or whether it should guide the overall strategic direction and business development activities.

How?

The lack of deeper understanding and hands-on experience also transcends into middle management levels where the digital competencies and degree of ownership vary greatly, leading to a situation where the success of operationalizing the digital agenda is highly dependent on individual employees. The desired key digital leadership qualities are often a combination of a deep and intrinsic business understanding, together with a more visionary, risk seeking mindset that drives new ways of working and organizational change. In cases where mid-level managers possess these digitally enabling abilities, individual leaders can be highly important drivers of change and ensure that the digital transformation agenda is effectively pushed forward and operationalized in the company.

'You are dependent on having the right leadership capabilities across the organization. We had one executive within digital who moved to one BU, and suddenly, things started to improve dramatically, e.g. through hiring people with competencies we had never had before.'

— TELENOR

Recipe for Success:

- **Executive sponsorship is key** – ensure full and strong executive sponsorship as a starting point for your digital transformation journey

- **Digital leaders is a new breed** – put effort into employing the right profiles to spearhead and run the digital transformation execution in your organization

- **Leverage deep digital understanding** – Ensure in-depth and hands-on digital understanding among management to ensure clear vision of digital end-game and concrete action plans

Capability 2:

Functional Clarity

Striking the right balance between a centrally-defined digital direction and local execution power to secure speed and agility is challenging

Leading Practice
Development of a coherent company-wide, digital transformation vision, with clear direction and strategic priorities, combined with strongly mandated responsibilities for leading and executing the operational digital initiatives in line organization to ensure agility, speed, and execution power.

How?

Functional Clarity

To what degree are organizational responsibilities for digitalization clearly defined, both with regards to articulating a company-wide direction and enable execution with agility and speed?

0 — Not at all
4 — Low degree
13 — Some degree
9 — High degree
3 — Very high degree

3.4
Avg. self-assessment

Limited clarity of 'who owns' the responsibility for setting company-wide digital transformation direction, and unclear responsibilities between the center and local level.

Freedom to execute digital initiatives in business units, but lack of an overall direction to ensure coherence and company-wide impact.

Optimal balance between center and local, with a coherent digital transformation vision and direction, and sufficient local power to execute digitally.

'We have just recently developed a high degree of clarity through defining eight focus areas, six concrete prioritized projects, a Digital Advisory Board and a CDO. We therefore believe we have the right structure - at least on paper. The real test will be to see how it really works in practice.'

— BKK

There seems to be an almost pendulum-like evolution over time regarding how to structure the digital transformation responsibilities and mandates, and where to place which responsibility in the company. Typically, the pendulum starts with a primarily decentralized approach, with the majority of resources deployed close to the customers, in the business units, with clear decision and execution mandates.
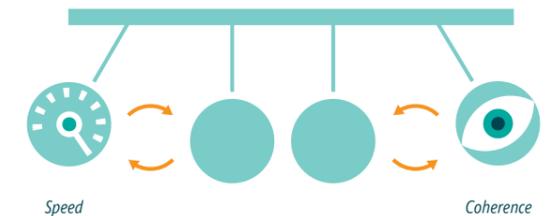
As digital platforms increasingly become a vital part of the core business, and the company has experienced some challenges in relation to securing a coherent and efficient company-wide digital approach, some choose to establish separate digital innovation units, as is the case with Danske Bank Mobile Life and LEO Innovation Lab. Others, such as TV 2, have created a Chief Digital Officer position as part of the executive team, while Grundfos has a Head of Digital Transformation with CEO reference.

Speed   *Coherence*

The function most likely to have the Group-wide charge for digital development in this study is the Corporate Strategy function. In 11 of the interviewed companies, the business responsibility for digital transformation resides with Group Strategy or Group Business development, while the Group Commercial function is responsible in another four cases.

How?

Amedia

In terms of setting up a dedicated digital transformation unit, either as its own function or as an autonomous unit, the aim is typically either to secure speed of execution through focus and dedication or to ensure that initiatives with high uncertainty that require a certain mindset, mandate, capabilities, and/or ways of working do not get blocked by corporate norms.

> *'It can be challenging to prioritize digitalization when we have a strong focus on cost effectiveness. However, there is a general acceptance that we need to move on the digital agenda as well. We have developed "digitalization teams" in each business area with the responsibility of following up on digital initiatives, maintain overview and ensure progress. Digital elements are starting to become integrated into scorecards and action plans.'*
>
> **— EIDSIVA**

Recipe for Success:

- **Understand your digital starting point** – Assess your digital transformation maturity, including internal capabilities and execution power

- **Formulate digital direction** – Articulate a clear company-wide digital transformation agenda and communicate broadly to facilitate ownership

- **Digital execution setup** – Define prioritizations of digital initiatives versus regular business/operations and allocate clear responsibilities to support agile execution

> *'Digitalization is part of everything we do. Digitalization is not something that can be "managed" by a separate organizational unit – all employees have to be digitally competent. This has been a major cultural shift for Amedia'.*

For a national newspaper publishing company like Amedia, the past decades of digital developments have turned conventional industry logic upside down. Dramatic reductions of subscribers of physical newspapers and new digital advertising platforms has challenged the conventional business model of Amedia significantly from the beginning of the 2010s.

Initially, Amedia responded to the increased challenges by moving into adjacent business, exemplified by the acquisition of 1881.no. However, they quickly realized that in order to survive in a new digital environment, they had to transform the core business.

