FMCG industry: Unlocking value in the next-generation digital world

Operations perspective

Danish FMCG Digitalization maturity report 2018

mldk.

syncronic

Executive summary

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change"

- Charles Darwin (1809-1882)

Digitalization of the FMCG industry has been going on for some years now. Syncronic and MLDK found it relevant to make a status check and understand just how mature the industry is. What are the best performing doing and where can other improve? Which challenges do companies struggle with? What are perceived as future winning technologies and application areas? Additionally, other questions have been replied by a large part of Danish FMCG companies.

Very few companies in the industry – typically large, global enterprises – are well on their way to transform their entire enterprise and their value chain to become truly digital – these we name *'Masters'*. Sad to say, the survey reveals that the majority of Danish FMCG companies are still lacking behind in the digital era and have just started the journey - these we refer to as *'Novices'*.

The survey uncovers findings at overall company level and within the core functions Commercial and Operations, see key conclusions in the illustration below. Summarizing the findings of the survey analysis at company level reveals the following:

1. Companies are not fully utilizing digital opportunities;
2. Companies lack digital competences and experiences to capture the full potential of digitalization;
3. Digital masters are few and majority leverage digital to innovate – not transform;
4. No-one redefines the industry; and
5. Companies face challenges in almost every step of digitalization.

Considering Operations, digital mainly leads to efficiency gains and customer centric advantages. The most applied digital technologies are overall analytics, mobile, and cloud. An interesting tendency observed within Operations is that while analytics, cloud, and to some degree IoT are superior upstream, social and mobile are dominant downstream.

Evaluating the readiness of digital practice discloses that masters have a higher level of digital maturity due to their high level of digital readiness. However, novices are terribly unprepared for digital.

"The approach to digital differs considerably among masters and novices. Masters leverage digital to innovate while novices are pragmatic and focus on small fixes…"

Their level of digital readiness is also reflected in their approach to digital and their viewpoint on future important technologies.

In regard to the former, masters leverage digital to innovate areas of the business while novices focus on small fixes to obtain quick wins using a pragmatic approach. Though the approach to digital differs considerably among masters and novices, the challenges are almost similar. Number one challenge companies face in their attempt to become digital is the identification of opportunities relevant in their context.

"Novices do not have a strong viewpoint on future digital technologies…"

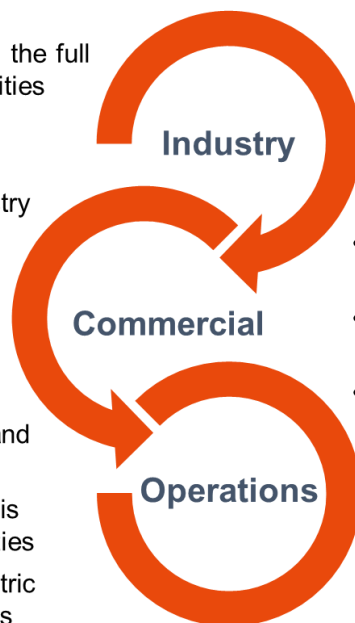In regard to this, masters consider analytics as number one most important

digital technology in future while novices are quite unsure about their viewpoint on future digital technologies. Key digital technologies such as augmented reality, 3D printing, cognitive computing, and blockchain are being completely ignored. The reason is simply lack of knowledge and experience.

In the report, facts are displayed on digital players maturity and uncover where a significant part of the FMCG industry needs to improve. Beyond providing key insights from the industry, we have added inspiration on global trend and research from best practice around the world.

Danish FMCG firms are in their infancy of becoming digital. This report discusses how one may take a leap into becoming truly digital. It focusses on insights, trends and recommendations related to Operations. If you are interested, another report has been published focusing on Commercial.

- Companies are not utilizing the full potential of digital opportunities
- Companies lack digital competences
- No-one redefines the industry

Industry

Commercial

- Technologies like social media, mobile and analytics dominate
- Enormous difference between the few 'masters' and the many 'novices'
- Experience challenges throughout all digital development phases

- Analytics, cloud and IoT superior upstream, social and mobile downstream
- Number one big challenge is identifying digital opportunities
- Digital drives customer centric impacts and efficiency gains

Operations

Figure 1: Digitalization survey implies great potential for the FMCG industry

Contents

Preface

Syncronic and MLDK have during the autumn and winter 2017 established and analysed the maturity of digitalization in the Danish FMCG industry. The motivation for making the study and hence the reports was to shed light on the current application, readiness and the challenges, which FMCG companies experience. And to understand the technologies the industry considers important in the future. In combination with these elements, the reports will further give suggestions on how to develop and continue the digital journey.

Syncronic would like to thank MLDK for establishing the contact to the companies within Commercial and Operations with the aim of collecting sufficient answers for the surveys. Furthermore, Lars Danielsen has been very helpful with his ideas and constructive feedbacks.

A big thanks to all the companies for participating in the survey and making this report possible.

Lastly, thanks to Syncronic's analytical team for providing the time and inspiration to this report.

We hope this will inspire you!

In case of questions or further information, you are more than welcome to contact:

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Figure 2: Digital, a key trend in the FMCG industry

Introduction
Digitalization is reshaping the world

The development of the digital technologies has introduced significant opportunities for societies, industries, and companies to change for the better. Digitalization is enabled by exponential evolution of IT technologies like, for example, 'Cloud', 'Internet of Things', and 'Big Data' (please refer to annex 2 for a full list of technologies and explanations). Players from all industries with an increasing focus are taking advantages of the opportunities digital provide and complement the traditional products and services with new digital offerings to transform their business over time. The digitalization of societies, industries, and companies are maturing at a rapid and accelerating pace.

According to Jim Hagemann Snabe (2017), we are at the inflection point driven by digitalization of business models and entire industries. In the digital era "*Only the paranoid survives*", Andy Grove, 1996.[1] We are seeing 10x changes in elements of the business. Digitalization builds on 'classic' IT, transforms business models
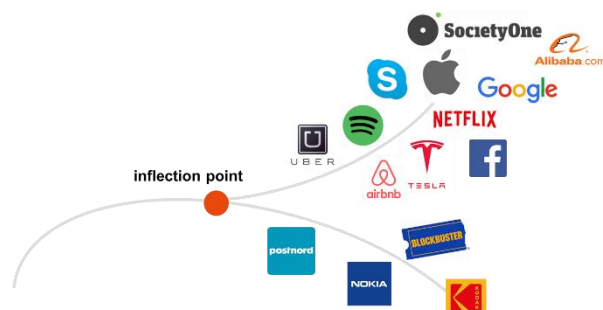

Figure 3: Digitalization presents a paradigm shift in many industries[1]

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[1] 'The innovators dilemma' by Clayton M. Christensen, 1997, and Jim Hagemann Snabe, 2017

and change the competitive landscape by redefining the rules of the game (annex 1). Digital may be defined as follows:

"Digital is the leverage of – mostly newer – digital technologies in company's products, services and processes to transform the company's business model"
- Syncronic

The characteristics of digital are elaborated in five points:

- *Present a paradigm shift that transform the entire business model;*
- *Enable new ways of interacting internally and externally;*
- *Enhance transparency, and allow virtualizing real world;*
- *Increase access to data, transparency, and speed processing; and*
- *Provide valuable insights for decision making*

Hence, for companies to harvest the digital opportunities efficiently and effectively, a digitalization strategy must be developed, a strengthen coordination effort across the company must be established while building new digital capabilities.

Global digitalization trends in FMCG

The world is connected more than ever, a development which looks set to continue. [2] A connectivity that impacts the transformation of societies, industries, and companies drastically. Several digital trends both within Commercial and Operations are reshaping the FMCG industry more than ever before.

Three commercial trends are promising within FMCG industry which concern mobile, social, and e-commerce. Whether we hate them or love them is not important – we all need them.

"Mobile is the future, and there is no such thing as communication overload"
- Eric Schmidt, *Executive Chairman of Alphabet, Inc.*

The reason is that nowadays everyone has a mobile and is always on. One in ten checks their mobile every 5 minutes. 82% of smartphone users check prices before buying. [3] Therefore, the best way to reach majority of the customers and stay connected is through mobile.

Social media platform is another vital channel for companies to reach out to consumers due to its big reach and the several hours in which users are connected to social media platforms. Some FMCG companies are benefiting from social media by linking applications to it e.g. MADLOG, MyFitness Pal, and Endomondo while others have created pages on diverse social media platforms to strengthen their brand, increase sale, and for the cause of personalization. However, though social media provides a wealth of opportunities, it also poses a big risk if not handled carefully.

"If you make customers unhappy in the physical world, they might each tell 6 friends. If you make customers unhappy on the Internet, they can each tell 6,000 friends"
- Jeff Bezos, *Founder and CEO of Amazon*

Adapting to social media is crucial for companies within FMCG companies in the digital era. But to avoid a disaster, each customer must be handled very cautiously.

E-commerce is another hot trend. Selling food online is a promising business because e-commerce is by far the fastest growing e-commerce segment in which people spend their money – see figure 4. Furthermore, global e-commerce revenue is expected to double in the Food & Personal Care segment by 2021. [4]

[2] Statista Digital Market Outlook, April 2017
[3] Statista Digital Market Outlook, April 2017
[4] Statista Digital Market Outlook, April 2017, Note 1: including France, Germany, Italy, Spain, and the United Kingdom
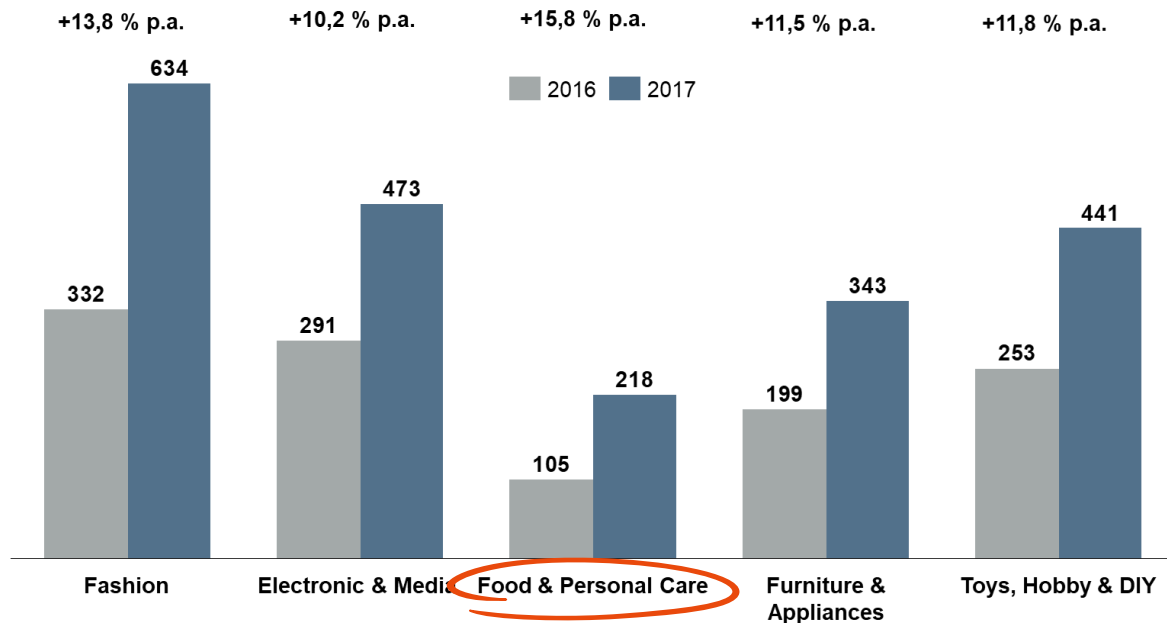
Figure 4: Global e-commerce revenue (in US$bn) and CAGR 2016-2021by segment

