Do you have any questions about the report? Get in touch at contact@cioanalytics.com

2024 CIO ANALYTICS

Only
15%
see the IT department as a partner in running the business.

9 out of 10
IT decision-makers feel responsible for sustainability.

Last year's challenges:
25% Resources
19% Security

Over
50%
use data-driven decision making and Robotic process automation.

40%
of IT departments are proactive.

THEN

NOW

FUTURE

Upcoming challenges:
17% Resources
20% Security

85%
do not work systematically with AI.

32%
in the private sector want to focus more on business development.

8 out of 10
IT organisations will increase their focus on digital development in the next three years.

78%
are making sure they are more prepared for cyber attacks.

Over
50%
will need security experts in the coming year.

23%
in the public sector want to focus more on business development.

34%
of IT departments are moving towards a more proactive approach.

ATEA

IN-DEPTH INTERVIEWS

5
At the forefront of innovation in the subsea industry

16
The role of IT is to be the liaison between the business and the technical capabilities

29
The future of social and healthcare is in robotics and AI

Do you have any questions about the report? Get in touch at contact@cioanalytics.com

Contents

Page #

PART 1. YOUR ROLE AS AN IT DECISION-MAKER

4 Key qualities: business acumen and a holistic approach
5 **In the spotlight:** A complex future
6 Security at the forefront
7 Moving towards an increased focus on business development

PART 2. THE ROLE OF THE IT ORGANISATION

8 Proactive IT departments bear more development costs
9 Organisational objectives pave the way for proactivity
10 More active IT departments
12 **In the spotlight:** A shared future
13 Challenges in terms of equality
14 High demand for security experts

PART 3. THE ROLE OF IT IN BUSINESS

15 IT is not commonly seen as a partner in running the business
16 **In the spotlight:** A sustainable future
17 Almost all IT decision-makers take responsibility for sustainability
18 Nordic and Baltic countries are actively looking towards the future

PART 4. RESILIENCE

19 Resilience – increasingly important, but not getting any easier
20 Security and resources were major challenges in the past year...
21 ...and will continue to be so in future
22 Preparedness varies from country to country
23 Growing preparedness for cyber attacks
24 **In the spotlight:** A secure future

PART 5. INNOVATION

25 Innovation – turning intention into action
26 Significant differences in technology use among Northern European countries
28 Wide-ranging views on public cloud solutions
29 **In the spotlight:** An innovative future
30 A long way to go to full AI maturity in many cases

31 Known and unknown challenges and opportunities ahead

32 **In the spotlight:** Where sustainability drives technology

About the report
CIO Analytics is an annual survey that has been conducted in Sweden since 2018. In 2024, it was extended to cover the wider Nordic and Baltic region for the first time (referred to in the report as Northern Europe). The survey is aimed at IT decision-makers, and a total of 1,001 responses have been collected (60 per cent from the private sector and 40 per cent from the public sector).

Analysis team
- Maria Ehrin, Innovation Leader, Atea Sweden
- Sara Vitmosse, IT Architect, Atea Sweden
- Jennifer Sturedahl, Innovation Manager, Atea Sweden
- Therese Bengtner, Editor, Voister
- Johan Bentzel, Journalist

Project leads
- Marita Søvik Røskar, Norway
- Carl-Eric Backman, Finland
- Adomas Nenartovičius, Baltic countries
- Mie Lin Larsen, Denmark

The report is issued by Atea ASA, the leading supplier of IT infrastructure in the Nordic and Baltic regions.

NORTHERN EUROPEAN IT DECISION-MAKERS IN 2024:

Looking outward, inward and forward

According to Northern European IT decision-makers, the pace of change is faster than ever, bringing with it more challenges and greater opportunities. It is an exciting yet daunting time that points towards new ways of working, technological advancements, and the need for robust IT solutions in the face of uncertainty and turmoil. More issues are falling to CIOs and demands on IT decision-makers are increasing. So what can we do to steer our businesses in the right direction?

In front of you, you have Northern Europe's largest CIO survey. This survey explores the views of over 1,000 respondents, who all realise that, while they can't make much of an impact on their own, almost anything is possible if they tackle it together.

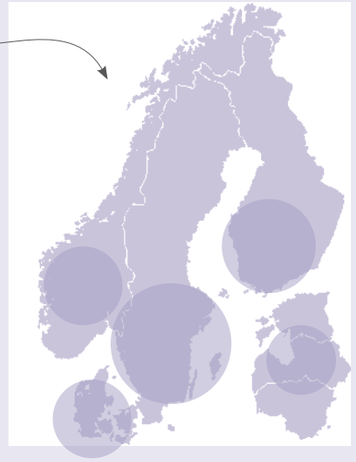
The respondents have shared their thoughts on the IT landscape as it was in the past, as it is now, and as the think it will be in the future. The responses have been analysed across sectors and organisations in the Northern European market.

In 2024, IT decision-makers need to be able to take a helicopter view, spot opportunities offered by new technologies, bring the right skills on board, and (try to) anticipate threats from cyber criminals. Yet, they also need to be adept at looking inward, understanding the pitfalls within their own organisation, and finding low-hanging fruit that is ripe for harvesting with digital solutions. In challenging times, IT and business need to join forces; this is essential for boosting innovation and competitiveness in the long run.

While many are keen to delve into AI, only a few have made the transition from exploring this technology to systematically exploiting it to create value. Then, there is the question of how to pay off technical debt while plugging security holes at the same time.

Working together makes most things possible. Collaboration is called for, especially when it comes to security. One way of doing this is through dialogue, and this is something that CIO Analytics can hopefully help with. Read the report, interviews and insights from this year's survey. Draw inspiration from it for both you and your organisation as you approach the next stage in your development journey.

Response distribution by country of a total of 1,001 IT decision-makers in Sweden, Norway, Finland, Denmark and the Baltic countries.



MAP: ISTOCKPHOTO

1

Your role as an IT decision-maker

In a world in geopolitical turmoil, security is a top priority for many IT decision-makers in both the Nordic and Baltic countries, although there are some differences between these nations. In Finland, for example, business development and digitalisation are considered as important as security. In some countries, not least in the Baltics, there is also a strong desire to focus even more on security in the future. Yet other IT decision-makers would rather spend more time on business development and other areas, such as business acumen and digitalisation, with a viewing to strengthening their organisations.

Key qualities: business acumen and a holistic approach

Name what you think is the main characteristic of a good IT executive

"I think a holistic approach is important when it comes to making decisions about IT. We have various directives, laws and restrictions to comply with and businesses are operating around the clock. It would be stupid to only look inward. Of course, we have to take not just our own requirements into account, but also those of the business and, ultimately, our customers too."

"The world around us has never been so threatening as it is now. It's about seeing what's going on, putting things in context and being prepared for the unexpected."

"The key to making good IT decisions is business acumen. In other words, understanding how the business is currently being run, what challenges it is facing and how it needs to develop and stay competitive."

"The courage to be proactive when business needs are identified, and to look beyond the confines of the company. The courage to look for and suggest new alternatives. The courage to develop the team to live up to modern standards. The courage to rely on ecosystem partners, but manage them with confidence. The courage to trust in new talents, and to lead and support them."

"A shrewd digital leader needs to be responsive to the world around them – the bigger picture – but also to what is happening in their immediate vicinity, concerning employees, colleagues and senior management."

ILLUSTRATION: ISTOCKPHOTO

Business acumen and a holistic approach came out on top in this year's survey when the respondents were asked to select a single quality that characterises a good IT decision-maker.

In Finland, the ability to adopt a holistic view of business, the existing IT environment, and new technologies is considered to be the most important characteristic of a good IT decision-maker in both the public and private sectors. This holistic approach is also highly valued in Sweden, Norway and Denmark, where it tops the list for the public sector. The private sector respondents in these three countries also highlighted the importance of business acumen. In Norway, this – along with strategy – are listed highly on the public sector list as well. In the Baltic countries, strategic leadership is regarded as the most important quality for a good IT decision-maker, followed by business acumen and expertise.

DEEPOCEAN:

At the forefront of innovation in the subsea industry

With a strong focus on digitalisation, sustainability, and innovation, DeepOcean is accelerating sustainable ocean solutions and powering the energy transition.

"We have dedicated resources handling onshore operations, the enterprise side of things, and more operationally focused resources catering to our vessels. This setup ensures that we have specialised expertise where it's needed", says Vegard Grutle, Group IT Manager at DeepOcean.

DeepOcean is a technology-driven, independent solution provider in the ocean space. They offer companies within oil and gas, offshore renewables, deep sea minerals, and other non-energy niches a full range of services – from survey, engineering, project management, and installation to maintenance and recycling. With over 1,400 employees spread across four continents, DeepOcean is at the forefront of innovation in the ocean space.

FACILITATING THE COMPANY'S NEEDS

As an IT leader every day presents new challenges and opportunities in a dynamic and forward-thinking organisation. "It's a very exciting and challenging role in a growing organisation. I am juggling many things at once, but my primary focus is on facilitating the company's needs in a secure and sustainable manner," says Vegard Grutle.

Vegard Grutle, Group IT Manager, DeepOcean.

CHALLENGES ON THE HORIZON: NAVIGATING IT SECURITY

With increasing threats from external factors, DeepOcean continuously works to strengthen its IT cyber security portfolio and raise awareness among employees. Vegard Grutle points to insider risk and supply chain vulnerabilities as their key concerns.

"Geopolitical shifts have heightened the need for vigilance; understanding who operates within your organisation and how they access information is paramount," he stresses.

In response to these challenges, DeepOcean is continuously modernising its IT infrastructure and focusing on fostering a robust culture of security awareness.

DRIVING DIGITAL TRANSFORMATION IN A GLOBAL BUSINESS

"It's essential to take on the role of a gatekeeper to ensure that digitalisation processes adhere to cyber security and information governance frameworks," Vegard Grutle states. He underscores the significance of change management, citing John Kotter's principles in Leading Change as guiding lights.

Ensuring continuous development and digitalisation within the company is paramount for Vegard Grutle and his team. "First and foremost, it's essential to have invested in secure and scalable platforms to enable digitalisation," he explains.

Collaboration between IT and other parts of the organisation is key to supporting business goals effectively. By maintaining close collaboration, DeepOcean has established a dynamic and innovative work culture. Employee development and well-being are also central to the company's strategy for future growth and success.