The resulting digital transformation of the core business addressed three main areas. Firstly, Amedia needed to focus strongly on ensuring that previous subscribers of physical newspapers, as well as readers relying on free content, moved into paying digital subscriptions. Secondly, Amedia realized the need to become increasingly aggressive and proactive in the highly challenging market for digital advertising where the industry in general has lost significant income in recent years. Thirdly, to succeed in actively driving the digital transformation, the development of deeper digital competencies and understanding among local editors was critical.

The early realization of the need to act has moved Amedia far up the digital maturity curve. Amedia has been able to increase digital paying subscriptions significantly and has raised the share of digital customers from 10% to more than 25% over the last year. In order to develop a leading platform for digital advertising, Amedia is now building a strong position within programmatic advertising by using Google's technology platform. This will allow for individualization and full leverage of the detailed knowledge on preferences for the more than 800,000 registered digital users on Amedia's aID platform. Lastly, the explicit focus on raising competence levels has ensured that digital understanding is now a key competence for all editors and other mid-level managers.

> *'We see that new technologies will allow us to free up resources to produce better content. For example, front pages can be increasingly managed by algorithms, freeing up journalistic resources to produce more and better journalism'.*

About Amedia

Amedia is Norway's largest publishing house for local media titles, with 62 different newspapers. Founded in 1948, most of Amedia's titles have leading positions in their local areas and close to 2 million daily readers in print and digital.

amedia

In the wake of significant disruption in the newspaper industry, Amedia realized the need to transform its core business model. As a result of a successful digital transformation, Amedia has been able to increase the number of paying subscribers and transform its advertising model to leverage the increasing amounts of specialized consumer data.

'It is very hard to find and attract digital talents, as they are attractive to all industries. We hire for attitude and train for skills – this is why it is so important for us to succeed in continuously developing internal competencies as well.'

– STOREBRAND

Capability 3:

Ways of Working

While many companies have introduced new and more agile concepts, the full adoption of new ways of working has been limited in reality.
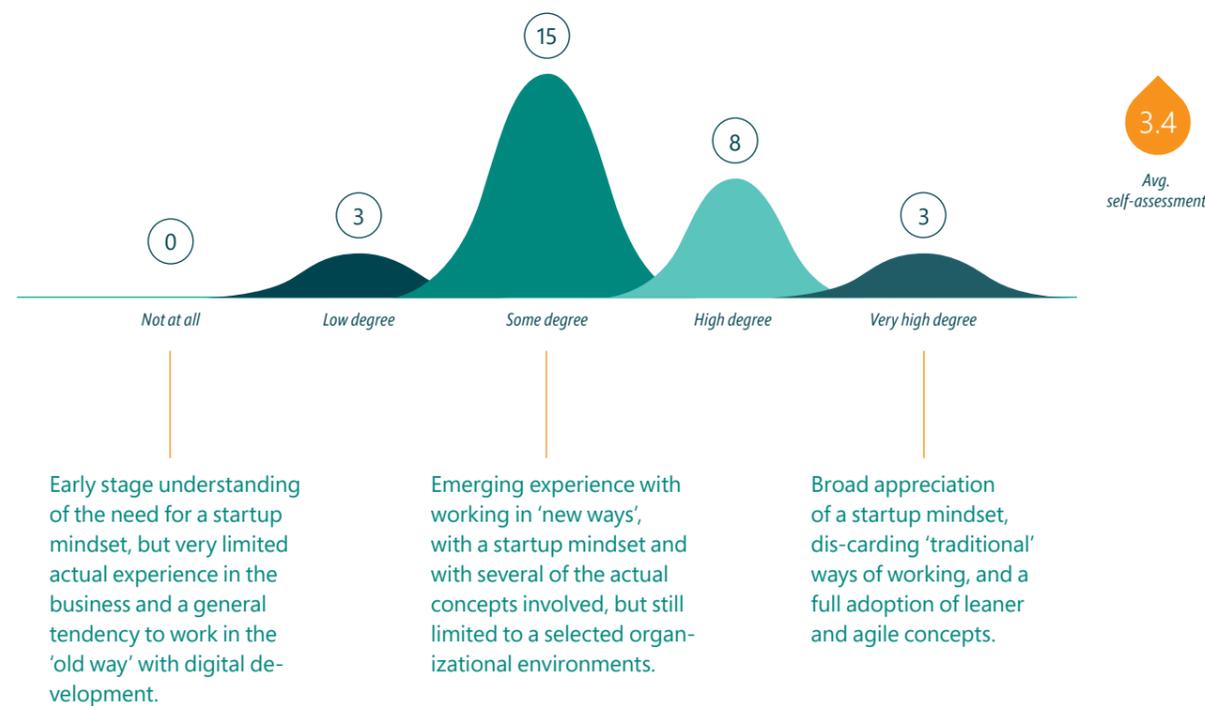
Leading Practice
Startup mindset and methodologies are adopted into the corporate working practices, involving uncompromised focus on customer needs as the point of departure for development activities, and the application of the lean start-up approach, working with the concepts of minimal viable products, sprints, fail fast, and build-measure-learn loop.

How?

Ways of Working

To what degree is a startup mindset and methodologies (processes and tools) adopted into the relevant parts of the business?

15

8

3

3

0

3.4

Avg. self-assessment

Not at all   Low degree   Some degree   High degree   Very high degree

Early stage understanding of the need for a startup mindset, but very limited actual experience in the business and a general tendency to work in the 'old way' with digital development.

Emerging experience with working in 'new ways', with a startup mindset and with several of the actual concepts involved, but still limited to a selected organizational environments.