Similarly, Food Delivery – see figure 5 – is the most expanding eService market with revenues expected to triple by 2021.[5]

The key to e-commerce success lies in transparency and user-friendly page with simple processes as these are the most important aspects of online shopping delivery to customers.[6]

Therefore, for Food & Beverage companies within FMCG to win in the e-commerce race, they must be flexible, provide sufficient information for the cause of transparency, and simplify delivery,
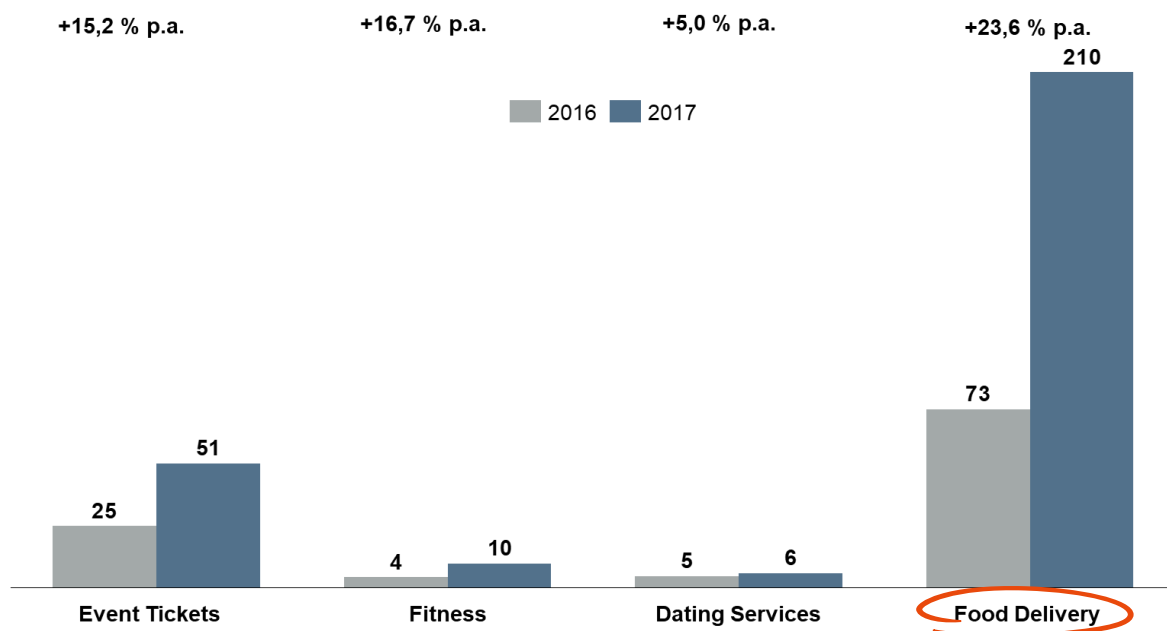

Figure 5: Global eServices revenue (in BUSD) and CAGR 2016-2021 by segment

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[5] Statista Digital Market Outlook, 2017

[6] Statista Digital Market Outlook, April 2017

returns, payments etc. for better shopping experience.

Though rapidly evolving digital technologies will increase e-commerce advantages, fusing the best of both digital and physical world will be more attractive to a broader range of customers while enabling superior economics.[7]

"Greatest trends within Operations all starts with data that is rocketing these days…"

Registration of data every week, day, hour, and second is producing vast amount of data bearing tremendous changes within Operations in FMCG industry. The enormous volumes of machines, social, operational, and transactional data provide a wealth of opportunities for Operations. The large volumes of data steam from various sensors, Internet of Things (IoT), and system integration.

Other trends are digital technologies such as analytics, AI/ machine learning, and automation which are here to tackle the chaos. Especially, analytics have the power to revolutionize the industry. The reason is that businesses can transform performance of any areas of their organizations by making correlation between various levels of structured and unstructured data via the leverage of analytics.

Considering Operations, data analytics boosts performance in the following ways; improve service level performance, enable better fulfilment, improve supplier management, maximize customer value, enhance efficiency, enable better product management etc. All enabled via analytics and better transparency. Consequently, it boosts revenue, enhances predictability and decision power, increases profits, and improves customer satisfaction and retention, improves competitiveness, and lifts the overall company performance.

Machine learning handle large volumes of data by connecting the dots between data sets, overcoming complexities, and enabling the right decisions. Manufacturing of FMCG have gigantic automation potential. The greatest potentials lie within repetitive tasks, predictable physical flows, data collection, and processing. Automating these processes will redefine employees' role and drastically improve productivity, efficiency and quality.

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[7] Darrell K. Rigby, "Online shopping isn't as profitable as you think", *Harvard Business Review*, 2014

Taking the pulse of FMCG in DK

The Digital FMCG survey concerns both Commercial (Sales & Marketing) and Operations (Production and Supply Chain). An overview of the companies involved in the survey is displayed below. [8] The six companies shown at the top of figure 7 have answered questions within both Commercial and Operations while the remaining either have answered within either Commercial or Operations. While this report mainly concerns Operations, another report has been created focusing on Commercial.

To design the survey, analyse and evaluate the data collected, several hypothesises were prepared. Overall, the analysis revealed that digital masters perform better – though no exponential growth has been uncovered for these. A list of characteristics of masters vs. novices developed based on the finding of FMCG survey analysis are disclosed beneath.

Masters	**Novices**
• Digital leaders are few	• Represent the majority of the companies
• Are proactive and front runners	• Are reactive and responsive
• Leverage digital to innovate	• Leverage digital to make small fixes
• Are more prepared towards digitalization	• Are at all level incapable to digitalize
• Are far in the digitalization process	• Are beginners in the area of digital
• Challenges are more specific in nature	• Challenges are more aggregated in nature

Figure 6: Characteristics of masters versus novices across Commercial and Operations

Figure 7: Companies participated in digital FMCG survey, 2018

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[8] Note: The survey was deemed anonymous, hence specific companies cannot be disclosed in the detailed analysis regarding individual responses.
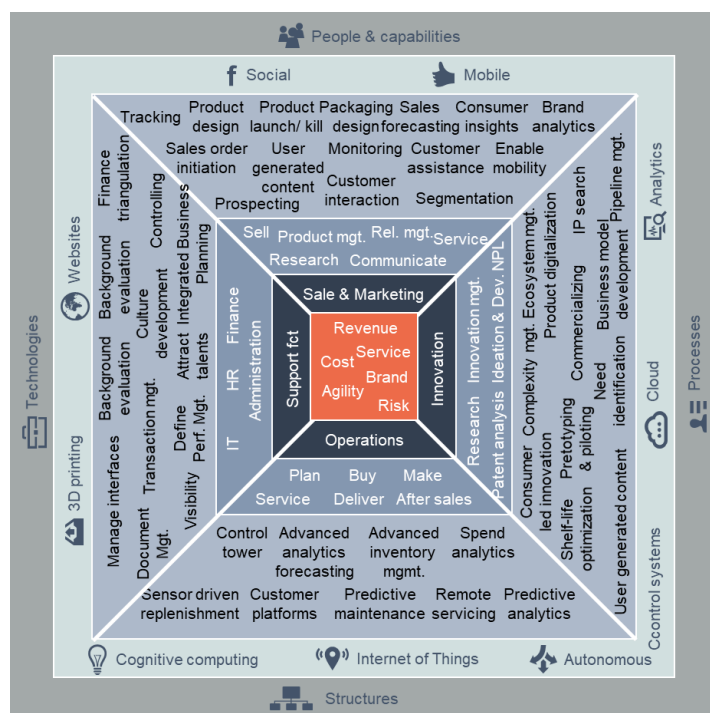
Digital methodologies

Digital framework

Syncronic's digital framework is holistic and includes all functional areas in an organization. However, the Digital FMCG survey focuses only on Commercial (Sales & Marketing) and Operations (Production and Supply Chain).

The digital framework build on a pyramid principle consisting of four main areas with benefits located in the middle. The advantages implying the six value drivers; revenue, service, cost etc. basically address what one can expect from digital transformation. Subsequent, is the application domain which encompasses the functional areas expanded with its

processes as well as sub-processes, and counts the areas where companies use digitalization to enhance the six value drivers for optimal company performance. Continuing down the path is the technology frame, which includes key technologies that support the digital transformation.

Last, but not least, is the change domain that integrates four change parameters of Leavitt (1965) change model; people, processes, technology, and structure. To obtain success with digitalization, one must handle the four parameters of organizational changes equally that follows digitalization.

Figure 8: Digital framework of Syncronic, © Syncronic 2018

Digital maturity model

Digitalization is a journey. To become digital, creating a holistic digital strategy is key step in the evolution of digital capabilities and maturity.

The Digital Maturity Model (DMM) entails five maturity levels (annex 3). Surveyed companies are allocated in the DMM based on their level of application and integration of digital technologies. The steps along the maturity curve transform any organization from being fully dependent on 'Old Core' to leading the digital. In an attempt to digitalize, companies are usually passing through three phases before obtaining success in transforming into a digital enterprise.

1. **Digital functions**: To move from their 'Old Core', organizations form a digital strategy disconnected from corporate strategy. Meanwhile, the functions start experimenting with digital services towards customers and internally and leverage digital in few classic applications. In parallel,

repetitive tasks are digitized and automated while Islands of IT are converted into multiple ERPs and disconnected systems.