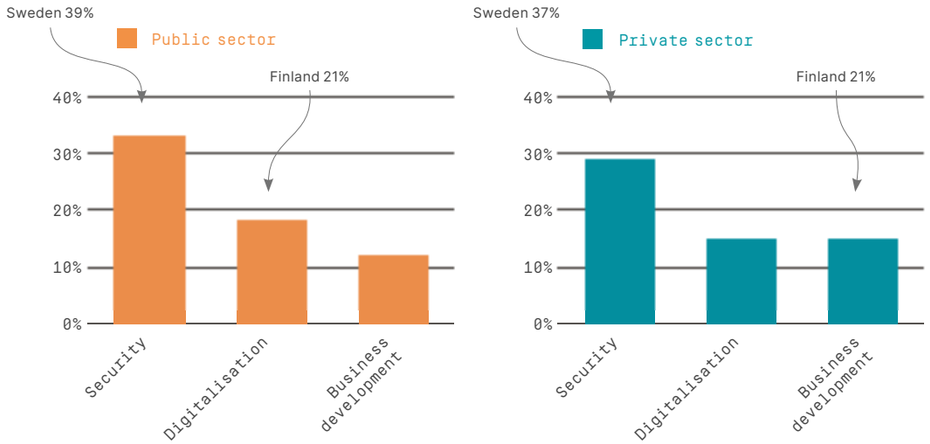
A MORE STRATEGIC FOCUS AHEAD

Looking ahead, Vegard Grutle predicts a more strategic role for IT leaders in the future, with a greater focus on risk management and business alignment. "We're transitioning from being enablers to being strategic partners, focused on risk management and sustainable growth. As IT leaders, we need to chart a strategic course aligned with the business needs and the organisation's goals – and drive change effectively through these".

YOUR ROLE AS AN IT DECISION-MAKER

Security at the forefront

What is currently your primary focus in your role as an IT executive?



The main focus among the IT decision-makers included in this survey is security – and that goes for both the private and public sector. In both the Nordic and Baltic regions, security is named as the main focal area. Given the current global situation, this is an issue that cannot be ignored, and it takes up a lot of time.

Geopolitical tensions are particularly noticeable in the Baltic countries. This can be explained to a significant extent by these countries' geographical proximity to Russia and an increasing number of cyber attacks in recent years.

Norwegian IT decision-makers think there is a high risk of their country being attacked where it is weakest and point out that IT security is under severe pressure across the business world. The Norwegian National Security Authority believes that the country's security is a matter that concerns society as a whole. In its view, it is, therefore, society's responsibility to tackle this issue collectively.

In Denmark, more than 30 per cent of the respondents in both the private and public sectors highlight cyber security as an important focal area. Key factors here include the increase in cyber threats in the wake of the war in Ukraine and the high-security requirements under the new EU's new NIS2 Directive. In the public sector, there has long been a lack of sufficient focus on digital security – an issue which is becoming more acute now that cyber threats are on the rise. At the same time, the development of AI is prompting wide-ranging action in Denmark's private sector, where there is a strong focus on digitalisation as a springboard for data-driven business in the future.

Across all the countries in the survey, IT decision-makers in Sweden consider security a slightly higher priority than average. Many Swedish businesses have recently been exposed to cyber attacks, and this risk has increased further still now that Sweden has joined NATO.

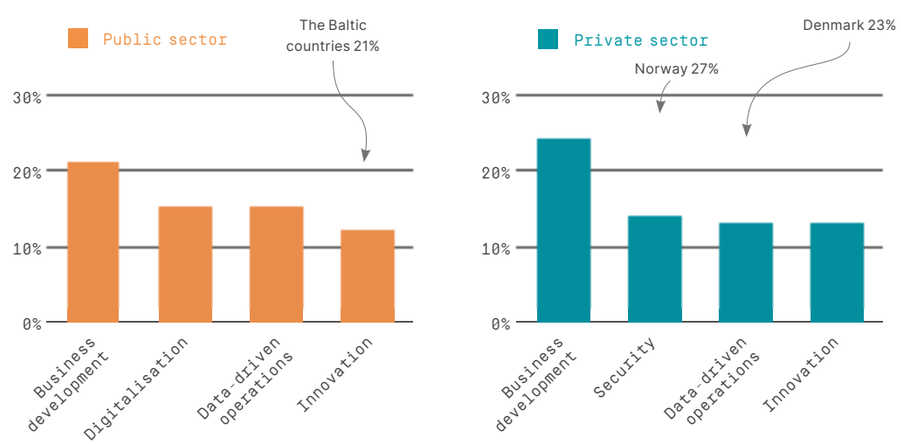
However, Finnish IT decision-makers stand out from the others by placing business development and digitalisation on an equal level with security in terms of importance, even though the number of cyber attacks has increased since the outbreak of the war in Ukraine. This difference can possibly be explained by the strict regulation of certain industries, such as the financial and energy sectors, in recent years.

Security may be the dominant issue, but digitalisation and business development are important areas too. Within the public sector, there is a general need for more digital services to maintain a high level of service overall.

YOUR ROLE AS AN IT DECISION-MAKER

Moving towards an increased focus on business development

What would you like to focus more on in your role as an IT executive?



With war raging in Europe and an increasing threat from Russia, it is inevitable that security is the main issue preoccupying IT decision-makers, but there are also other important areas they would like to focus on more in the future.

Business development is clearly at the top of the list. This is followed by a cluster of areas that are all ranked more or less equally: data-driven operations, innovation, digitalisation, and automation. This group also includes security, which some respondents want to spend more time on than they currently do. Across all the survey respondents, there is a slight variation between the private and public sectors on this issue. The most notable difference is that digitalisation is slightly higher in the list of public sector preferences.

There is a certain correlation between what IT decision-makers want to focus on more and what they think will be the most significant challenges in the coming year (see page 21). Those who want to pay more attention to developing business operations see resources and business development as significantly greater challenges than the other survey respondents on average. The same group also classes security as a relatively minor challenge.

There are also some discernible differences in terms of approaches to sustainability and skills requirements. IT decision-makers who would like to focus more on innovation also feel more responsible for supporting their organisation's sustainability efforts (see page 17). Those who are keen to work more on data-driven operations also have a higher-than-average need for IT architects, data architects, and data scientists (see page 18).

Both Finnish and Swedish IT decision-makers show a desire to concentrate more on developing business acumen, while those in the public sector in these countries also want to see a greater focus on digitalisation (Finland) and data-driven operations (Sweden). In Norway, IT decision-makers want to focus more on security, as cyber attacks have increased significantly, with nothing to suggest that they will get any less frequent or serious in the future. A greater emphasis on security is also called for in the Baltic countries, which already consider this area a top priority (see page 6), but more focus on innovation is also high on the list. In Denmark, both the private and public sectors want to increase their focus on business development, with the private sector also keen to concentrate more on data-driven operations and the public sector looking to pay more attention to digitalisation.

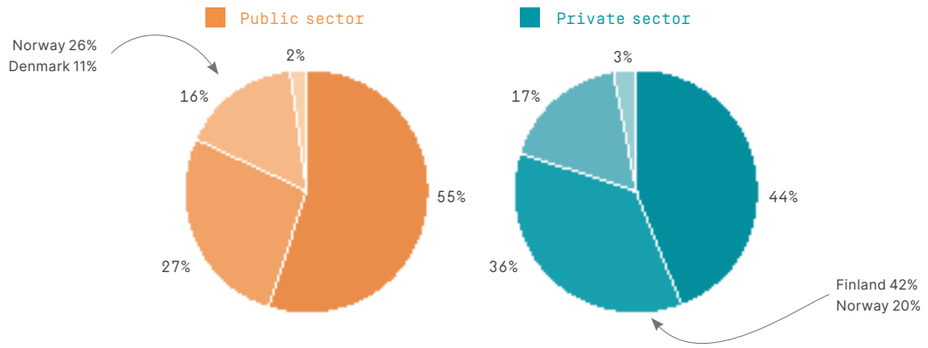
2

The role of the IT organisation

In light of the greater emphasis on digitalisation and security, many IT departments are taking on an increasingly enterprising and active role, and this is expected to be consolidated further in the coming years. However, in some countries, there are also indications of a trend in the opposite direction, with more focus on operations and support. One challenge that all countries are grappling with is gender equality in the IT industry. Men dominate in both the private and public sectors, albeit to a lesser extent in the public sector.

Proactive IT departments bear more development costs

Are your IT costs affected by development projects initiated by the business?



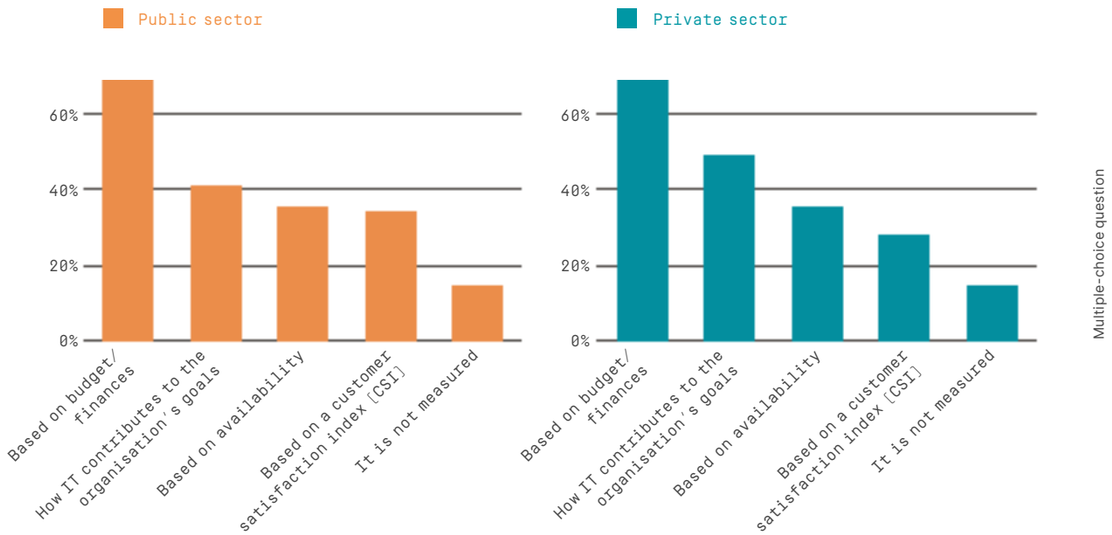
Although there is some variation between countries, most of the IT decision-makers in this year's survey report that they are partially affected by IT-related projects launched by their company, as IT departments often have to bear the administrative and management costs involved. In Finland and the Baltic countries, there is a relatively even split between those who say they are directly affected and those who are only affected in part. This applies to both the private and public sectors. In Sweden and Denmark, there is also a fairly even balance between these two views among those in the private sector, while the majority of respondents from the public sector say they are partially affected (61 per cent in Sweden and 62 per cent in Denmark). In Norway, more than half of respondents from both the private and public sectors (57 and 55 per cent respectively) state that they are partially affected, while a substantial number in the public sector, 26 per cent, claim that they are not affected at all.

It is also interesting to note that IT departments that consider themselves to be proactive (see page 15) are more likely than others to bear the bulk of the costs of business development projects. Many IT decision-makers are seeking a more active role in the development of the business and see digital development and digitalisation projects as key priorities for the coming years (see pages 10 and 11).

It is also clear from the survey that not everyone is in a position to answer the budget questions, and some have difficulty estimating how high the total IT costs are in relation to the organisation's overall turnover. The ways of measuring differ significantly, and in many cases, there is no specific definition of what falls within the scope of operations and support.

