Invesco

Invesco Responsible Investing
Disclosing Disruption

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Defining disruption
Our research focuses on four fundamental forces of disruption that businesses are faced with today. Here's how we define them in this report:

— Digital disruption
  The potential of emerging digital technologies like artificial intelligence, machine-learning or robotics to fundamentally change companies' business or operating models.
— Environmental disruption
  The potential of climate and environmental pressures to significantly impact the performance of a company.
— Changing consumer tastes/preferences
  The changing preferences of customers, towards alternative products or services, that may have material impact on companies' performance.
— Regulatory change
  New regulations, either domestic or international, that may significantly affect companies' business models and/or operating models.

We focused predominantly on exploring digital and environmental disruption, ahead of other disruptive trends, because their impact is accelerating and they represent a less familiar challenge for the investment industry than consumer preferences or regulatory change, for example.

"When I joined my organisation in 2013, we were talking about digital disruption but most people didn't believe in it. Today it's a different story: our industry has been shaken up by new joiners – and we are hyper-alert to any area where we don't have perfect digitalisation."

An emerging technologies specialist at a large European insurer

"Every fund manager is aware of digital disruption, or if they're not, they're going to be out of business pretty soon. I realised many years ago that you have to embrace change as it happens and then enhance that through your portfolios – that's the way you get the benefits of performance."

Peter Lowman, CIO, Investment Quorum

Introduction

The way that companies are responding to disruptive trends is becoming increasingly important in determining their long-term performance. Since 2000, 52% of companies in the Fortune 500 have either gone bankrupt, been acquired, or ceased to exist as a result of digital disruption.[1] We only have to look to our own high streets to see how this is playing out in the UK, with examples such as Woolworths, BHS and Toys R Us who have not kept up with the pace of online retailers. Environmental disruption is becoming harder to ignore too. Globally, companies are re-evaluating their business models and supply chains, and the European Union has earmarked multiple sectors for tailored support as they respond to new environmental demands.[2]

Disruption on the radar:
A view from FTSE companies and fund selectors
Observing this trend, we wanted to ask a number of questions:

— Are fund selectors in the UK cognisant of the increasing pace of disruption, and where do they see the greatest threats and opportunities?
— What is the current provision of information from companies to investors, and are the two groups in agreement on the type and level of detail required?
— What steps are needed to elevate the disruption dialogue between companies and investors?

Invesco has undertaken a UK research study which explores the views of both FTSE companies and fund selectors. Our sample includes 213 executives, 106 of which were fund selectors and 105 were from publicly listed companies. This included 202 online respondents and 11 telephone qualitative interviews drawn from academia and a not-for-profit organisation. (see 'About the research' in the appendix for full details).

Dissecting disruption

Four key themes emerged from our study:

1. Disruption is playing out over different time horizons – creating complexity for decision makers. Fund selectors think that changing consumer preferences (50%) and digital disruption (39%) will impact companies most over a three-year horizon. FTSE companies agree, but 40% of them also think environmental pressures will be a powerful disruptor over a ten-year horizon. This raises important questions for the investment industry to consider: how to account for these trends as they play out over different time horizons? Should the response to digital disruption be prioritised ahead of environmental disruption?

2. Existing corporate reporting is falling short in an era of accelerated disruption. FTSE companies and fund selectors are alert to the threat of disruption, but our study shows that a lack of useful information is being reported by listed companies today. Less than one in five FTSE companies say they are disclosing detailed information on the strategic response they are taking to digital or environmental disruption within their corporate reporting. Among fund selectors, 61% want companies to report more forward-looking assessments of how digital technology will impact them, and 58% want to see more information that links corporate social responsibility (CSR) activity to material business value.

3. It's time to elevate the disruption dialogue. Seven in ten fund selectors say a manager's ability to analyse digital disruption risk will be more important for their fund selection decisions in future. But today, a lack of readily accessible information and limited disruption expertise are holding fund selectors back from more pointed conversations with fund managers. Managers will need to engage selectors more effectively on the impact of disruption in the future: this will mean better communicating the mechanics of disruption and the appropriate investment response.

4. Understanding 'disruption resilience' is key to better outcomes for end investors. There is some disagreement among FTSE companies and fund selectors about the most effective indicators of resilience to digital and environmental disruption, but both groups agree that a disruption-savvy leadership team and clear strategic vision are key. This emphasises the need for in-depth analysis to assess which companies will fare best amid disruption. The industry must now consider how to improve the efficacy of this analysis, and how to account for disruption resilience in investment strategy, given the many other factors that drive investment decision making.

[1] Digital Transformation Is Racing Ahead and No Industry Is Immune, Harvard Business Review, July 2017
[2] Adaptation to climate change, European Commission https://ec.europa.eu/clima/policies/adaptation_en

Disruption is playing out over different time horizons creating complexity for decision makers. Fund selectors think that changing consumer preferences (50%) and digital disruption (39%) will impact companies most over a three-year horizon. And while FTSE companies agree, 40% of them also think environmental pressures will be a powerful disruptor over a ten-year horizon. This raises important questions: how to account for these trends as they play out over different time horizons? And should the response to digital disruption really be prioritised ahead of environmental disruption?

1

Lithium Mining
Chile

Listed companies are facing an accelerated pace of disruption. In the US, a study by consultancy Innosight identified that the average tenure of S&P 500 companies fell from 33 years in 1964, to 24 years in 2016; and they predict it will shrink to 12 years by 2027.[3] The UK's FTSE 100 appears subject to similarly fast transformation: 51 companies dropped out of the index in the 15 years up to 2015.[4]

Regulatory change and shifting consumer tastes continue to test existing business models, as was ever the case, but companies are being hit by an accelerated pace of digital and environmental disruption too:

— New digital technologies are enabling start-ups with alternative business models to rapidly scale and disrupt industries.
— The acceleration of climate change is challenging longstanding linear business models across sectors, driving companies away from a 'take, make and waste' approach to production, towards one focused on 'reduce, reuse and recycle'.