2. **Digital integration**: is when digital is integrated into corporate strategy and where customer interaction is transformed and aligned with internal key processes enabled via full SOA (Service-Oriented Architecture) formation. In this phase, data or information on one electronic device can be read or manipulated by other devices using a standard format. The SOA decomposes functionality into distinct services which can be distributed over a network and allows different applications to exchange data and participate in business processes using a standard format. To support digital integration, automation is utilized to the greatest extent to automate processes for the
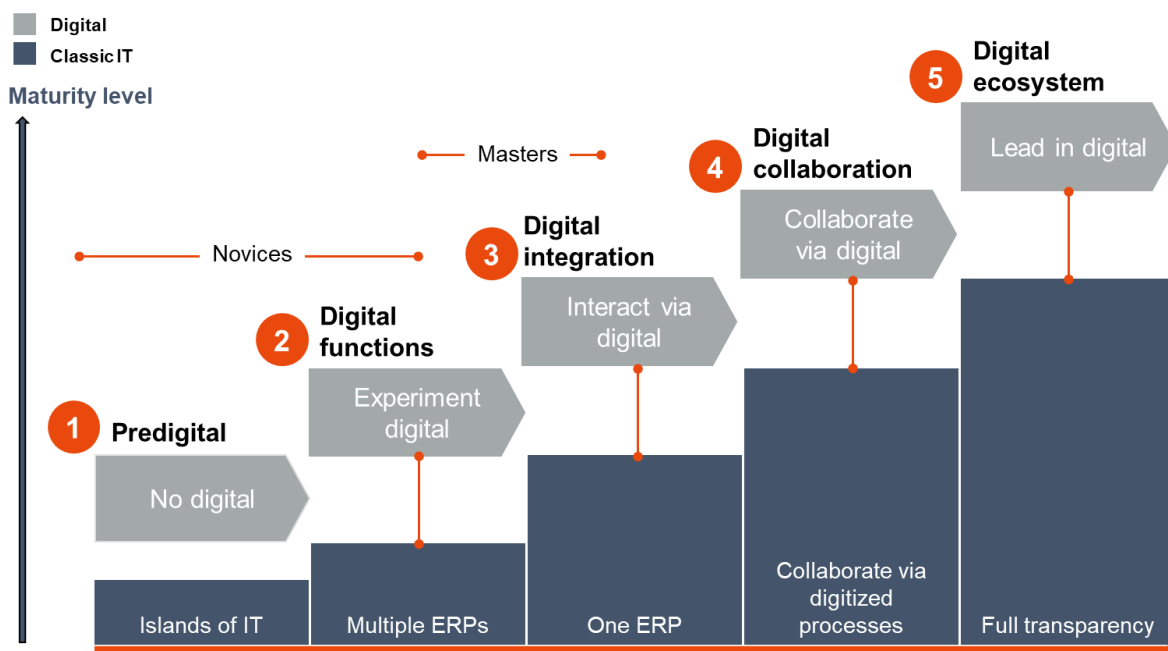

Figure 9: Syncronic's Digital Maturity Model, © Syncronic 2018

cause of enhanced efficiency and effectiveness. Additionally, multiple ERPs are replaced by one ERP system integrating all data from diverse business units.

3. **Digital ecosystem:** Companies at this level lead industry developments. This stage is the ideal stage for companies desiring to completely redefine their business via digitalization. An organization reaches this stage, once it has built a platform-oriented interaction not only with key customers, partners, and suppliers, but also have connected broader network of participants via digital technologies to collaborate with the aim of accomplishing more than it would on its own.

This is only possible, if the particular company's value approach and company culture is based on digital thinking and it has phenomenally managed the underlying IT.

Managing the underlying IT implies obtaining following;

- Full transparency;
- Fully automated processes; and
- Aligned digitized data across all channels from end-to-end perspective

Since the FMCG industry in comparison to other industries is behind in the digital race, examples from other industries are illustrated with the aim of highlighting how far one can reach with digitalization. A company that has leveraged a top down strategic approach to holistically transform their business via digitalization is the chemical company, BASF[9]. Four videos have been linked into the illustration below; 1) Smart Innovation; 2) Smart Manufacturing; 3) Smart Supply Chain; and 4) Digital Business Model. Without link you can watch the videos on YouTube using the four titles above, e.g. BASF Smart Innovation. In the electronic pdf-version, find vidoes by keeping Ctrl down while clicking on the video links attached to the red video arrows.
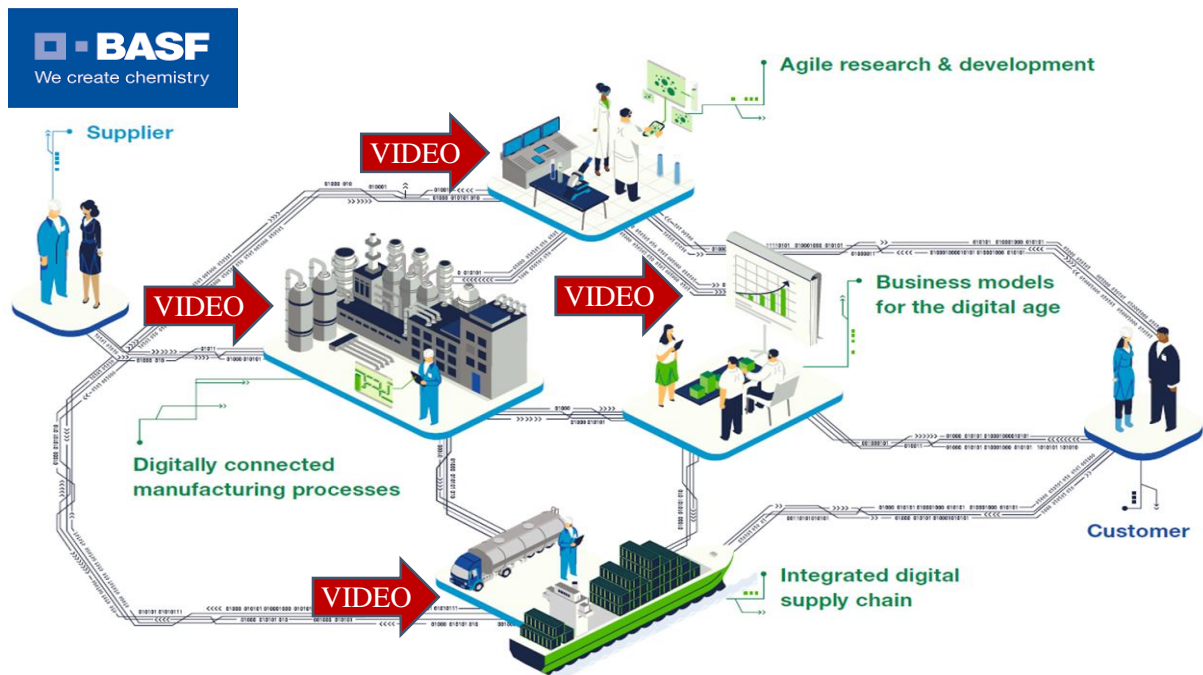

Figure 10: BASF has holistically transformed their business model via digitalization

[9] https://www.basf.com/en/company/about-us/digitalization-at-basf.html

Approach to digital is typically pragmatic

"Today, most of the digital power is used to fix well known problems using a pragmatic approach..."
- observation from Digital FMCG survey

On the one end of the spectrum, one may use a pragmatic, operational and very action-oriented approach to jump start the digital journey. On the other end of the spectrum, one may leverage a more strategic approach to decide on future digital roadmap. The holistic approach follows a four-step procedure involving:

1. Analysing current digital state;
2. Identifying and sizing opportunities;
3. Deciding on future state and assessing the impacts; and
4. Developing a digital transformation roadmap.

As mentioned earlier, digitalization is a journey. Companies may either go for the low hanging fruits and make small fixes utilizing a *'just do it'* mentality, or leverage digital to completely redefine their business model via a top down strategic approach, or go the hybrid path for innovating larger parts of the organization.

FIX ~60%
Companies want to resolve sales, marketing or operations processes or system problems that they have never been able to fix from conventional approaches

INNOVATE ~30%
Companies want to provide new services to their customers and use digital innovations to improve service levels or cut cost and inventory

DISRUPT ~10%
Companies want to redesign parts of their business model and drive disruptive revenue and margin growth by a different go-to-market approach

1 **Pragmatic** – Just do it

Most companies are are here

2 **Strategic** - Be holistic

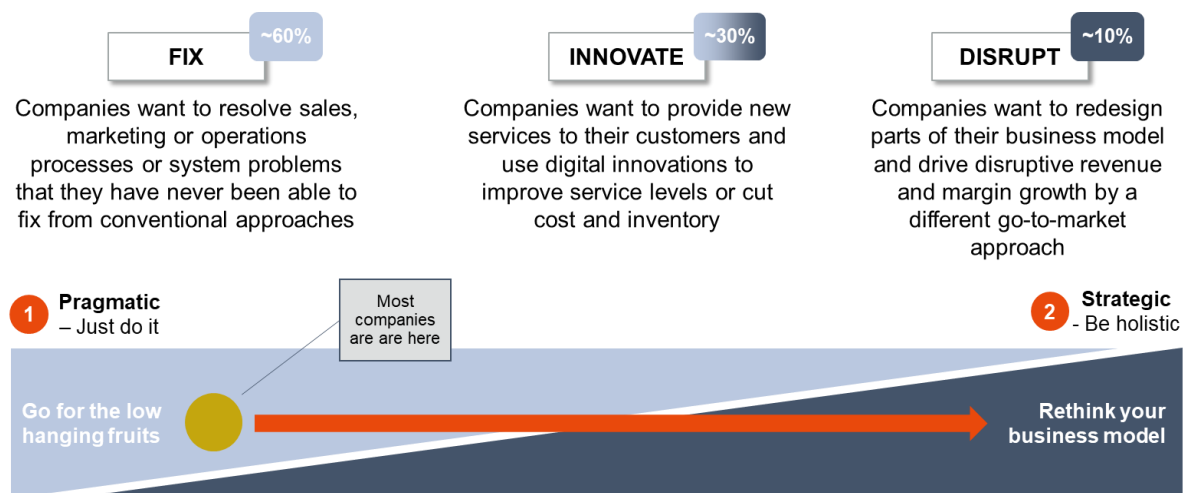**Go for the low hanging fruits**

Rethink your business model

Figure 11: The pragmatic vs. holistic approach to digital, © Syncronic 2018

Digital FMCG survey analysis in DK
- with a focus on Operations

Demographics

More than half of the responses from both surveys represents valid data for the analysis.

Excluded data includes the remaining respondents' responses that either skipped questions after demographic data or answered, '*Don't know*' all the way through the questionnaire.
Considering valid data, majority of the respondents have a managerial position.

