FINANSTILSYNET

Report on data ethics when using AI in the financial sector

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1. Introduction

Increased access to and use of data is increasingly important and valuable for a number of business models. This also applies to companies in the financial sector. It has, among other things, the potential to increase companies' ability to offer products that are both easily accessible and targeted at customers' needs. The increased amounts of data are connected to a growing use of artificial intelligence (AI). AI's potential to, for example, increase companies' efficiency and earnings, to assist with their risk management, control and compliance and to ensure that customers experience a faster and more streamlined case processing and better products is widely recognised.

The use of data is regulated by a number of legal acts, including the data protection regulation. In addition, the Danish Financial Supervisory Authority believes that there is a need for companies to supplement their traditional approach to legislation with considerations of the ethical dilemmas that the use of data combined with AI can result in their business models. The companies can benefit from, for example, considering what data ethical framework they will create when using AI to process data to provide or manage financial products or services.

This report is targeted at companies that are subject to the Danish Financial Supervisory Authority's supervision. The intention is to inspire companies to work with data ethics, especially when and if they use AI, and to provide them with examples of data ethical considerations. The report's proposals do not originate from current Danish legislation and the proposals can currently neither bind the companies nor impose new obligations on them.

However, the Danish Financial Supervisory Authority hopes that the report demonstrates to all the companies in the financial sector that already deal with data ethics that this work is important. In addition, the Danish Financial Supervisory Authority wants to make it easier for the rest of the companies in the sector to get started with their work on data ethics.

2. Background for the Danish Financial Supervisory Authority's focus on data ethics

In July 2019, the Danish Financial Supervisory Authority published a paper called "God praksis ved brug af superviseret machine learning" ("Recommendations when using supervised machine learning")[1]. The paper guides companies covered by the financial legislation on issues they should consider when using supervised machine learning[2]. The purpose was, among other things, to contribute to responsible and safe use of this technology in the financial sector. For example, the paper contains a short section on data ethics, bias and fairness.

[1] The paper can be found at https://www.finanstilsynet.dk/Nyheder-og-Presse/Pressemarkeder/2019/Machine_learning_10719. (Note in the English version: The paper is also available in English at https://www.dfsa.dk/Supervision/Fintech/Machine_learning_recommendations.)

[2] Supervised machine learning is a subset of machine learning where you know both the input and output variables. Based on the known variables, the optimal coupling and weighting between all input variables and the output variable is generated. This context can then describe new examples.

The use of artificial intelligence is constantly increasing on a broad level. AI is particularly relevant for handling large amounts of data about companies' customers. The Danish Financial Supervisory Authority generally wants to support safe use of AI in the financial sector because AI can be of great benefit to companies as well as customers and society if it is used appropriately.

The Danish Financial Supervisory Authority's vision in Strategy 2025 is that companies and citizens have justified confidence in the financial system. For example, people should be able to trust that the companies process data in a responsible manner. However, it is also essential that consumers can trust and determine whether the individual company acts within the framework of what they fundamentally perceive as ethically responsible behaviour. This also applies if the companies use new technologies for data processing. Denmark is one of the most digitalised countries in the EU and we generally have a high level of confidence in digital services. The financial sector should help to maintain and increase that confidence. Trust in proper data processing in companies will also help to ensure that the financial sector remains robust.

As is also the case in other areas, it is essential that companies in the financial sector work to identify and manage the potential risks associated with the use of AI. One risk is that the companies make uninformed and rapid decisions in their use of AI and data that turn out to be on the wrong side of the data ethical values that the companies have either consciously established or unconsciously live by. Another and perhaps greater risk, however, is that the companies completely overlook data ethical problems. If risks then materialise, it can damage confidence – not only in the individual financial actor, but also more generally in the financial sector. For the individual company, this can lead to a loss of reputation.

There is nothing new in the fact that the use of data entails data ethical considerations. For example, the insurance industry has always used data and statistics to be able to calculate probabilities, risks and premiums as a central part of their business. Therefore, the industry has also adopted a set of data ethical principles that set the framework for the industry's use of data[3]. However, as AI is increasingly used for new purposes and in new ways and as companies have and use more data about customers, there has also been a greater focus on data ethics in the rest of the financial sector. The data ethical mindset is only going to become more important.

Data ethics is particularly relevant at a time when companies in the financial sector must anticipate increasing competition from other actors and platforms, such as big tech, which may not share the same ethical approach and values. Some even expect that the ethical use of data will increasingly be a competitive parameter in the financial sector, especially in relation to foreign actors. Data ethics is therefore important in all respects and not only when using AI, which is the focus of this report.

In 2022, the Danish Financial Supervisory Authority was in dialogue with, among others, interest organisations and a number of companies from the financial sector who have

[3] Cool or Creepy, data use and data ethics principles in the insurance and pension industry, https://www.fogp.dk/temaer/dataetik/. The principles are based on the industry's choice of one of three basic data ethics positions, which are described in more detail here https://www.fogp.dk/temaer/dataetik/paa-vej-mod-en-faelles-dataetik/. (Note in the English version: Information is also available in English at https://fogp.dk/en/politics/digitalisation-and-data-ethics/.)

provided a lot of good input to the work on this report. The companies have, among other things, provided the Danish Financial Supervisory Authority with examples of data ethical dilemmas that they encounter when using customer data in AI models. Some companies have adopted data ethical principles and others have established internal tools that they use to assess and resolve data ethical dilemmas. The companies have also shared their experiences with anchoring the work with data ethics internally. These valuable inputs are included in the report.

3. Summary

The Danish Financial Supervisory Authority wants to contribute to ensuring that companies in the financial sector make relevant data ethical considerations when they use AI to process data. Companies can gain many advantages from using AI, and when using AI, it is especially important that companies. which is covered by the supervision of the Danish Financial Supervisory Authority, take the work with data ethics seriously. There is not one clear definition of data ethics, and it is a difficult concept to work with. Data ethics goes beyond legislation, and it is not just about what companies *can* do and are *allowed* to do with customers' data - it is rather about what companies *should* and in particular *should not do*.

With this report, the Danish Financial Supervisory Authority wishes to provide inspiration for the considerations that companies in the financial sector can make regarding their work with data ethics. The companies can determine their approach to data ethics based on the companies' own values and principles, which they must reflect on. They can also take inspiration from discussions about ethical values and principles of data ethics that have been developed both in Denmark and abroad. As part of this process, companies can choose to, for example, involve the customers they interact with to get their input. This presupposes that the companies will engage in a broad dialogue with customers. And there are many ways to do this. Companies should always consider the data they use in their AI solutions, for example, their sources of data. The companies can, among other things, use the considerations to prepare a data ethical policy that can also decide how the company does not want to process data. As with all policies, it is important that any potential policy on data ethics can also be applied in the company and used by the employees in practice. The companies can, for example, promote the data ethics mindset of their employees through education and awareness campaigns. It is important that the companies are able to explain how the solutions work. This also applies if they use solutions from third parties.