Our findings illustrate the varied time horizons of these trends – and what the implications of this may be for UK fund selectors.

Disruption timelines

In the short term, our survey respondents expect changing consumer tastes and digital disruption to pose the greatest threat to FTSE companies, with 41% and 34% respectively suggesting they create a high risk over three years (see Figure 1).

This is perhaps unsurprising, given that these trends can have a fairly swift impact upon companies' bottom lines. Consumer taste has long been a major determinant of success because it has – and will continue to – lead demand. For example, just look at how fast-food chains stole market share from traditional restaurants during the second half of the twentieth century, while today healthy eating trends are disrupting fast food outlets in turn. More recently, the way that UK consumers have switched onto craft ales has seen the number of breweries in the country rise by 64% in the five years up to 2017.[5] This shift in tastes rapidly impacted beer sales among large, traditional breweries.

A similarly quick impact can be recognised through digital disruption too. For instance, some of the world's largest advertising groups have seen a recent decline in revenues, as social media companies and content-sharing platforms such as Facebook, Twitter and Youtube have grown their share of the market. Or in the music industry, where internet streaming now makes up a larger share of global music sales than CDs and vinyl records.

Longer term, FTSE companies also believe that environmental pressures will be an important source of disruption for industry incumbents: 40% rank it as one of the top two biggest disruptors over ten years (see Figure 2). Yet interestingly, few fund selectors cite environmental change as an expected driver of disruption, even over the long term. This may be because of the difficulty involved in drawing tangible links between companies' environmental approach and their business performance.

Implications for the investment industry

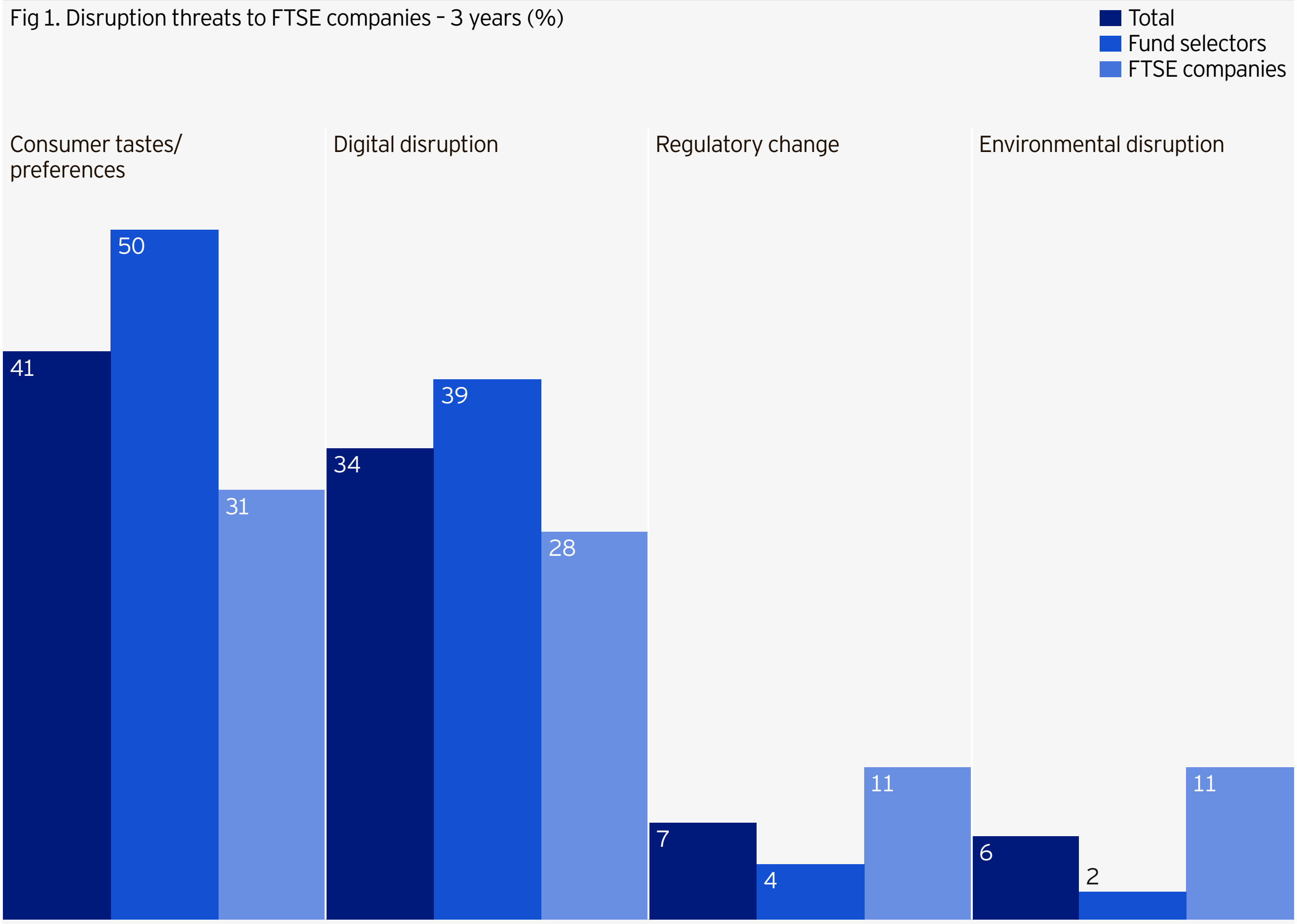
Assessing the way companies approach disruption is likely to help the investment industry determine which businesses will gain a competitive advantage.