Industry-wise, food and beverage dominate as 86 % of the responses received belong to the food and/or beverage industry.
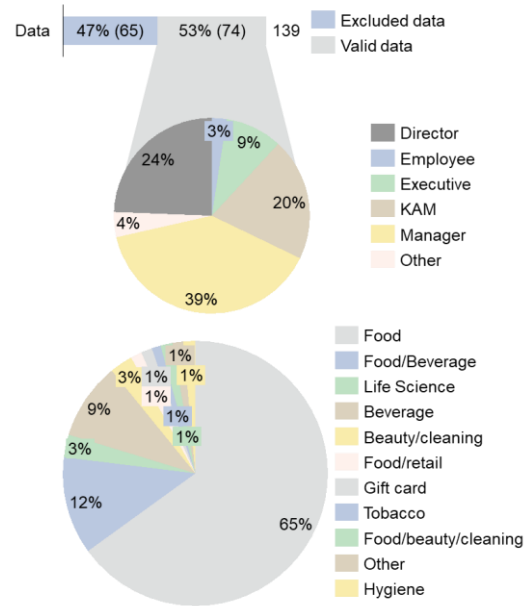
Figure 12: Demographics total responses, valid data, position, and industry

Reasons to digitalize

Digitalization results in significant impacts across the company. The impacts of digital technologies are substantial in the future Operations as it considerably enhances supply chain performance downstream. Summarizing the benefits in Operations reveal that the emphasized benefits are customer centric in nature as majority of the impacts concerns the customers.

Masters consider Customer Service Level (CSL) as the greatest impact while better decision-making tops the list of impacts among novices. According to the masters, efficiency gains are another major impact captured through digitalization of Operations.

Figure 13: Digital benefits customers

Digital journey
Only three technologies dominate

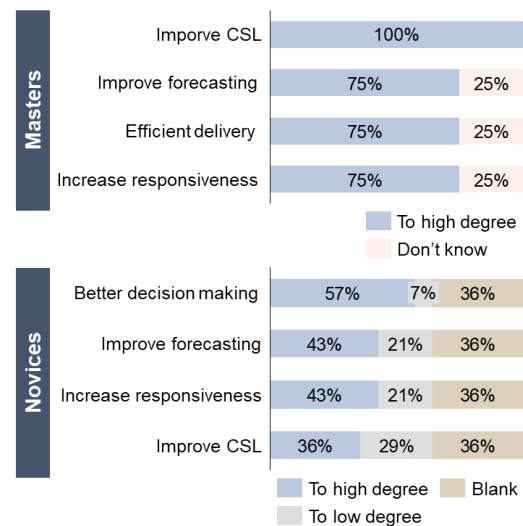Digital technologies enable digitalization and digital transformation. For more information of some of the key technologies vital for digitalization see annex 2.

"The survey results reveal that Danish enterprises are not utilizing the full potential of digital technologies"

Majority of the companies are only using digital technologies to a limited extent, and leverage only a few of the technologies. Currently, social, mobile and analytics are hot for Danish enterprises across functions. Additionally, cloud and IoT also appear as most dominant digital technologies within Operations.

Companies that have managed to capture the benefits of technologies such as cloud,

Analytics   Mobile   Cloud

← 100%

22% Mobile
22% Analytics
22% Cloud
17% Social media
11% IoT
6% CC
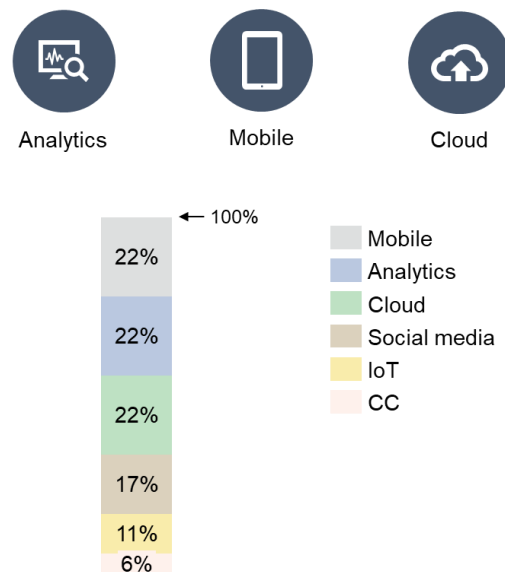
Figure 14: Analytics, mobile and cloud are hot within Operations

big data analytics, mobile, and IoT, are Nestlé, Tetra Pak, Unilever – for more information see cases boxes.

Through the leverage of IoT and mobile, Nestlé have developed the connected coffee machine which has resulted in increased sale market share, see case below.

NESTLÉ: Smart coffee machines

Nestlé has transformed the coffee brewery experience. Through the leverage of IoT and mobile, they have developed connected coffee machines that allow brewing coffee via an app.

The app relies on Bluetooth connectivity to alert you to your coffee machines water levels, capsule stock, and descaling to make necessary adjustment in time.

This has in effect not only increased market share and sale but has also been one of the key reasons why Nestlé have completed the year with an organic growth of 3,2%.

Source: Nestlé press release, 2017

Figure 15: Nestlé's recent investment in IoT and mobile increased market share in DK

Figure 16:Analytics dominate upstream while mobile is prominent downstream the value chain

Nestlé's recent implementation of SAS forecast server, a software, that uses cloud, big data, and analytics, has improved insights and given competitive edge. A similar case is that of an international brewery that enhanced forecast accuracy and reduced stock via a cloud based autonomous statistical forecast service, see figure 18.

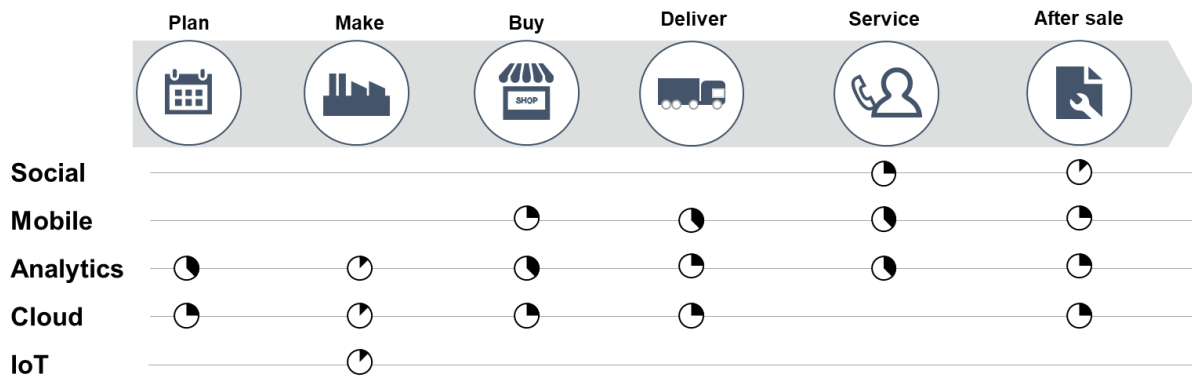Another interesting tendency within Operations is that while analytics, IoT, and cloud are superior upstream, mobile are prominent downstream the value chain – see figure 16. Analytics is the one overriding digital technology appearing in all processes of Operations from plan to deliver to after sale. The opportunities, other digital technologies such as blockchain, cognitive computing, and augmented reality offer, are completely being ignored.

Unilever: Connected worker drive plant productivity

Unilever transformed paper-based work instructions into digital processes using Parsable Enterprise SaaS platform. Unilever has equipped employees with mobiles and tablets that give them access to digital tools like text, audio, photos, and videos to help them collaborate in real time. The connected worker platform provides employee guidance on what to do, when to do, and how to do, leading work completed safely with higher precision.

The benefits are multiple:
- Allow humans to provide the same continuous signal as IoT services;
- 50% decrease in start-up, shutdown, and changeover times; and
- 4% increase in Operational Equipment Effectiveness (OEE).
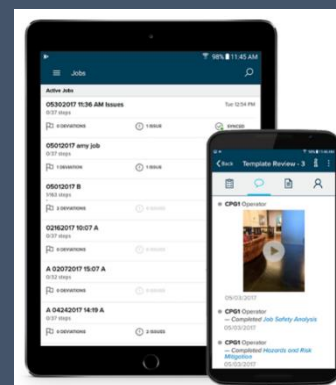
Source: Parsable press release, 2017

Figure 17: Connected worker platform using Parable Enterprise SaaS

Sophub: Forecasting software give competitive edge

An international brewery has replaced its old forecast with an autonomous forecast service. This service forecasts all sales at SKU level next to the retail chains. Additionally, it cleans data, forecasts campaigns, and supports responding faster to changes in sales. Technology-wise, the cloud-based service creates forecasts by running algorithm-driven analytics on big data collected in cloud. Besides, it utilizes Power BI, a business analytic tool, to establish reports – analysis and reports can in principle be established in any business analytic tool, should Power BI not be the corporate standard.

This forecast service has reduced the forecast error by about 50% for the brewery – converted into safety stock value this corresponds to approximately 35-40% reduction in inventory. Furthermore, it has enabled the brewery to replace two full-time resources.

Source: Syncronic , 2018

Figure 18: Forecast software system provides insights and give competitive edge

How to get started…

Becoming a digital enterprise can raise numerous considerations and frustrations, since there is no "one size fits all". One way to get started with digital is by joining forces with other companies within FMCG and attend the seminar held by MLDK and Syncronic in April 2018 – see *'Recommendation'* section. However, if one desires to digitalize on company level, general guidelines on how to get started are:

1 **Collect a DigiGroup**	2 **Educate employees**	3 **Identify opportunities**	4 **Experiment via pilots**	5 **Develop digital strategy**
Collect a digital group that are responsible for all digital initiatives within the silos and across the organization	Educate employees about digital via inspirational sessions	Facilitate the identification of digital opportunities through workshops	E.g. analyse available data, experiment with sensors in machinery to improve maintenance, replace repetitive tasks with robots etc.	Once gained experience, make a holistic overview, prioritize your options, and develop a digital strategy aligned with corporate initiatives

Approach to digital

Digital masters are few and just 22 % regard themselves as digital masters. What differentiate masters from novices are their approach to leveraging digital technologies: Masters leverage digital to innovate while only every third novices drive an innovation approach. Half of the novices apply digital to make small fixes and obtain quick wins, and one seventh are not even making any use of digital.

The application of the different type of digital technologies is what set masters apart from the remaining. High performing companies categorized as masters are leveraging internet of things (IoT), augmented reality (AR), and 3D printing to disrupt. On the other hand, digital novices are applying social, mobile, and analytics to innovate. An interesting finding is that disruption is neither to find among masters nor novices in Operations.

While Operations at best leverage digital to innovate, Commercial takes it one step further and disrupt the business model. More specifically, one out of three uses digital to disrupt in Commercial which indicate that they are fare ahead of Operations in the digital race. As a result, Commercial is digital front runner in FMCG industry. However, none of the companies are redefining the industry.

