

A man with glasses and a woman are looking at a computer screen. The man is pointing at the screen. The screen displays a complex data visualization with many lines and points. The background is dark and out of focus.

# WHAT EFFECT CAN ALGORITHMS HAVE ON COMPETITION?

The Norwegian Competition Authority's market survey on the use of monitoring and pricing algorithms.

REPORT  
2021

*This is an English translation of the main parts of a report published by the Norwegian Competition Authority ("the Competition Authority") in Norwegian. It contains the introduction of the report, its main findings and a concluding summary, which corresponds to chapter 1, 3 and 4 in the original report.*

## 1. Introduction

Technological developments have provided companies with new tools for market surveillance and market adaptation. In particular, the increased amount of data available and the development of processing power capable of analysing large amounts of data have enabled companies to gain a deeper insight into market conditions in an automated manner, through the use of different types of algorithms. Algorithms can be used for a variety of tasks, and can be defined as *"a set of operations which, if followed, provides a specific result, i.e. a formula for performing a task or solving a problem"*.<sup>1</sup>

The use of algorithms may be beneficial to both consumers and businesses. Algorithms can be used, among other things, to provide updated information to consumers. So-called price comparison sites, which give consumers the opportunity to easily compare prices and product characteristics from different providers, are typically based on the use of algorithms. Companies, for their part, can e.g. use algorithms to respond efficiently to changing market conditions.

At the same time, there are some concerns that companies might be able to utilise the information they collect through the use of algorithms in a way that weakens competition. Competition is important to ensure consumers access to the best possible goods and services at the lowest possible prices. The uncertainty companies face with regard to how competitors will act in the marketplace is a crucial driving force for effective competition. The use of algorithms as automated market surveillance tools can reduce or eliminate this uncertainty, and thereby weaken competition. Competitive harm can occur, for example, if algorithms enable competitors to immediately gain access to updated information about each other's prices and, thereby, to respond quickly to price changes. When a company knows that its competitors will detect and respond to price reductions immediately, it becomes less likely that the company in question will be able to increase its turnover by reducing its prices. As a result, it will be less likely to reduce its prices in the first place.

The various types of algorithms and their use have received increasing attention in recent years, from competition authorities and in academia. A number of reports addressing this issue have been published by, among others, the OECD, the UK Competition and Markets Authority (CMA) and a joint report published by the French and German competition authorities. The European Commission, the Portuguese Competition Authority and the Danish Competition Authority have also conducted market research regarding the use of algorithms.

In the Competition Authority's opinion, this is an important topic. More knowledge is needed about the prevalence and use of algorithms among companies operating in Norway. The Competition Authority has therefore conducted a market survey among companies in selected industries, where the use of algorithms is considered to be most relevant. The purpose of the survey has primarily been to provide an indication of the prevalence and use of these tools in Norwegian markets. The report does not assess the extent to which the use of monitoring and pricing algorithms may be legal or illegal under the Norwegian Competition Act.

In this survey, the Competition Authority has mainly focused on monitoring and pricing algorithms. A monitoring algorithm is an algorithm that collects information about the range of products offered by competitors, i.e. their prices and other product characteristics. A pricing algorithm is an algorithm that automatically sets prices. There are also other types of algorithms that may affect competition that are not covered by this survey. This includes, for example, ranking algorithms, which determines

---

<sup>1</sup> Meld. St. 9 (2018–2019) *"Wholesale and retail trade – when the customer is always online"*, White Paper from the Ministry of Trade, Industry and Fisheries, page 116.

the order in which products are presented to customers. Another example is algorithms used by suppliers to monitor the pricing of their retailers.

The Competition Authority's survey shows that it is relatively common among companies operating in Norway to use monitoring algorithms. In total, 55 percent of the respondents stated that they use monitoring algorithms, or engage in other forms of automated monitoring. However, pricing algorithms are less commonly used, as only 20 percent of the respondents stated that they use this type of algorithms. The survey also indicates that algorithms that make use of artificial intelligence are not widespread.