Broad appreciation of a startup mindset, dis-carding 'traditional' ways of working, and a full adoption of leaner and agile concepts.

Inspired by startup environments, many traditional companies have started adopting new ways of working. Pioneers of these methodologies include companies like GE, Coca-Cola, and Cisco, who have succeeded in replacing traditional project management approaches like "big design" with leaner approaches that are more explorative, iterative,

Startup mindset   *Scale with confidence*

and pragmatic. The main characteristic of these processes, which include minimum viable products, sprints, fail fast and build-measure-learn loops, is the strong focus on customers and users, and the high speed of digital development.

Inspired by these concepts, most companies in this study have to some extent introduced one or several of the new and more agile ways of working. Within some of the front-runner companies, the new approaches have gained a strong foothold on the digitalization agenda, and a "digital first" mindset has started to develop with a point of departure in customer needs rather than existing products and solutions. At the same time, their level of tolerance and acceptance of failures is high.

However, the full adoption of these new and agile ways of working are still more the exception than the rule. Most companies are still in the very early stages of testing out new concepts like sprints, pilots and lean methodologies in pockets of the organization, and while a new terminology around these new ways of working has been introduced, often the actual execution still resembles traditional and more rigid ways of doing things, ultimately impeding implementation speed.

'Established hierarchy is a main obstacle for changing our ways of working. It is not about improving, it is about doing different things'

— STOREBRAND

How?

Often, the limited adoption rate of new ways of working can be linked to the inherent unwillingness or inability among many employees to change. In order to encourage a positive attitude towards new initiatives, many companies are actively seeking to highlight internal examples where new and more agile ways of working have enabled the successful development of concrete solutions. Such examples are necessary to encourage more internal change readiness and the facilitation of increased cross-functional collaboration – which are key success factors in driving digital transformation.

> *'For consumer facing applications, we don't believe in long development processes, but in smaller, ongoing, and frequent deliveries – supported by a larger masterplan.'*
>
> **— NORGESGRUPPEN**

Recipe for Success:

- **Highlight potential** – Identify business benefits from adopting new ways of working

- **Set the right team** – Ensure a talented cross-functional and multi-capable team with an exploratory mindset and drive to execute

- **Test and prove concepts** – Seek short-term results through pilots and prototyping to create output within short time frames

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Capability 4:

Competencies

The war for talent intensifies as the demand for specialized competencies increases across sectors – but strong internal digital environments promotes development and retention
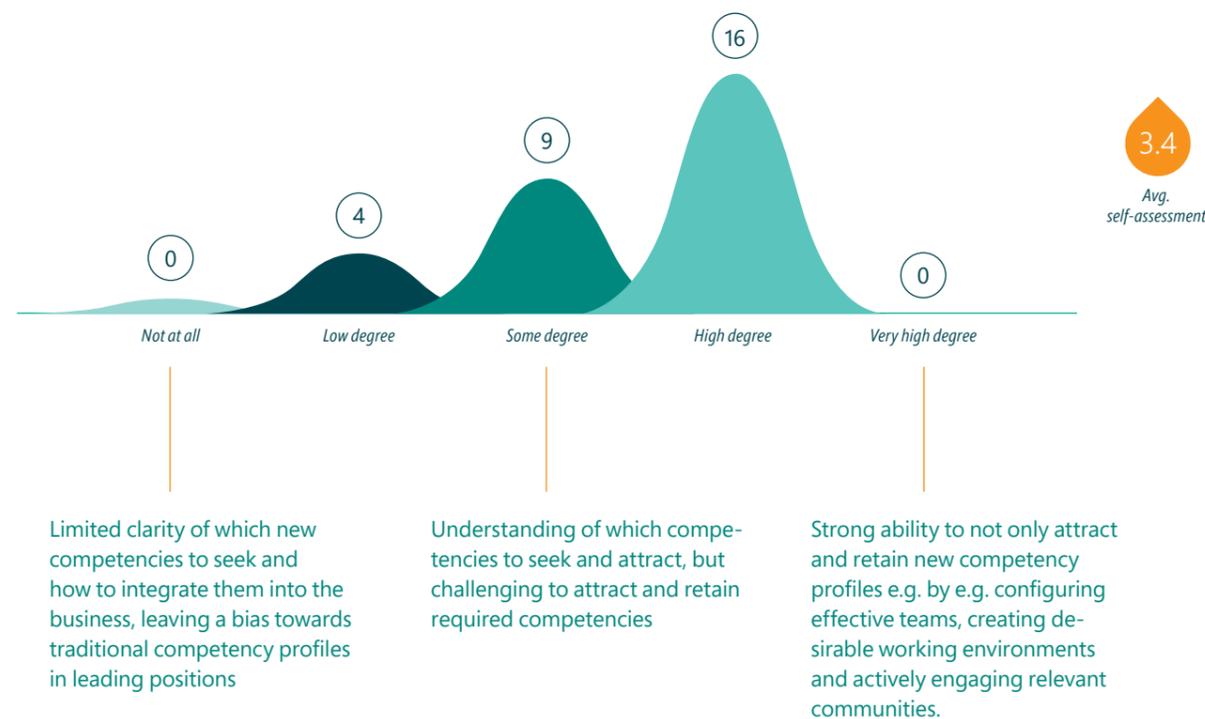
Leading Practice
A strong ability to identify, attract, develop and retain new competency profiles, e.g. designers, tech developers, data scientists, and entrepreneurs is required to succeed with digital transformation. Additionally, it is essential to succeed in assimilating these new competencies into the core of the business.