"As investors we regularly engage in dialogue with our companies and clearly see increasing evidence of companies addressing environmental disruption. For example, the attractiveness of a paper and pulp company we own is enhanced by the investment opportunity they see in using wood instead of oils in their production processes, with overall lower carbon footprint. Their solution would have a competitive advantage by offering a transition towards cleaner plastics," says Stephanie Butcher, Fund Manager, European Equities at Invesco.

If, as our study suggests, digital and environmental disruption are playing out over different time horizons, then this might need to be evaluated in the context of investment time horizons. Though this will require continuous monitoring, as the pace at which these disruptive trends play out may accelerate – or decelerate – over time.

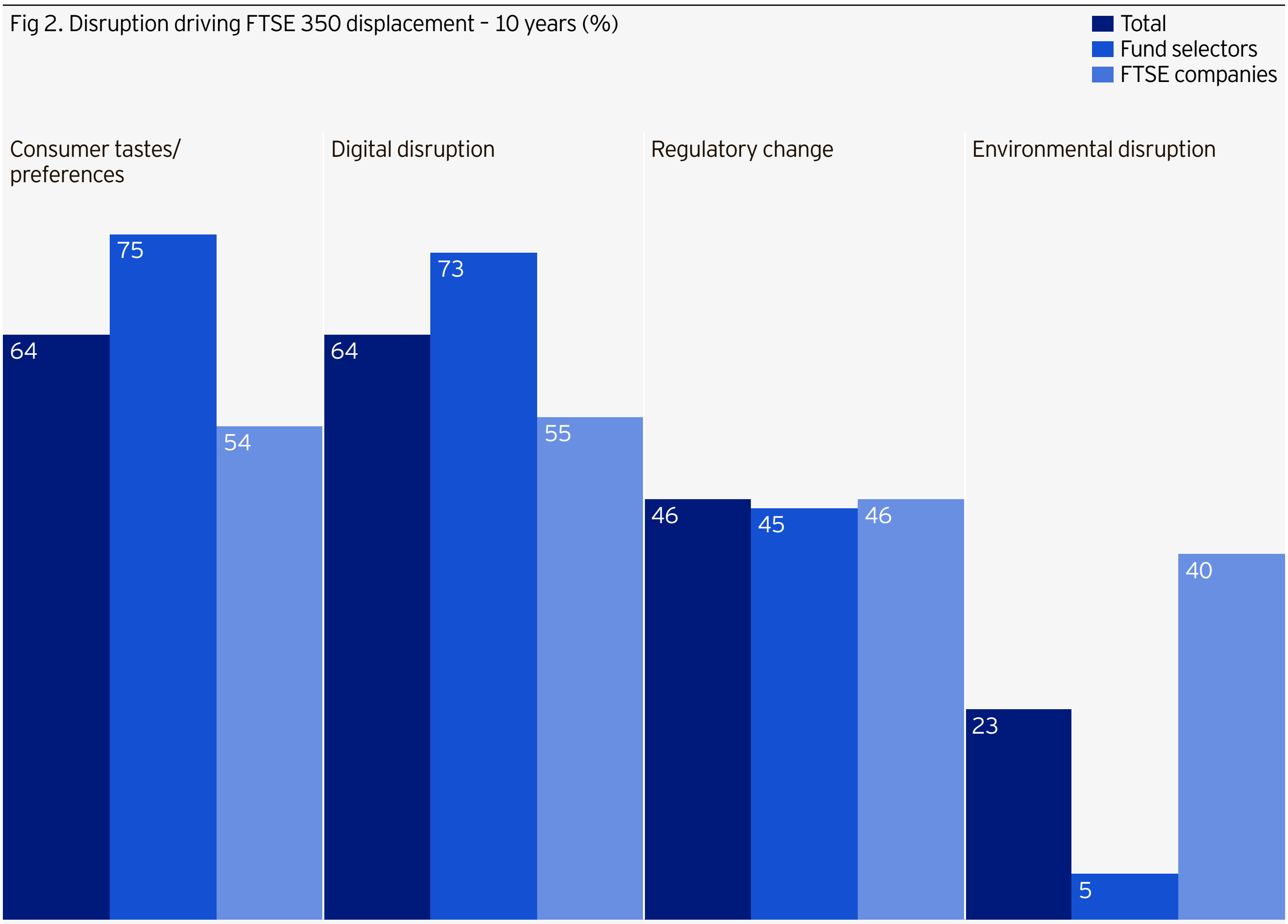
[3] 2018 Corporate Longevity Forecast: Creative Destruction is Accelerating, Innosight, February 2018
[4] The Guardian, February 2015
[5] The Independent, October 2017

Fig 1. Disruption threats to FTSE companies – 3 years (%)



Sample=202, Fund selectors=100, FTSE companies=102

Fig 2. Disruption driving FTSE 350 displacement – 10 years (%)



Sample=202, Fund selectors=100, FTSE companies=102

Existing disclosure is falling short in an era of accelerated disruption.
FTSE companies and fund selectors are alert to the threat of disruption, but a lack of useful information is being reported by listed companies today. Less than one in five FTSE companies say they are disclosing detailed information on the strategic response they are taking to digital or environmental disruption within their corporate reporting. Among fund selectors, 61% want companies to report more forward-looking assessments of how digital technology will impact them, and 58% want to see more information that links corporate social responsibility (CSR) activity to material business value.