This report is based on information gathered by the Norwegian Competition Authority, reports from other competition authorities and other literature.

### **3 Main Findings**

This section sets out how respondents to the Competition Authority's survey use monitoring and pricing algorithms. The use of monitoring algorithms and pricing algorithms, respectively, are presented separately, although monitoring and pricing algorithms are often sold as part of the same package, or are used simultaneously. First, the methodology and the selection of respondents are described.

#### **3.1 Methodology and selection of respondents**

The Competition Authority gathered market information by way of questionnaires sent to a number of companies that sell goods and services to Norwegian consumers, to suppliers of pricing and monitoring algorithms and to providers of price comparison services.<sup>2</sup>

One of the purposes of the survey has been to gather information regarding the general prevalence of monitoring and pricing algorithms. Such algorithms are closely linked to e-commerce, as monitoring algorithms are used to retrieve information from the internet. The Competition Authority has therefore mainly focused on market operators with online stores<sup>3</sup>, and on goods and services consumers for a large part shop on the internet.<sup>4</sup> Respondents of the survey are therefore sellers of various categories of consumer goods or providers of services. The main categories from which respondents were selected are: retailers in sports equipment, clothing, cosmetics, electronics, building materials, tools, interior products, kitchens, furniture, groceries, wide selection<sup>5</sup>, providers of car rental services and flights as well as pharmacies and opticians. From each category, 3-5 respondents were selected, in total 54 respondents.

Where market shares or sufficient turnover figures were available, the largest operators were selected. Where turnover figures were not available, alternative methods were used for selecting respondents, such as the visibility in web searches in the product category concerned. The selection thus includes some of the most visited online stores in Norway.<sup>6</sup>

The Competition Authority notes that the findings presented in the report give an indication of the extent to which companies with operations in Norway use monitoring and pricing algorithms.

---

<sup>2</sup> Requests for information were sent to the respondents on the basis of Section 24 of Competition Act.

<sup>3</sup> Although information obtained from online stores may also be relevant to use in physical stores, cf. chapter 2.1.

<sup>4</sup> As of the second quarter, digital equipment, clothing and shoes, and hobbies are the largest part of the retail trade. See Statistics Norway, "[Large increase in e-commerce](#)".

<sup>5</sup> Companies with a wide selection, offer products in many different product categories.

<sup>6</sup> Ehandel.com, "[Here are the online stores with the most visits in Norway](#)".



However, the number of respondents is not large enough to draw certain conclusions about how widespread the use of algorithms actually is.

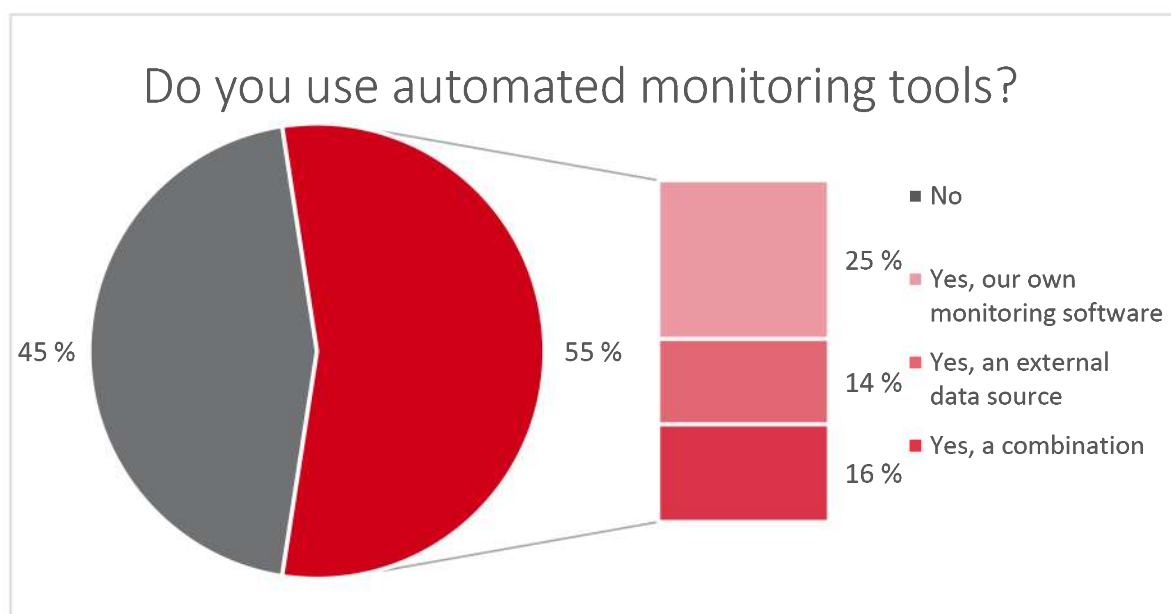
Responses were received from 51 of the selected sellers of products and services, which gives a response rate of 94 percent.<sup>7</sup> The suppliers of pricing and monitoring algorithms, which were included in the survey, provide algorithms to sellers of products and services. The Competition Authority selected six suppliers, some of which provide algorithms to some of the respondents in the survey. Four of the algorithm providers responded to the survey. The Competition Authority also decided to obtain information from providers of price comparison services. Questionnaires were sent to two price comparison service providers, both of which responded to the survey.