Organisational objectives pave the way for proactivity

How is the IT organisation measured and evaluated?



Multiple-choice question

Across all the Nordic countries, IT departments are most commonly assessed based on budget, indicating that, in many cases, IT is still seen as a cost and not as a function that helps open up and exploit business opportunities. In Norway, there has been a noticeable increase in the use of cloud solutions and organisations are keen to keep their costs under control. The challenge here is how companies can transform their cloud infrastructure from a cost into something that also drives development in terms of sustainable innovation and growth.

In the Baltic countries, IT departments are more likely to be measured based on their contribution towards achieving organisational objectives. This has an impact on the priorities of IT decision-makers (see page 7), as innovation is second in the list of areas they spend the most time on (after security) and something they would like to focus on more. Thess insights shows that both the private and public sectors in the Baltic region understand that investing in IT is not just a cost but also something that creates value for the organisation as a whole and its customers.

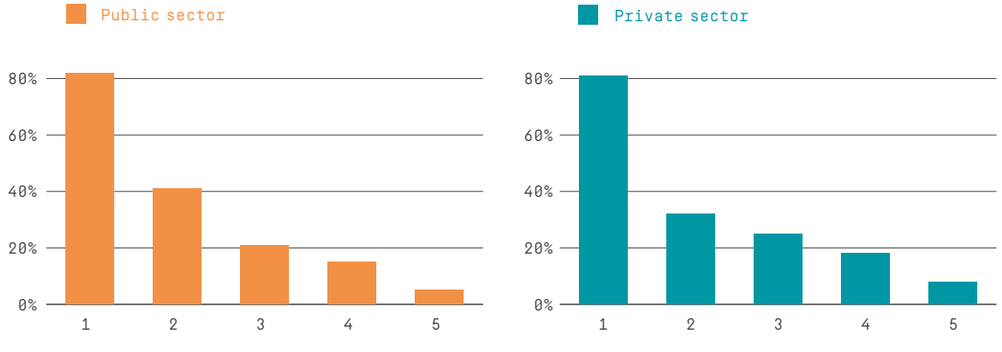
On average, 46 per cent of the respondents say they are measured based on the organisation's objectives. However, this proportion is higher among IT departments that consider themselves proactive in terms of meeting business needs (57 per cent) and lower among those that say they are more reactive (36 per cent).

IT departments that are measured by their contribution towards achieving organisational objectives are also more likely to say they have an IT strategy that supports the company's sustainability goals (see page 17). This group also uses technology for data-driven decisions to a greater degree than others.

THE ROLE OF THE IT ORGANISATION

More active IT departments

How do you think your IT organisation will develop over the next three years?



Multiple-choice question

1. Increased focus on digital development and driving and implementing digitalisation projects.
2. Increased focus on operating and managing the basic IT system.
3. Reduced focus on operating and managing the basic IT system.
4. Becoming a service integrator; not your own IT organisation but acting as a sourcing partner for the business.
5. Same as today, we will not make any changes.

Comments from respondents. Blue background for private sector, orange background for public sector.

"There's not enough innovation in everyday life. Businesses need to develop, and since everything is just moving faster and faster, the pace of innovation needs to match that."

IT decision-makers across all the countries surveyed indicate that their focus over the next three years will mainly be on driving digital development and digitalisation projects. This marks a clear shift away from their role as an operations and support organisation, moving instead towards playing an active part in driving business development. At the same time, there are many IT decision-makers, especially in Denmark and the Baltic countries, who also see a trend towards focusing more operations and support (48 per cent in Denmark and 65 per cent in the Baltic region, compared to the average of 35 per cent for all the countries included).

As a result, those who expect to see a greater emphasis on digital development in the coming years also tend to highlight digitalisation as their main priority, while security is the prime concern for those who intend to focus more on operations and management. Prioritising digitalisation also gives rise to an above-average need for IT and data architects, project managers, data scientists, business developers and change managers (see page 18).

Information security tops the priority list in Finland and the Baltic countries, while security takes first place in Sweden, Norway, and Denmark. All countries include digitalisation in their top three priorities. There is, therefore, no doubt that security, information security and digitalisation will be at the forefront for the next three years. Increasing efficiency and business development are also high on the list. The difference between the private and public sectors is that those in the private sector tend to prioritise efficiency and business development, while those in the public sector put more emphasis on security and digitalisation.

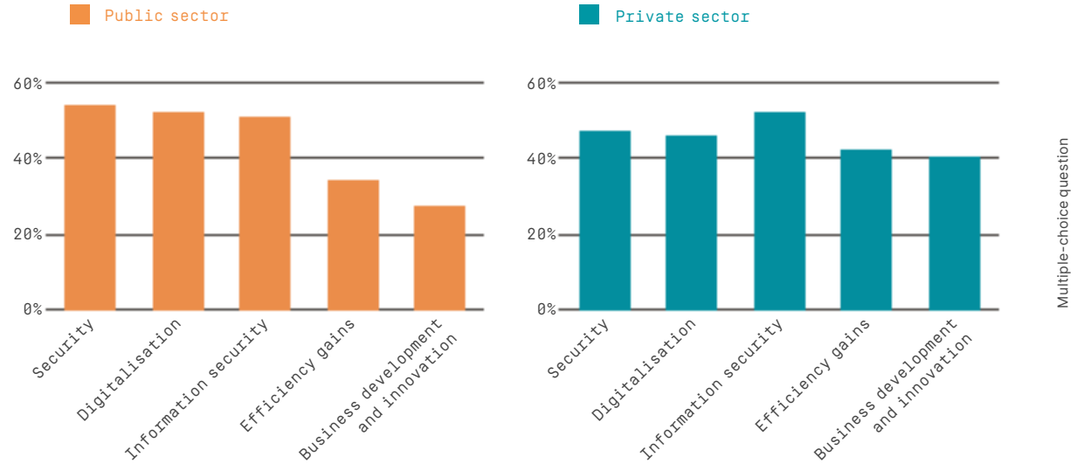
To some extent, the position of IT decision-makers within the organisation also seems to affect priorities. If they are at the top management level, then digitalisation, business development and innovation are higher on the agenda, while IT decision-makers who are not in top management concentrate more on increasing efficiency and saving costs.

Business development and innovation are considered remarkably more important by IT decision-makers in proactive organisations compared to others on average (see page 15). In more reactive organisations, on the other hand, there is a clear emphasis on cost savings.

"A huge part of all our work and budgeting is pure management and supporting the systems/functions we manage, as well as providing operational support. There is very limited analysis and evaluation of existing solutions or functions, or development and phasing out."

Comments from respondents. Orange background for public sector, blue background for private sector.

What are your IT organisation's top priorities over the next three years?



Multiple-choice question

Swedish Tax Agency to combat financial crime with AI

Peder Sjölander joined the Swedish Tax Agency just as the pandemic spread, which meant that a holistic approach was required from the start. Today, security issues are a top priority, along with resolving technical debt despite budget constraints.

"Our assignment involves operations and management, offering availability seven days a week, 24 hours a day, 365 days a year. This applies both to our services and to those we provide to the Swedish Enforcement Authority, the Swedish Election Authority, the new Payment Authority and The Agency for Digital Government.

The Swedish Tax Agency's IT department works cross-functionally, with tasks divided between five portfolios, including one devoted to its infrastructure. The aim is to do 'as much as possible with the funds available' based on different frameworks, budgets, and skills. IT costs amount to around SEK 2.3 billion, of which 700 to 800 million are spent on development.

"Knowing that you understand that we must get value out of it, a big part of my job is to ensure that my staff adopt new ways of working and technologies. That way we can reduce the number of people in certain functions, shorten queues or improve quality."

Hence, you need to look both at what's behind you and at what's coming up ahead:

"The last wagon on the train mustn't be too far behind. It's about bringing cool new technologies on board while doing the less sexy thing too – phasing the old ones out."

Peder Sjölander and his colleagues do this partly by upgrading older systems to new platforms, and partly by identifying opportunities in new government assignments.

"It's important not to take the easy way out and just build on old systems but to go through this system renewal process in parallel. I think we have managed to instil that as a mantra in our colleagues, so they understand what we need to do and why."

Peder Sjölander, IT Director, the Swedish Tax Agency.

Peder Sjölander mentions last year's electricity support programme when the Swedish Tax Agency had three months from receiving the assignment to going live.

"That kind of situation calls for reusable components and an agile approach, building the system while the legislation is still being put in place. Optimally, the two will match when it is time to go live."

SECURITY IS NOT JUST ABOUT TECHNOLOGY

Security, resilience and civil defence are three components central to the Swedish Tax Agency. Their pool of security experts has expanded from eight to 28, they have built a security operations centre that is staffed around the clock and teamed up with other organisations to carry out internal penetration tests and external exercises.

The main focus is the human aspect:

"The easiest way to lose information is for our staff to take it out the door with them. So a lot of emphasis is on education and training; getting people to understand what information they are dealing with and how people are affected if it gets leaked."

The future will involve scenario planning, such as mapping out how, in times of crisis, the Swedish Tax Agency can be set up elsewhere by other people in just 15 days. Peder Sjölander is also hoping for more cooperation between organisations.

"During the parliamentary elections, it took too long to get help from other authorities. There is a built-in slowness in the system, which we have started working on so that security-cleared individuals can operate across different authorities."

Cooperation is also the guiding principle in a new collaboration in which the Swedish Tax Agency will fight organised financial crime with the police, the Swedish Payment Authority, the Swedish Prosecution Authority, the Swedish Enforcement Authority, and others.

"We will use AI as a means of fraud detection, where we 'crunch' large amounts of data to uncover these networks and find out how they are organised. Everything from census records to tax information to intelligence gathering can be helpful for authorities to avoid sending money to rogue companies."

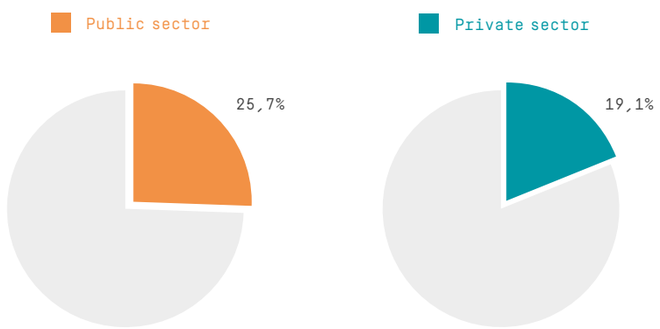
THE ROLE OF THE IT ORGANISATION

Challenges in terms of equality

The proportion of women in the IT sector is low across all Nordic and Baltic countries. In small IT departments in particular (those with no more than 10 employees), there is a noticeable absence of women. If these IT organisations are excluded from the data, the overall average is higher in both the private and public sectors (24 per cent and 27 per cent, respectively). In general, however, there are more women in IT departments in the public sector than in the private sector. In the Baltic region, this is explained by women having more favourable working conditions and a better working environment in the public sector, including in IT departments.

