

Other Results

Work Package 3 Training Digitalization

Digital centric innovation in Denmark

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Digital centric innovation in Denmark

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About Denmark

Denmark is a country located in northern Europe, bordered by the North Sea to the west, the Baltic Sea to the east, and Germany to the south. Its capital city is Copenhagen, and the country has a population of approximately 5.8 million people.

Denmark is known for its high quality of life, strong social welfare system, and progressive values. It is a constitutional monarchy, with a parliamentary democracy and a mixed economy that is heavily reliant on international trade. The country is also recognized for its innovative design and architecture, as well as its contributions to science, literature, and the arts.

Some of the most famous landmarks in Denmark include the Little Mermaid statue in Copenhagen, the Viking Ship Museum in Roskilde, and the ancient ruins at Jelling. The country is also renowned for its cycling culture, with many people using bikes as their primary mode of transportation.



The politic in Denmark

Denmark has a parliamentary democracy, which means that the government is elected by the people through a system of proportional representation. The Danish political system is characterized by a strong tradition of consensus-based decision-making, with most major policy decisions being made through negotiations and compromises between different political parties.



The Danish Parliament is called the Folketing, and it has a single chamber with 179 members who are elected for a term of four years. The government is headed by a Prime Minister, who is appointed by the monarch and is usually the leader of the largest political party or coalition of parties in the Folketing.

Denmark has a multi-party system, with a number of political parties represented in the Folketing.

The political system of Denmark is known for its strong focus on social welfare and progressive values, with policies that support universal healthcare, free education, and a strong social safety net. The country also has a strong commitment to environmental sustainability and is a leader in renewable energy production

Danish economy

Denmark has a mixed economy that combines a thriving private sector with a strong welfare state. The country has a highly developed and technologically advanced economy with a high standard of living for its citizens. Denmark is a member of the European Union, but it has opted out of the euro currency and maintains its own currency, the Danish krone.



Denmark has a modern and diversified economy with a strong focus on exports. Key industries in Denmark include pharmaceuticals, renewable energy, shipping and logistics, and food and

agriculture. The country is also home to a number of multinational corporations such as Maersk, Novo Nordisk, and Carlsberg.

The Danish economy is characterized by a high degree of income equality and a strong social safety net. Denmark has a progressive tax system that funds a wide range of social programs, including universal healthcare, free education, and generous unemployment benefits.

Despite its relatively small size, Denmark has a highly developed infrastructure and a well-educated workforce. The country ranks consistently high on global measures of economic competitiveness, innovation, and business-friendly policies.

The economy in a Danish family

The economy of a normal Danish family can vary depending on a number of factors such as income, family size, and location. However, in general, most Danish families have a comfortable standard of living with access to basic necessities such as housing, healthcare, education, and transportation.

Denmark has a strong welfare state with a progressive tax system, which means that families with lower incomes may receive support through a range of social programs such as subsidized housing, free healthcare, and child allowances. Additionally, all Danish citizens have access to free education, including higher education.

The cost of living in Denmark can be relatively high compared to some other countries, particularly in terms of housing and food prices. However, most Danish families have access to a range of goods and services that enable them to maintain a good quality of life. Many families also have access to private healthcare and education, which can be costly but often provide additional benefits and higher quality services.

Overall, the Danish economy and social welfare system aim to provide all citizens with a basic standard of living and opportunities for personal and professional growth, regardless of their socio-economic background.

Socio-economy in Denmark

Denmark has a well-developed and highly developed socio-economy with a strong focus on social welfare and equality. Denmark has a high standard of living, low levels of income inequality, and a robust social safety net. Some key features of the Danish socio-economy include:

Strong social welfare system: Denmark has a comprehensive social welfare system that includes universal healthcare, free education, generous parental leave, and a wide range of social benefits such as unemployment and housing assistance.

Progressive taxation: Denmark has a progressive tax system, which means that higher earners pay a larger proportion of their income in taxes than lower earners. The revenue from these taxes is used to fund the country's social welfare programs.

High levels of income equality: Denmark has one of the lowest levels of income inequality in the world, with a Gini coefficient of 0.24 (as of 2020). This means that income is distributed relatively evenly among the population.