It is crucial that the work with data ethics is anchored internally in the companies. However, the best way to do this may differ from company to company. The accounting rules require, among other things, that the largest financial companies either explain their policy for data ethics or the reason for not having such a policy. If companies formulate a data ethics policy, they should focus on implementation and evaluation, which can help create a sound culture where employees and management can identify and discuss data ethical dilemmas. All companies that have chosen to deal with data ethics can benefit from considering whether their work with data ethics is so material that they can describe it in the annual report, even if they are not covered by the comply or explain requirement in the accounting regulations.

4. The data ethics landscape

Data ethics became part of Danish legislation in 2020 in connection with the Danish Parliament passing an amendment to the Danish Financial Statements Act[4]. According to this act, which entered into force from the financial year beginning on or after 1 January 2021, large companies must explain their policy on data ethics in the management's report. The report must contain information about the company's work with and policy for data ethics issues. If the company does not have a data ethics policy, the management's report must explain why this is not relevant (the 'comply or explain principle'). In 2020, the Danish Business Authority under the Ministry of Industry, Business, and Financial Affairs has prepared a guide on the statutory report on data ethics in accordance with the Danish Financial Statements Act. The guide can serve as good source of inspiration for companies under the supervision of the Danish Financial Supervisory Authority in the context of their work with data ethics[5].

The Danish Financial Statements Act does not apply to companies in the financial sector. As stipulated in the comments to the above-mentioned legislative amendment, the Danish Financial Supervisory Authority has, however, inserted corresponding requirements in following three executive orders concerning financial reports:

- Executive Order no. 281 of 26 March 2014 on financial reports for credit institutions and investment firms, etc. (inserted by amending Executive Order no. 1593 of 9 November 2020), see section 135(d)
- Executive Order no. 460 of 2 May 2023 on financial reports for insurance companies and multi-employer occupational pension funds (originally introduced by Executive Order no. 1592 of 9 November 2020), see Section 146
- Executive Order no. 771 of 31 May 2022 on financial reports for Arbejdsmarkedets Tillægspension, See section 26.

The requirements apply to credit institutions, investment firms, management companies, certain alternative investment fund managers, savings companies, certain parent companies and non-life insurance companies that are either listed on the stock exchange or have more than 500 employees in the company or group. The requirements also apply to all life insurance companies and multi-employer occupational pension funds regardless of size, Danmarks Skibskredit A/S and Arbejdsmarkedets Tillægspension.

The mentioned accounting rules are currently the only concrete legal rules on data ethics, but the subject, including the use of data for AI, is generally becoming more of a focus area[6]. A study from Stanford University shows, for example, that in 2018 only one legal act globally mentioned AI, while in 2021 this had increased to 18 legal acts[7].

Several international authorities and organisations have published recommendations, etc. on reliable artificial intelligence and data ethics. Examples include:

[4] Act no. 741 of 30 May 2020 amending the Danish Financial Statements Act (Requirement on reporting of data ethics).
[5] Guidance on statutory disclosure of data ethics, December 2020. (https://erhvervsstyrelsen.dk/vejledning-vejledning-om-lovpligtig-redegoerelse-dataetik).
[6] There is a certain degree of data ethics built into the existing legislation, for example, in the rules on good practice.
[7] The AI Index 2022 Annual Report, Stanford University, March 2022 (https://aiindex.stanford.edu/wp-content/uploads/2022/03/2022-AI-Index-Report_Master.pdf).

- The independent High-Level Expert Group on Artificial Intelligence, which was set up by the European Commission, in 2019 published the “Ethical guidelines for reliable artificial intelligence”[8]. The guidelines do not focus on the legal use of artificial intelligence. Rather, they provide guidance on promoting and securing ethical and robust artificial intelligence, which must be adapted to ethical norms.
- In 2020, the same expert group also published the "Assessment List for Trustworthy Artificial Intelligence (ALTAI)"[9]. Companies can use this self-evaluation form with a number of questions about, for example, ethics to assess whether they should take further action to act more ethically.
- In 2019, the Organization for Economic Co-operation and Development (OECD) also established principles on AI to promote the technology. The principles cover issues such as inclusion, people-centric approaches, fairness, transparency, explainability, robustness, security and predictability[10].
- In 2023, the EU is expected to adopt a new regulation on harmonised rules for artificial intelligence (The AI Regulation)[11]. This regulation will ban AI systems with an unacceptable risk, impose requirements on providers and users of so-called high-risk AI systems and there will be fewer or no requirements for AI systems with limited or minimal risk. The regulation does not specifically mention data ethics, but the adopted regulation may require that AI systems be developed and used in accordance with principles of ethical and reliable AI. In any case, it cannot be denied that the upcoming rules will have an impact on data ethics.

These international contributions will not be reviewed in more detail in this report. The Danish Financial Supervisory Authority will later assess whether the final AI regulation or the coming, supplementary legal acts make it necessary to adjust the proposals in this report.

Among others, the following Danish initiatives are relevant:

- “Virksomhedsguiden” contains both articles and videos on data ethics written by the Danish Agency for Digital Government[12].
- In 2021, the Data Ethics Council issued guidelines with ten central data ethical principles under the headings welfare, dignity, privacy, self-determination, equality, freedom, legal certainty, transparency, security and accountability[13]. The guidelines also contain a five-step guide for the practical work with data ethics. The five steps consist of identifying, analysing, balancing, deciding on and evaluating a data ethical issue.
- In 2021, Danish Design Center launched “The Digital Ethics Compass”[14]. It consists, among other things, of the “Ethics Navigator”, which is a circular model with 5 ethical principles and 24 questions about automation, behavioural design and data and it includes 29 knowledge cards with elaborations on the questions and principles[15]. Together, they act as a kind of ethical to-do list.

[8] https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai.
[9] https://digital-strategy.ec.europa.eu/en/library/assessment-list-trustworthy-artificial-intelligence-altai-self-assessment.
[10] https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf.
[11] https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai.
[12] https://virksomhedsguiden.dk/content/temaer/dataetik/.
[13] Dataetik – Sådan gør du (“Data ethics - How to proceed”), October 2021 (https://nationaltcenterforetik.dk/etiske-temaer/dataetik/2022/dataetik-saadan-goer-du).
[14] https://ddc.dk/tools/det-digitale-etikkompas-vaerktojskasse/.
[15] https://ddc.dk/wp-content/uploads/2021/10/02_Etiknavigatoren_A1.pdf and https://ddc.dk/wp-content/uploads/2020/10/Videnskort_A4.pdf.

- In March 2023, the Danish Ministry of Digital Government and Gender Equality published a guide and a checklist for digital responsibility, which, among other things, affects data ethics and is targeted at boards of directors in Danish companies[16].

Compliance with data ethical principles constitutes a behavioural regulatory element that is laid on top of a foundation of already existing legal regulations. When a company under supervision must assess whether an action related to AI is either acceptable or objectionable from a data ethical perspective, the basic premise is therefore always that the company already complies with applicable regulations. Here it is relevant to mention related regulations, such as the General Data Protection Regulation (GDPR) and the Danish Data Protection Act as well as the financial legislation that regulates governance, good practice and risk management. Since the focus of this report is data ethics rather than legislation, the report does not elaborate on the specific rules, for example, in the section dealing with dilemmas.