2

WARR Hyperloop Pod II
California

As digital and environmental disruption have an accelerated impact on listed companies' performance, investors, shareholders and other stakeholders will seek more detail about how organisations are responding.

Despite this, our research shows that existing corporate reporting offers only limited information that can be used to understand how companies are addressing the risks and opportunities of disruption.

Even though they acknowledge the threat posed by these disruptive trends, just 19% of FTSE companies say they are disclosing detailed information on the strategic response they are taking to digital disruption, and only 9% say this about environmental disruption (see Figure 3).

Calling for deeper disclosure on disruption

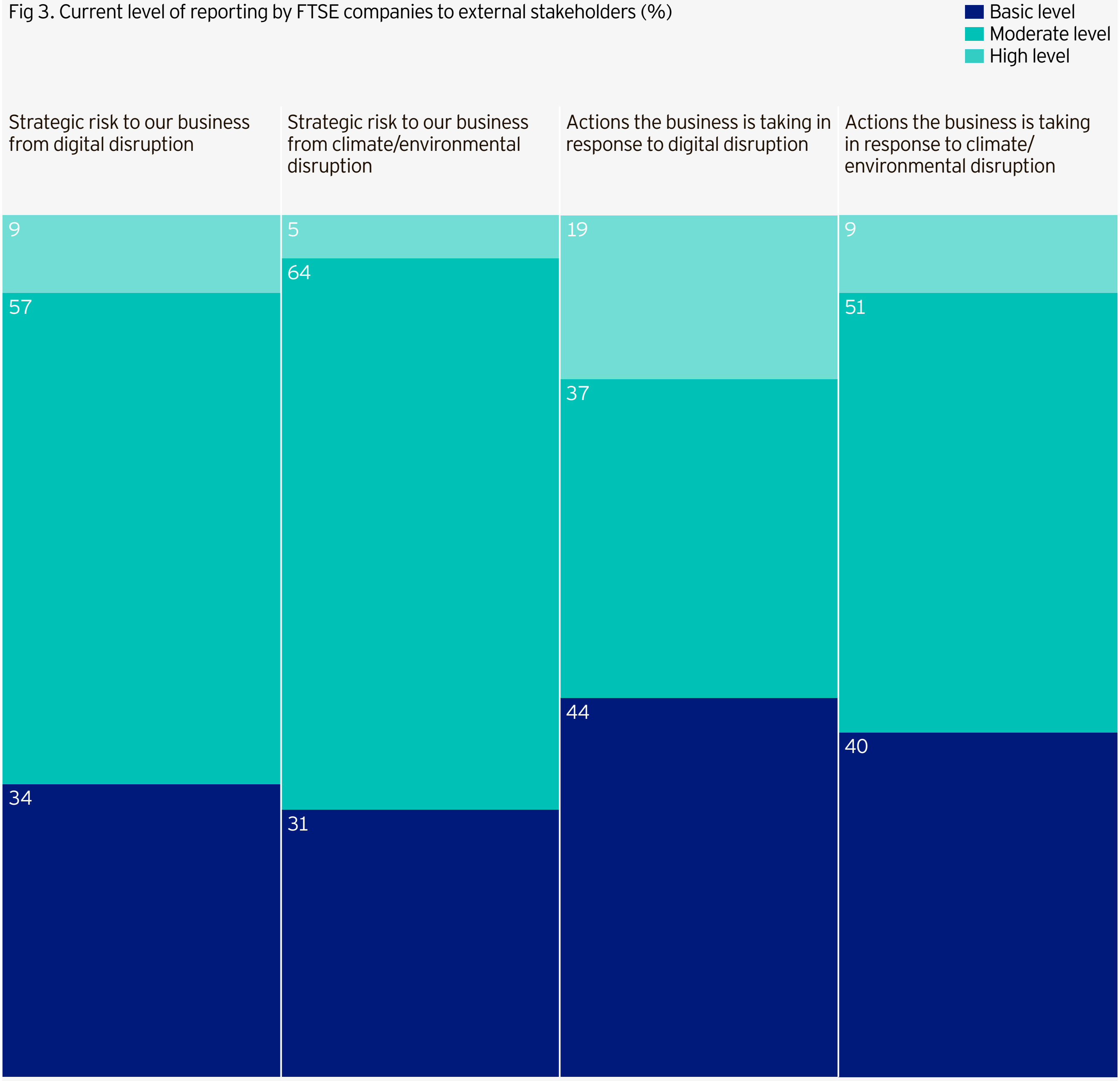
Nearly two-thirds of the fund selectors we surveyed would like listed companies to focus on disclosing more forward-looking assessments of how digital disruption may impact their business.

Today, companies often make some reference to the risk posed by digital disruption within their reporting, but few outline their future vision of how this may play out. A minority of companies are confronting this head on, however. For example, Citigroup has begun publishing an annual report that assesses the potential future impact of FinTech and digital disruption on the banking industry. While the analysis is for the industry as a whole, rather than just Citigroup, it presents a clear view of which areas of the traditional banking value chain are most vulnerable to disruption, even estimating the volume of business that may be lost to disruptive business models by 2025.[6]

A further 58% of our fund selector respondents say the inclusion of clearer metrics linking companies' corporate social responsibility (CSR) activity with tangible impact on the business's performance should be a top priority (see Figure 4).