While some companies characterize their leverage of digital as disruption this is really not the case when a deeper investigation is conducted. A subsequent follow-up research made it clear that disruption is not to find among any of the companies who have regarded their leverage of digital as disruption. However, there could also be the possibility that their disruptive initiatives are still not publicly available due to competitive reasons which
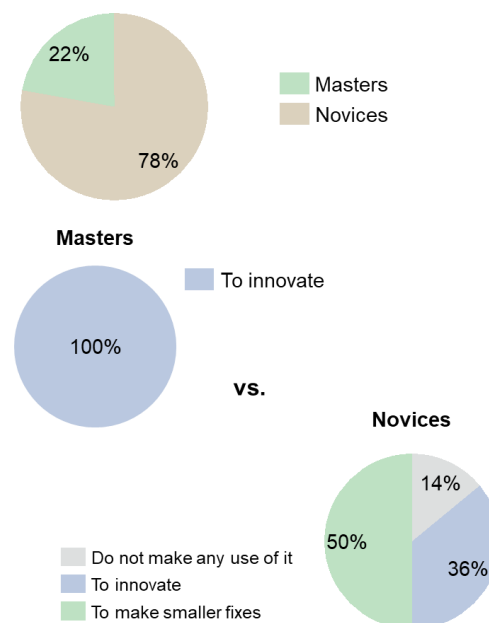

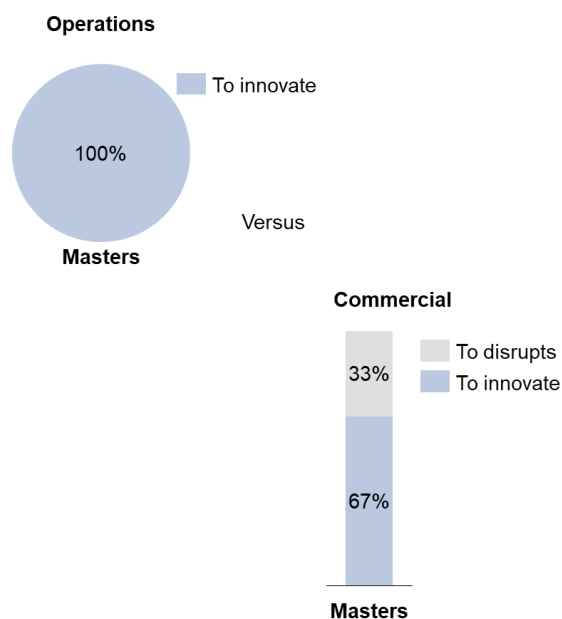*Figure 19: Digital approach in Operations*

Figure 20: Digital leverage across functions

is why we couldn't find any evidence of their disruption effort.

In depth-interview can be helpful in the process of getting a deeper understanding of companies view on the different type of digital leverage – make small fixes,

innovate, disrupt, and redefine industry – with the aim of making clear whether or not disruption is to find among companies who has regarded their leverage as disruptive.

The digital readiness

In order to get a sense of digital readiness of Danish enterprises, respondents were requested to evaluate (using a low-to-high degree scale) their level of readiness of digital practice in their company in regard to the five established digital readiness criteria: 1. Knowledge; 2. Top management support; 3. Competences; 4. Financial resources; and 5. Exploration.
Majority of digital masters concluded, they have a high level of digital readiness. From the survey analysis, it appears that knowledge and management support are essential for being a digital master. Comparing masters with novices bring to light that masters are far better positioned in terms of knowledge, management support, and competences to execute digital solutions.
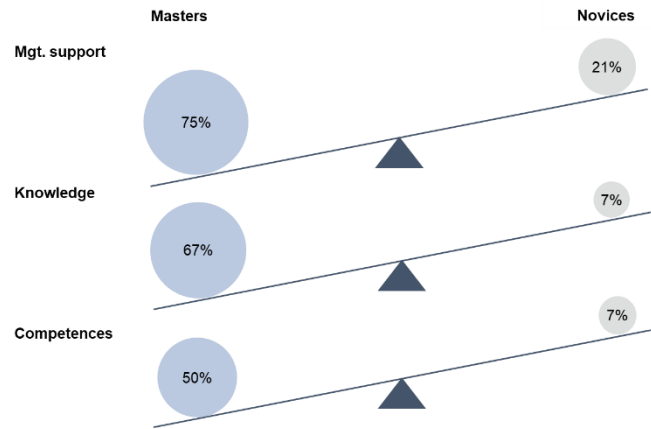
Figure 21: Knowledge, management support, and competences are vital for leading in digital

Masters' intense exploration have led to a good loop fostering continuous learning, see figure 22 below. Conversely, there is a deficiency of digital experience among novices due to the non-existence of exploration. The absence of exploration together with their low level of competences disable novices to exploit the opportunities digitalization offer to strengthen their competitiveness and considerably lift their business.
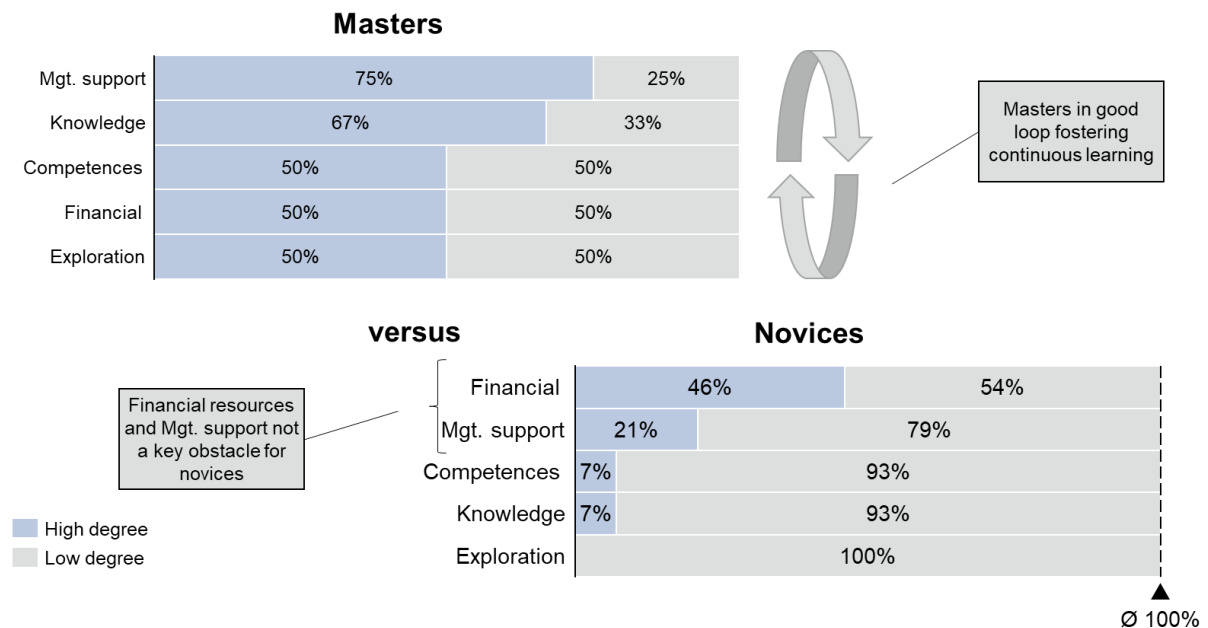
Figure 22: Masters are far better positioned in terms of readiness of digital practice

Obtain digital competences

1. Recruit digital competences; and
2. Obtain experiences via digital trials

Another noteworthy finding is that financial resources are not a differentiator and thereby not a key obstacle for novices. Linking the results of digital leverage with those of digital readiness bring to surface some remarkable findings. The higher degree of readiness of digital practice, the higher the chances for leveraging digital to redefine the entire business model with the aim of enhancing competitiveness and company performance. Commercial's ability to disrupt can be explained by their high level of readiness in terms of digital practice. In other words, Commercial is far better positioned regarding almost all the measures of digital readiness; knowledge, financial resources, and exploration.

Operations novices are terribly unprepared for digital…

FMCG survey analysis results reveal that masters in both functions are ready for digital with Commercial overall in the lead.

Figure 23: Operations are generally less ready for digitalization compared to Commercial

Challenges

Often, the processes of any company's digital journey are similar to any generic project procedures and follow 6-step approach, 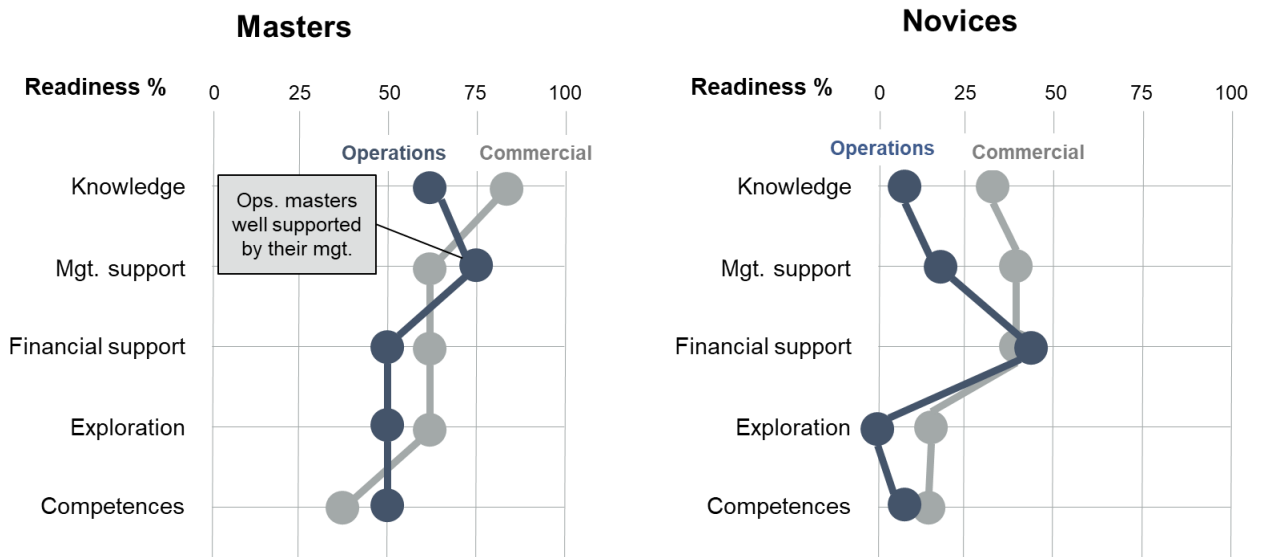as illustrated in figure 25; 1. Opportunity identification; 2. Obtain funding; 3. Design solutions; 4. Implement; 5. Benefit realization; and 6. Follow up.

"The number one challenge companies face in their attempt to become a truly digital enterprise, is the identification of digital opportunities relevant to their context."

The number one challenge companies face in their attempt to become a truly digital enterprise, is the identification of digital opportunities relevant to their context. It appears as if the companies in FMCG industry are very conservative and stocked with old dogmas and cannot envision how to transform their business through the leverage of digital technologies. One explanation is the insufficient insight into digital technologies potentials that negatively impact their imagination to identify opportunities relevant in their context.