Norway stands out in the survey as the country with the lowest proportion of women in IT in both the private and public sectors. Only 16 per cent of employees in Norwegian IT departments are female. Generally speaking, men and women pursue different educational options, career paths, and positions in working life. According to Statistics Norway, 70 per cent of employees in the public sector are women, but only 37 per cent in the private sector. The public sector has a responsibility to promote greater equality, which means that public organisations have to report annually on the active work they do to promote equality. The new legislation also stipulates that large and medium-sized Norwegian companies must have at least 40 per cent women on their boards by 2028. Norway is leading the way in this respect on a global level. In Sweden, there is a slight upward trend in the private sector, with the proportion of women rising from 19 per cent in 2022 to 23 per cent in 2024. However, the corresponding figure for the Swedish public sector has dropped slightly from 27 to 26 per cent.

Women in the IT department



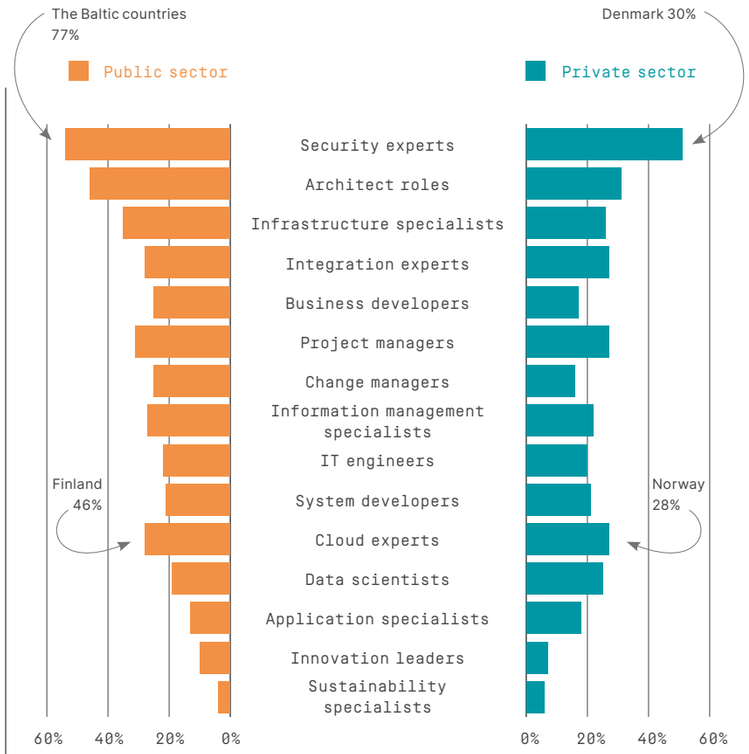
A report published by Technology Finland in May 2022 offers another glimmer of hope for the future. It reveals that the proportion of female applicants for technical and IT educational programmes is higher than ever. In 2015, women accounted for 25 per cent of those applying for these courses. Seven years later, they made up 36 per cent. It is difficult to attract skilled IT staff, but the public sector in Denmark has been good at marketing itself to students under the slogan "IT careers with a purpose". This may be part of the reason why gender equality is better in the public sector than in the private sector. Denmark is also seeing a small but persistent increase in the proportion of female students enrolled on IT programmes, which rose from 27 per cent in 2019 to 35 per cent in 2023.

It is common practice for organisations to strive towards establishing a gender balance. However, having an equal proportion of men and women does not necessarily mean that equality has been achieved. It requires an inclusive culture where the work environment and conditions are equal for all. Gender is one of several aspects of diversity, and inclusion is essential for diversity to bring value to an organisation. The McKinsey report "Diversity Matters Even More" (2023), based on data from 1,265 companies in 23 countries, shows that an inclusive culture provides a basis for equality and diversity, which in turn enhances business value. Companies that actively engage with diversity and inclusion are associated with higher financial returns, holistic growth aspirations, greater social impact and better employee satisfaction. Businesses will also find it easier to find the skills they need if they broaden their search to include different groups. Equality is a factor for success.

THE ROLE OF THE IT ORGANISATION

High demand for security experts

What skills will your IT organisation need within the next 12 months?



Multiple-choice question

Over half of the IT decision-makers surveyed say they will need security experts in their business in the coming year. Architectural roles are also high on the list of skills in demand. The IT decision-makers who took part in the survey believe that values and culture are the most important factors for securing the right skills. These are followed by leadership, internal skills development, working methods, and salary and the salary model.

In organisations that have made some progress in their path towards AI maturity, roles such as data scientists and system developers are high on the priority list, while those that have reached a more advanced stage in their AI journey are seeking security experts and IT and data architects. IT departments that are more restrictive in their approach to using public clouds (see page 28) generally have a greater need for infrastructure specialists.

In Finland, there is a clear variation between the private and public sectors in terms of demand for security experts. On the private side, 60 per cent of respondents say they need these skills, while only 38 per cent say the same in the public sector, which primarily seeks architectural expertise instead (56 per cent). In Denmark, the situation is essentially the opposite. Here, security experts attract the highest demand in the public sector (54 per cent), whereas they are less sought-after in the private sector (30 per cent). On the private side, the greatest need is for IT and data architects. Generally speaking, however, the need for skills in the private sector in Denmark is lower, as reflected in the relatively low percentages given for all the options in the survey.

Security experts are in demand in the Baltic countries, not least in the public sector, where as many as 77 per cent have stated that they need these skills.

In Norway, the need for cloud experts in the private sector stands out in particular. There is also a significant need for security experts in general, and several reports point to difficulties in meeting this growing demand. The research institute NIFU estimates that there will be a shortage of 4,000 individuals with IT security skills in Norway in 2030. The trend is the same in the Baltic countries, where the public sector in particular has a greater need for security experts than the average across the survey as a whole.

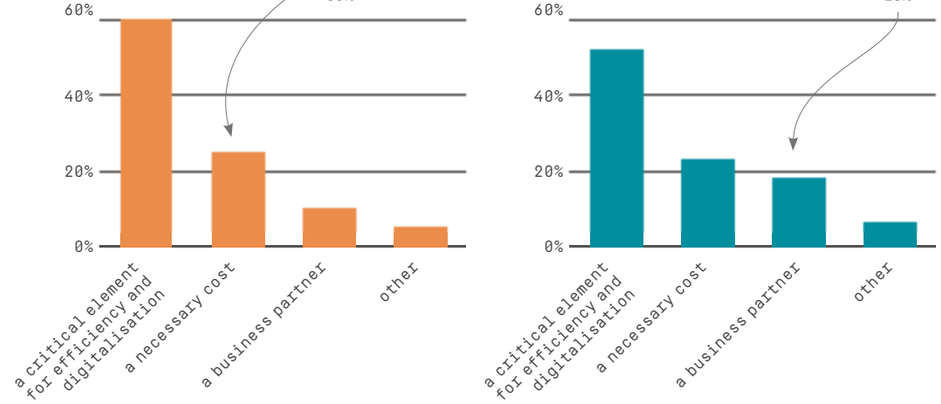
3

The role of IT in business

There seems to be a general perception that IT plays a critical part in streamlining and digitalisation. A proactive IT organisation can help businesses become more effective at seizing opportunities and tackling challenges going forward. Moreover, most IT decision-makers in the Nordic and Baltic countries believe they are actively planning for the future and also see collaborating with the rest of the organisation as a key success factor. Yet, there are still remarkably few organisations that consider IT as a partner in driving their business.

IT is not commonly seen as a partner in running the business

The rest of the business sees the IT department as...



Most IT decision-makers taking part in this year's survey – 55 per cent – say that their company views the IT department as a critical partner in enabling streamlining and digitalisation. However, almost a quarter (24 per cent) claim that IT is still regarded as a necessary cost.

It is still unusual for IT departments to be seen as partners in running the business – in other words, for businesses to realise that there is an active interplay between IT and their other areas that drives all aspects of development, innovation and increasing efficiency. This only applies to 15 per cent on average across all the countries in the survey. The few organisations that do take this approach are more proactive in terms of meeting the needs of the business (see page 15) and are, therefore, planning to prioritise business development and innovation over the next three years.

Private sector IT departments in Finland are significantly more likely than the other survey respondents to say that their organisation sees them as a business partner (28%) and not so much as a necessary cost (17%). Fast-paced technological advances and the need for modern technology in business are prompting the development of more business-driven IT functions.

ARBEJDERNES LANDSBANK:

The role of IT is being the liaison between the business and the technical capabilities

"In our bank, IT has always been a pivotal part of our business, not just a necessary cost," Henrik Poulsen, CIO of Arbejdernes Landsbank, starts. "It's about ensuring that our IT infrastructure not only supports but also advances our business goals. And my role is to be the liaison who can translate the requests from the business into technical capabilities."

Henrik Poulsen, CIO, Arbejdernes Landsbank.

Everything is doable, but...
Arbejdernes Landsbank is a Danish bank dating back more than a hundred years with more than 350,000 customers and 1,150 employees. Under the leadership of Chief Information Officer Henrik Poulsen, the bank is continuously striving to be at the forefront of technological development while always focusing on the most important thing for a financial institution: Maintaining a stable and secure banking operation.

When asked if he has ever met a request from the business that he couldn't meet, Henrik Poulsens answers swiftly: "Everything is doable – it's a matter of how much time and resources you want to invest".

He elaborates: "Obviously, we sometimes give pushback to the business when a specific request falls outside of the overall strategy set by the management and the board, but then we find ways to support the request that lies within our defined strategy. There is always a way forward".

PRAGMATISM IS KEY

"We're a small team consisting of 30 people across three IT divisions, so we need to adhere to a principle of pragmatism. That means that we are in a very close dialogue with the business about their needs. The horror scenario is that we build something that nobody has asked for and that nobody will use. So, we're building on existing use cases and concrete demands from the business", Henrik Poulsen says before continuing: "That also means that we very much rely on our strategic partners – because we're a team of IT generalists and whenever we need deep specific insights or knowledge that lies outside our primary deliverables. Also, for larger projects", Henrik Poulsen states.

Proactivity is essential in Henrik Poulsen's strategy. By staying ahead of technological trends, Arbejdernes Landsbank can adapt to new developments. "We're always looking ahead, trying to anticipate changes in the tech landscape, from cloud computing to AI, and understanding how we can adapt these technologies to benefit our operations and customer service," Henrik Poulsen remarks.