Data ethics is often confused with the data protection rules in GDPR. However, data ethics goes beyond data and privacy protection. Data ethics is also about how the use of data, development and use of artificial intelligence, etc. affects our society. This is discussed in more detail in Section 6. Furthermore, the GDPR regulates the processing of personal data while data ethics is broader, as it also includes data that is not personal data, for example, statistical data and anonymised, non-personally identifiable information and company information. The fact that a company complies with the GDPR is therefore no guarantee that it also behaves correctly from a data ethical perspective.

5. Scope

The purpose of this report is to provide inspiration for and examples of the considerations that companies in the financial sector can generally make when working with data ethics, particularly in connection with the use of AI models to deliver or manage financial products or services. The examples in this report therefore focus on the types of customer data and products that companies in the financial sector use AI with. Although the report's focus is on data ethics in companies that use AI, data ethics is relevant in all contexts to companies that use data.

Many categories of AI models exist. In this report, the Danish Financial Supervisory Authority has chosen a broad definition of AI, which includes the use of artificial intelligence at all levels from simple machine learning to advanced models and algorithms that use neural networks. Data ethical considerations may also be relevant for companies that, for example, combine AI with other techniques such as Robotic Process Automation (RPA), for example, to sorting incoming inquiries.

The target group for this report is not limited to companies that are covered by the requirements of the Danish Financial Statements Act, which are mentioned in Section 4. The target group is a wide range of companies that are subject to supervision from the Danish Financial Supervisory Authority (hereinafter referred to as "companies in the financial sector" or simply "companies") as data ethics, especially when using AI, can be relevant for all companies in the financial sector, regardless of their size. This is because these companies have data

[16] https://sikkerdigital.dk/virksomhed/lederens-indgang/bestyrelsen.

about their customers to a greater or lesser extent and must decide how they want to process this data.

The report aims to provide inspiration and communicate what may become practice in the financial sector in the future as data ethics becomes increasingly important. The Danish Financial Supervisory Authority does not have the authority to oblige all companies to, for example, prepare a policy for data ethics. Therefore, this report is in no way binding on the companies. The report only provides inspiration for the considerations that companies may have when working with data ethics. Among other things, the Danish Financial Supervisory Authority has acquired useful contributions to the report through dialogues with a number of companies in the financial sector about their work with and thoughts on data ethics.

6. What is data ethics?

Data ethics is linked to the use of data, but there is no universal definition of data ethics. The interpretative notes to the Danish Financial Statements Act from 2020 explain data ethics as follows:

> "Data ethics is generally to be understood as the ethical dimension of the relationship between on the one hand technology and on the other hand citizens' fundamental rights, legal security and basic social values which technological developments result in a need for consideration of (...). Data ethics concerns the ethical considerations that a company must make in connection with the use of new technologies and the increased amount of data. The concept of data ethics encompasses the use of all forms of data and deals with companies' general approach to the use of this data.[17]"

The Danish Institute for Human Rights prepared an analysis in 2021 at the request of the Data Ethics Council[18]. The analysis resulted in this definition which can be useful for companies:

> "Data ethics is a set of issues that relate to how people should act in situations where the action involves the generation, collection, storage, processing, analysis, sharing or use of data and where this [...] processing of data in itself challenges normative values or principles. Data ethics is also the systematic study of data ethical issues with a view to formulating well-founded answers to the issues, for example, in the form of generalisable principles for how people should process data or in the form of specific recommendations for balancing competing considerations in specific dilemmas.[19]"

In 2021, the Data Ethics Council summarised the definition in this simple sentence[20]:

[17] Translation of the Danish Financial Supervisory Authority.
[18] Dataetisk metode & teori ("Data ethics method & theory"), page 15, October 2021, Danish Institute for Human Rights for the Data Ethics Council (https://nationaltcenterforetik.dk/Media/637847651004812235/Dataetisk%20metoderapport.pdf).
[19] Translation of the Danish Financial Supervisory Authority.
[20] Dataetik – Sådan gør du ("Data ethics - How to proceed"), pages 10-11, October 2021 (https://nationaltcenterforetik.dk/etiske-temaer/dataetik/2022/dataetik-saadan-goer-du).

> "Data ethics is generally about good practice when collecting, using and sharing data.[21]"

Companies in the financial sector are subject to a wide range of requirements from financial legislation. Many of these requirements are relatively objective, such as capital and reporting requirements. The financial legislation and other legislation also regulate whether companies may legally possess and use various information about their customers. However, from time to time, companies in the financial sector will be faced with data ethical dilemmas, where they *legally* possess and can *legally* process some data about a given customer, but at the same time must ask themselves whether it would be ethically correct to use this data in this specific manner. Data ethics is therefore different from the majority of requirements in the financial legislation. There can be a big difference between what you *can do* and what you *should do*. The latter is associated with important data ethical decisions.

"Doing what you are legally entitled to is not always the same as doing what is good or right."

- Data Ethics Council (https://nationaltcenterforetik.dk/etiske-temaer/dataetik)

Data ethics is less about actual legislation and more about societal values and norms, dilemmas and balancing opposing considerations. It is about what you as a company can vouch for. It is important that companies respect the dignity of the individual. There are real people behind each individual customer number. Individual people have the right to privacy and the right to make their own choices. Morals and norms vary depending on the person, company, situation and culture. As a result, what is regarded as being correct from a data ethical perspective may differ depending on the circumstances.

The Danish Financial Supervisory Authority's dialogues with a number of companies in the financial sector show that there can be different opinions on whether it is at all possible and desirable to "put data ethics into a formula" in the form of specific legal regulations. One argument is that you cannot make a checklist for data ethical topics unlike, for example, with the GDPR, as it may be difficult to prepare a model that fits for all companies. As a result, the companies themselves must have the freedom to define what good data ethics are and how they want to handle any dilemmas. Another argument is that data ethics is not that broad of a topic after all and is therefore possible to put into a formula. Some companies are even calling for formal requirements and guidelines on data ethics from the authorities.

When companies work with data ethics, it is about acquiring a special way of thinking that is in line with the rules on promoting a sound corporate culture[22]. These rules require that a company must prepare a written policy that contains an overall framework for how the company ensures a sound corporate culture throughout the organisation, cf. Section 2(2) of the Executive Order. The policy must contain a description of the ethical and professional standards for the company and must contribute to employees acting honestly and with integrity. As is also the case with data ethics, a sound corporate culture cannot necessarily be

[21] Translation of the Danish Financial Supervisory Authority.
[22] Executive Order no. 691 of 25 May 2020 on a policy for a healthy corporate culture in financial institutions, etc. The rules only apply to financial institutions, e-banking institutions and payment institutions.

formalised and unambiguously defined across the board, but the individual company can consider how it will promote a healthy and ethically sound culture in terms of how its employees process data using AI. Similarly, as mentioned in Section 4, a number of large companies are obliged to explain their policy (if they have one) for data ethics in the management's report. Insurance companies and insurance intermediaries also have a duty to treat customers fairly and loyally and to consider their needs in the development of new products[23]. A degree of ethical considerations is also embedded in these rules.