### 3.2 The use of monitoring algorithms

The respondents in the Competition Authority's survey state that they obtain market information in various ways, both automatically through a monitoring algorithm, by purchasing data directly from a third party or by checking competitor prices in other ways. In total, 55 per cent of the respondents state that they use a monitoring algorithm or in other ways engage in automated monitoring. This corresponds to 28 companies, as shown in Figure 2.

The Competition Authority found that an external data source, for example a price comparison service, might have the same function as a monitoring algorithm. Companies that rely on external data sources have access to updated market data about their competitors much in the same way as companies that collect market information through their own monitoring algorithm. The Competition Authority therefore chose to group respondents that use monitoring algorithms together with respondents, which receive data from external data sources. Below, this group of respondents is referred to as users of monitoring algorithms.<sup>8</sup>

**Figure 2 – Use of automated monitoring tools**



<sup>7</sup> In the European Commission's survey, there were 1051 respondents, while in the survey from Portuguese competition authority there were 38 respondents.

<sup>8</sup> Companies that use price comparison services or the like in an occasional manual monitoring of the market are not categorized as users of monitoring algorithms.

Figure 2 also shows which method respondents use for automatically obtaining competitor information. As shown in Figure 2, 25 per cent of the respondents use their own monitoring algorithm, while 14 per cent use external data sources, such as a price comparison service. Moreover, 16 per cent of the respondents use both data obtained through their own monitoring algorithm and data obtained from an external data source. This means that 46 per cent of respondents that use automated monitoring tools, collected data themselves, while 25 per cent only use an external data source, and 29 per cent use a combination of the two methods.

The Portuguese Competition Authority found in a similar survey conducted in 2019, that 37 percent of the respondents used monitoring algorithms.<sup>9</sup> The European Commission, which has also examined the use of algorithms, found that about half of the respondents systematically monitored competitors' prices, and that 67 per cent of these respondents did so through the use of their own software.<sup>10</sup> This means that about a third of the respondents in the Commission's survey used monitoring algorithms.

Respondents that use monitoring algorithms are spread across most of the sectors included in the survey. In some sectors, all or most of the respondents state that they use monitoring algorithms, while in other industries no respondents state that they use such algorithms. Thus, users of monitoring algorithms sell different types of goods and services. However, monitoring algorithms seem to be more prevalent among companies that sell products that are easy to compare, for example due to a common serial number or other identification from the manufacturer.

The respondents themselves state that the purpose of market monitoring is to check that their own prices are in line with the position they wish to have on the market. Respondents state, among other things, that information is used to *"ensure that we offer competitive prices"*, to *"monitor competitors' prices and, if desirable, to adjust our own prices"* and to *"ensure that our prices are correctly set in the market we want to position ourselves in"*.