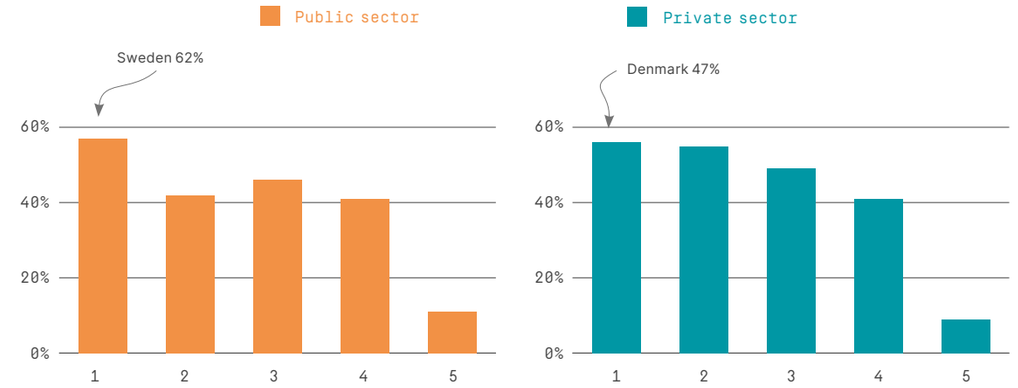
DEMONSTRATING THE INVISIBLE

When asked how Henrik Poulsen demonstrates the value of IT investments to internal stakeholders, he says: "Normally, I would say that if you don't see me and my deliverables, my team is a success. Our ambition is that all employees can work every day and be assured that all systems, data and the entire IT infrastructure are working flawlessly. But that's not something that I believe should be highlighted. It's an operational imperative. A secure and stable operation is above and beyond all – on top of that, we discuss innovation and new products," Henrik Poulsen concludes.

THE ROLE OF IT IN BUSINESS

Almost all IT decision-makers take responsibility for sustainability

What do you consider to be your responsibility as an IT executive when it comes to the company's sustainability goals?



Multiple-choice question

1. Set and follow up sustainability goals for IT operations [e.g. reduce IT product footprint, implement human rights policy, make IT operations circular].
2. Support and streamline the internal sustainability work of the business using IT and analytics tools for data collection and visualisation [e.g. for reporting according to CSRD]
3. Digitalise business processes to achieve the company's sustainability goals [e.g. route optimisation for transports].
4. Support the development of products and services that help customers achieve their sustainability goals
5. None of the above is part of my responsibility.

90 per cent of IT decision-makers say they take some form of responsibility for sustainability. The option "Setting and pursuing sustainability goals for IT activities" received the most responses, with an average of 56 per cent. The majority of the respondents also believe that IT decision-makers have a responsibility to support their organisation's sustainability goals. It is rare to have no strategy at all. The 10 per cent that claim to take no responsibility at all are mainly small IT departments with no more than ten employees. In the public sector, 52 per cent of all respondents say that their IT or digitalisation strategy supports the pursuit of their company's climate goals. In the private sector, the average is 60 per cent.

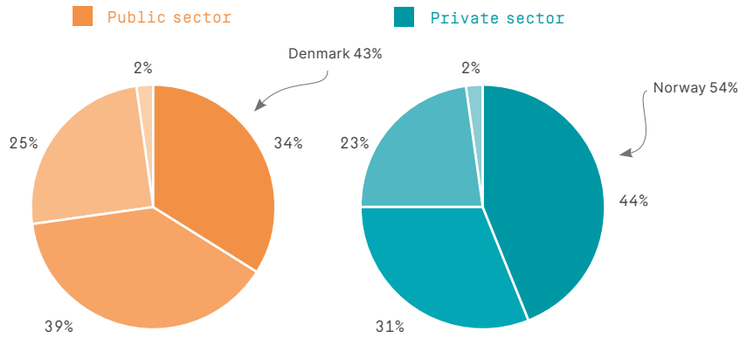
It is less common for IT or digitalisation strategies to support social objectives (around 42 per cent in the private sector and 38 per cent in the public sector). Overall, there is evidence of a link between AI maturity and sustainability. Those who have started systematically implementing AI or have progressed even further in this respect are also more likely to say that their strategy supports climate goals, accounting for 75 per cent compared to the overall average of 57 per cent. Organisations that are at an advanced stage in their AI maturity journey also tend to have a strategy that supports social objectives (51 per cent).

Those who already have an IT or digitalisation strategy aligned with their company's climate goals are also more likely to believe that IT decision-maker have a responsibility to set and pursue sustainability targets for IT activities. The same view persists in organisations with a high level of AI maturity. IT departments that do not take any responsibility for sustainability at all are less inclined to use technology for making data-driven decisions (see page 26) and fall below the average in terms of technology use in general. They also tend to take a more reactive approach to business needs (see page 15).

THE ROLE OF IT IN BUSINESS

Nordic and Baltic countries are actively looking towards the future

Do you consider your IT organisation to be proactive in terms of what your business needs?



Proactive IT organisations not only react to problems but actively plan for the future, too. Through strategic long-term planning, these organisations can make both better and faster decisions for the benefit of the business as a whole. Reactive IT organisations, on the other hand, do not address problems until they actually occur. The focus here is on solving challenges that arise along the way rather than anticipating or preventing them. There is no clear strategy or plan for the future, leading to short-term solutions that do not get to the root of the problem. This approach is often also lacking in terms of collaboration with the rest of the business.

Overall, IT decision-makers in the Nordic and Baltic countries consider their organisations to be proactive – particularly in the private sector, but in the public sector too. In Denmark, the public sector actually comes out slightly higher than the private sector in this respect, at 43 per cent compared to 40 per cent. In the Baltic region, the distribution is 55 per cent in the private sector and 44 per cent in the public sector. Swedish IT decision-makers differ significantly from their counterparts in other countries in that a larger proportion of them say that they are moving towards a proactive approach rather than already having one in place. This year, more Swedish IT decision-makers than before believe they are tending towards a reactive approach, possibly due to increasing cyber threats demanding their time at the expense of forward-looking activities.

The key factors enabling IT organisations to succeed in helping their business achieve its objectives vary from country to country, but collaboration within the business is one that is repeatedly highlighted. Other success factors mentioned include being involved in designing and implementing the organisation's digital strategy and keeping up with the development of new technologies. Having the trust of the company management is also important, as many of the respondents point out. In Denmark in particular, strong leadership with the ability to mobilise employees to achieve a common goal is seen as a crucial driving force. The Baltic countries also particularly highlight the need for talented and skilled employees who have the motivation to drive the business forward.

ILLUSTRATION: ISTOCKPHOTO

Resilience

All IT decision-makers face setbacks at some point. It is difficult to avoid them in a world where new crises and threats are constantly emerging and need to be dealt with. But success is not about never having to face any obstacles; it is more about approaching challenges in the right way and having the strength and courage to change. Good resilience means maintaining a firm footing even when being battered by crosswinds, having the ability to recover from crises and being able to keep the business running in the meantime.

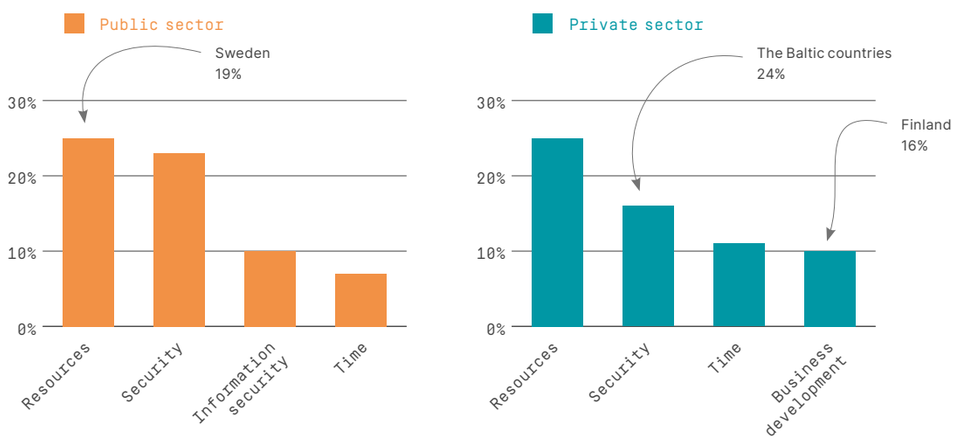
On an individual level, we are generally quite good at adapting to crises and unexpected events and still managing to fulfil our purpose. At an organisational or societal level, however, there is more to do. In this year's survey, most IT decision-makers highlight security as their biggest challenge, both over the past year and in the coming year. The prevailing geopolitical situation is also placing great demands on security, and efforts to prepare for cyber attacks have steadily increased in recent years. Yet many of those surveyed still do not have a plan for dealing with unforeseen events.

Resilience relies on the ability to be flexible and recover quickly from any problems that arise. Risk and vulnerability analyses, employee training and continuity plans are some examples of how IT decision-makers tackle this issue. The right financing and clear governance are crucial to meeting growing demands on resilience, such as the regulations imposed by the EU's NIS2 Directive. Ultimately, being well-prepared is a matter of detecting and dealing with threats in good time, which requires putting both suitable technology and appropriate plans and structures in place.

RESILIENCE

Security and resources were major challenges in the past year...

What was your IT organisation's biggest challenge last year?



"The external environment has a huge impact on us, as well as being able to retain talent in the current economic climate."

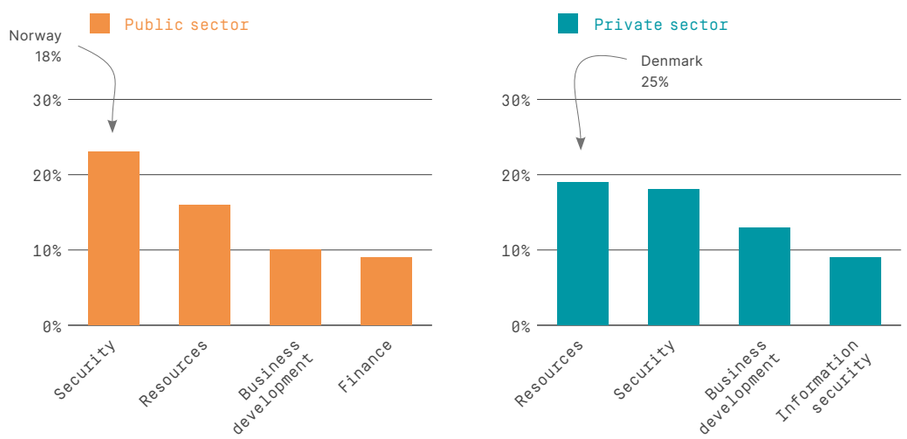
As other parts of this year's survey show, security is high on the agenda of most IT decision-makers, but resources top of the list of challenges in both the private and public sectors. In Finland, 30 per cent of respondents in the private sector and as many as 40 per cent in the public sector point to resources as their biggest challenge. A similar pattern can be found in Denmark and Norway, where resources are highlighted as the main issue in both the private and public sectors. However, while Danish IT decision-makers in both sectors rank security in second place, their Norwegian counterparts name time as their second biggest challenge. In the Baltic countries and Sweden, security is at the top of the list, with resources only coming second.

IT decision-makers who cite resources as last year's biggest challenge are more likely than others to want to focus on initiatives aimed at improving efficiency and developing business operations, such as digitalisation and automation. It is also evident that reactive organisations tend to highlight resources as a major challenge more than proactive ones, with security coming second in these cases. For proactive organisations, however, these two challenges are usually ranked equally.

RESILIENCE

...and will continue to be so in future

What do you think will be your IT organisation's biggest challenge next year?