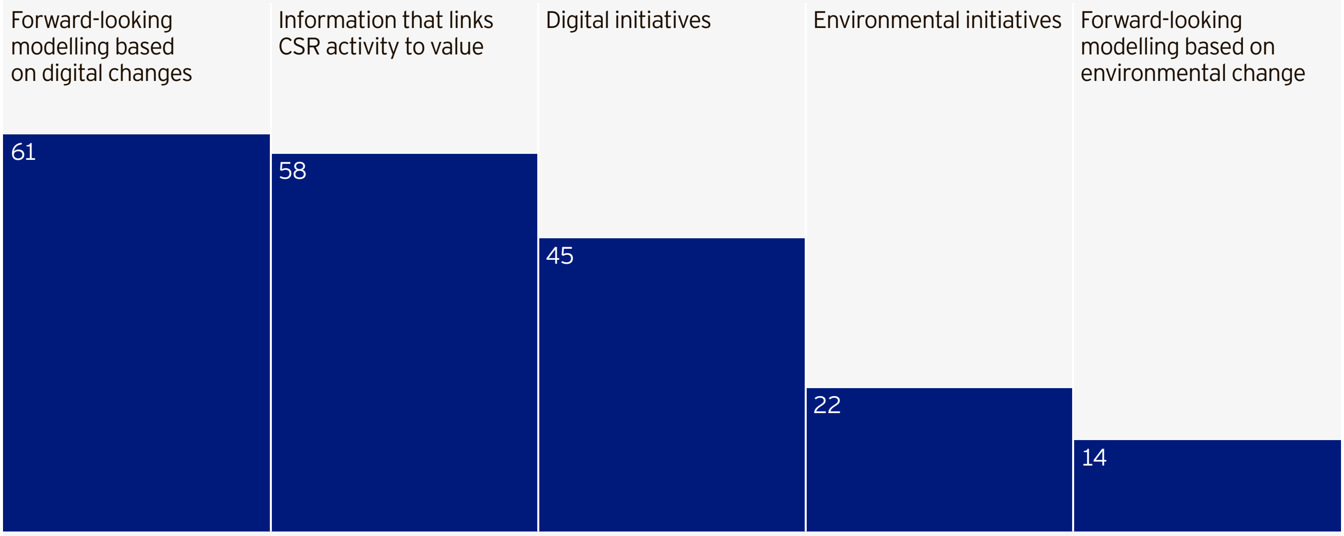
[6]Bank of the Future – The ABCs of Digital Disruption in Finance, Citi GPS, March 2018

Fig 3. Current level of reporting by FTSE companies to external stakeholders (%)



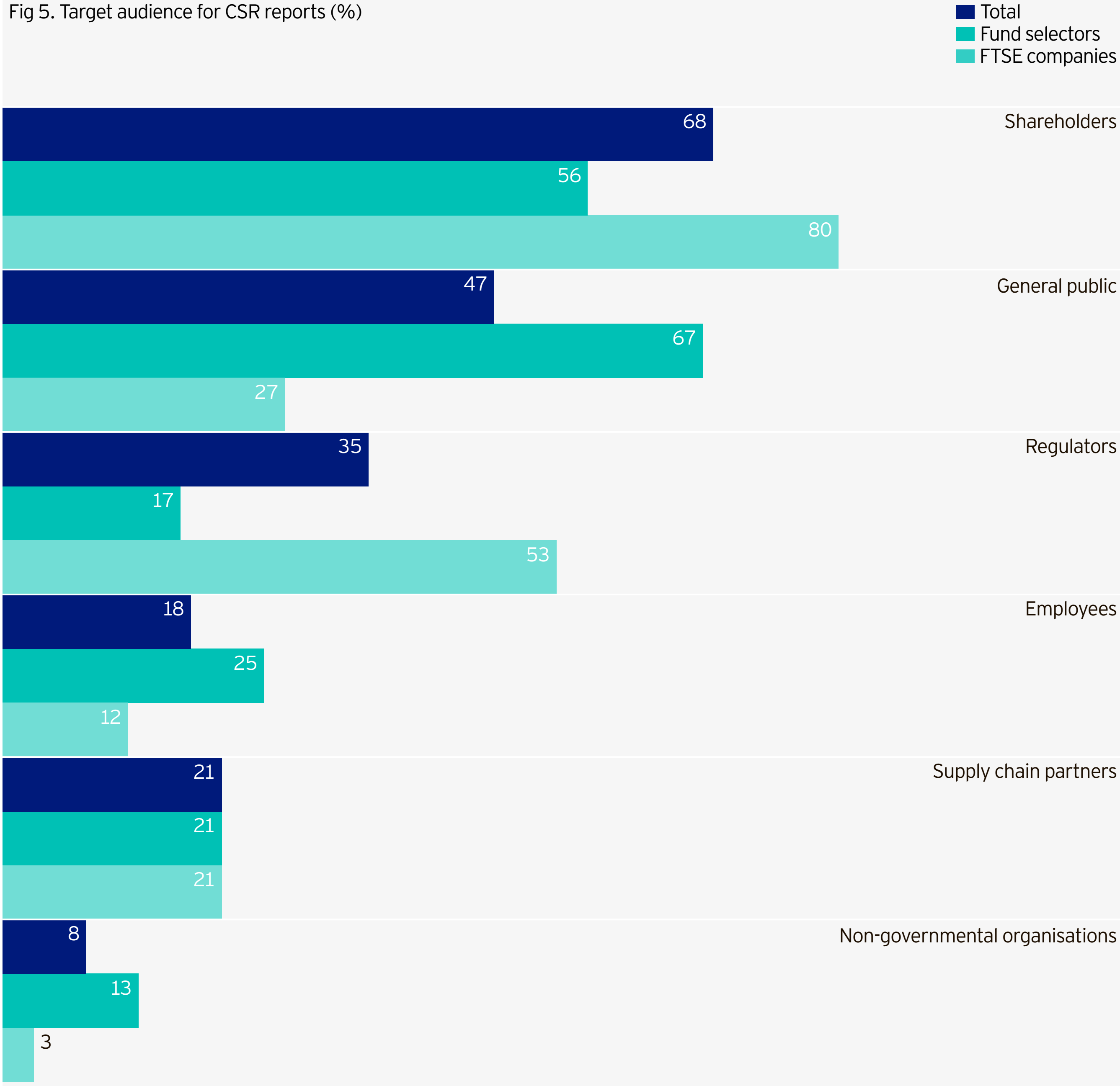
Sample=102

Fig 4. Priority areas for improvement of non-financial corporate reporting – Fund selectors (%)