Furthermore, respondents state that they collect various types of information about their competitors. This includes information about prices, inventories, promotions/special offers, the range of products offered by competitors, variations in products, such as colour and size, popularity (number of clicks) and shipping costs.

Price is the variable that is monitored by most respondents, followed by information about inventories. Some of the respondents state that they collect information about competitors' inventories to check that products are actually available for purchase at the stated prices. Some companies monitor the range of products of competitors to follow how competitors' product offers evolve. Companies also gather information about whether products are sold during promotional campaigns or at discounted prices, and, in that regard, also obtain information about previous price levels, if available.

Monitoring algorithms make it possible to collect information about competitors on a continuous basis and the frequency with which respondents in the survey collect data varies. Some of the respondents state that they collect updates several times a day, while others collect information one or more times a week. The most common among the respondents is to gather information about

---

<sup>9</sup> Autoridade da Concorrência (2019), "Digital ecosystems, Big Data and Algorithms - issues paper", page 44.

<sup>10</sup> EU-Commission (2017), "Final report on the e-commerce Sector Inquiry - Accompanying Staff Working Document", Page 175.

competitors' activities on a daily basis. There might be a difference between how often information is collected and how often this information is actually used by the respondents. For example, one respondent states that it collects data daily, but reviews it on a weekly basis.

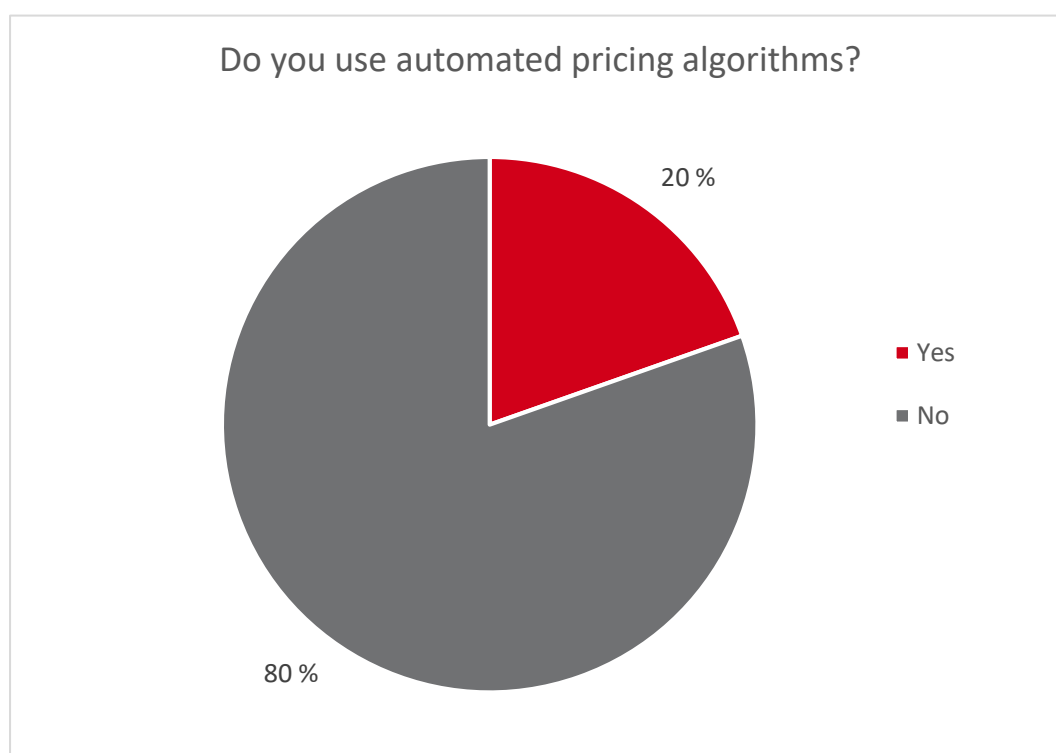
For a large number of respondents, the monitoring of competitors' prices is part of their assessment of whether to adjust their own prices. Of the respondents that use monitoring algorithms, 86 per cent state that information concerning competitor prices is included in the assessment of whether their own prices should be adjusted. The European Commission and the Portuguese Competition Authority found similar results, the corresponding figures in those surveys being 78 and 76.6 per cent respectively.<sup>11</sup> Some of these market players change prices manually, while others change prices automatically.