"Security is fundamental to being seen as a good and trustworthy company. Attractive prices don't matter if you get hacked and information and data belonging to you and your customers get locked or even posted online."

"Everything is becoming more IT-driven. It is virtually impossible to implement any business development without involving IT. Being a municipally owned company, we do not have an infinite pool of resources to spend on IT as it becomes a growing internal cost. We need more people and will be able to employ at least two more (we currently have 10), but we don't have the budget for this. This means setting some tough priorities and not reaping the digital benefits we would have wanted. We are struggling with a technical debt we can't pay off."

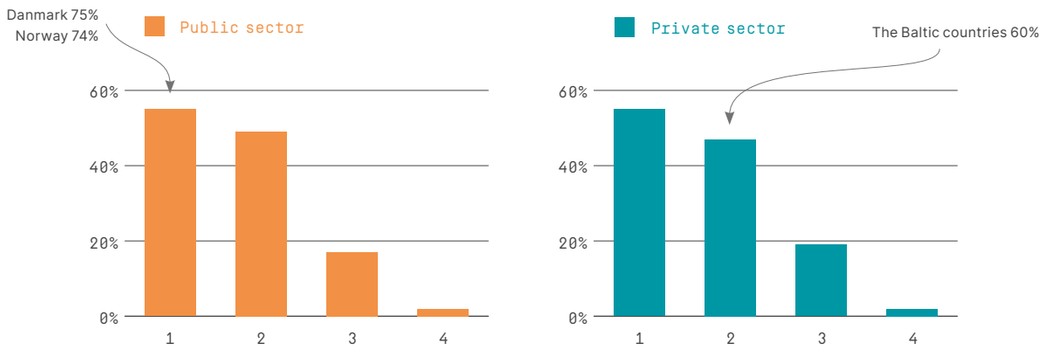
Security is still regarded as a major challenge for the upcoming year. The fact that it is considered significant is not surprising, given the geopolitical tensions in the world around us. And these tensions look set to become even more strained in the future. In the Baltic countries and Sweden, security is seen as the biggest challenge in the coming year in both the private and public sectors. In Denmark and Norway, only the public sector puts security first, while the private sector in these two countries highlights resources instead. In Finland, resources are seen as the biggest challenge in both sectors.

Those who regard security as the main challenge are also keen to focus more on this area in the future, preferably in combination with digitalisation. Even looking three years down the line, security is still the top priority.

RESILIENCE

Preparedness varies from country to country

Do you have a plan to deal with unforeseen events (e.g. cyber attacks) and do you know what is expected of you?



1. Yes, we have a plan.
2. Yes, we know what is expected of us.
3. No, we don't have a complete plan.
4. No, we don't know what is expected of us.

Multiple-choice question

In this year's survey, 55 per cent of IT decision-makers say they have a plan in place for dealing with unforeseen events, such as cyber attacks, and 48 per cent say they know what is expected of them.

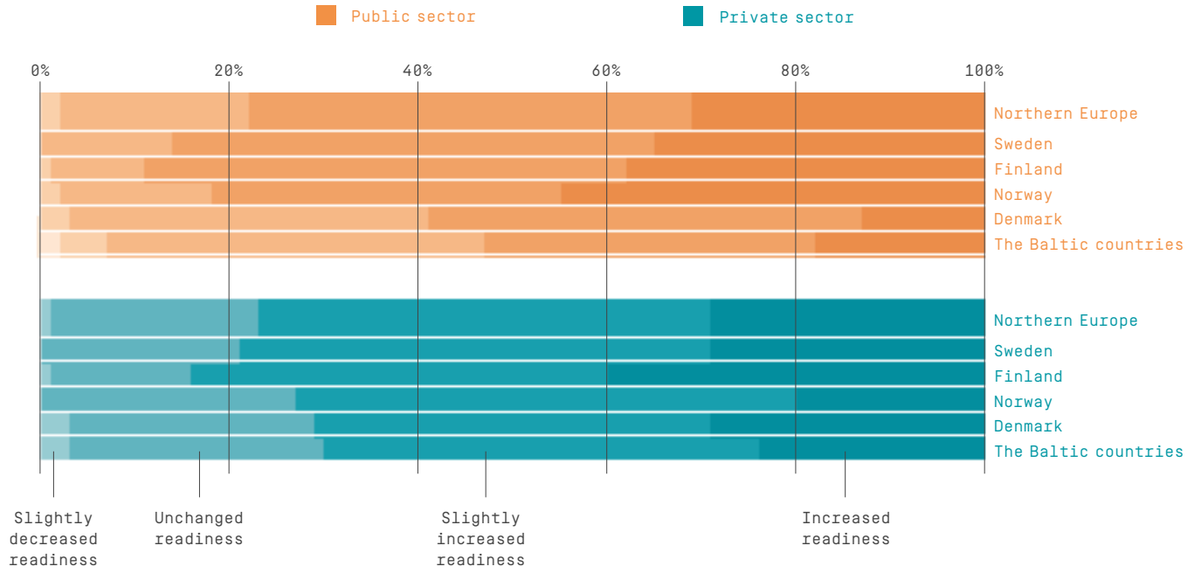
In Norway (74 per cent) and Denmark (75 per cent), the number of respondents from the public sector claiming to have a contingency plan is above the average for the survey as a whole. In fact, only three per cent of Norwegian public sector IT decision-makers say they have no plan at all. In the Danish private sector, 70 per cent of the respondents have a plan, but relatively few (35 per cent) know what is expected of them. In the Baltic region, the situation is more or less reversed, with 60 per cent of IT decision-makers in the private sector having a firm grasp on expectations but only 46 per cent having a plan. Preparedness in the public sector in the Baltic countries is relatively good, with only five per cent reporting that they have no plan at all. The public sector in Finland is also well-equipped to deal with unexpected incidents, while respondents in both the public and private sectors in Sweden (26 and 30 per cent respectively) are less likely to have a definitive plan.

Having a good overview of the organisation's information and processes is conducive to business development and digitalisation aimed at enhancing security. As other parts of this year's survey show, security is the top priority overall both now and going forward (see pages 6 and 7, for example). A need for security experts in the coming year is highlighted by 52 per cent of all respondents in the survey (see page 18). Investments in security are mainly focused on technology (77 per cent), but more than half have also involved people (58 per cent) and processes (55 per cent). Investments are also made in governance (35 per cent) and partnerships (28 per cent) at a lower priority level.

RESILIENCE

Growing preparedness for cyber attacks

Have or do you plan to change your contingency plans for cyber attacks?



There has been a steady rise in the general level of preparedness for cyber attacks in recent years. This trend is evident across all the Nordic countries, particularly Finland. It is also in line with the EU's NIS2 Directive, which comes into force in October 2024, imposing stricter information security requirements on more organisations, with penalties for non-compliance. Making a business better prepared involves both organisation and technology. Threats need to be detected and addressed in good time, and ideally prevented too. This requires structure and well-practised crisis management.

Laws and regulations top the list of factors that influence the prioritisation of planning for future security management. This is in line with the results of last year's survey, and is a logical consequence of directives like the aforementioned NIS2 Directive coming into effect, along with the GDPR, cloud legislation and other laws and regulations. These factors are followed by organisational objectives, risk and threat intelligence, and standards and frameworks, all of which received a similar number of responses. Last on the list is return on security investment (RoSI).

SBA GROUP IN LITHUANIA:

Striking the right balance between innovation and security

While many IT decision-makers cite security as their primary challenge, Vaidas Paulauskis, Head of IT at SBA Group and CEO at SBA Competence and Service Center, takes a different stance. He does not view security as a major challenge but rather as a fundamental aspect akin to hygiene – essential to address, prepare for, and then focus on other challenges, such as leading a company towards digitalisation, automation, and efficiency.

How does a company like SBA Group, one of the largest Lithuanian-capital enterprises encompassing 30 entities operating across Lithuania, the Baltic region, and CEE countries with almost 3,500 employees, effectively balance a culture of innovation while ensuring resilience and maintaining an appropriate level of security? Furthermore, given SBA's diverse activities spanning sectors like furniture, real estate, investment management, and textiles, the challenge becomes even more complex.

"When addressing security and resilience issues, we rely on a risk-based investment approach," says Vaidas Paulauskis. "This means we assess where the highest risks lie and where we are most vulnerable and then prioritise accordingly. It's impossible to be absolutely secure. Additionally, we continuously respond to changing circumstances and adapt accordingly."

According to Vaidas Paulauskis, over the past few years, there were two seismic shifts that led to increased risks. The first was the Covid-19 pandemic, which forced the company to pay more attention to remote work security and information-sharing capabilities. The second issue was Russia's aggression against Ukraine, which required a heavy focus on creating backups, ensuring business continuity, and increasing the protection of websites.

Vaidas Paulauskis, Head of IT at SBA Group, CEO at SBA Competence and Service Center.

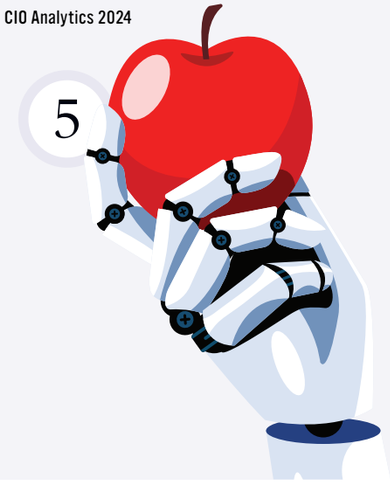
"The number one vulnerability is likely the human factor; it's the easiest way for cybercriminals to harm a company through its employees. Therefore, we place great emphasis on educating SBAs team and securing employee contacts, emails, and access with additional technological tools and processes. Though it's not always comfortable (such as using two-level authentication), measures are crucial for enhanced security," explains Vaidas Paulauskis, underlining the urgency and responsibility in addressing this issue.

"Technological factors also play a significant role. For example, if the company were to experience encryption, how swiftly could we recover? Do we have alternative communication channels? Do we have paper instructions for maintaining enterprise operations?" says Vaidas Paulauskis.

Additionally, Vaidas Paulauskis emphasises the importance of a robust internal IT team, including dedicated specialists focused on security issues, as well as trustworthy external IT partners. At SBA Group, the IT team implements periodic routine and hygienic procedures, such as morning system check-ups and continuous system updates, to maintain an appropriate security level.

In most cases, SBA Group leverages the benefits of centralised internal IT services and solutions. However, when it comes to contingency plans, each group company is evaluated separately. For instance, IT systems are deemed critical for factories, while other companies may be able to tolerate longer periods of disruption. The key priority is to ensure that the plans are concrete and actionable.

"We may not be the Pentagon, and we are far from perfect, but with our pragmatic and risk-based approach, we manage to ensure our resilience at this moment," explains Vaidas Paulauskis. "It's also crucial that our partners, suppliers, and clients maintain a basic level of IT security. Therefore, I am pleased that NIS2 will soon come into force. I believe that our company already meets the requirements, and it will be better and safer for everyone when more and more organisations reach at least basic level of IT security," he concludes.