How?

Competencies

To what degree are you able to identify, attract, develop, and retain the necessary competencies to succeed with your digital transformation agenda?

16

9

4

0   0

Not at all   **Low degree**   **Some degree**   **High degree**   **Very high degree**

3.4

Avg. self-assessment

Limited clarity of which new competencies to seek and how to integrate them into the business, leaving a bias towards traditional competency profiles in leading positions

Understanding of which competencies to seek and attract, but challenging to attract and retain required competencies

Strong ability to not only attract and retain new competency profiles e.g. by e.g. configuring effective teams, creating desirable working environments and actively engaging relevant communities.

Identifying, attracting, developing and retaining the right competence profiles is one of the most important drivers of getting digital transformation right. However, the high demand for specialized digital competencies makes the war for talent a key challenge across industries. Competition comes not only from traditional larger players, but also from smaller scale startups, which can often offer work cultures that are more attractive to the sought-after profiles.

A key feature highlighted both in relation to attracting the right talent and to the ongoing retention and development of the digital competencies is the importance of creating specialized professional environments around key digital resources. Such environments foster a professionally intriguing and challenging atmosphere that encourages digital knowledge transfer and sharing of best practices. Additionally, it ensures that key digital resources do not become isolated and fragmented across the organization.

While specialized competencies are in high demand, so is the demand for raising the level of basic digital understanding among general employees. Several companies experience low turnover rates, and since the ability to change and adjust to a digital reality is inherently difficult, raising general digital competence levels takes time. As such,

Identify   *Attract*   *Retain*

companies are increasingly focusing their efforts on ensuring an increase in the general digital competence level through an explicit focus on digital competencies as a key criteria in all new hiring processes.

'It is a matter of developing a system and environment around digitalization – and not spread the digital competencies too thin across the organization. In areas where we have managed to build a strong environment, we are able to attract highly competent employees.'

— TELENOR

How?

To supplement in-house digital competencies, companies are relying heavily on external resources to provide specialized digital knowledge and fill potential capability gaps, and many companies are struggling to find the right balance between internal and external resources. External competencies allow for highly specialized and up-to-date capabilities that are often too expensive to build internally. However, by relying too heavily on external competencies, a company's internal digital capability level may remain underdeveloped and the knowledge transfer from development initiatives to line organizations responsible for implementation becomes limited. Additionally, some companies highlight that a too heavy reliance on external digital solutions might lock companies to specific suppliers and thereby reduce system autonomy and flexibility.

While there is little doubt that a combination of internal and external digital competencies is required, the key is to be conscious of where to allocate which kind of resources to ensure agility, speed, and up-to-date knowledge while at the same time maintaining and developing the internal competence level. Some companies are dependent on strong internal control of operational systems and processes and rely on external competencies only for the development of new systems, whereas others are comfortable outsourcing operational systems and allocating internal resources to digital development initiatives.

'In future recruiting, we need to ensure that digital understanding is a criteria that should be prioritized. We need both specialized competences and general digital capacity.'

— BKK

Recipe for Success:

- **Understand competence requirements** – Invest in understanding specific capabilities requirements and evaluate the potential value to the company

- **Build attractive digital environments** – Establish professionally challenging digital environments to attract, develop and retain specialized profiles

- **Balance internal and external competencies** – Define clearly which skills to employ in-house and which to outsource via independent units

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Capability 5:

Governance and Performance

To ensure digital development there is a need for more adaptive governance models, which supports incremental change and a tolerance for failures
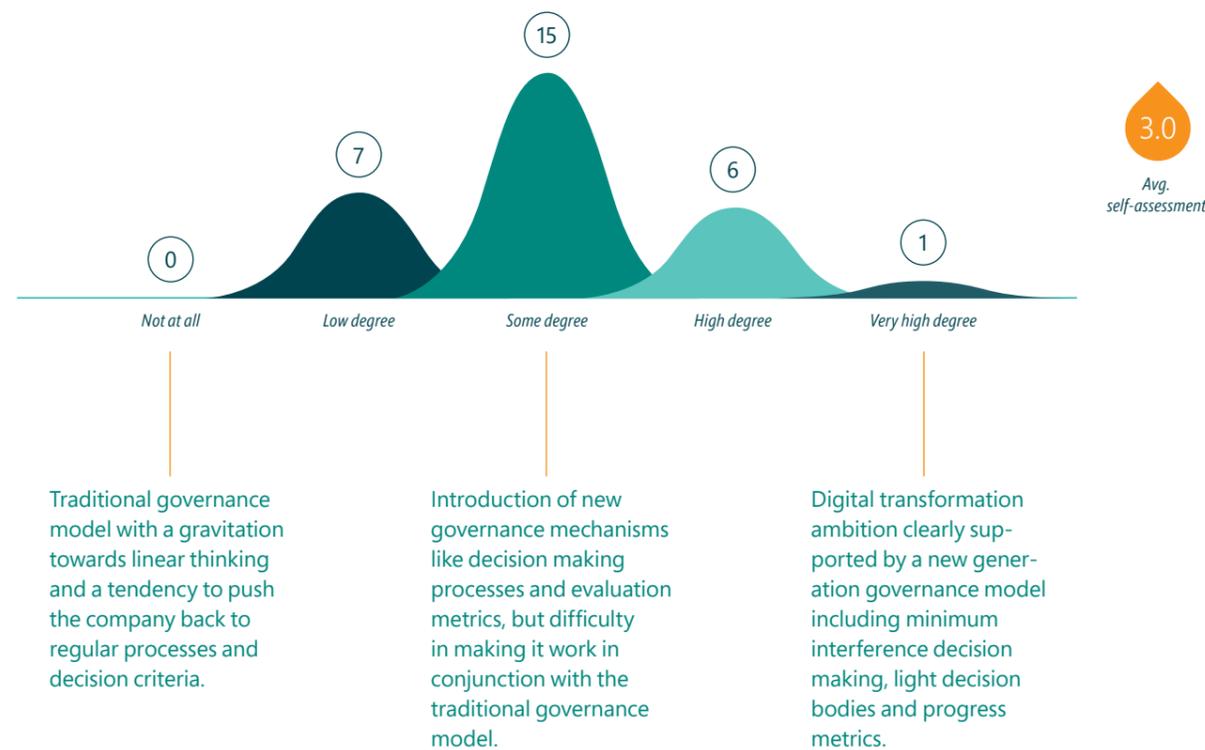
Leading Practice