Strong labor protections: Danish workers enjoy strong labor protections, including collective bargaining agreements and a high minimum wage. The country has a relatively low unemployment rate, and workers are entitled to paid sick leave, paid vacation, and other benefits.

Emphasis on work-life balance: Denmark has a strong emphasis on work-life balance, with flexible working hours, generous parental leave, and a relatively short working week. This allows workers to balance their professional and personal lives and contributes to a high quality of life.

Overall, Denmark's socio-economy is characterized by a strong commitment to social welfare, equality, and work-life balance. These factors contribute to a high standard of living and a relatively high level of happiness among the Danish population

Technology in Denmark

Denmark has a strong and innovative technology industry, with a particular focus on sustainability and green technology. Denmark has a highly skilled workforce and a supportive business environment that encourages entrepreneurship and innovation. Some key areas of technology in Denmark include:



Renewable energy: Denmark is a world leader in renewable energy production, with a particular focus on wind energy. The country has a goal of achieving 100% renewable energy by 2050 and has made significant progress towards this goal in recent years.

Life sciences: Denmark has a strong life sciences industry, with a focus on pharmaceuticals, biotechnology, and medical devices. The country is home to a number of leading life sciences companies, such as Novo Nordisk and Lundbeck.

Information technology: Denmark has a thriving information technology industry, with a focus on software development, gaming, and e-commerce. The country is home to a number of successful tech startups, such as Zendesk, Unity, and Trustpilot.

Robotics and automation: Denmark is a leader in robotics and automation, with a particular focus on industrial robots and autonomous systems. The country has a number of companies that specialize in robotics, such as Universal Robots and Mobile Industrial Robots.

Smart cities: Denmark has a strong focus on developing smart cities that leverage technology to improve efficiency, sustainability, and quality of life. The country has implemented a number of smart city initiatives, such as Copenhagen's Intelligent Traffic System and Aarhus' Smart City Lab.

Overall, Denmark's technology industry is characterized by innovation, sustainability, and a focus on improving quality of life. The country's supportive business environment, highly skilled workforce, and commitment to research and development have helped to make it a global leader in many areas of technology.

How digital are the companies in Denmark?

Denmark is one of the most digitally advanced countries in the world, and many companies in Denmark have embraced digital technologies to drive innovation and growth.

Digital transformation is a key focus for many Danish companies, as they seek to leverage digital technologies to improve business operations, enhance the customer experience, and create new products and services. Many companies have invested in digital infrastructure and systems, such as cloud computing, data analytics, and artificial intelligence, to support their digital transformation efforts.



The use of digital technologies is particularly prevalent in industries such as e-commerce, financial services, healthcare, and transportation. Many Danish companies in these industries have created digital platforms and services that enable customers to easily access products and services, make transactions, and interact with companies.

The Danish government has also played a key role in driving digital transformation, with initiatives such as the Digital Growth Strategy, which aims to support digital innovation and growth across all industries. The government has also invested in digital infrastructure, such as high-speed internet and mobile networks, to support the growth of digital businesses.

Overall, companies in Denmark are highly digital and continue to invest in digital transformation to drive innovation and growth. The country's strong digital infrastructure, supportive business environment, and focus on innovation have created a fertile ground for digital businesses to thrive.

How digital is a Danish citizen?

Danish citizens are among the most digitally connected in the world, with high levels of internet and mobile phone penetration, and a strong culture of using digital technologies in everyday life.

According to data from the World Bank, 98% of Denmark's population had access to the internet as of 2021, one of the highest rates in the world. The country also has a highly developed mobile phone network, with widespread adoption of smartphones and mobile internet access.

Danish citizens use digital technologies for a wide range of purposes, from online shopping and banking to social media and entertainment. The use of digital technologies is particularly prevalent among younger generations, with studies showing that 98% of Danish teenagers use social media, and 90% use messaging apps such as WhatsApp and Snapchat.

In addition to consumer uses, digital technologies are also increasingly used in healthcare, education, and government services in Denmark. The country has a well-developed e-government system, which enables citizens to access a wide range of government services online, from applying for passports to paying taxes.

Overall, Danish citizens are highly digital, with widespread adoption of internet and mobile technologies, and a culture of using digital tools in everyday life. The country's strong digital

infrastructure, supportive policies, and focus on innovation have helped to drive digital adoption and transformation across all sectors of society.