The Competition Authority has thus found that it is relatively common for market players to use monitoring algorithms to gain access to detailed and updated data on each other's activities.

### 3.3 The use of pricing algorithms

The survey shows that significantly fewer respondents use automated pricing compared to the number of respondents that use monitoring algorithms. There are in total ten companies, corresponding to 20 per cent of all respondents, that state that they use automated pricing algorithms. This is illustrated in Figure 3. These respondents are mostly spread across different sectors, although in some sectors several respondents make use of pricing algorithms. Respondents that use pricing algorithms usually also use monitoring algorithms.

**Figure 3 – The use of automated pricing algorithms**



<sup>11</sup> EU Commission (2017), "Final report on the e-commerce Sector Inquiry - Accompanying Staff Working Document", page 175 and Autoridade da Concorrência (2017), "Digital ecosystems, Big Data and Algorithms - Issues paper", page 44.

In the Portuguese survey, the competition authorities found that 7.9 per cent of the respondents used automated pricing algorithms.<sup>12</sup> In its inquiry, the European Commission found that eight per cent of the respondents that used monitoring algorithms automatically adjusted their own prices in response to information about competitors, while 27 per cent of these respondents changed prices both manually and automatically.<sup>13</sup> This indicates that approximately eleven per cent of the respondents had access to automated pricing tools.<sup>14</sup>

Several respondents that do not use automatic pricing directly, nevertheless state that they have this functionality integrated in the solution they have acquired without using it. Several also state that the pricing software they use proposes a new price, but that price adjustments must be approved manually before becoming operative. For example, one respondent states *"We use software that automatically proposes a new price, based on a user-defined set of rules, as well as different inputs such as competitor prices. The way in which the software is set up in [Company Name], all "simulations" with price proposals must be reviewed and approved by employees in [Company Name]'s pricing department. Proposals can be adjusted to a price other than the proposed price, or be removed in their entirety. The software can adjust prices with fewer steps of control and approval than [Company Name]'s current practice, but this is not relevant for [Company Name]"*.

In contrast to monitoring algorithms, which only concern the collection of information, automatic pricing means that companies expose themselves to a risk in the form incorrect pricing or deviations from the desired pricing strategy. One of the respondents states: *"... we are planning to acquire a system that recommends prices, based on insights from competitors, business rules and algorithms. No retailer would use such a system for fully automatic pricing as the potential for very costly erroneous pricing is large"*.

Pricing algorithms can be programmed to use a range of different pricing strategies, from simple pricing rules to more advanced algorithms that use artificial intelligence when setting prices. Moreover, pricing rules may vary from product to product, making it possible to use different pricing strategies for different products. Thus, companies can make strategic decisions in this regard. They could e.g. decide which products that should have the lowest prices and which products that should follow the prices of given competitors, while prices can be set manually for other products and product groups based on other factors. Several respondents state that they do not use pricing algorithms on the entire product range, and that only part of their products are priced automatically.

Respondents have explained in more detail how their pricing algorithms work in practice. They state, among other things, that the algorithm *"sets prices based on competitors' prices and stock levels"*, or that an algorithm *"works on the basis of business rules, typically if you want to be x % above or below competitors"*. One respondent writes that its algorithm *"creates price groups. Each group has a filter defining which products that are included in the group. For each group, pricing rules determine the*

---

<sup>12</sup> Autoridade da Concorrência (2019), "Digital ecosystems, Big Data and Algorithms", page 45.