7. AI and data ethical dilemmas in the financial sector

This section describes how the financial sector uses AI and which data ethical dilemmas might arise in this regard. According to the Data Ethics Council, a data ethical dilemma arises "if the use of data is in conflict with one or more of our core societal values and principles."[24] The Danish Financial Supervisory Authority has not described the other risks that may be associated with using AI. These risks are addressed in the paper "God praksis ved brug af superviseret machine learning" ("Recommendations when using supervised machine learning").

7.1. Use of AI in the financial sector

Companies in the financial sector are often characterised by complicated internal processes and the processing of large amounts of data. Here, AI can be used as a tool for optimisation. AI can also help companies comply with legal obligations. The potential of AI is generally widely recognised, also in the financial sector, and that using the technology can make companies more efficient and increase earnings.

The Danish Financial Supervisory Authority's knowledge of companies' use of AI in Denmark is fragmentary and not based on recent, systematic studies. However, inspiration has been found in various studies from other EU/EEA countries and in dialogues with a number of companies in the financial sector in connection with the preparation of this report. On this basis, the Danish Financial Supervisory Authority assesses that there is certainly a big difference in the extent to which companies use AI, but also that many companies currently use robotic technology and less advanced machine learning models. For example, a number of companies in Denmark combine AI with RPA for email routing. This means that a robot can sort incoming e-mails and forward them to the right departments in the company. Some companies have also developed an algorithm which can sort through inquiries from customers and select the customers who is in most need of immediate advice.

The use of advanced AI models and algorithms, on the other hand, seems limited to a few large companies. Reluctance to use advanced AI models may be due to a lack of maturity or lack of clarity around the regulations associated with the use of AI. Only a few companies use more advanced AI models to deliver financial products or services. Some insurance companies use algorithms that can assess claims and process insurance payouts. AI can also contribute to risk management internally within the company, for example, by identifying

[23] Regulation 2017/2358 (EU) on product supervision and management requirements for insurance companies and insurance distributors.
[24] Dataetik – Sådan gør du ("Data ethics - How to proceed"), pages 10-11, October 2021 (https://nationaltcenterforetik.dk/etiske-temaer/dataetik/2022/dataetik-saadan-goer-du). Translation of the Danish Financial Supervisory Authority.

suspicious financial transactions such as fraud, money laundering or terrorist financing or for calculating capital requirements[25].

A study by the EBA shows that European credit institutions are generally increasingly interested in the use of AI. The four most widespread forms of use, which more than 60 per cent of the surveyed financial institutions have implemented are: combating fraud (73 per cent), AML/CFT (65 per cent), profiling/correlation between clients or transactions (65 per cent) and credit scoring (65 per cent)[26].

Studies show that companies previously used in-house developed solutions but today they prefer to purchase solutions developed by third parties. If the companies are increasingly using the same standardised solutions developed by third parties, it can help to create equality between them[27]. The risk is that companies are not sufficiently critical of purchased third-party solutions. It is important that the companies understand and can explain how the systems make decisions, see Section 8.3.1. and 8.3.2.

7.2. Data ethical dilemmas in the financial sector – examples

Companies in the financial sector generally hold a lot of different data about their customers, which they receive, obtain and process in various legitimate ways. The companies also generate data about the individual customers independently as part of the ongoing customer relationship, for example, gaining knowledge about the customer's transactions, assessments of the customer's risk or creditworthiness, the interactions with the customer and the customer's wishes for advisory services. In line with increased digitalisation, companies can collect more and more data about customers through multiple channels.

There is nothing inherently wrong or concerning about companies processing extensive amounts of data about their customers. Collecting data is necessary to offer financial products and in some cases even a requirement according to legislation, for example, the anti-money laundering regulation. Data is at the heart of companies' business models and data contributes to innovation, competition and tailored products and services for customers. The amount of data points can, for example, also influence the price the customer must pay for a financial service[28].

Insurance and pension companies can, for example, have information about the customers' age, housing conditions, children, health, job situation and annual income. Credit institutions can have information about customers' loans, housing conditions and employers and transaction data about income and expenses, which can tell a lot about customers' habits, preferences and financial situation[29]. Companies in the financial sector must therefore always bear

[25] FSI Insights on policy implementation No 35 – Humans keeping AI in check – emerging regulatory expectations in the financial sector, BIS, August 2021 (https://www.bis.org/fsi/publ/insights35.htm).
[26] Risk Assessment Questionnaire – Summary of Results, EBA, Spring 2022 (https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/Risk%20dashboard/q1%202022/1036532/RAQ%20Booklet%20Spring%202022_FINAL.pdf).
[27] Brytningstid, et studie av kunstig intelligens i norske banker og forsikringsselskap ("Breakthrough time, a study of artificial intelligence in Norwegian banks and insurance companies"), Finans Forbundet and PA Consulting, 2022, page 70 (https://www.finansforbundet.no/content/uploads/2022/08/KI-i-norske-banker- and-forsikringselskap-final-version.pdf).
[28] Databrug og dataetik – Dilemmaer og mulige positioner for forsikrings- og pensionsbranchen ("Data use and data ethics – Dilemmas and possible positions for the insurance and pension industry"), Forsikring & Pension, 2019 (https://fogp.dk/media/qo2hf2rz/databrug-og-dataetik_forsikringpension_version2.pdf).
[29] Sensitive personal data may also appear, for example, in the context o payments for medicine or medical treatment. In addition to being regulated by the GDPR, payment information has a very special status in Denmark. Payments are

in mind that they are generally in possession of customer data that can provide great insight into the private lives of individuals. Therefore, the legislation also places restrictions on whether and how companies can use this information. This applies, for example, to legislation such as GDPR and the Danish Payments Act which, among other things, considers the individual's right to privacy.

The following examples on dilemmas are inspired by real life situations and most can probably be implemented in a way that complies with the legislation for the relevant financial sector. There will be companies which currently already process data in the manner described in the dilemmas, while others will be reluctant and to a greater extent view the situation as a data ethical dilemma. The intention of the examples is not to assess them as either data ethical or unethical (with the exception of example E). Even if the company legally holds and processes the information, there is a large grey area of what is right or wrong in terms of data ethics. The companies must make their own data ethical assessments. Although there may be situations where legal data processing is also ethically wrong, it will often be difficult to assess and give a clear answer as to whether a data ethical challenge leads to data processing being ethically wrong. However, the companies must be aware that there will be data processing that everyone will assess as unethical.

Example A on insurance and location information

An insurance company is considering collecting information about the physical location of customers who have consented to it. The insurance company will then be able to see from the GPS data from the customer's mobile phone that a customer who lives in Denmark has just arrived in a city in Austria, where, among other things, there is a large ski resort.

Since it is winter and the customer may be on its way to a skiing holiday, the insurance company could help the customer by using AI to automatically match the location information with information about the customer's insurance coverage. If necessary, the insurance company could then remind the customer of the need for accident insurance or travel insurance with extra ski coverage.

It is desirable for policyholders and for society in general that citizens have the right insurance coverage which protects them against loss or compensates for damage to the relevant extent. Often, however, consumers are not aware of their insurance needs in a specific situation. How do you ensure that consumers have taken on the right insurance coverage before an insurance event occurs?

Insurance companies do not automatically have access to location information about their customers. This requires consent from the individual customer.

considered very private, as they can give insight into a person's preferences, etc. The regulations are therefore restrictive in terms of what purposes this information can be used for. Among other things, this is due to considerations for the Danish Payments Act (2016/1 BTL 157).