Innovation

Fundamentally, innovation means renewal or regeneration. We rely on new and innovative advances in all areas to push forward with our development. However, innovation can also mean many different things, and not all innovations need to be world-changing. It can also happen on a smaller scale and have a big impact on a small group. In some cases, it may involve creating something completely new; in others, it is more about improving something that already exists. Sometimes, innovation is the result of targeted efforts, while at other times, it happens purely by chance. To encourage innovation, it is helpful to get different perspectives from different levels and areas of an organisation is helfpul. It is therefore important to have a company culture that encourages all employees to think creatively and come up with new ideas. Managers then have a responsibility to oversee these suggestions and steer them forward within the wider organisation.

AI is changing the world and all countries and businesses need to keep up with this change. The IT industry has always been at the forefront in this respect, and the IT decision-makers in this year's survey are open to technologies such as robotic process automation (RPA), Internet of Things (IoT) and technology for data-driven decision-making, which have a significant impact on the way businesses are run and developed. Most of them also say that their focus in the future will primarily be on driving digital development and digitalisation projects.

In the private sector, AI is expected to play a part mainly in the development of products and services. There is a lot of curiosity about AI in most IT organisations and many are already using existing AI-related technologies, although most of them still have a long way to go to reach an advanced level of maturity. The importance of AI for business development is undeniable. There will be a great deal of innovation in this area in the coming years, in both the private and public sectors.

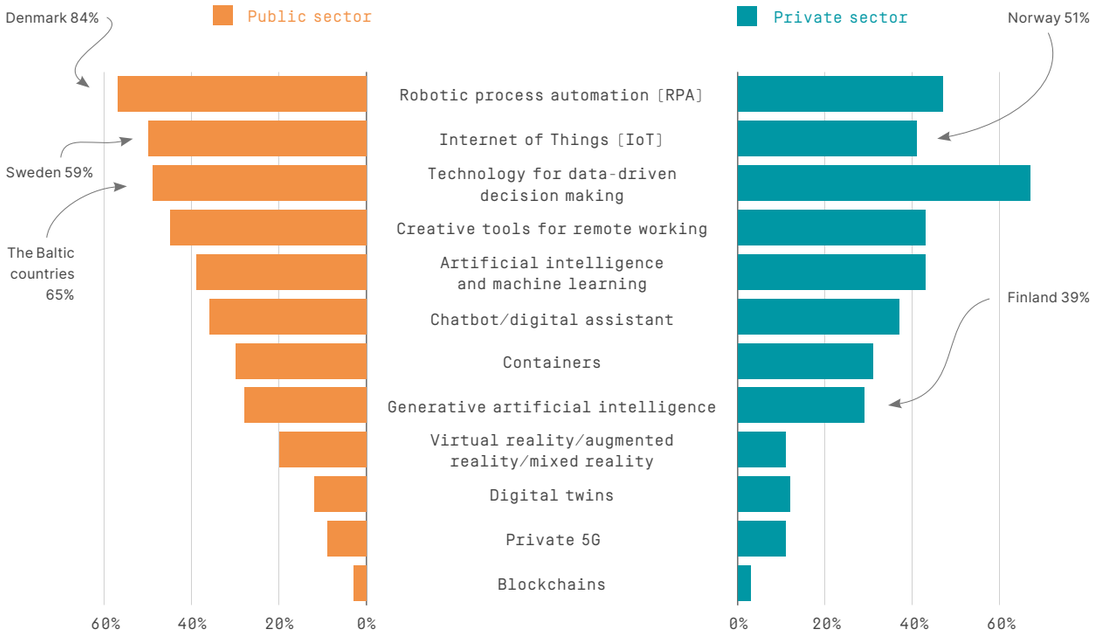
Within certain limits, the EU has opened the door to public cloud solutions in the public sector, which in turn is creating even more opportunities for innovation. For many organisations, AI and cloud computing have had a significant positive impact on business and the more benefits these tools offer, the more they will be used.

ILLUSTRATION: ISTOCKPHOTO

INNOVATION

Significant differences in technology use among Northern European countries

We use the following technologies...



Multiple-choice question

"Modern open source platforms drive business forward with less risk of lock-in effects."

"Modernising infrastructure (cloud) and client management (software as a service) allows us to shift budgets and resources towards business development and digitalisation."

Based on all the responses collected in this year's survey, technology for data-driven decision making and robotic process automation (RPA) top the list of technologies used by IT decision-makers. More than half of them mention one of these options. Next on the list is the Internet of Things (IoT), which is used by 44 per cent of the respondents.

However, the picture shifts slightly if the responses are split into those from the public sector and those from the private sector. RPA (57 per cent) comes out on top in the public sector across all countries, followed by IoT (50 per cent) and technology for data-driven decision making (49 per cent). In the private sector, technology for data-driven decision making takes first place (67 per cent), followed by RPA (47 per cent) and AI and creative tools for collaboration (both 43 per cent).

The different driving forces at work in the private and public sectors have a significant influence on this. While the public sector mainly focuses on opportunities to make savings, private sector companies also want to find new sources of revenue. The private sector is also more agile and has a more refined ability to use data to create value.

The use of these different technologies and their distribution between ▶

▶ the private and public sectors also varies to quite some extent from country to country. RPA is popular in the Danish public sector, for example (84 per cent). In Denmark, technology for data-driven decision making is also widely used in both the private and public sectors (75 and 74 per cent, respectively). However, in the Baltic region, this technology is mainly applied in the public sector (65 per cent). IoT is big in the private sector in Norway and the public sector in Sweden. In the Baltic countries, however, the level of use of IoT and chatbots/digital assistants is below the average for the survey as a whole in both sectors. In Finland, creative tools rank highest in the public sector and technology for data-driven decision making comes top in the private sector.

Business benefits are the main priority when it comes to investing in new technologies. Many of the IT decision-makers included in the survey cite AI and automation as the technologies with the greatest potential to drive business forward in the coming years. In particular, AI can be used to support data-driven decisions in complex manufacturing processes. Automating tasks that are currently carried out manually also helps to improve efficiency and stimulate development. Some IT decision-makers also point to options such as cloud solutions, software as a service (SaaS), integration, robotisation and data as key technologies.

Keeping up to date with the latest technological developments is highlighted as a success factor for IT organisations in helping their businesses achieve their objectives (see page 15). This helps to drive innovation, boost productivity and make work more efficient. In digitally mature countries, such as those in Northern Europe, people are often more curious about new technologies and more willing to adopt them. Outdated systems, especially if they are not updated, can also pose a risk. At the same time, however, it is often easier to build on existing systems than to introduce completely new technologies, which require new resources and training and give rise to new challenges.

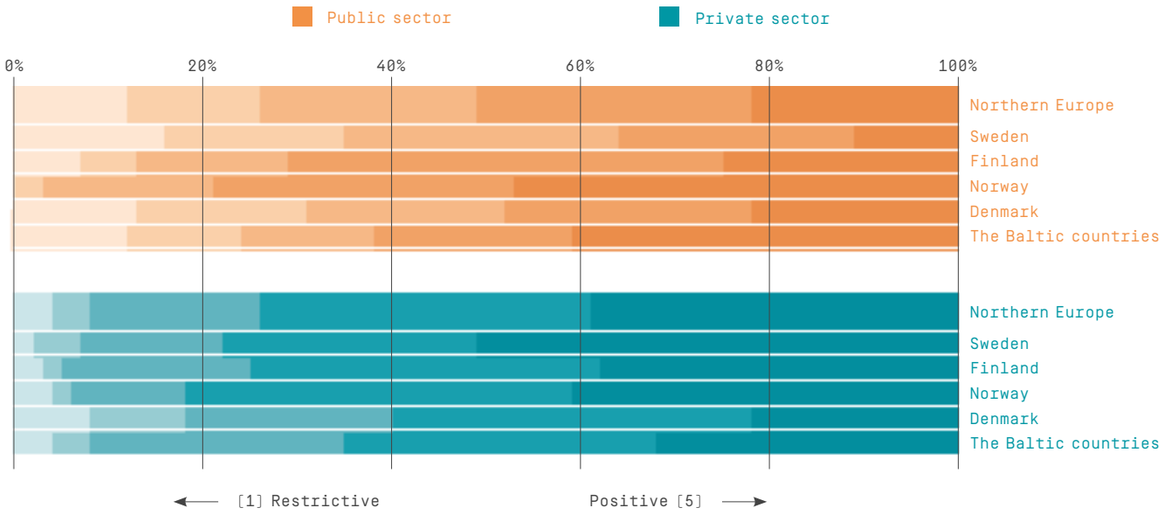
Which technologies have the greatest potential to drive your business forward in the coming years, and how?

ILLUSTRATION: ISTOCKPHOTO

INNOVATION

Wide-ranging views on public cloud solutions

What is your organisation's current attitude to using public cloud solutions?



Attitudes towards using public cloud solutions vary significantly depending on whether the IT decision-makers come from the public or private sector. There are also differences between different countries. In Sweden, legal uncertainty and other security aspects are seen as the main obstacles to using cloud services. In other countries, however, the prime concerns are security, legal aspects and unclear costs. Generally speaking, the main driving forces behind public cloud services are availability, scalability and security.

Norway stands out as taking a much more positive approach to public cloud services than the survey average in both the private and public sectors, while Denmark adopts a more restrictive stance than average. Norwegian organisations in both sectors have been using outsourcing for a number of years so they can focus on their core activities, entrusting IT operations to external providers. An increasing number of these services are being offered in the cloud. Norway also has a national strategy for using cloud services, which is aimed at creating greater flexibility for both private and public sector businesses in the choice of IT solutions available. In Denmark, the debate has mainly revolved around the legal and financial aspects of cloud services. For one thing, there is concern that data will end up in a third-party country. For another, the media have shed light on a number of examples where IT costs have increased substantially as a result of cloud migration. All this has had an impact on the general attitude towards cloud solutions. In general, IT decision-makers in Finland and the Baltic countries have a positive attitude towards cloud services in both the private and public sectors. In the Baltic region, each country is developing its own strategy and regulatory framework for public cloud, and there are also reliable local providers there, making it possible to use these services at competitive prices without moving data abroad. Sweden's attitude aligns with Denmark's more restrictive stance, especially in the public sector.

Those with a restrictive approach to using public cloud services (1–2 on the scale) also tend to be less proactive in terms of meeting business needs (see page 15), while those who are positive about it are a little more proactive than average.

The future of social healtcare is in robotics and AI

Mikko Sortti has played a key part in implementing the huge ICT reform in Finnish public administration. Today, he serves as an ICT Manager for a wellbeing services county of 18,000 employees in North Ostrobothnia. He firmly believes that the use of robotics and AI in social and healthcare will increase in the future. Their full potential has not yet been harnessed.

Finnish public administration is undergoing one of the biggest, if not the biggest, Information, Communication, and Technology (ICT) reforms in history. At the beginning of 2023, the responsibility for organising social care, healthcare and rescue services was transferred from more than 200 municipalities and joint municipal authorities to 21 wellbeing services counties. This change has contributed to extensive regional changes in ICT infrastructure, information systems, social and healthcare customer and patient systems and rescue services' information systems.