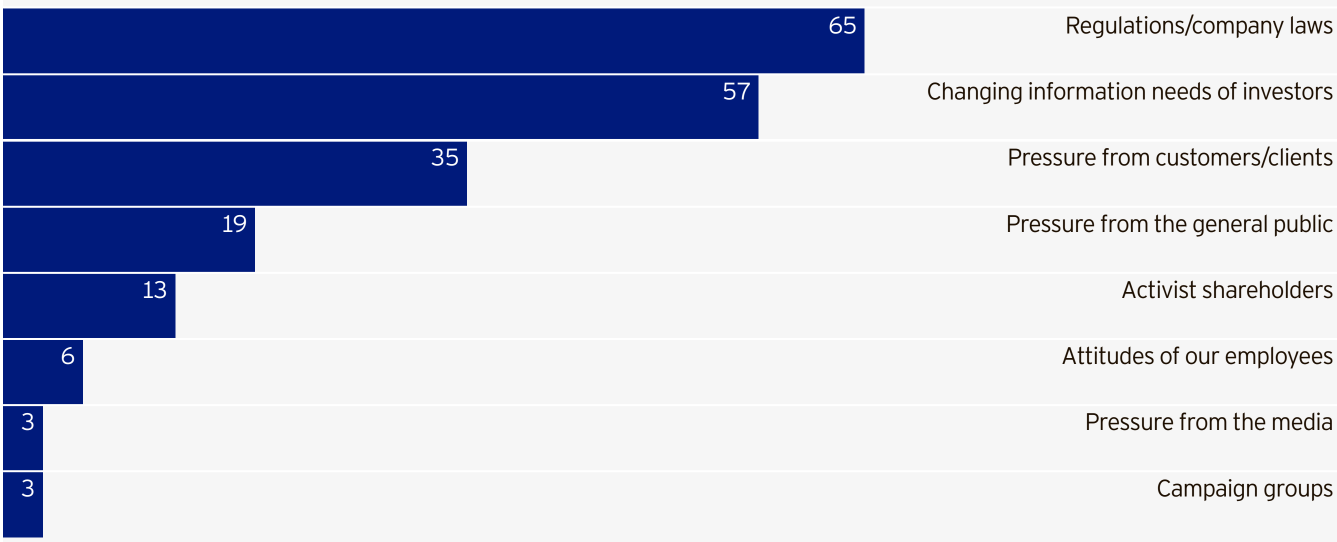
Sample=100

Fig 5. Target audience for CSR reports (%)



Fund selectors=100, FTSE companies=102

Fig 6. Factors driving corporate reporting change - FTSE companies (%)



Sample=102

Cathrine de Coninck-Lopez, Head of ESG at Invesco, says growing attention to CSR reports from investors and ratings agencies means the reporting framework companies follow will inevitably need to change.

"Historically, the CSR report has been separate from the business's financial reporting, but investors increasingly need to see how this activity is driving performance," she says. "For example, the most advanced companies show how energy efficiency initiatives contribute to lower costs, and they will draw a clear link between new ways of engaging employees and increased sales."

The fund selectors and FTSE companies in our survey have different views about whether investors' needs are really the top priority when CSR reports are being compiled. 80% of FTSE companies say investors are a target audience for CSR reports, while 67% of fund selectors believe they are primarily aimed at a more general audience (see Figure 5).

Paul Dickinson, Executive Chair of CDP (formerly the Carbon Disclosure Project), says that listed companies' reporting on environmental performance is improving gradually. "Reporting is on a giant journey that is far from complete but very well underway," he says. For environmental reporting, a fast-changing regulatory environment is helping to drive greater disclosure. And programmes such as the Global Reporting Initiative (GRI) are promoting more standardised, comparable reporting practices.

Clearly, the push for greater disclosure around digital disruption does not have the same regulatory impetus behind it, which may hinder progress. While 49% of fund selectors in our survey say that disclosure on the level of digital expertise within companies' senior leadership team is highly important for understanding how well they might respond to digital disruption, analysis by Deloitte found that only five of the FTSE 100 companies had disclosed having a director with any specialist technology or cyber security experience.[7]

According to the FTSE companies in our survey, the hand of the regulator is most important in evolving their reporting practices. However, there is a willingness to address investors' changing information needs too: 57% of FTSE companies say this is a key factor in pushing them to adapt their reporting over time (see Figure 6).

[7] Deloitte, February 2017

Barriers to improving disclosures on disruption

Without a broad consensus, however, it will be difficult for investors to enact meaningful change to listed companies' reporting practices. This will not be easy to achieve given the varied priorities of investors. "In the insurance industry, a lot of investors are holding our stocks for dividend income rather than for growth, so they are not too concerned about what the insurance industry will look like in ten years' time," an emerging technologies specialist at a large European insurer told us. "The majority won't be pressing us for information about our digital transformation strategy – they're more focused on getting exposure to the insurance sector to increase cashflows today."