However, it is also in the customer's interest to have the best possible insurance coverage. Many customers contact their insurance company in connection with an event – for example, before a planned holiday or after an unforeseen event – to check if they have the necessary insurance coverage. Some customers appreciate the insurance company contacting them themselves, as long as the contact is in accordance with the legislation. Other customers will find it to be too intrusive to be contacted on the basis of geotagging which tracks their location, even if they have given informed consent for the company to receive this information. Even if a consent has been obtained and given in accordance with the GDPR, the company can benefit from considering whether the inquiry will nevertheless surprise the customer and be received negatively.

Example B on pension and screening for the need for additional help

A pension company is considering using an algorithm to screen customers and identify those who may need additional help. The pension company can, for example, use information about a customer having contacted the pension company about a sick leave. The pension company will then contact the customer to find out if the customer needs further medical care and inform about the various offers that the customer has via his or her pension plan.

The insurance industry is increasingly focusing on the fact that early intervention towards sick customers can benefit both the customers, the insurance companies and society in general. Rapid treatment of an illness increases the customer's odds of a quick return to the labour market. An early intervention can happen in many ways, but can a company help sick customers get better quickly if, for example, there are waiting lists for the correct treatments or if customers wait too long before seeing a doctor?

If you can detect early on which customers are ill and at risk of developing more serious illnesses – for example, because data shows that a certain disease often results in other diseases - then you can save the customers from having to go through this disease, increase their quality of life and reduce the costs among the insurance companies.

However, to many people, illness is a very private subject. Health information is also listed in the GDPR as particularly sensitive personal data, cf. Article 9 (1). There is therefore good reason to be particularly careful with processing such information.

The question is how important it should be that being contacted at exactly the right time with the right offer can have a decisive influence on the individual customer's future. It can, for example, mean faster treatment of an illness and thus an earlier return to a normal working life or having a less difficult everyday life. Some customers will appreciate being offered help. Others, on the other hand, will think that it is intrusive for a pension company to take such an action and will feel like they are under surveillance.

Example C about credit institution and credit ratings using AI

A credit institution is considering developing an algorithm that can be responsible for generating credit ratings. This would lighten the workload for employees and optimise the business. The credit institution will train the algorithm on a large and carefully selected data set that is representative of the credit institution's lending practices.

If a financial institution uses AI to generate credit ratings, it can reduce the processing time for loan applications. This can give customers faster answers, which will usually be perceived as a benefit for both the customer and the credit institution.

However, it is important that the companies decide how independent the algorithm should be allowed to be and thus what degree of human involvement the companies want.

Some companies may believe that an algorithm can run completely by itself. They can, for example, choose to only monitor whether the algorithm leads to unintended patterns based on the decisions it continuously makes that are not in accordance with the company's data ethical policy[30].

Some companies may prefer having a so-called human safety net under the algorithm after it has made its decision so that the final decision is always made by an employee (human-in-the-loop). This may be the case if one does not yet have confidence that the AI model can make fully autonomous decisions. It may also be that legal requirements prevent the company from making automated decisions.

Some companies will choose an intermediate solution and limit the autonomy of the algorithm so that it is only allowed to make positive decisions. However, this can make it difficult for financial institutions to document how they have complied with the requirements for considering credit ratings. It may therefore be more relevant for insurance companies to choose the intermediate solution, where they allow the algorithms to make positive decisions about, for example, the payment of compensation to the insurance customers while rejections of claims require an employee to approve the decision.

[30] It should be mentioned that pursuant to the GDPR, the data subject has a right to human intervention in an automated decision that has legal effect or significantly affects the person concerned, cf. Article 22. However, this does not apply if the decision fulfills one of the exceptions in Article 22(2), such as the data subject giving consent.

Example D on financial companies' use of natural language processing (NLP)

A financial company is considering asking customers for consent to record their telephone conversations with the company. The company is considering applying language and voice recognition models to the recordings to decode, for example, customers' state of mind, satisfaction and/or credibility. The company can use the information as a tool to identify customers who, for example, are particularly unhappy or show signs of lying. The company can then choose to make a special effort towards these customers.

It is in the interest of financial companies to be able to provide a good customer experience and to have satisfied customers. It can be an advantage for the company to be able to quickly identify the customers that the company should take special care of. It can, for example, be dissatisfied customers whom the company wants to serve quickly so that they become satisfied again - and thus remain customers at the company. At the same time, it is in the customers' interest to receive fast and competent advice when they contact the company, regardless of whether they are dissatisfied or not. However, the company may also have an interest in discovering when customers are contacting them to get a service or a payout but might be hiding significant information or lying about something.

It is not unusual for financial companies to ask customers for permission to record the conversation. The recorded conversations can, for example, be used for training purposes. A financial company may consider extending the consent so that the company can use NLP technology during the conversation. The purpose of using NLP technology while the conversation is in progress could be that AI can be used as a tool to analyse moods. An AI can listen for tone of voice, pitch and phrases that indicate the customer's state of mind and level of satisfaction. This will allow the company to find out which customers might be so dissatisfied that they end up taking their business elsewhere.

Although there may be advantages to giving dissatisfied customers special treatment, it may come at the expense of those customers who, for example, do not complain loudly or act in a friendly manner even if they are unsatisfied with something. It can also affect customers whose language is difficult for the model to understand and decode. There can, for example, be a risk that the AI model discriminates on the basis of a lack of knowledge of the Danish language or regional dialects. This may be perceived by customers as unethical.

Example E on price changes

A company wants to use AI to assess how its customers will react to price increases on the company's financial products. The company wants to predict which customers will cancel their contract and which customers will accept the price increases. The company will find the latter customer group by using its own customer data, after which it will use AI models for the data analysis. It will then adjust its price structure so that price increases only cover those customers who are not expected to cancel their contract.

Companies have a natural focus on earnings and adjusting costs so that the business is profitable. At the same time, they have a desire to keep their customers. In order to achieve these objectives, companies may wish to target price increases to those customers who are not expected to react negatively and potentially take their business elsewhere.

In the insurance industry, this is called "differential pricing" and in 2023 it was deemed to be illegal. The European Insurance and Occupational Pensions Authority (EIOPA) issued a so-called Supervisory Statement about this topic in March of 2023[31]. Here, EIOPA explained why differential pricing would be in conflict with different provisions of the Product Oversight and Governance (POG) rules.

Businesses have a legitimate interest in knowing their customers and predicting their reactions. This harmonises well with the desire for companies to have knowledge of customers and their needs and to adapt their products in accordance with this knowledge. But the further a company steps down the path where they either obtain the knowledge by obtaining data in a questionable way or use the knowledge solely in the company's own interest, the more clearly the company finds itself on the wrong side of what the customers and society at large presumably would consider acceptable from a data ethical perspective.

It is not easy to describe an example of data processing which is completely legal and at the same time clearly unethical. Over time, several unethical business models and types of data processing have been made illegal by extensive legislation, not least in the financial area. Good practice rules require companies in the financial sector to act honestly and loyally towards customers. Credit institutions and securities traders may not provide investment advice or discretionary portfolio management without having carried out suitability or appropriateness tests on the customers. POG regulations specify requirements for product development at credit institutions, insurance companies, etc. so that new products are, for example, designed to take into account the customers' needs, etc. and so that they do not have negative effects on customers.