<sup>13</sup> EU Commission (2017), "Final report on the e-commerce Sector Inquiry - Accompanying Staff Working Document", page 175.

<sup>14</sup> 343 respondents used monitoring algorithms. Of these, eight per cent adjusted prices automatically, while 27 per cent adjusted prices both manually and automatically. This amounts to 120 respondents, which corresponds to eleven per cent of the total 1051 respondents.

*proposed price (e.g. "follow market price"). Each group have restrictions, e.g. minimum 20 % profit. We decide which competitors that are taken into account in each price group".*

As the excerpts above illustrate, respondents use pricing algorithms in different ways. The most common seems to be that the pricing algorithm sets prices based on the prices of a competitor. Among the respondents, some use pricing algorithms to set prices above, below or equal to a competitor's prices, often within a given range of minimum and/or maximum prices. Other pricing strategies used by respondents are to set prices so that a given product margin is maintained, or profits are maximized. There are also some respondents that set prices based on given characteristics of competitors, for example, whether a competitor has the item in stock. Furthermore, some pricing algorithms set prices based on a predefined set of prices. Other factors that are taken into account in some of the respondents pricing algorithms are purchase prices, shipping prices and the stock levels of items in physical stores.

The Competition Authority has also examined the extent to which algorithms in one way or another make use of artificial intelligence. Very few respondents state that their pricing algorithms use an element of artificial intelligence. These respondents state that the artificial intelligence element included in the algorithm calculates profitable price points, or estimates how many units that will be sold at different price points. It would thus appear that the use of such algorithms are not very widespread today.

The findings of the Competition Authority's survey further indicate that personalised pricing occurs to a very limited extent, as few respondents state that they set personalised prices. However, some respondents state that they set prices based on certain categories of customers, such as student prices.



Based on the sample of respondents, the extent of automatic pricing seems to be relatively limited today. The fact that several respondents are already using software that includes this functionality, may nevertheless suggest that such usage can be expected to increase in the years ahead. To the Competition Authority, it would appear that Amazon's possible entry to Norway<sup>15</sup>, would make it even more likely that the use of different types of algorithms will increase in the coming years.

#### **Amazon**

Amazon operates a digital marketplace on which companies can sell their products. The platform offers a wide range of products for sale from a number of companies, including Amazon itself. Amazon has gradually grown to become one of the world's largest companies.

Concerns have been expressed in several countries that Amazon has a significant amount of market power, and the European Commission, among others, has opened an investigation concerning possible competition law infringements.<sup>1</sup>

Amazon is not established in Norway, but started operations in Sweden in October 2020. Despite the fact that Amazon does not have a Norwegian online store, it is still one of the most visited online stores in Norway.<sup>2</sup>

Both monitoring and pricing algorithms are in use on the Amazon platform. Algorithms are provided both by Amazon<sup>3</sup> and by third-party suppliers.<sup>4</sup> It is therefore reasonable to assume that the use of algorithms is widespread among the companies that are active on this platform. Issues related to the use of algorithms will thus also be relevant for companies that have started, or will start using the Amazon platform.

<sup>1</sup> European Commission, [Antitrust: Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices](#).

<sup>2</sup> Ehandel.com, ["Here are the online stores with the most visits in Norway"](#).

<sup>3</sup> ["Amazon Marketplace Web Service"](#) and ["Amazon Seller Central"](#)

<sup>4</sup> "For example RepricerExpress, etc.

#### **4 Summary**

Competition authorities both in Norway and internationally are concerned about the emergence of algorithms, their areas of use and how the use of algorithms may affect competition. Market players' use of different types of algorithms may be beneficial for both consumers and businesses. Algorithms enable businesses to become more efficient, for example by ensuring that popular products are available to consumers. At the same time, there is a concern that algorithms in various ways may limit competition. The basic challenges with regard to the use of algorithms are related to the increased frequency with which price information is exchanged, the more precise nature of this information, and the stabilizing effect this may have on markets where coordination potentially can be realized.