There are several other challenges to overcome if the reporting picture for digital and environmental disruption is to evolve. In our survey, 48% of FTSE companies say concern that investors may interpret such disclosures negatively is one of the main barriers to them publishing more detailed information (see Figure 7).

"Most companies are reasonably good at spelling out the more obvious risks within their reporting. Whilst it is totally understandable many companies don't want to shake the confidence of their investor bases, we appreciate the management teams that spell out what they are doing to mitigate such risks. Unfortunately, given the rapidly changing nature of disruption, it can be difficult for companies to effectively communicate the magnitude of a disruptive risk let alone what actions they can take against such risks," says Invesco's Joe Dowling, Global Equities analyst.

The commercial sensitivity of information is another major concern for FTSE companies. As companies respond to digital or environmental disruption, they may be devoting R&D to cutting edge technologies, or planning strategic manoeuvres that they don't want to publicise during the early stages. Yet Ioannis Ioannou, Associate Professor of Strategy and Entrepreneurship at London Business School, says that some degree of transparency into such activity is important. "It's about having transparency on the company's response. For instance, letting investors see that you've recognised the need for some radical new technology to mitigate a particular risk, by disclosing that your venture capital arm is focusing on some new environmental technologies," he says.

There is clearly a delicate balance to be struck going forward, as listed companies move to disclose the information investors need to assess their strategic approach to disruption, yet without compromising their attractiveness to investors or their commercial confidentiality.

As our research indicates, there remains a long way to go. Only 12% of our respondents are actively implementing changes to meet demands for more forward-looking reporting, and a similarly low number are planning to treat disruption as a standalone issue for reporting purposes (see Figure 8). That said, a number of companies are holding internal discussions or putting plans in place to make some of these changes in future. For instance, 58% of the FTSE companies we surveyed are either at the planning or trial stage of adopting more forward-looking corporate reporting. This suggests the impetus for change is taking hold and investors can look forward to more holistic reporting by companies as these plans progress.

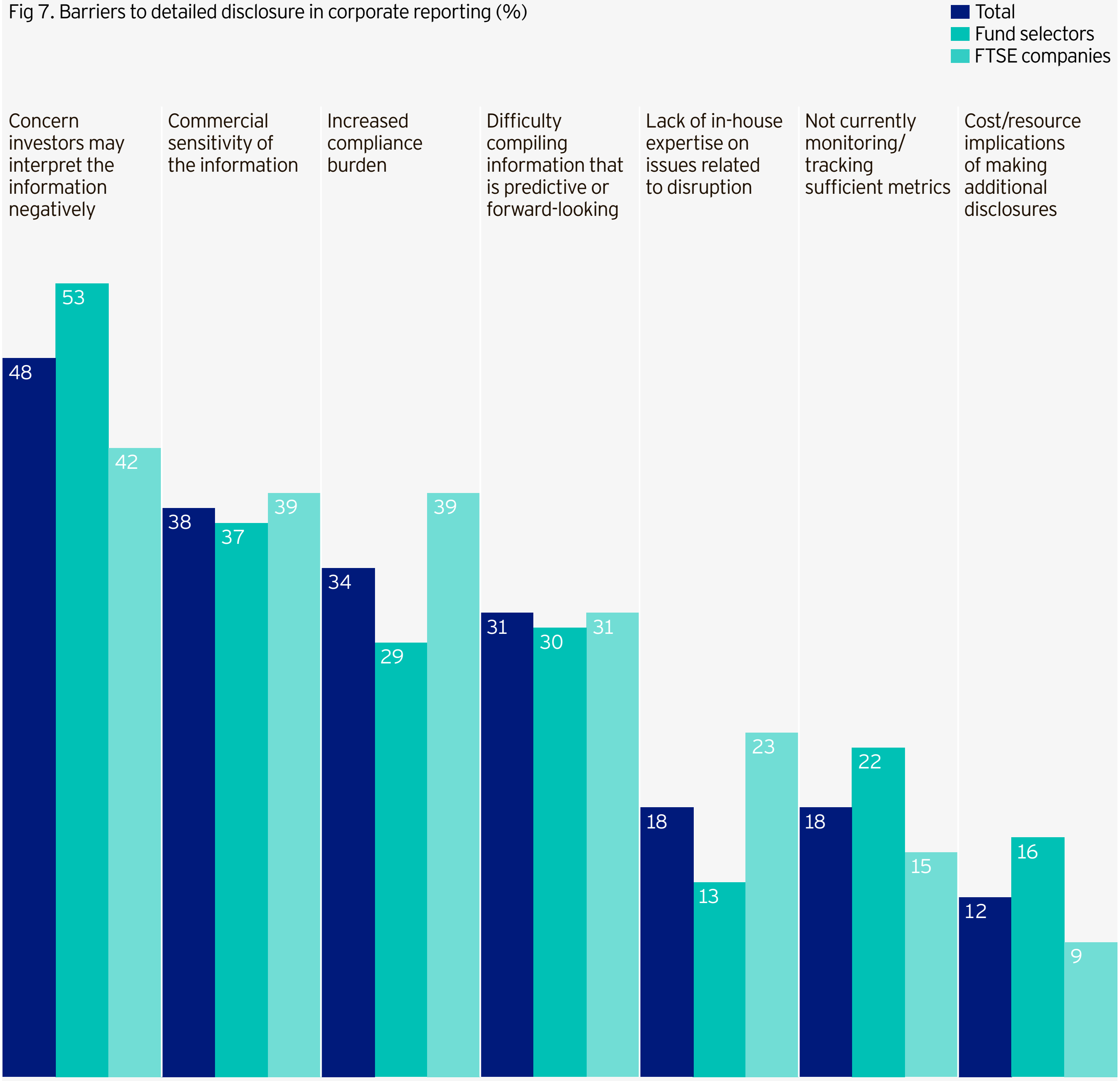
Implications for the investment industry

Our results show that there is a lack of information being reported by listed companies around both the risks and opportunities created by disruptive trends. We also find that listed companies have legitimate concerns about making such disclosures – yet they are willing to change their reporting practices in future.