A governance model that supports the digital agenda and ensures that the company 'stands its ground' when facing tough prioritization dilemmas. This involves a governance model that tolerates uncertainty and supports a more exploratory mindset and new ways of working. It includes a strong mandate to the people responsible for the digital transformation, decision making processes structured around the desired way of working to ensure speed and agility, and the use of relevant evaluation metrics for development activities that also focus on customer/end-user engagement and initiative progress.

How?

Governance and Performance

To what degree does your governance model support the desired future mindset, new way of working, and agile decision-making process necessary to succeed with your digital transformation agenda?

0 — Not at all

7 — Low degree

15 — Some degree

6 — High degree

1 — Very high degree

3.0
Avg. self-assessment

Traditional governance model with a gravitation towards linear thinking and a tendency to push the company back to regular processes and decision criteria.

Introduction of new governance mechanisms like decision making processes and evaluation metrics, but difficulty in making it work in conjunction with the traditional governance model.

Digital transformation ambition clearly supported by a new generation governance model including minimum interference decision making, light decision bodies and progress metrics.

'In an area like big data it is all about competence, understanding and leadership. You might have access to tonnes of data but if you don't have the right business understanding, leadership approach and sufficient focus, you won't succeed.'

— GJENSIDIGE

Traditionally, companies have been organized with an emphasis on ensuring stability and predictability, and based on a risk-averse mindset set up for linear development trajectories. However, today's continuous and fast-paced digital reality requires companies to re-think organizational models and classical governance structures and set up more adaptive governance models that spur explorative approaches, allow for iterative processes, and tolerate failures.

The adaptive governance approach is characterized by a higher degree of decision-making autonomy and relies on a broader range of evaluation criteria that – in addition to traditional top- and bottom line metrics (e.g. ROI and payback time) – also focuses on metrics that are more customer-centric and focused on initiative progress (e.g. number of solution releases and number of attempts/failures). In general, there is a strong recognition among the surveyed companies that current governance models need modification in order to cope effectively with digitalization. However, while there is a will to get this right, many executives struggle to establish the right organizational setup that supports the desired agility and speed. The dilemma is often centered around how to establish a governance setup that allows for the freedom and autonomy of digital units to carry out development initiatives

Old World

Foresight & Facts

Digital Scorecard

Viability
Desirability
Possibility

Ambiguity & Risk

New World

How?

independently to ensure speed, while at the same time exercising some degree of control to ensure coherence with the overall strategy as well as continuously verifying the concrete value and business optimization potential of digital initiatives. This balance is difficult to strike, but nonetheless highly critical.

When under pressure, companies often tend to fall back on traditional governance structures and evaluation metrics, which might result in a lack of prioritization of attractive digital development opportunities. However, to promote prioritization

of digital initiatives and the ability to ensure high development speed, it is crucial to move decision-making power down the organization. A key criteria for succeeding with this is the establishment of a sufficiently strong mandate for digital managers, allowing them to enforce the right prioritizations and ways of working and to effectively draw on other internal competencies across the company. To establish such a strong and independent mandate it is critical that the governance principles and mindset are well anchored both at the top and across the company's functions and units.

'The purpose of the new organization is to facilitate decision-making at the lowest possible operational level. Hence, rather than approving even minor decisions, the management team will focus on setting the overall direction and thereby move decision-making power to the digital operational teams.'

— RUTER

Recipe for Success:

- **Establish a proper governance setup** – Ensure that responsible managers have strong mandates to execute with the right pace

- **Promote alternative evaluation metrics** – Measure progress through alternative metrics that e.g. determine initiative progress or customer value

- **Ensure organizational ownership** – Make sure that the entire organization buys into governance principles and stick to them when under pressure

NSB

For NSB, digitalization has played a defining role in building a stronger competitive platform, and the company has focused explicitly on developing digital solutions to improve the customer experience. One of NSB's first key digital focus areas was to build a strong and effective self-service offering with its ticketing app. The app offers customers higher flexibility, convenience, and updates on delays and cancellations directly and in real time. In addition, the app offers automatic access to entertainment services for travelers through for example podcasts and online newspapers.

With the successful ticketing app, which is now the preferred channel for acquiring tickets, and the development of additional digital solutions for optimizing the customer experience, NSB has managed to create a new and broad-based communication channel. However, more importantly, the extensive application of digital ticketing solutions feeds NSB with increasing amounts of valuable data insights, which are leveraged to optimize revenue streams and increase customer satisfaction.