Differential pricing has now been characterized as illegal behaviour, but before the EIOPA issued the above-mentioned Supervisory Statement, the Danish Financial Supervisory Authority would have at least assessed the behaviour as being unethical. Both data ethics, good practice and POG rules are dynamic areas. Therefore, companies in the financial sector can benefit from regularly considering whether their collection and processing of data is ethical.

It is always a concrete assessment whether data processing is ethical.

[31] Supervisory statement on differential pricing practices in non-life insurance lines of business, February 2023 (https://www.eiopa.europa.eu/publications/supervisory-statement-differential-pricing-practices-non-life-insurance-lines-business_en).

8. Tools for data ethical considerations in the financial sector

An incorrect processing of data can have serious consequences for the customers and the companies themselves. It is shown in a British study that consumer concerns related to data use are influenced by the degree individuals have confidence in the companies that use data about them[32].

Companies can therefore consider how they will reassure customers that they process data ethically and properly. The companies can benefit from describing *how* they specifically consider and deal with data ethics.

The individual description must always paint a clear picture of the company's real work with data ethics. "Ethics washing" is described as a new phenomenon along the lines of green washing where companies provide incorrect or misleading information about sustainability and the green transition. Ethics washing means that companies express that they process data ethically without this being the case. The companies can, for example, publish a set of data ethical principles but fail to use them in practice when processing customer data.

8.1. The data ethical approach

- *The companies can start by deciding whether and how they want to work with data ethics.*
- *The companies can first of all consider how to promote a data ethical mindset among management and employees.*
- *It is important that the individual company involves several of its employees.*

Companies are used to considering what they *can* legally do with data. By adopting a data ethical approach, companies also include considerations about what they *should* do. It is about creating the right mindset and an appropriate culture in the company for processing and using data. This assumes that employees are generally able to make the necessary considerations in all AI projects that involve processing data, including personal data. One could say that AI models are mirrors of those who code them.

There are many different ways to awaken a data ethical mindset and thereby strengthen an awareness of ethics among employees. An essential prerequisite for creating this awareness is that employees are trained to discover the data ethical dilemmas. Companies can do this in many different ways. The following section provides a number of examples.

If a company actively chooses to work with data ethics, it is important that it involves all relevant employees in order to create a common sound culture for processing data. A data ethical mindset is not developed and strengthened in a single meeting but rather appears over a longer period of time through dialogue and discussions among a wide selection of employees with many different approaches, work areas and competencies. The best results are achieved by involving multiple viewpoints in the process.

[32] Public Attitudes to Data and AI Tracker Survey, Center for Data Ethics and Innovation, Final Report, December 2021 (https://www.gov.uk/government/publications/public-attitudes-to-data-and-ai-tracker- surveys).

The involvement of all relevant stakeholders in a company, organization or institution also promotes the acceptance and relevance of introducing a new process. For example, the European Commission recommends that companies implement a process that involves both the operational level and the top management level[33]. The company guide from the Danish Business Authority also recommends broad representation across departments. The guide refers to the fact that the involvement of different employees both contributes with insights from the various departments' specific work with data and provides fertile ground for a broad grounding of data ethics in the company.

8.2. Responsibility for the work with data ethics in the companies

- *The companies can consider where and how the work with data ethics should be anchored internally.*
- *It is important that responsibility for the work is anchored in one place.*
- *Regardless of where responsibility for the work is placed, support from senior management is essential in order to implement a change.*

If a company decides to work seriously with data ethics, it is important that it anchors the task and appoints a responsible employee or function to, among other things, ensure that the task is prioritised.

It differs greatly from company to company where it makes most sense to allocate the responsibility for the work with data ethics. Some companies will think that it is most appropriate to anchor the responsibility in the management team or in the company's legal department. Some companies have also set up dedicated ethics committees with representatives from different areas of the company. This disposition may be appropriate because it helps to ensure that the company's various interests are broadly involved in the work. Other companies believe that the responsibility for work with data ethics must be anchored with a dedicated employee who can take on the managing role for the company's many different internal interests. Several companies that have written down a policy for data ethics have also appointed a policy owner who is either a single person or a department who must contribute to making the policy come to life in the company.

Regardless of where the companies choose to place the responsibility for the work with data ethics, it is essential that it is anchored in a specific place. It is important that this department or specific person makes sure to act as the link between the company's many different interests.

Last but not least, support from senior management is essential to achieve change. With its support, the senior management legitimises that employees spend time working with data ethics.

[33] Ethics Guidelines for Trustworthy AI, The Independent High Level Expert Group on Artificial Intelligence, established in June 2018 by the European Commission, April 2019 (https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai).

8.3. Preparing a policy for data ethics

- *Companies can consider drafting a policy for data ethics to ensure that they process data in an ethically correct manner.*
- *Such work should be designed with a focus on customers and society at large.*
- *Data should only be processed in a way that must be considered reasonable and ethically correct in the society in which the companies are established and by the customers the companies address.*
- *It is important that employees are able to use the policy in practice.*

A company may have acted responsibly in a data ethical context for decades without having written down an actual policy for data ethics. Conversely, a written policy is not a guarantee that all the company's actions in the future will be acceptable from a data ethical perspective. A policy is just a tool in the process of developing and communicating the company's positions. The policy can set a framework for the data ethical considerations and ensure consistent decisions, but like all other policies, it must be a living and dynamic tool for employees to make a difference.

The policy can describe the ethical choices the company has made. It can thus both describe how the company wishes to use data and which uses the company has opted out of for ethical reasons.

When a company has decided to translate the data ethical work into a policy, it will be natural to start on the basis of the company's data, products, customers and suppliers and take a position on these based on the company's own values.

The following sections are inspiration for what companies can consider when preparing a policy for data ethics.

8.3.1 The company's data and sources of data

Good data ethics starts from the moment a company takes steps to collect data. The company should first carefully consider what data is needed to deliver the specific financial product[34]. Some information is less important to have and use whereas other information is absolutely necessary in order to, for example, provide a service or comply with legislation.

As mentioned in the Danish Financial Supervisory Authority's paper "God praksis ved brug af superviseret machine learning" ("Recommendations when using supervised machine learning"), the company should ensure data quality and stability in obtaining data, including when obtaining it from third parties. If the data consists of personal data, accuracy is also a requirement under the GDPR[35]. The Danish Financial Supervisory Authority encourages companies in general to be aware of and critical of their data sources and, for example, to consider:

[34] It follows from Article 5(1)(c) of the GDPR that data, among other things, must be limited to what is necessary in relation to the purposes for which they are processed.
[35] This follows from Article 5(1)(d) of the GDPR.

- Where does the data come from?
- Is the data valid? Companies should define what they consider a valid source of data.
- Which sources do the companies want to use and for what purposes?
- Are there ethical considerations associated with using specific sources?
- Do you want to, for example, make use of web scraping or use specific data from social media to the extent that it is legal?
- Is data shared with third parties?
- Does data sharing with third parties require customer consent?