Obtaining funding appears to be a key challenge for Operations – does top management not prioritize digital invest-ments upstream? Unfortunately, our survey does not provide sufficient data to offer a strong answer to this important question.

The fact that both masters and novices do not experience many challenges in regard to
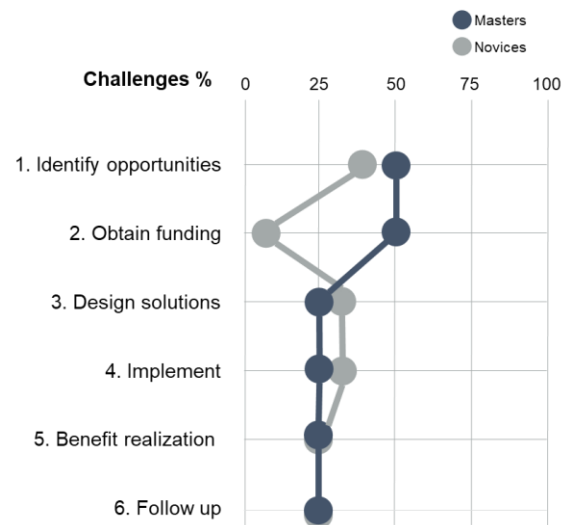
Figure 24: Identifying opportunities and getting funding are key challenges – even for Masters

remaining processes such as 'Implementation', 'Benefit realization', and 'Follow up' could be interpreted as if they are still stuck in the beginning of their digital journey, see figure 24. Results from digital are still virgin, and companies need to move further down the road to experience real challenges in this part of the digital journey.

On the other hand, Commercial appears to be further in the process of digitalization as they consider 'Designing solutions' and 'Follow up', belonging to the last parts of digitalization, as their central major challenges. In other words, Commercial lead the digital journey with key challenges related to 'Designing solutions' and 'Follow up' on initiatives.

Educate employee
1. Make inspirational sessions
2. Participate in courses and events
3. Learn from the best
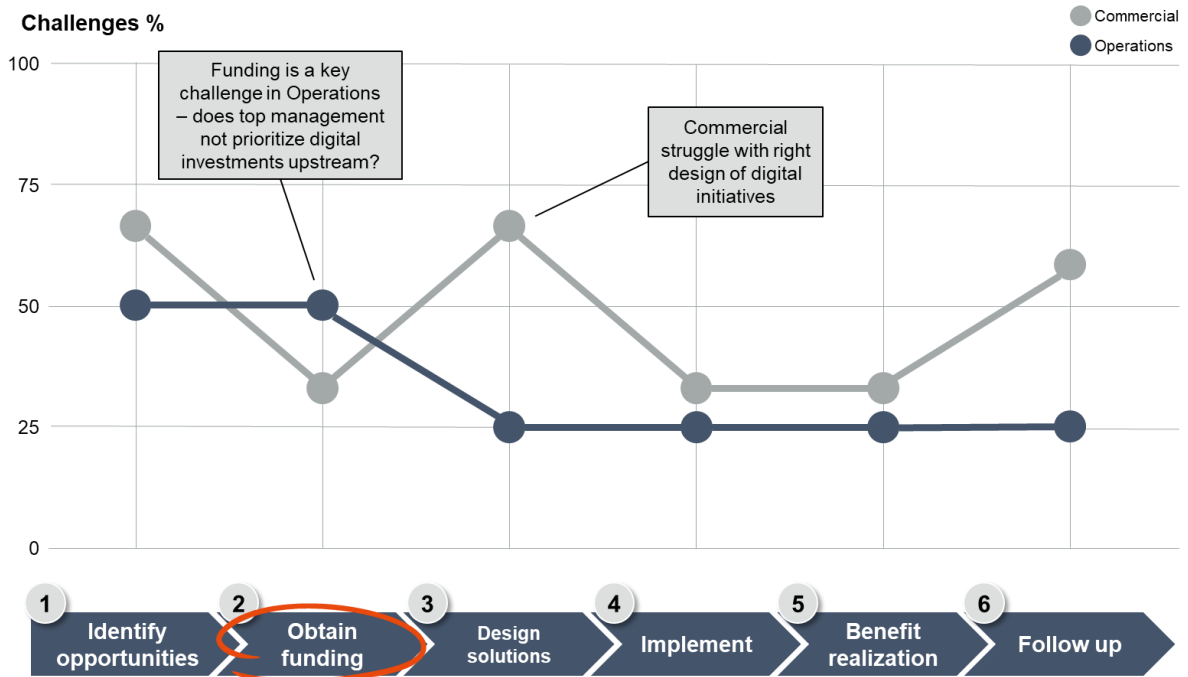
Figure 25: Operations struggle identify digital possibilities and to obtain support from their top management via funding to their digital initiatives

Looking ahead

The era of analytics and IoT has just begun. According to digital masters, analytics and IoT are here to stay.

"Masters consider analytics as number one most important future technology"
- Result of FMCG survey analysis

Masters all agree on analytics as the most prominent digital technology in the future. Subsequently, follow mobile, social, and IoT as most dominant technologies in the future. However, novices do not have strong viewpoint about future important technologies. It is clear that they are quite unsure in their viewpoint on future digital technologies.

Ignorance seem to drive future viewpoints. Key future technologies such as blockchain, cognitive computing, and augmented reality are being ignored. The reason could be lack of knowledge and experience.

As a matter of fact, companies within Operations are not utilizing the full potential of digital technologies as even

Figure 26: Analytics, social, mobile and IoT are hot
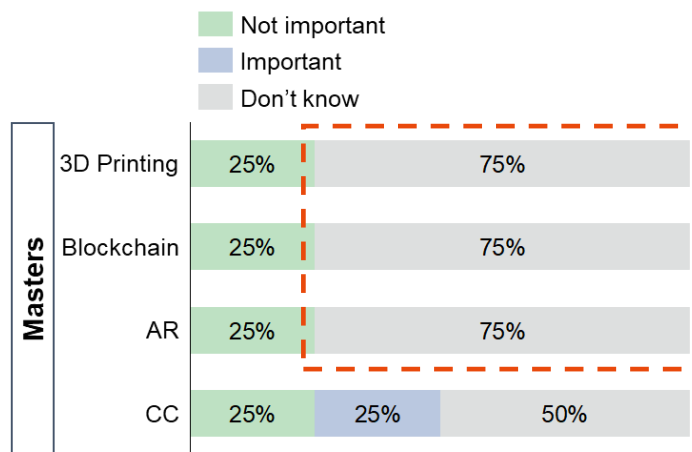
Figure 27: Masters lack knowledge of digital technologies potentials

digital masters lack the knowledge of Blockchain, Cognitive Computing (CC), Augmented Reality (AR). Therefore, they have a deficiency of imagination to complement the traditional products and services with these new digital offerings.

As inspiration, examples of application of these technologies are illustrated in figure 28 and 29 below.

Explore more
1. Create digital lab
2. Run pilot projects to get experience
3. Manage and share knowledge

TETRA PAK: Boosting food safety

Food safety is the number one concern of food and beverage manufacturers. Mitigating the risk of product faults that can hamper food safety is hugely important. Using Augmented Reality (AR) technology, Tetra Pak can now provide virtual training and virtually connect the onsite engineer to the specialist via skype for businesses, where they can communicate in real-time.

The AR technology enables the specialist to see and hear everything that the engineer is experiencing on site. This allows them to work together to find solutions and respond with speed to prevent any error that might risk the safety and quality of the production line. The benefits are threefold:

- Reduce the risk connected to food safety issues
- Save time – safety issues quickly resolved
- Save costs

Source: Packaging Europe article, 2017

Figure 28: Managed risks connected to food safety using AR technology

Tracking tuna on the blockchain

The traceability of tuna fish is transformed. Blockchain, mobile, and smart tagging are used to track fish caught by fishermen. Blockchain was found appropriate for tracking goods as it tracked items and claims securely, end-to-end, in a highly robust, yet accessible format without the need for centralised data management system.
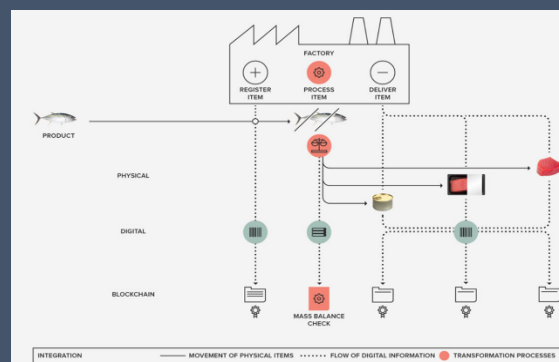
This resulted in following benefits:
- Ensure robust proof of compliance to standards at origin and along the chain
- End-to-end secure tracking accessible in highly robust format
- Prevent 'double spend' of certificates
- Enhance supply chain transparency

Source: Provenance, July 2016

Figure 29: Blockchain for supply chain transparency

Conclusion

Digitalization results in significant impacts across companies. According to Operations, two major impacts of digitalization are customer centric benefits together with efficiency gains.

Despite the significant impacts of digitalization in FMCG industry, digital is leveraged to a limited extent. Majority of the organizations are not utilizing the full potential of all digital technologies. Companies' Operations area that are pursuing the digital path are mostly utilizing digital technologies in the presented order:

1. Analytics,
2. Cloud,
3. Mobile, and
4. Social

An interesting tendency observed within Operations is that analytics, cloud and IoT are superior upstream while social and mobile is prominent downstream the value chain. Additionally, analytics is the one overriding digital technology that appears in all processes of Operations from plan to deliver to after sale.

The potentials of other digital technologies such as blockchain, cognitive computing, and augmented reality are completely being ignored. Insufficient insight to the various digital technologies is what drives this tendency. This fits very well with the challenges companies face. It is not a surprise that the number one big challenge companies face in their attempt to become a truly digital enterprise is the identification of relevant digital possibilities.

"The analysis discloses that financial resources are not the biggest obstacle"

Linking these finding to the readiness of digital practice shows that correlation between exploration together with top management support on the one hand, and knowledge and competence on the other hand, exist.

Considering masters, the degree of digital explorations and management support is quite high in comparison to novices. The high level of digital readiness is also the reason why digital masters leverage digital to innovate. Considering novices, one seventh do not make any use of digital while majority of them only utilize the digital to make small fixes using a pragmatic approach.

Masters are in a good loop fostering continuous learning which result in a high level of knowledge and competences. It is this good loop that novices should establish, if they desire to succeed in the digital era.

Plan:
• Identify your problems
Do:
• Run pilots to test potential solutions
Check:
• Study results
Act:
• Implement the best solutions

Figure 30: The PDCA circle enable obtaining continuous learning and experience within digital

Recommendations

Our recommendation can be divided into two levels:

1. Review your position on Digital from both outside-in and inside-out perspective, and consider if you can find significant value to argue for immediate initiation of ideas; and
2. Join forces with a number of other FMCG companies and learn collectively and from each other.