The Competition Authority has therefore conducted a survey to examine the extent to which, and in what way, monitoring and pricing algorithms are used by companies operating in Norway. The

<sup>15</sup> Amazon is expected to enter the Norwegian market, but it is not clear if or when it will happen. See for example Shifter.no, ["Confirmed: Amazon will expand to Norway"](#) and Ehandel.com, ["Predict Norwegian Amazon launch this year: "If they decide to take something, they will take it ""](#).

survey has found that the use monitoring algorithms is relatively common, but that fewer market players use pricing algorithms. In some industries, the use of algorithms is very widespread, while in other industries few or no players at all use such tools. Given technological developments and continued increases in e-commerce, there is reason to believe that the proportion of companies that use algorithms in their businesses will increase in the time ahead.

The surveys by the European Commission and the Portuguese competition authorities have been carried out somewhat differently from the Competition Authority's survey. It has also been some time since the European Commission's survey was conducted, which may mean that the share of companies that use monitoring and pricing algorithms, respectively, has changed since then. A comparison of the results can nevertheless give an indication of the use of monitoring and pricing algorithms in Norway relative to other European countries. Of the respondents in the Competition Authority's survey, 55 per cent use monitoring algorithms and 20 per cent use pricing algorithms. The surveys of the European Commission and the Portuguese competition authorities indicate that about a third of the responding companies use monitoring algorithms, and about ten per cent use pricing algorithms. Thus, the surveys appear to indicate that it is relatively more common to use monitoring and pricing algorithms in Norway than in other European countries.

The findings from the Competition Authority's survey show that companies use monitoring algorithms to obtain updated and detailed information about their competitors, and, in some cases, this information is part of a pricing algorithm that automatically updates prices in response to changes in competitor prices. Whether algorithms can harm competition will depend on several factors, including the specific characteristics of the market in which they are used. However, the survey has revealed some findings, which, in the Competition Authority's view, may make competitive harm resulting from the use of algorithms more probable.

The Competition Authority has found that it is relatively common to use monitoring algorithms, and that its use is more widespread in some industries than in others. When competitors have access to detailed and up-to-date information about each other's activities, it may, for example, become less attractive to reduce prices, since price reductions will be detected immediately by competitors.

The Competition Authority has also found that it is relatively common for companies that have implemented pricing algorithms to use fairly simple pricing strategies. By repeated interaction in the market, where competitors quickly can respond to each other's price changes by using pricing algorithms, such simple pricing strategies might be easily understood by competitors. This can reduce competition because market players know to a greater extent how competitors set their prices, which leads to less uncertainty in their own pricing.

If several companies use the same pricing algorithm with the same "set of rules" in the algorithm, competition may be reduced. In such a case, competitors may react in the same way to a given event in the market, which leads to increased predictability between these companies. This may increase the risk of coordination.

Based on the findings from the survey, it seems that it is not very common to use self-learning algorithms. Therefore, the concern that self-learning algorithms on their own could find that it is better to coordinate than to compete does not seem to be particularly relevant at this point in time. The Competition Authority's opinion is, nevertheless, that such a concern may become more relevant if self-learning algorithms are implemented by market participants to a greater extent in the future.

The Competition Authority's concerns related to algorithms are not primarily based on observations from the actual use of this type of tools, but are rather related to general concerns regarding the use of algorithms, as presented in Chapter 2.3. The previously mentioned reports from the OECD, the British, Danish, Portuguese, German and French competition authorities, and the European Commission, provide a thorough insight into how algorithms may affect competition.

The Competition Authority's survey shows that both monitoring and pricing algorithms are in use among market players in Norway. Such algorithms may affect competition negatively in some cases. It is therefore important that companies that use, or consider using, algorithms are conscious about the functionality offered in the algorithm. The use of algorithms may harm competition and constitute a violation of the Competition Act. The Competition Authority draws attention to the fact that each individual market player is responsible for ensuring that its conduct is within the boundaries of competition law as it stands at any point in time. This also applies to the use of algorithms, and also when buying such services from a third party.