These considerations are equally relevant if the companies use AI solutions developed by third parties.

Some companies are rethinking whether they can benefit from using types of data other than traditionally used data to deliver a specific financial product. An example would be an insurance product where the price is based on driving data such as compliance with speed limits obtained with the customer's consent, rather than traditional data such as the customer's age, accident history and driving experience. The company will most likely obtain this other data from third parties.

It is up to the companies themselves to assess which data is necessary and whether the method of collecting data is reliable. The Danish Financial Supervisory Authority encourages companies to be critical both in relation to data sources, data volume and types of data in order to ensure that confidence is maintained.

8.3.2 The company's use of AI

Companies can benefit from the European Commission expert group's recommendations for the development, use and evaluation of an AI model. As can be seen from the recommendations, good data ethics presupposes that customers' data is only used in sound AI models that meet a number of specific criteria. It aligns with the instructions on, for example, robustness and clarity, which the Danish Financial Supervisory Authority gave in the paper "God praksis ved brug af superviseret machine learning" ("Recommendations when using supervised machine learning").

As previously mentioned, many companies today prefer to purchase AI solutions developed by third parties rather than developing their own systems. In this connection, there is a risk that companies will not be sufficiently critical of purchased third-party solutions. Companies should make similar considerations as stated in this section when purchasing solutions from third parties. This also applies when companies purchase third-party solutions and when developing solutions themselves. It is important that the companies generally understand and can explain how the systems make decisions.

It is important that companies consider whether an AI model is reasonable, because pursuant to the GDPR it is already a requirement that personal data is processed legally, fairly and in a transparent manner[36]. Fairness is often about avoiding biases, for example, biases in models or in data. It is important that companies avoid biases in the data used. It is also important that companies take an active approach to how they can reduce the effect of bias in the

[36] This follows from Article 5(1)(a) of the GDPR.

creation and use of the model. It is very important to know which variables the model uses and what meaning this as an example may have for groups of people who historically have been treated better or worse than others. Even small biases in algorithms can have big consequences. The companies must, for example, be aware of whether they are using data that is already discriminatory in nature. It can, for example, be the case that a credit assessment model is built around the credit institution's lending practices, but that historically loans have primarily been granted to male customers - not because the company has discriminated, but perhaps because most loan applicants have been men or because their finances have been better than the female loan applicants. Here it is important that the model does not misinterpret the premise of why more men than women have been granted loans. Companies should therefore consider whether there are historical biases in a given area that can be embedded in a model. Companies should consider what tools they can use to identify and correct such biases.

Conversely, there are also positive biases that are not harmful and should be preserved. Sometimes differential treatment is not discrimination. This could be if an insurance company takes into account the customer's age or driving history or accident statistics, when determining the premium for a car insurance product.

8.3.3 The company's customers

What must be considered good data ethics is best clarified through dialogue. This applies both in society in general, internally in the companies and externally with the companies' customers. In this connection, customers can be both natural and legal persons. The companies can investigate what exactly their customers find to be correct from a data ethical perspective. In comparison, elsewhere in the financial legislation there are specific requirements for companies to address their customers and map their interests and preferences, for example, through suitability and appropriateness tests in the context of investments. It varies from company to company if they interact with their customers, how they do so and how often they do so. But customers today expect to receive products that suit their needs and preferences. This expectation is also supported by EU regulations[37]. In the same way, customers probably also expect companies in the EU to process data ethically.

The Danish Financial Supervisory Authority's dialogues with companies have shown that several companies involve customers directly in their work with data ethics. This can be very appropriate and informative for both the customers and the company. Some have sent out questionnaires with examples of dilemmas to selected customers or customer groups on which the customers are encouraged to express their opinion. Others have set up an internal customer experience committee to discuss and address dilemmas that customers have reported back to the company.

Companies that choose to set up an ethics committee or the like can also consider whether and to what extent representatives of the customers or members can be involved in or cooperate with this forum, either ad hoc or through more systematic participation.

[37] Regulation 2017/2358 (EU) on product supervision and management requirements for insurance companies and insurance distributors.

There are also examples of companies that have developed systems where the individual customer can digitally organise the advice the company can provide to the customer. The customer can specify in the system that the company is allowed to contact him/her when certain life events occur, which data it is allowed to collect about the customer and which channels it is allowed to contact the customer through. An example is a customer who has set up a notification so that an advisor is notified when the customer has a child. When this happens, the customer may need to have his/her pension scheme or insurance coverage adjusted. The company can contact the customer and draw attention to this. In this way, the recommendations that the company gives to the customer can be adapted to each individual's specific needs and preferences.

Customers are of course different and will have varying wishes for how they want to communicate with companies. Some companies report, for example, that customers prefer to be guided by a robot (chatbot or AI) rather than by an employee in the company, for example, in connection with reporting claims.

8.4. Implementation

- *The companies can consider how they can best make employees familiar with the work on data ethics and the policy for data ethics.*
- *For example, they can spread awareness via training programs.*
- *It is important that employees are trained in their data ethical awareness.*

It is crucial that the policy for data ethics is a living thing inside the company. The companies can, for example, consider teaching employees data ethics at the start of the employment relationship. The Danish Financial Supervisory Authority knows of companies that hold a recurring awareness campaign about data ethics for their employees, where they, among other things, are presented with various data ethical dilemmas. Some use the phrase "fairness through awareness". For inspiration, the Danish Business Authority has also given access to a digital game on data ethical dilemmas in the Company Guide (Virksomhedsguiden). Such a process can contribute to sharpening the employees' ability to spot data ethical dilemmas and can lead to many subsequent discussions among the employees. The employees may also gain another perspective on ongoing projects.

Dialogues can lead to more attention being paid to data ethics. Awareness campaigns and training programmes are just examples of how this can be done. It is also important that companies create a healthy culture so that employees dare to question the company's use of data and make management aware of any data ethical dilemmas that should be discussed.

8.5. Ongoing evaluation and maintenance

- *The companies can consider how they continuously internally evaluate and maintain the work with data ethics.*
- *It is important that data ethics keep up with societal and technological developments.*

The attitude of companies, customers and society towards data ethics and the use of data has developed a lot over the past 10 years and will probably develop further in the coming years.

Some believe that as customers become more aware of data use and ethics, they will increasingly say no to companies being allowed to use their data. Others, on the other hand, believe that customers will gradually become less worried about the processing of their data, because data sharing will become more regulated and secure in the future and customers will therefore have greater control over their data.

This development means that work with data ethics is dynamic. What the companies and their customers consider correct from a data ethical perspective in 2023 will not necessarily be the same just a few years later. Companies can therefore benefit from evaluating and, if necessary, revising their policy for data ethics at appropriate intervals. In this connection, it can also be beneficial to involve the customers.

8.6. Auditing the work with data ethics

- *The companies can consider whether and to what extent a more or less independent body can evaluate their work with data ethics.*
- *It is important that the public can trust that the companies comply with any promises they have made about data ethics.*

In the long term, it can be an advantage for companies not only to be able to document that they have worked with data ethics but also to have an independent party assess the quality of this work.