How digital is the Danish educating system?

The Danish education system has embraced digital technologies to varying degrees, depending on the level of education and the specific school or institution.

At the primary and secondary levels, many Danish schools have integrated digital technologies into their teaching practices, such as the use of digital textbooks and educational apps, and the use of digital tools to support student collaboration and engagement. Many schools also have computer labs and other digital resources available for student use.



At the higher education level, many Danish universities and colleges have made significant investments in digital technologies to support teaching and learning. This includes the use of digital learning management systems, online learning platforms, and video conferencing tools to support remote learning.

In addition to digital technologies used for teaching and learning, the Danish education system has also embraced digital technologies for administrative purposes. Many schools and universities use digital systems to manage student records, admissions, and other administrative functions.

Overall, while the Danish education system has made significant strides in adopting digital technologies for teaching, learning, and administration, there is still variability in the extent to which individual schools and institutions have fully integrated these technologies into their practices. However, Denmark has a strong focus on innovation and digital transformation is likely to continue to drive increased adoption of digital technologies across the education system.

The work force in Denmark

The Danish workforce is highly skilled, well-educated, and productive. The country has a strong tradition of education and vocational training, and most workers have completed some form of post-secondary education or training.

The workforce is also highly unionized, with around 70% of workers belonging to a trade union. This has helped to ensure strong labor protections and a high level of collective bargaining.

Denmark has a relatively low unemployment rate compared to other countries, and there are a range of job opportunities available across a number of different sectors. Some key sectors of the Danish economy include healthcare, information technology, renewable energy, and agriculture.

The Danish workforce is also characterized by a strong work-life balance. Many companies offer flexible working hours, generous vacation time, and parental leave. This has helped to create a culture that values both professional success and personal well-being.

Overall, the Danish workforce is highly skilled, productive, and committed to achieving a balance between work and personal life. These factors contribute to a strong and dynamic economy that is well-positioned to succeed in a rapidly changing global marketplace.

The Danish education system in headlines

The Danish education system is highly regarded and known for its emphasis on equality, flexibility, and student-centered learning. It is designed to provide students with a broad range of skills and knowledge that prepares them for success in higher education and the workforce.



The education system in Denmark is divided into three main levels: primary education, secondary education, and higher education.

Primary education: Primary education is compulsory for all children in Denmark and is free of charge. It consists of nine years of schooling, starting at the age of six. Primary education is focused on providing students with a solid foundation in core subjects such as mathematics, Danish language, and social studies.

Secondary education: Secondary education is divided into two main types: vocational education and general education. Vocational education is designed to prepare students for specific careers, while general education is focused on preparing students for higher education. Both types of education are free of charge, and students can choose from a wide range of subjects and study programs.

One type of vocational school in Denmark is the business school, which offers a range of vocational education programs in fields such as construction, mechanics, transportation, hospitality, and health care. These programs typically combine classroom instruction with hands-on training and apprenticeships, and are designed to prepare students for careers in specific industries.

Another type of vocational school in Denmark is the technical school, which provides education and training in technical and engineering fields such as electronics, IT, and automation. These programs often include opportunities for internships and work-based learning, and are designed to equip students with the practical skills and knowledge needed for technical careers.

Overall, Denmark has a well-developed system of vocational and technical education that provides students with practical skills and training for a range of careers in different industries.

Higher education: Higher education in Denmark is free of charge for all students, both Danish and international. There are a range of institutions offering programs in a variety of subjects, including universities, university colleges, and art and design schools. The education system is characterized by a high level of student autonomy and emphasis on critical thinking and problem-solving.

Overall, the Danish education system is highly regarded for its focus on student-centered learning, flexibility, and emphasis on equality. It provides students with a broad range of skills and knowledge that prepares them for success in higher education and the workforce.

A description of the level of innovation in Denmark

Denmark is known for its strong culture of innovation and entrepreneurship. Denmark is consistently ranking highly in international rankings of innovation, and has a well-developed ecosystem that supports the development and growth of innovative businesses.



Some key factors that contribute to the high level of innovation in Denmark include:

Strong research and development: Denmark has a strong tradition of research and development, with a focus on science, engineering, and technology. The country invests heavily in research and development, and has a number of world-class research institutions.