'Compared to other European train-operating companies, we are in the forefront of developing digital customer solutions. Therefore, when we seek for inspiration on how to develop further digital solutions, we look outside the railroad industry'.

NSB

The ongoing railroad reform has challenged NSB to become competitive and efficient, and as part of the journey, a strong focus has been placed on increasing customer engagement through digitalization. Digital customer-centric solutions have led to a high degree of self-service and enabled NSB to use data insights to increase customer satisfaction.

'Our previous decision-making and budget allocation processes were rigid and there was a lack of overview of e.g. the strategic relevance and viability of business cases. Now, however, we have established an IT advisory board with members of management. All new initiatives run through this Board, which prioritizes and ensures overall coherence with our improvement agenda.'

To benefit from the increased data insights, NSB is actively pursuing the opportunities presented by machine learning, and is running several initiatives with the purpose of combining its unique data sets to develop solutions that give NSB a competitive edge. One of these initiatives uses machine learning to predict the likelihood of specific travelers purchasing tickets for long-distance travels. By predicting such patterns in purchasing behavior, NSB is able to individualize marketing efforts through campaigns targeted at the right passengers, thereby increasing impact and optimizing marketing resources. Another project focuses on assisting passengers during their travels by using detailed personal insights to offer selected customers class upgrades or provide real-time information on where to find available seat space.

While these projects are only initial steps in transforming the use of data insights, NSB is already witnessing the benefits of a more personalized offering, and recent internal customer benchmarks shows that the systematic application of data insights drives increased satisfaction among core customers.

About NSB

NSB is Norway's national railway company, facilitating more than 72 million train journeys across the country every year. NSB's trains, which cover both local and regional routes, have a total capacity of around 65,000 seats.

'It is crucial for us to strike the right balance between building our infrastructure and developing new solutions. We have spent a lot of resources on establishing an integrated data center – however, this process "froze" our development of commercial initiatives, which have now piled up. Now we need to re-focus again.'

– DNB

Capability 6:

Technology Development

Companies are struggling with rigid and complex legacy IT infrastructure, which often hinders speed and focus on digital exploration activities

Leading Practice

Establishing a bi-modal technology capacity with the ability to combine stable operations with development efforts driving digital transformation - while continuously ensuring a constructive dialogue between two domains to enable later integration. This requires the ability to work around complex IT legacy infrastructure by creating some form of separation between exploratory development initiatives and daily operational processes.

Technology Development

Companies are struggling with rigid and complex legacy IT infrastructure, which often hinders speed and focus on digital exploration activities
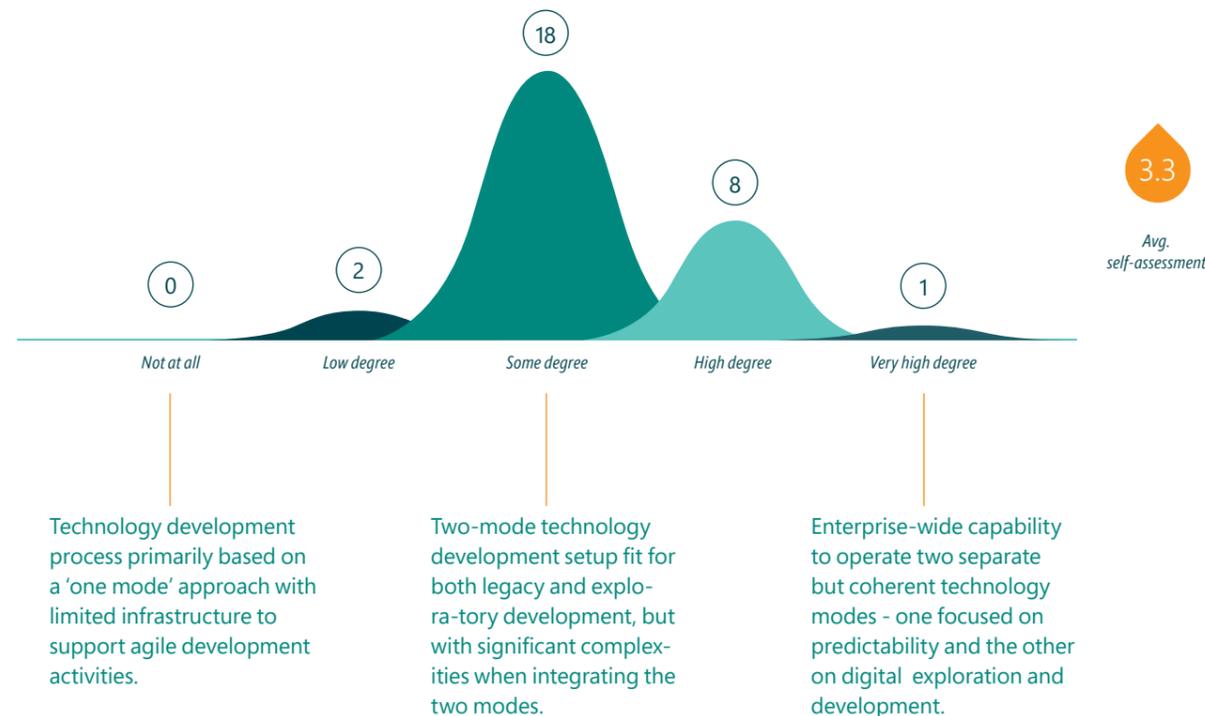
'In the past, we spent three years on building large new systems. However, we don't have three years anymore. This is something that we have learned the hard way.'