"A variety of functions, services, agreements, systems and IT were transferred to a single organisation in a very short time. Our ICT reform programme has included more than a hundred projects aimed at harmonising ICT systems and services. We also aim to ensure and facilitate the availability of information through integrations between systems and the automation of processes," says Mikko Sortti, ICT Manager at Pohde, the wellbeing services county of North Ostrobothnia.

Pohde's area of responsibility covers 30 municipalities and extends across Finland from the coast of the Bay of Bothnia to the eastern border. The wellbeing services county is responsible for the wellbeing, health and safety of approximately 416,000 residents. The residents are served by nearly 18,000 employees at 650 locations.

Mikko Sortti, ICT Manager at Pohde.

In the future, the number of locations will be reduced and customers and patients will increasingly be directed to digital services and self-service. The hope is that the common social and healthcare patient and customer information system, which is under development, will make the work of professionals easier.

EFFICIENCY AND BETTER SERVICE THROUGH INNOVATION

"We are constantly looking for innovations in, for example, the smart allocation of professionals' working time and the improvement of customers' integrated care pathways and processes. Knowledge-based management enables the development of the wellbeing services county on both an operational and strategic level. Collecting data from all systems and functions plays a key role in forming the overall picture. "We need a variety of technology solutions ranging from Internet of Things (IoT) to AI and software robotics, and we will use them more and more where it makes sense," Mikko Sortti says.

"For example, we are currently testing whether doctors can record structured patient data more efficiently and quickly with the help of AI and extensive language models. The goal is to reduce the time spent on recording data through AI turning doctor-dictated patient data into text."

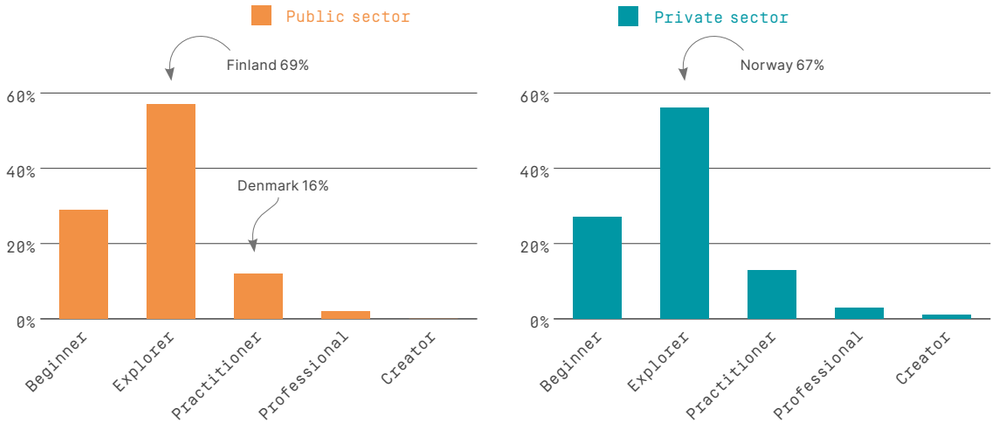
For the use of AI, Pohde has built its own closed environments. Public sector operators must be particularly cautious and careful when using AI tools that act as a cloud service, as with other cloud services.

"We can use the cloud, but we plan carefully what kind of data will be taken there and how it will be processed. We also need to know where the data could go. Customer and patient data are particularly sensitive, and, naturally, we are careful to comply with data management legislation."

INNOVATION

A long way to go to full AI maturity in many cases

How do you rate your organisation's AI maturity?



This year's survey divides AI maturity into five levels: beginner, explorer, practitioner, professional and creator. Most of the IT decision-makers – just over half in this survey – see themselves as at the exploration stage. This means they are keen to start working with AI and already have some prototypes built. Almost half of this group of respondents use AI technologies (primarily AI and machine learning), such as image recognition, advanced prediction and language understanding, as well as generative AI for creating text, images and music. IT organisations at a more advanced stage of AI maturity use all of these AI technologies, as well as others, to a much greater extent than those in the initial awareness phase, which use all technologies to a lesser degree in general (see page 26).

Among the Norwegian IT decision-makers in the private sector, the number of responses for the exploration level is slightly higher than the average for all of the countries together, while the number for the beginner and practitioner stages is slightly lower. In the public sector, more respondents chose the professional and creator levels, while slightly fewer selected the exploration and practitioner phases.
In Denmark, around half of the respondents in both the private and public sectors say they are at the exploration level, but there are also some IT decision-makers who have progressed further towards AI maturity. Sweden and Finland have the highest number of responses for the exploration level, while most of the respondents from the Baltic countries are at the beginner stage.

There is also a clear correlation between a high degree of AI maturity and a positive attitude towards public cloud services (see page 28). IT organisations at the practitioner and professional stages have a distinctive need for certain skills, notably system developers, data scientists and business developers. Among these organisations, 21 per cent also cite digitalisation as a primary focus (see page 6), which is higher than the average level. Meanwhile, organisations at the beginner level place a greater emphasis on security.

The IT decision-makers in this survey cite production process optimisation, forest analysis, finding anomalies in aerial photos, scheduling, customer communication, support services, forecasting, and image identification and editing as examples of how they use AI.
To progress further towards AI maturity, those at the beginner and exploration stage say they want to invest in areas such as training and business intelligence, testing and pilot schemes, and strategies, directives and guidelines. Planning, security and information management, and laying groundwork in terms of architecture, collaboration and cloud services are also considered important for advancing in the use of AI.

ILLUSTRATION: ISTOCKPHOTO

Known and unknown challenges and opportunities ahead

After a year of focusing heavily on security, and with geopolitical tensions worldwide looking highly unlikely to ease, IT decision-makers in the Nordic and Baltic countries continue to devote much time to this issue. However, there are other things to focus on, too. Sustainability and AI are also pressing issues with significant implications for the future.

There is no doubt that the IT decision-makers in this survey spend the most time on security, with new threats constantly emerging in our geopolitically troubled times. In both the Nordic and Baltic regions, security is named as the main focal area in both the public and private sectors. The impact of the war in Ukraine is particularly evident in the Baltic countries. Their geographical proximity to Russia and increasing cyber attacks have security high on the agenda for both private and public sector organisations.

The proportion of women in the IT industry is low across all Nordic and Baltic countries. The absence of women is particularly apparent in small IT departments with up to 10 employees. However, there are signs of change. In Finland, the proportion of female applicants for technical and IT educational programmes is higher than ever and a similar trend can also be seen in Denmark.

Sustainability is an important area for IT decision-makers in the Nordic and Baltic countries, with 90 per cent of the survey respondents saying they take some form of responsibility for sustainability. Those who already have an IT or digitalisation strategy aligned with their company's climate goals are also more likely to believe that IT decision-makers have a responsibility to set and pursue sustainability targets for IT activities. The same view persists in organisations with a high level of AI maturity.

The use of AI is still in its infancy. A majority of IT decision-makers in this survey consider themselves at the exploration stage on the path to AI maturity, which means they have made some progress and are actively striving to move forward. AI offers many application possibilities, and organisations at an advanced stage of AI maturity generally also have a positive attitude towards cloud computing.

AI can also be an important tool for security management, which is set to continue to prove a major challenge in the coming year. In the Baltic countries and Sweden, security is seen as the biggest challenge for the coming year in both the private and public sectors. The public sectors in Denmark and Norway also take this view.
By contrast, the private sector in both of these countries cites resources as its main challenge.
In Finland, resources top the list in both the private and public sectors.

No matter what the future holds, the next few years will pose both anticipated and unexpected challenges that will require new solutions – and the best way to move forward, develop and minimise the potential impact is to collaborate and learn from one another.

Do you have any questions about the report? Or would you like to discuss the report with like-minded people? Please get in touch: contact@cioanalytics.com

Where sustainability drives technology

In the Nordic region alone, Elis Textilservice delivers 80 million kilos of textiles to large public sector organisations and smaller enterprises through a circular business model based on rental, laundry, and distribution. Maria Bohrnertz, the IT Director, wants to use AI to increase traceability and thus reduce the company's carbon footprint.

Maria Bohrnertz started her career as a computer engineering graduate from KTH Royal Institute of Technology but realised she wanted to work with much more than "just" technology.

"It was pretty flat and non-humanistic at that time, and I wanted to work with people.

Maria Bohrnertz's journey included recruitment, process development and project management. After managing some large projects for public clients at Evry, she ended up in the IT management team at PWC. During the pandemic, she became the Nordic IT Manager at Panduro Hobby. Eventually, her values led her to Elis, where she is now in charge of IT operations in Norway, Sweden, and Finland. Social responsibility is a great motivation for her.

"We play a very important role in society by supplying carpets, sheets, healthcare clothes and workwear. Many of our customers are large regions, such as public healthcare services, or large industries such as the food industry. If we can't guarantee that they will receive the workwear they need, we run the risk of a major social impact. This inspires me, that we are doing something important."

Elis has an explicit responsibility to help its public sector customers reduce their textile waste. This is done through trackable chips, based on RFID technology, placed in each carpet or workshirt so that it's possible to track how much has been washed, at what temperatures, where garments are in their life cycle, and so on.

Maria Bohrnertz, IT Director Nordics, Elis Textil Service.

"It's much more complex than just washing, and that's where IT plays such an important part. Traceability solutions are crucial for us, and if we can gradually incorporate AI into this, I see great opportunities in the future."

While the environmental aspect drives development, the technology also helps demonstrate to customers that there is stability in the supply chain. And customer interest is high.

"More and more of our customers want to track what's going on, almost in real-time, and see what clothes they have and where they are – if someone has wandered back home in a pair of hospital shoes, for example. It's about ensuring the return of everything they invest in, primarily from an environmental point of view. The textile industry today accounts for a large proportion of global carbon dioxide emissions."

It is not just customers who are striving to become more sustainable; in her role, Maria Bohrnertz has a clear expectation to help encourage the most sustainable use of IT possible. She works according to a strategy on a group level called Green IT.

"There are very clear directives stating that we should try to reuse hardware as far as possible and then recycle it safely. There is a cost, but we at Elis have accounted for that. But one challenge right now, in terms of technical equipment, is finding the right balance between how long we can use the products we have safely, so they are supported and we can maintain reliability, and ensuring that they are energy-efficient and handled properly in the end of their life cycle."

The sustainable strategy also plays a part in the company's cloud journey.

"We are also trying to move as much of our local data centre setup and infrastructure as possible to more energy-efficient operations centres. Even if cloud solutions are not more cost-effective to begin with, we can benefit from an environmental gain in the long run by teaming up with larger companies that have more capacity."

She describes it as a slow journey, which she hopes to accelerate.

"My ambition is to speed things up for sustainability reasons. We have perhaps 20 per cent in the cloud now, and I hope to raise that to 80 to 90 per cent."

Notes

Notes

Notes