Against this background, the Competition Authority encourages companies, which either have implemented or plan to implement algorithms, to be aware of why they choose to use a given algorithm, and what effect this algorithm may have on competition in the market. If the aim of implementing the algorithm primarily is to achieve more stable or predictable market conditions for the company, and not to ensure consumers more competitive prices or to increase the availability of its products, this may indicate that the implementation of the algorithm should be reconsidered, or that the relevant algorithm should be adjusted. This will especially be the case in markets where conditions are already conducive to coordination, for example markets with few competitors, stable demand, symmetry between market participants and homogeneous products. For companies operating in such markets, it is of particular importance to be conscious about their own use of algorithms.

Similarly, developers of algorithms are also encouraged to be aware of the competitive implications that various functionality in this type of tools may have. Among other things, developers should be aware of how software is designed to behave in markets, and how information obtained through an algorithm from one market player can be used in the pricing of another market player.

The competitive consequences of using algorithms will depend on a specific assessment of each individual case. The technological development related to the use of algorithms is happening rapidly, and these assessments may therefore also change over time.

## List of references

- Assad, S., Clark, R., Ershov, D. og Xu, L. (2020). "Algorithmic Pricing and Competition: Empirical Evidence from the German Retail Gasoline Market". CESifo Working Paper No. 8521.
- Autoridade da Concorrência (2019). "Digital ecosystems, Big Data and Algorithms".
- Autorité de la concurrence og Bundeskartellamt (2019). "Algorithms and Competition".
- Calvano, E., Calzolari, G., Denicolò, V. og Pastorello, S. (2020). "Artificial Intelligence, Algorithmic Pricing, and Collusion". American Economic Review, 110 (10): 3267-97.
- Competition and Markets Authority (2018). "Pricing Algorithms - Economic working paper on the use of algorithms to facilitate collusion and personalised pricing".
- Ehandel.com (2020). "Her er nettbutikkene med flest besøk i Norge". <https://no.ehandel.com/her-er-nettbutikkene-med-flest-besok-i-norge> (lest 13.01.2021).
- Ehandel.com (2021). "Spår norsk Amazon-lansering i år". <https://no.ehandel.com/spar-norsk-amazonlansering-i-ar-hvis-de-bestemmer-seg-for-a-ta-noe-tar-de-det> (lest 13.01.2021).
- Eisen, M. (2011). "Amazon's \$23,698,655.93 book about flies". <http://www.michael-eisen.org/blog/?p=358> (lest 13.01.2021).
- EU-kommisjonen (2004). "Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings".
- EU-kommisjonen (2017). "Final report on the e-commerce Sector Inquiry – Accompanying Staff Working Document".
- EU-kommisjonen (2020). "Antitrust: Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices". [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_2077](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2077) (lest 13.01.2021).
- Ezrachi og Stucke (2015). "Artificial Intelligence & Collusion: When Computers Inhibit Competition".
- Konkurrence- og Forbrugerstyrelsen (2021). "Prisalgoritmer og deres betydning for konkurrencen"
- OECD (2017). "Algorithms and Collusion - Background Note by the Secretariat".
- Regjeringen (2018). "Handelsnæringen – når kunden alltid har nett". Meld. St. 9 (2018/2019).
- Shifter.no (2020). "Bekreftet: Amazon skal utvide til Norge". <https://shifter.no/nyheter/bekreftet-amazon-skal-utvide-til-norge/188344> (lest 13.01.2021).
- SSB (2020). "Stor økning i netthandelen". <https://www.ssb.no/varehandel-og-tjenesteyting/artikler-og-publikasjoner/mer-netthandel-mindre-butikkhandel> (lest 13.01.2021).







KONKURRANSE-  
TILSYNET

Norwegian Competition Authority

Zander Kaaes gate 7  
5015 Bergen  
Norway  
T: +47 55 59 75 00

[Konkurransetilsynet.no](https://konkurransetilsynet.no)