This party can be the internal or external auditor which can, as a starting point, look at whether the company has prepared a policy. The auditor can also consider whether the company has chosen an appropriate process for its work with data ethics, whether the company aims to promote a data ethical mindset and how it chooses to anchor the work within the company, whether the policy is used in practice and which choices the company might have made on the basis of this policy. In addition, the auditor can consider whether and how the company works with data ethics in relation to third-party solutions and whether the company, for example, specifies requirements for and monitors data ethics among sub-contractors and partners.

Over time, there may be other players who can assist the companies with such assessments and even actual certifications.

For example, the Danish Industry Foundation, Confederation of Danish Industry, the Danish Chamber of Commerce, SMVdanmark and Forbrugerrådet Tænk launched the D-seal in the autumn of 2021[38]. The D-seal is a voluntary, private labelling scheme for IT security and responsible data use which the organisations have prepared with support from the Danish Business Authority. A company can receive a D-seal by documenting that it complies with eight more detailed criteria related to IT security, data protection and data ethics. The first step on the way to gaining the D-seal is for the company to carry out a self-evaluation on the eight criteria. Data ethics is both an independent criterion (no. 8) and integrated into several of the other criteria. The D-seal is also relevant for companies in the financial sector and in the spring of 2023 it was awarded to the first financial company in Denmark.

8.7. Reporting on data ethics

- *The companies may consider describing the points indicated above in their annual report, on their website or other communication channels for their customers and investors.*
- *It is important that companies that work with data ethics can demonstrate to customers and other stakeholders that they have actively chosen this work.*

As mentioned in Section 4, the accounting rules' requirements for reporting only apply to some companies. However, it may be relevant for all companies that choose to work with data ethics to consider how they can most appropriately communicate their data ethical beliefs and values to world around.

There are no requirements in the accounting rules as to exactly which information the financial companies must include in their management's report. The individual company voluntarily decides on its own what the policy should contain and how the company is working with it. However, it will not be sufficient to simply state that the company has developed a policy for data ethics. For comparison, it follows from the Danish Business Authority's guidelines that the report must contain a description of the content of the policy and a description of the company's work with data ethics.

It can generate trust among customers if the companies make an effort to describe to their customers and investors how they handle data ethics. This description could be in the annual report, on the website of the company or via other communication channels. The companies can, for example, explain their considerations in relation to one or more of the examples of tools described in Sections 8.1-8.6 of this report. They can describe:

1. Their internal measures to promote a data ethial mindset
2. how they have chosen to anchor the work with data ethics
3. whether they have prepared a policy for data ethics and, if so, how the work was approached, for example,

[38] Read more about the D-label at https://d-maerket.dk/, including the eight criteria at: https://d-maerket.dk/kriterier/.

   a. how and from where they collect data
   b. how they use AI
   c. how they base their work on the customers
4. how they implement the work on data ethics
5. how they will continuously evaluate the work on data ethics
6. whether they are considering having the work on data ethics audited
7. whether and how they have considered publishing their data ethical beliefs.

9. Conclusion

Data ethics is becoming increasingly important as companies process more data about their customers when providing financial services. It also makes data ethics increasingly important when more companies use AI and thereby risk making the processing of data less transparent. It varies how far the companies have come in their work with data ethics. For some companies, data ethics has been a topic for a long time while other companies have not yet worked with the topic in a structured manner. The Danish Financial Supervisory Authority hopes that this paper can help companies progress in their work with data ethics and to determine their own data ethical boundaries.

Therefore, the Danish Financial Supervisory Authority suggests that companies in the financial sector that work with data ethics take a position on the above proposal and consider which tools work best in the individual company.

Annex 1: Initiatives, principles, etc. which are mentioned in the report

Danish publications from authorities and the private sector

- God praksis ved brug af superviseret machine learning ("Recommendations when using supervised machine learning"), the Danish Financial Supervisory Authority, 2019 (https://www.dfsa.dk/financial-themes/fintech/guidance-and-handheld-supervision/recommendations-when-using-artificial-intelligence).
- Vejledning om lovpligtig redegørelse af dataetik ("Guidance on statutory disclosure of data ethics"), Danish Business Authority, December 2020. (https://erhvervsstyrelsen.dk/vejledning-vejledning-om-lovpligtig-redegoerelse-dataetik).

- Virksomhedsguiden ("The Company Guide"), articles by the Agency for Digital Government (https://virksomhedsguiden.dk/content/temaer/dataetik/).

- Guide og tjekliste til digital ansvarlighed, Sæt digital ansvarlighed på bestyrelsens dagsorden ("Guide and checklist for digital responsibility, Put digital responsibility on the board's agenda"), sikkerdigital.dk, Agency for Digital Government (https://www.sikkerdigital.dk/virksomhed/leder/bestyrelsen).

- Dataetisk metode & teori ("Data ethics method & theory"), October 20, 2021, Danish Institute for Human Rights for the Data Ethics Council (https://nationaltcenterforetik.dk/Media/637847651004812235/Dataetisk%20metoderapport.pdf).

- Theme page on data ethics with links to, for example, Cool or Creepy, data use and data ethical principles in the insurance and pension industry, 2020, for Data use and data ethics – Dilemmas and possible positions for the insurance and pension industry, 2019, for data ethical positions and data ethical tools, Forsikring & Pension (https://fogp.dk/en/politics/digitalisation-and-data-ethics/).

- Dataetik – Sådan gør du ("Data ethics - How to proceed"), Danish National Center for Ethics, October 2021 (https://nationaltcenterforetik.dk/etiske-temaer/dataetik/2022/dataetik-saadan-goer-du).

- Toolbox: Det Digitale Etikkompas ("The Digital Ethics Compass", Danish Design Center, (https://ddc.dk/cases/digital-ethics-compass/).

- Etiknavigatoren, Det Digitale Etikkompas ("The Ethics Navigator, The Digital Ethics Compass"), Danish Design Center (https://ddc.dk/tools/toolkit-the-digital-ethics-compass/).

- Knowledge card, Automation, Danish Design Center (https://ddc.dk/wp-content/uploads/2020/10/Videnskort_A4.pdf).

- The D-label, a labelling scheme created by the Danish Industry Foundation, Confederation of Danish Industry, the Danish Chamber of Commerce, SMVdanmark and Forbrugerrådet TÆNK (www.d-maerket.dk).

Publications at the EU level

- Ethics Guidelines for Trustworthy AI, The Independent High Level Expert Group on Artificial Intelligence, established by the European Commission, April 2019 (https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines -trustworthy-ai).

- The Assessment List for Trustworthy Artificial Intelligence (ALTAI) for self assessment, the High Level Expert Group on Artificial Intelligence, established by the EU Commission, July 2020, (https://digital-strategy.ec.europa.eu/en/library/ assessment-list-trustworthy-artificial-intelligence-altai-self-assessment).

- European Commission proposal for a Regulation of the European Parliament and of the Council on harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts, COM (2021) 206 of 21 April 2021 (https://eur-lex.europa.eu/legal-content/DA/TXT/?uri=CELEX:52021PC0206).

- Risk Assessment Questionnaire – Summary of Results, European Banking Authority, Spring 2022 (https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/Risk%20dashboard/q1 %202022/1036532/RAQ%20Booklet%20Spring%202022_FINAL.pdf).

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