Regarding the first recommendation you may consider safeguarding the following five prerequisites:

1. **Educate** employees regarding the various digital technologies application areas and potentials to enhance identification of opportunities relevant in the FMCG context;
2. **Recruit** digital competences while building digital capabilities internally;
3. Improve digital insights, knowledge and experience by **experimenting** with digital and create a fast learning loop that foster continues improvements;
4. Select the **hybrid approach**: Jump start your digital journey by making minor innovations or small fixes to obtain quick wins. However, in the medium run, invest in digital solutions that innovate larger parts of the organization (unicorns) and / or drive disruptive revenue and margin growth; and
5. Develop **digital strategy** connected to the corporate strategy and

coordinate digital initiatives across organization.

A cluster program delivering beneficial impacts across both Operations and Commercial is being developed by MLDK and Syncronic to support the latter recommendations. We aim at initiating a collaborative program – DigiFMCG – across groups of member companies facilitated by MLDK and Syncronic.

DigiFMCG is a cluster program dedicated towards the FMCG industry during 2018, see figure 31. The objective is to drive fast learning via inspiration boosts and digital experiments in and across the involved companies and functions, and share these learnings. By sharing insights and driving the cluster as a joint effort, we will be able to boost the maturity of digitalization in the participating Danish FMCG companies leveraging a fairly low investment. Each company taking part in this program are expected to invest in time from both management and selected employee involved. Finally, some investments are needed in developing the digital pilot solutions. The initiative will apply for funding from digital government initiatives to minimize each company's investment.

Companies

Cluster of
12-15 DLF
member
companies

2-3 clusters:
• Retail
• Food Service
• Supply Chain

**Six steps deliver pilots
and experience sharing**

Step	Title	Number	Period
	Promote cluster program	0	Apr
	Learn, inspire, map, analyse and plan	1	May-Jun
	Initiate digital pilot projects	2	Jun
	Define capabilities	3	Jun-Aug
	Collect experiences and share	4	Aug-Nov
	Develop roadmap for scaling up	5	Nov-Dec

Key outcome

Companies improve
• Revenue, brand
• Service levels, Efficiency & Cost
• Roadmap for digital

DLF digital cases
• Digital experiences
• Specific cases to share w members
• Lift of the industry

Materials to share
• 'How-to' methods
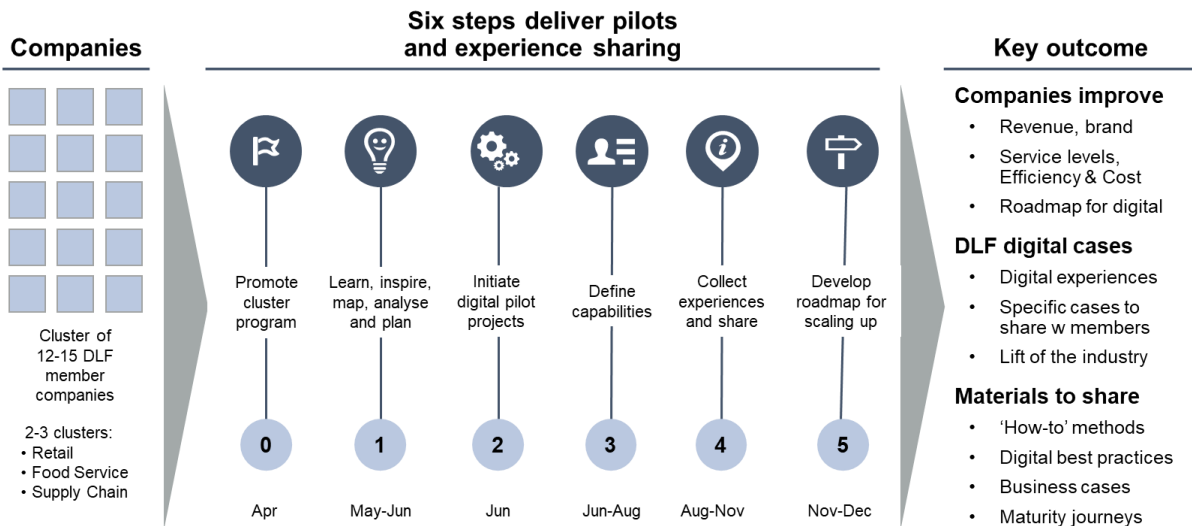• Digital best practices
• Business cases
• Maturity journeys

Figure 31: DigiFMCG is a cluster program with a fountain of digital pilots to learn from in order to boost digital learning and increase competitiveness of Danish FMCG companies

MLDK and Syncronic have scheduled a seminar per April 10th, 2018 directed towards member companies within the FMCG industry. The objective of the seminar is to;

1. Enlighten and inspire members about digital via colleagues in the industry or similar;
2. Provide information about the cluster program; and
3. Motivate companies to join the program

The seminar is intended to inspire the companies so much that they understand the value and are willing to actively take part in the cluster program, DigiFMCG, to experiment with digital solutions by testing digital solutions in pilots.

Initially, we will start functional oriented and ideally end up in a holistic approach. Different tracks available will be theme divided dealing with different technology platforms. The idea is to analyse and identify the potentials of digital technologies in each company and release the opportunities it provides. Supported by other participants and facilitated by Syncronic we will address obstacles both at a functional and organizational level.

Danish and international enterprises far ahead in their digital journey will be invited to share their experiences and inspire participants. This include the challenges they have had to overcome, how they made implementation of the digital solutions possible, the competences they employed to successfully implement digital solutions, and the benefits obtained.

Overall, it will deliver a learningfull insight of how they started their digital journey from ideation to actual implementation.
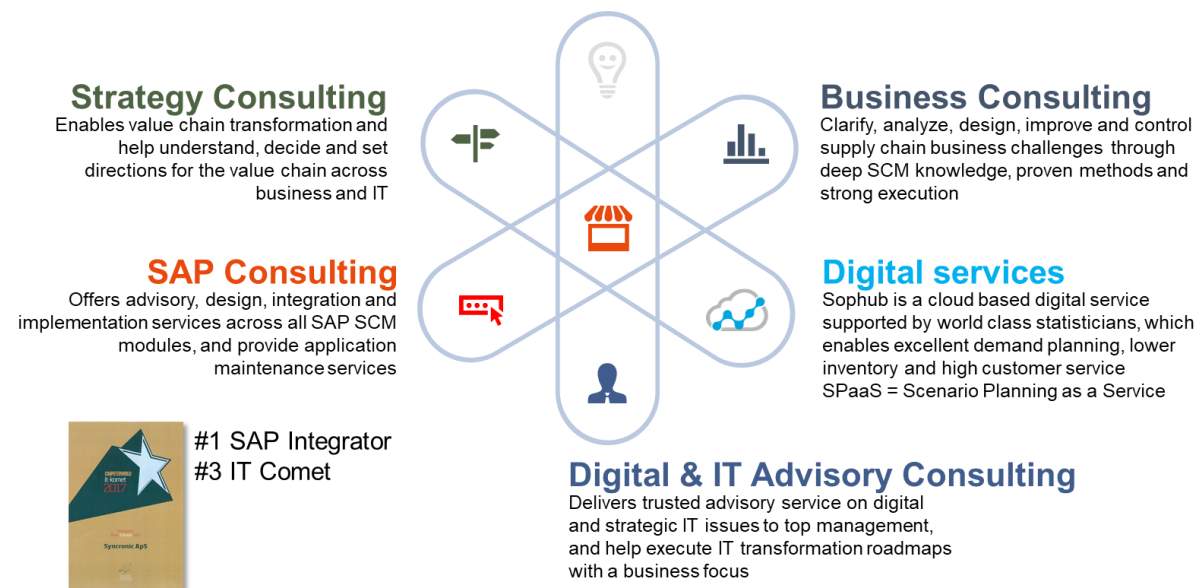
The collected experiences are shared and a roadmap is developed for each company in order to scaling up and for the course of full implementation of few prioritized and targeted digital solutions at company level.

About Syncronic

Since 2006, Syncronic has established its reputation in the market with more than 30 consultants that understand your business and what creates value for you. We offer a SCM-focused one-stop-shop to clients and focus on bridging business and IT. Syncronic strategizes, plans for impacts and makes things happen across business and IT.

At Syncronic Management Consulting, we challenge our customers to improve their existing business processes, organization and systems as an integrated part of their supply chain strategy. We are experienced consultants and project managers, involved in both small local projects and large global roll-outs. In short, we give you access to some of the strongest and most well-founded competences on the market, who – at the same time – represent some of the most experienced and specialized best of breed consultants within the field of Supply Chain Management in Scandinavia. We

We help companies transform their supply chain and obtain operational excellence by delivering services within 5 main areas listed in the figure below. Our services taxonomy spans from strategy and process to multiple technical and digital services. It offers services such as Strategy Consulting, SAP Consulting, Business Consulting, and Digital services, and Digital & IT Advisory Consulting. Representing all five areas, Syncronic is able to design holistic business and IT solutions, which ensure significant and measurable value to our customers.

Syncronic has for the 2nd year in a row been awarded the price as 'Best SAP Integrator'.

Strategy Consulting
Enables value chain transformation and help understand, decide and set directions for the value chain across business and IT

SAP Consulting
Offers advisory, design, integration and implementation services across all SAP SCM modules, and provide application maintenance services

#1 SAP Integrator
#3 IT Comet

Business Consulting
Clarify, analyze, design, improve and control supply chain business challenges through deep SCM knowledge, proven methods and strong execution

Digital services
Sophub is a cloud based digital service supported by world class statisticians, which enables excellent demand planning, lower inventory and high customer service
SPaaS = Scenario Planning as a Service

Digital & IT Advisory Consulting
Delivers trusted advisory service on digital and strategic IT issues to top management, and help execute IT transformation roadmaps with a business focus

have offices in Denmark and Sweden.

Figure 32: Syncronic bridges business and IT

About MLDK

Branded Goods Association is a commercial community of interest for suppliers to Danish retail and Away From Home. Our aim is to visualize the brands value to consumer, society and the market. We do this because the brands play a crucial role in value creating innovation for the benefit of the Danish consumers.

Our most important mission is to manage our members' interest, why we give words to prioritized subjects and messages which contribute to the consumers access to an inspiring and well-assorted range of brands.

Vision
We inspirer and facilitate growth and value creation for the benefit of members, customers and consumers

Mission
Our aim is to contribute to the creating of a sustainable, innovative and effective marked and to contribute to fair trading conditions for the benefits of the Danish consumers.

Our five strategic priorities
1. *We are working for sustainable growth by strengthen the brands*
   Our aim is to strengthen the brands market position so they keep contributing to the creation of sustainable growth in the society. Therefore, we visualize the value of the brands and strengthen the attitude of the brands among consumers, trading partners and the society.