Entrepreneurial culture: Denmark has a strong culture of entrepreneurship, with many successful startups and small businesses. The country has a supportive business environment that encourages innovation and risk-taking.

Government support: The Danish government provides a range of support and funding opportunities for innovative businesses, including grants, loans, and tax incentives.

Skilled workforce: Denmark has a highly skilled and educated workforce, with a focus on STEM (science, technology, engineering, and mathematics) education. This has helped to create a pool of talented individuals who can contribute to the development of innovative businesses.

Sustainability focus: Denmark has a strong focus on sustainability and green innovation, which has led to the development of a number of successful sustainable businesses.

Overall, Denmark is a highly innovative country with a strong culture of entrepreneurship and a supportive business environment. The country's focus on research and development, skilled workforce, and government support contribute to a thriving ecosystem for innovation and business growth.

The culture of innovation in Denmark

Denmark is known for its strong culture of innovation, which is fostered by a number of factors. Some of the key aspects of the culture of innovation in Denmark include:



Collaboration: Denmark has a strong tradition of collaboration across different sectors, including academia, industry, and government. This collaboration helps to facilitate the exchange of ideas and knowledge, and to bring together different perspectives and skill sets.

Entrepreneurial spirit: Denmark has a high level of entrepreneurial activity, with many start-ups and small businesses emerging each year. This is due in part to the supportive ecosystem for entrepreneurs, which includes funding, mentorship, and networking opportunities.

Design thinking: Denmark is known for its emphasis on design thinking, which involves a human-centered approach to problem-solving. This approach values empathy, creativity, and experimentation, and encourages individuals to take a holistic view of problems and to consider multiple perspectives.

Education and research: Denmark has a strong focus on education and research, with a high level of investment in these areas. This helps to develop the skills and knowledge needed for innovation, and to ensure that Denmark remains at the forefront of technological and scientific advances.

Sustainability: Denmark is committed to sustainability, and has made significant strides in areas such as renewable energy and green technology. This focus on sustainability has helped to drive innovation in these areas, and to position Denmark as a leader in the global transition to a more sustainable future.

Overall, the culture of innovation in Denmark is characterized by a commitment to collaboration, entrepreneurship, design thinking, education and research, and sustainability. These factors have helped to create a supportive environment for innovation, and have contributed to Denmark's reputation as a hub of innovation and creativity.

Customer centric innovation in Denmark

Customer-centric innovation is an approach to innovation that places the needs and preferences of customers at the center of the product or service development process. In Denmark, customer-centric innovation is a key focus for many businesses and organizations.

One of the reasons for the focus on customer-centric innovation in Denmark is the country's strong tradition of design and user experience. Danish companies have a reputation for creating products and services that are not only functional and high-quality, but also intuitive, user-friendly, and aesthetically pleasing.

Another reason for the focus on customer-centric innovation in Denmark is the country's strong culture of collaboration and co-creation. Many Danish companies work closely with customers and other stakeholders throughout the product development process, using feedback and insights to drive innovation and improve the customer experience.

Finally, the focus on customer-centric innovation in Denmark is also driven by the country's strong digital infrastructure and high level of technological development. This has created opportunities for businesses to leverage data and digital technologies to better understand customer needs and preferences, and to create more personalized and tailored products and services.

Overall, customer-centric innovation is an important focus for many businesses in Denmark, driven by the country's strong design culture, collaborative approach to innovation, and high level of technological development. By placing the needs and preferences of customers at the center of the innovation process, businesses in Denmark are able to create products and services that are not only innovative and high-quality, but also meet the evolving needs and expectations of their customers.

4 types of digital workers

Digital employees offer companies advantages, but there are also drawbacks. Digital employees can also be used to provide consistent service and help people share sensitive information.