— TELENOR

18

8

0

2

1

3.3

Avg. self-assessment

Not at all

Low degree

Some degree

High degree

Very high degree

Technology development process primarily based on a 'one mode' approach with limited infrastructure to support agile development activities.

Two-mode technology development setup fit for both legacy and exploratory development, but with significant complexities when integrating the two modes.

Enterprise-wide capability to operate two separate but coherent technology modes - one focused on predictability and the other on digital exploration and development.

Ensuring an agile digital development setup that enables fast tracking of development activities without compromising the operational IT is a critical aspect of succeeding with the digital transformation agenda. However, the majority of the interviewed companies are highly challenged by rigid legacy IT systems with a scale and complexity that have evolved over time into a patchwork of separate systems. The need to work in two speeds to ensure the agility of digital development initiatives is therefore a prerequisite for being able to execute digital initiatives.
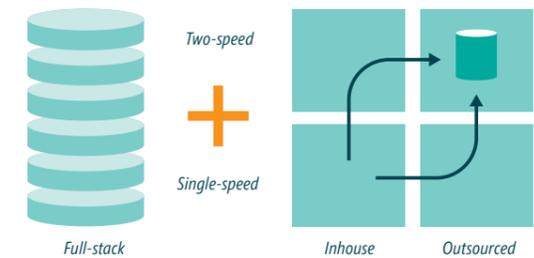
However, the degree of separation between operational and development-oriented processes varies highly across industries and levels of digital maturity. For companies operating in less digitally mature industries that have not experienced severe digital disruptions, the primary priority is often to develop the basic back-end IT infrastructure before

Two-speed

Single-speed

Full-stack

Inhouse

Outsourced

embarking on more customer-centric front-end solutions. Management priorities, stock market demands, or simply the critical dependency on operational stability often drives this prioritization of operational issues over front-end digital solutions. In some cases, the development of new digital initiatives has even been rolled back in order to prioritize "fixing the basics".

How?

In industries that are more heavily impacted by digitalization, companies have been pushed to apply a more aggressive approach to ensuring the execution of digital development initiatives. Within these industries, the bi-modal way of working has claimed ground, and while experiencing the challenges of complex operational IT systems, these companies have been forced to find ways of working around complex legacy structures to ensure agile development and prioritization of front-end, customer-centric solutions.

Companies might draw on external resources and competencies in order to support the two-speed, bi-modal way of working, for example through outsourcing basic operational IT processes, thereby allowing digital resources to prioritize business development initiatives. However, for the companies where the stability of daily operations is too critical to hand over to partners, external competencies can be leveraged to drive digital development initiatives.

'We have allocated dedicated resources to Digital and separated Digital from traditional IT. The main reason for doing this is to ensure resources allocated to digital initiatives in order not to lose in the battle of prioritization between Digital vs traditional IT. However, we are of course dependent on collaboration across IT and Digital in terms of system development. The teams are co-located, and our Digital manager is part of the IT management team. '

— MØLLERGRUPPEN

Recipe for Success:

- **Run your IT at two speeds** – Separate digital development resources from daily operations, but take subsequent requirements for integration into account early on.

- **Coordinate and collaborate** – Create clear overview of initiatives and prioritizations, and maintain a strong collaboration between the developers and operational IT resources.

- **Leverage external capabilities** – Outsource selected areas to external resources for agility and speed to keep maximum focus on core business

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Capability 7:

External Collaboration

Companies have started to collaborate with external partners to gain inspiration - but the depth and openness of collaborative efforts is still limited.

Leading Practice

Clear acknowledgement that the organization should not, and cannot, do everything itself. Leading practitioners collaborate with digital natives and complementary resources in open ecosystems to gain external inspiration and support, and to stay challenged. Among other things, this can involve running open innovation initiatives such as hackathons and accelerator programs, and also working closely with startup companies, venture development firms, and academia on development activities. Additionally, external collaboration can facilitate a structured approach to continuously challenge the organization e.g. through external digital advisory boards.

How?

External Collaboration

To what degree do you leverage external collaboration in open and collaborative ecosystems to enhance your transformative capacity?

| 0 | 4 | 14 | 10 | 1 |

Not at all · Low degree · Some degree · High degree · Very high degree

3.3 *Avg. self-assessment*

The use of external collaboration is primarily focused on sourcing expertise from external 'vendors' that provide input and contribute to projects in closed environments

Openness towards value-creating partnerships, often in non-traditional areas, to ensure execution speed or to open new domains that are otherwise difficult to reach.

Full appreciation of op-erating in ecosystems of partners to take full advantage of knowledge and assets outside the company despite the possible risks involved.
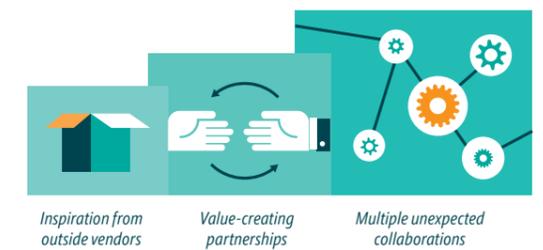
'Our collaboration with a partner on a new digital business model was a proof of concept for the rest of the organization that we can work constructively with new types of partners. As a result, the project has reduced barriers for external collaboration and we have now built systems and procedures that can be leveraged for building an ecosystem for partnerships and open collaboration.'