2. *We are working for fair trading conditions - for both smaller and larger suppliers*
   Our aim is to contribute to the creation of an effective and competitive market with fair trading conditions for the benefit of all the parties concerned in the value chain – notwithstanding their distribution channel. We are among other things working for initiatives, which address Unfair Trading Practice (UTP).

3. *We are working for a consumer and end user focused co-operation*
   We believe that we as industry with a common focus on the total value chain can take a greater corporate social responsibility and contribute to the supplier's opportunities for comply with the value chain and consumers needs. That is why we articulate, initiate and facilitate initiatives and projects, which strengthen the co-operation between retailer, wholesaler and end-user.

4. *We are bringing the industry closer to the digital future*
   We are continuously looking for the opportunities the digital channel gives to the industry making it easier for the consumer to access the brands. Furthermore, we are contributing to the development of new digital business models so we can contribute with professional feedback to our members enabling them to continuously contribute the creation of a dynamic market that meets the consumer's expectations now and in the future.

5. *We are working for an effective value chain both nationally and internationally*
We are working to create a sustainable and effective value chain both national and international. Together with GS1 we are working for development and prevalence of industrial standards that can contribute to the streamlining optimization of general product and information flows. All because we want to ensure the right products in the right quantity and at the right time and place.

Figure 33: Mærkevareleverandørerne – for bæredygtig vækst og fair samhandel

About the authors

Henrik Knak, *Partner in Syncronic*
Henrik Knak is an expert within Supply Chain Management & IT with a strong focus on Strategy based on more than 25 years of experience working with high performing clients and in some of the most recognized consulting companies (The Boston Consulting Group, Deloitte Business Consulting, IBM and PwC Consulting).

Zohreh Azimi, *Consultant in Syncronic*
Zohreh has more than 2 years of experience within the area of Supply Chain Management. Main focus areas are Strategy development, strategic sourcing, network design, S&OP, Redesign of supply chain management, organization management, and complexity management.

Christina M. Rasmussen, *Analyst in Syncronic*
Christina has 1 year of experience within the area of Supply Chain Management which among other include strategic sourcing and S&OP.

Appendix

Annex 1: Digitalization versus classic IT

One should not confuse 'Digital' with 'Classic IT'. Though the difference between them is significant, they are still used as substitutes. To digitalize a business 'Classic IT' is necessary, but not enough.

Digitalization – the focus of this report – is about transforming the business through new technologies. In other words, digital technologies (typically newer technologies and in combination) are utilized to either innovate larger part of the organization or drive fundamentally new services in the market to disrupt the current business model. The technologies applied for digital involve among other analytics, Artificial Intelligence (AI), Internet of Things (IoT), mobile, social, and Augmented Reality (AR). Key objective is to generate value for both customers and the company.

Classic IT, on the other hand, is more focused on designing and implementing IT solutions for processes and people to enable efficiency and automation. The applied technologies within classic IT include ERP, CRM, VMI etc. in combination with the company's infrastructure. Consequently, the advantages associated with Classic IT also differ in nature in comparison to those of digital. Rather than increasing value, the emphasis is on cost savings, and increased efficiency and effectiveness.

Characteristics	Classic IT	Digital
Enable	• Process efficiency and automation	• Business transformation delivered through new technology and data
Focus	• Designing & implementing IT solutions for processes	• Fix and innovate cross-functional areas, or disrupt whole business
Time horizon	• Medium to long term	• Short to long term
Benefit	• Cost savings, increased efficiency and effectiveness	• Generate value for customers and business through data & analytics
Technology	• ERP, CRM, VMI etc. in combination with traditional infrastructure	• Analytics, AI, Cloud, IoT, Mobile, Social media, VR/AR

Figure 34: Don't confuse digital with classic IT, © Syncronic 2018

Annex 2: Digital technologies

In the technology box below, definitions of common digital technologies are outlined, which are applied in the surveys. One should be aware of that the listed technologies are not exhaustive, and other technologies exist.

Definition of key technologies leveraged in digital transformation

Social media
Online communication channels that facilitate interaction, collaboration and sharing of input

3D printing
Digital design is turned into physical three-dimensional objectives which are manufactured under computer control

Mobile
Any technology that can be carried around and perform different tasks including phone, GPS, web browser etc.

Blockchain
Information storage across personal computers, where records are stored, facts are verified and security are guaranteed

Analytics
Technology that can capture voluminous and complex data sets, for example, Big Data

Cognitive computering
Digital platforms that encompass, for example, machine learning, speech, face and language recognition

Cloud
Via the internet, Cloud delivers computer services, storage, servers, databases etc.

Augmented reality
A live direct or indirect view of a real-world environment where inputs are sound, video, GPS data etc.

Internet of Things
Connection and exchange of data between softwares, sensors etc. Without human-to-computer interaction

Autonomous control systems
A collection of hardware and software which can perform control functions without external intervention

Figure 35: Technology box, © Syncronic 2018

Annex 3: Digital maturity model

Digital

Classic IT

Digital ecosystem

5
- Leading digital industry developments
- Agile business adaption to new market trends enabled via digital
- Ecosystem: Broader network of participants are connected via digital technologies to collaborate with the aim of accomplishing more than they would on their own

- Full transparency
- Processes: Flexible digitized business processes
- Data: Align digitized data and processes across all channels from end-to-end perspective

Digital collaboration

4
- Value approach and company culture based on digital thinking
- Platform oriented interaction with key customers, partners and suppliers
- AI leveraging data from customer utilization of our products and services to boost value creation

- Processes: Collaborative NPD, fully automated invoicing and payment; self-service portals, mobile approvals
- Data: Collaborate and engage with suppliers and customers through digitized data and processes

Digital integration

3
- Digital is integrated into corporate strategy
- Digital used to transform customer interaction and aligned with internal key processes
- Full SOA[1] is on the way
- Applications exchange data using standard format

- Processes: Efficient and automated; exceptions are minimized
- Data: One ERP system integrating all data from diverse business units

Digital functions

2
- Have a digital strategy disconnected from corporate strategy
- Initially experimenting with services towards customers and internally
- Digital data leveraged in a few classic applications

- Faster processing: Some process automation; e.g. more electronic invoices; lots of time spent on exception
- Data: Multiple ERP and disconnected systems

Predigital

1
- Don't really have a clear digital strategy
- Fully depends on "old" core and only apply 'digital' sporadically

- Processes: Receive invoices by e-mail, manual processing
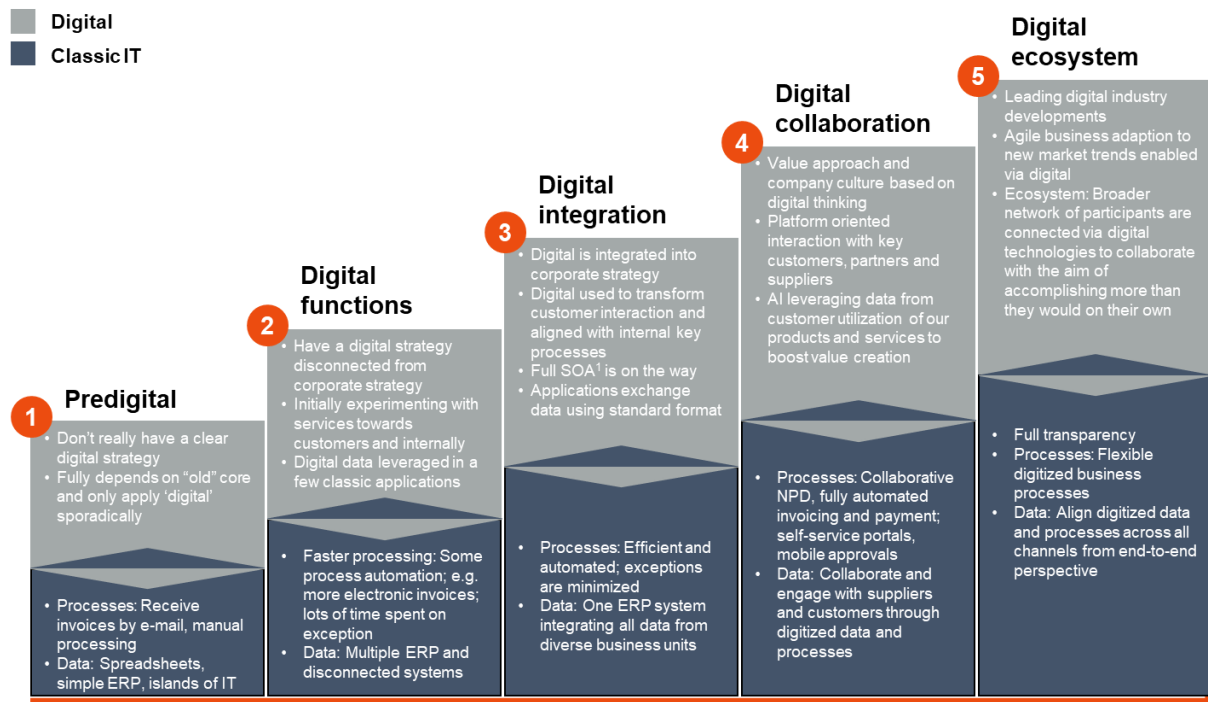- Data: Spreadsheets, simple ERP, islands of IT

Figure 36: Maturing in digital requires more than classic IT, © Syncronic 2018

Annex 4: About the research

During the autumn of 2017, Syncronic established together with MLDK, two surveys with the emphasis on digitalization within members of MLDK. These surveys focused on the employment of digitalization within Commercial (Sales & Marketing) and Operations (Supply Chain & Production). The companies which participated in the surveys were asked several questions about their digitalization approach. MLDK established the contact to members, mainly FMCG companies.

According to statistical theory, data from the Commercial report was sufficient within in the time schedule. Data from the Operations report was obtained during two data collection periods. Questions which did not receive enough input across the data sets were excluded from the survey. An example is: "*To which degree does your company have an explicit corporate digitalization strategy?*".

Moreover, respondents which only answered the demographic data and did not continue the remaining of the survey was also excluded from the data set. A large portion was founded to be excluded due to lack of answers or only answering "*Don't know*" throughout the questionnaire. From both surveys, 139 respondents were collected, where valid data represented 74 (53%) of the responses.

Before the survey was developed and the data was collected, Syncronic hypothesized 19 hypotheses about digitalization within both Commercial and Operations grounded in industry insights, experiences, expert discussions and interviews.

Having cleaned the data and listed the hypotheses, the analysis team in Syncronic began to search for connections between questions focusing on masters versus novices. Since some of the questions, for example, *"Which technologies the two functions apply"* and *"Readiness towards digitalization"* were asked in both surveys, it was thereby possible to compare across functions, which contributed to a more holistic view on the digitalization approach within the FMCG industry.

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Notes

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