1. *Virtual agents* are for specific, one-time tasks. They provide many of the same benefits as chatbots but have a human-like appearance. Companies could use them as sales agents or for trainings. The University of Southern California’s Keck School of Medicine is researching how virtual agents could help future health care professionals practice identifying symptoms and medical conditions.
2. *Virtual assistants* also help people with specific tasks, but similar to voice control assistants like Alexa and Siri, the relationship with the user is ongoing. The researchers point to Digital Domain as an early pioneer with this technology. The company is developing digital assistants for Zoom that could take notes during a meeting, provide a summary and arrange schedules. Other potential applications include personal shopping and physical therapy.
3. *Virtual influencers* are similar to human influencers on social media. They promote brands and fashion trends by posting photos and video. Described as a 19-year-old robot living in LA on Instagram, Miquela (formerly Lil Miquela) has 2.8 million followers. The virtual influencer was featured in ads for Prada and a campaign with Calvin Klein, and currently has a deal with Pacsun, the teen retailer.
4. *Virtual companions* provide emotional support and form personal relationships with the user. The researchers see this developing technology as having the greatest impact in elder care by reducing loneliness and helping people stay in their homes longer. Along with reminding people when they need to take their medications or go to a doctor’s appointment, virtual companions will have the ability to carry conversations and show empathy.

Currently, virtual agents are the most prevalent of the four types of digital humans, but we believe the digital human’s fullest potential is as a virtual companion.

The researchers provide a flow chart in their article to help individual companies decide whether digital humans are the right choice. Questions include: Is there an emotional element to the interaction? Are users unsure of what they want? In many scenarios, using other technology offer better options.

Online shopping in Denmark

Online shopping is very popular in Denmark, and the country has one of the highest rates of e-commerce adoption in the world. According to data from the European Union, in 2020, 80% of Danish consumers had made an online purchase within the past year, compared to an EU average of 60%.



Danish consumers shop online for a wide range of products, from clothing and electronics to food and groceries. Many retailers in Denmark have developed strong e-commerce capabilities, with online stores and mobile apps that enable customers to browse and purchase products with ease.

The high level of online shopping in Denmark is supported by a strong digital infrastructure, with high-speed internet and mobile networks that enable fast and convenient online transactions. The country also has a well-developed logistics network, with efficient delivery and returns processes that make online shopping more convenient for consumers.

The COVID-19 pandemic has further accelerated the growth of e-commerce in Denmark, as consumers have turned to online shopping in greater numbers due to social distancing measures and store closures.

Overall, online shopping is very popular in Denmark, and the country's strong digital infrastructure and e-commerce capabilities have made it a leader in the field of e-commerce adoption.

Digital pay in Denmark

Danes use digital payment methods for a wide range of transactions, from online shopping and bill payments to peer-to-peer transfers and in-store purchases.

Mobile payments are particularly popular in Denmark, with a range of mobile payment apps available that enable users to make payments using their mobile phones. MobilePay, developed by Danske Bank, is the most widely used mobile payment app in Denmark, with over 4 million users as of 2021. Other popular mobile payment apps in Denmark include Swipp, developed by a consortium of Danish banks, and Apple Pay and Google Pay, which are also available in the country.



In addition to mobile payments, Danes also use a range of other digital payment methods, including online banking, credit and debit cards, and digital wallets. Many retailers in Denmark offer online payment options such as Kvanto, PayPal, Klarna, and other payment gateways.

The use of cash in Denmark has been declining in recent years, with many retailers now refusing to accept cash payments. The COVID-19 pandemic has further accelerated the trend towards digital payments, as many consumers have opted for contactless payment methods in order to reduce the risk of infection.

Overall, Danes are highly digital when it comes to payments, and a wide range of digital payment methods are widely available and commonly used.

Who good are Danes at SOME

Danes are considered to be highly proficient in social media use and engagement. According to a 2020 report by the Danish Ministry of Culture, 90% of Danish internet users aged 16-74 use social media, and Denmark has one of the highest rates of social media usage in Europe.

Danes are active on a variety of social media platforms, including Facebook, Instagram, LinkedIn, Twitter, and YouTube. In particular, Instagram and LinkedIn are popular among Danish users for both personal and business purposes. Many Danish businesses use social media extensively for marketing and customer engagement, with social media marketing being a common strategy for reaching new customers and building brand awareness.

In addition, Denmark is home to several notable social media platforms and startups, including Trustpilot, a review platform that has gained international recognition, and Endomondo, a social fitness app that allows users to track and share their workouts with others.

Overall, Danes are highly skilled and engaged in social media use, both in terms of personal use and in business contexts.

During this project we have produce two small movie that shows how we at IBC work and teach with digitalization



and innovation.