— STOREBRAND

Drawing on expertise from external partners in an open and dynamic environment supports the internal capacity to drive digital transformation. This realization is driving leading digital companies to engage in external networks and ecosystems defined by a mindset of open collaboration in order to leverage outside expertise and perspectives from professional partners, academics, startups, and sometimes even competitors.

Across the surveyed companies, various forms of collaboration have been initiated to assist in driving digital transformation. A few companies draw on start-up capabilities, e.g. through the organization of events such as hackathons, whereas more have started seeking inspiration from incubator-type setups like for example StartupLab. In industries with a low level of innovation or where companies are not able to drive separate development units, the collaboration with start-up environments becomes a source of inspiration and a way of injecting external innovative input into the organization.

Other forms of external collaboration include participation and facilitation of professional expert networks, where companies from similar or adjacent industries discuss relevant key topics through inspirational events and informal fora. Some companies have driven such industry collaborations beyond just informal discussions and started experimenting with more formal consortium type structures targeted at digital initiatives.

Inspiration from outside vendors   *Value-creating partnerships*   *Multiple unexpected collaborations*

How?

Although not a top-priority, some surveyed companies have engaged in collaboration with academic institutions. The focus of such collaboration is primarily to raise the competence level of employees through intensive short term courses and academic inspiration, but also to inspire and broaden the horizon of employees to encourage a more open mindset towards digital opportunities.

While most companies are engaging in some forms of external collaboration, the collaborative efforts are in general sporadic, and companies are still not leveraging the full potential of partnerships on a structured basis. As the level of commitment and willingness to open up is still limited, many struggle to define the right model for cooperation and engagement that allows for outside expertise to inspire and enhance the digital transformative capacity.

> *'We are engaged in several venture investments, and I gain a lot of inspiration from being part of the Boards in several of these companies.'*
>
> **— AGDER ENERGI**

Recipe for Success:

- **Get engaged** – Understand what is out there and how to leverage external input to seek value in new domains

- **Build an open mindset** – Collaborate externally through an open mindset and challenge traditional collaborative partnership models

- **Share successes** – Communicate successful collaboration initiatives to build internal momentum and reduce barriers for future external partnerships

Conclusion

In-depth discussions with executives across leading Norwegian companies have provided a detailed understanding of how business executives across the country approach digital transformation and how they work to address concrete opportunities and challenges to leverage the commercial and operational potential of digitalization.

Why?
Among the interviewed companies, 23 out of 29 characterize digitalization as one of the most important areas on the corporate agenda, and this study thereby confirms the fact that digitalization has become a key priority area for executives across different lines of business. At the same time, it seems clear that while the impact of digitalization is spreading across several functional areas in the organizations, the primary focus of executives is still to leverage digital opportunities to develop the core business offering, while adjacent and new business areas are only explored sporadically.

Furthermore, despite the high strategic importance of digitalization, most companies are still in the early stages of their digital transformation journey. While three companies are characterized as "*Integrated*", having moved high up the digital maturity curve, the majority of companies are characterized as "*Mobilized*" or "*Incubated*", having only just taken the initial steps in becoming digital-first companies.

What?
When exploring the areas where digitalization is prioritized the highest, it becomes clear that in the current stage of digital transformation, most companies focus on "*optimizing operations*" in order to improve internal processes and gain efficiencies. "*Engaging your customers*" is an increasingly prioritized area, as companies realize the high potential in applying a customer-centric approach, but our interviews with executives reveal that this area has been surprisingly low on the agenda up until now. "*Transforming products and services*" has so far gained limited attention in digital development efforts, which is also the case for "*empowering employees*", where focus has primarily been on ensuring up-to-date systems and less on building integrated platforms to promote collaboration and flexibility.

How?
Companies are actively working towards designing the right setup for succeeding with their digital transformation agenda. Across the board, "*digital leadership*" remains strong, and the executive management's ownership of the agenda is solid. Whereas executive buy-in is widespread, establishing the required "*functional clarity*" – with clear organizational responsibilities and mandates – proves to be more challenging. Moreover, as digital progress calls for internal processes that facilitate rapid development speed, classic "*governance and performance*" models are up for evaluation and questions around degree of autonomy of digital units are highly debated.

Companies are increasingly adopting new "*ways of working*" to ensure agile digital development processes, but while the right concepts have been introduced, full integration of the concepts into everyday work practices is still very rare. As complex legacy structures prevail across all industries, many executives recognize that the facilitation of effective "*technology development*" depends on the company's ability to set up bi-modal work structures, find ways to bypass old IT infrastructure, and leverage the new ways of working in the development efforts.

Specialized digital "*competencies*" are in high demand as industries are competing for similar capabilities. As the war for talent will increase going forward, it becomes highly critical to develop and retain internal digital competencies through the creation of internal digital environments and challenging tasks. Specialized digital competencies can also be leveraged externally, but while some companies are testing "*external collaboration*" models, few have gone all-in on developing digital ecosystems or accelerator type collaborations.

Thank You
This study is based on the experiences and viewpoints of executives from leading Norwegian companies. We thank all the participating companies for their reflections and sharing of best practices, which have provided valuable perspectives on the efforts towards get digital transformation right.

Contributors

The Digital Transformation Report 2017 Norway is developed by Microsoft and QVARTZ.

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About QVARTZ

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About Microsoft

Microsoft has commissioned this Digital Transformation report to create a benchmark - and enable the sharing of trends and best practices among Norwegian companies. Microsoft is a global leader in digital solutions, working to empower every person and every organization on the planet to achieve more.

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