The upshot for the investment industry is two-fold. Firstly, this underlines the importance of consulting a wide range of information sources, far beyond traditional company reports, when seeking to understand companies' preparedness for disruption. This may mean incorporating new types of information into the investment decision-making process.

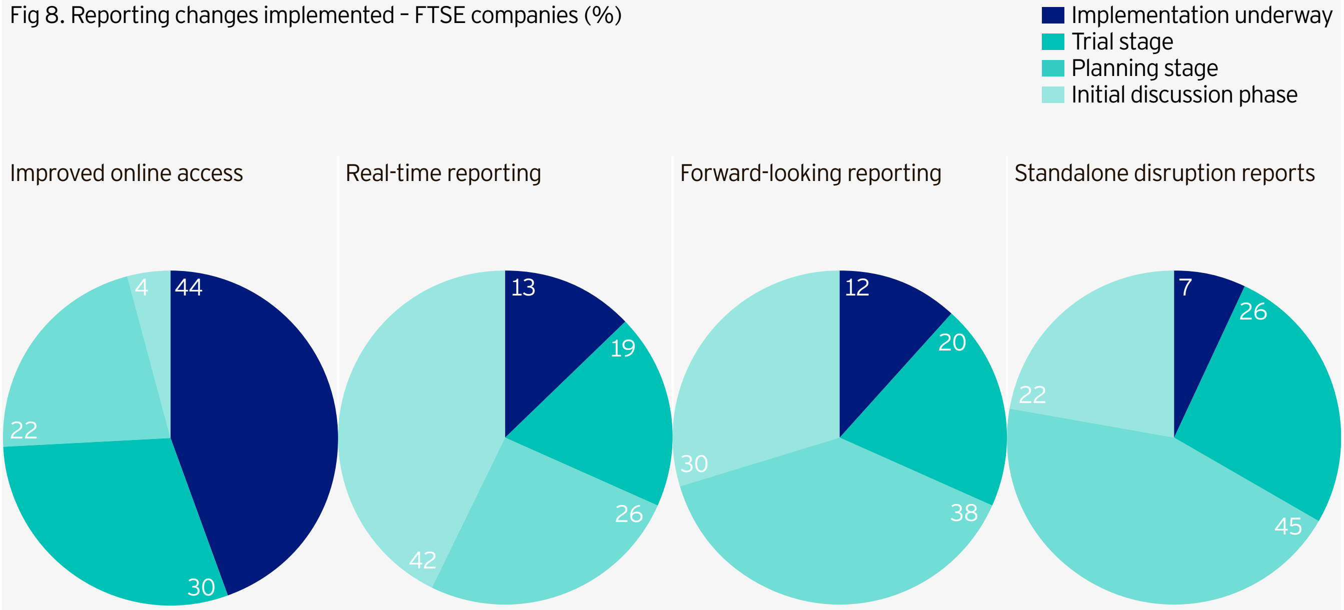
And secondly, there is an important collaborative role for the investment industry to play in helping listed companies and regulators to achieve the right balance on how corporate reporting practices should evolve.

Fig 7. Barriers to detailed disclosure in corporate reporting (%)



Sample=202, Fund selectors=100, FTSE companies=102

Fig 8. Reporting changes implemented – FTSE companies (%)



Sample=101, Chart excludes ' Don't know ' responses

It's time to elevate the disruption dialogue.
Seven in ten fund selectors say a manager's ability to analyse digital disruption risk will be more important for their fund selection decisions in future. But today, a lack of readily accessible information and limited disruption expertise are holding fund selectors back from more pointed conversations with fund managers. Managers will need to engage selectors more effectively on the impact of disruption in future: this will mean better communicating the mechanics of disruption and the appropriate investment response.

3

Cloud Forest
Singapore

A heightened awareness of disruption is now essential for fund selectors as they try to deliver the best outcomes for end investors. The speed at which disruptive trends are impacting companies' performance, and the potential scale of this impact, means the disruption dialogue should be a key part of investment diligence.

Companies with game-changing technologies may represent an opportunity for investors to capture growth in a low-growth world. Equally, existing companies that have effective guards against being disrupted may provide good long-term investment opportunities.

Today's fund managers need an intimate understanding of how disruption is reshaping their key sectors of interest if they are to achieve long-term performance – and fund selectors need to have confidence their managers possess this understanding.

The fund selectors in our survey reflect this view, particularly with respect to digital disruption: 71% say fund managers' ability to understand the impact of digital disruption is becoming more important in their decision-making process for the future, and 37% say the same about environmental disruption (see Figure 9).

The fund selectors in our survey have mixed views about the ability of managers to identify and mitigate the impact of disruptive trends within their funds. While 66% are confident in fund managers' competence when it comes to digital disruption, less than one-third say the same about environmental disruption (see Figure 10).

This may be the result of ineffective communication related to environmental disruption on the part of fund managers – and ambiguity about how this is being factored into their investment strategies. Or it may be a less immediate concern because of the perceived slow-acting effect of environmental disruption.

At City Asset Management, Research Director James Calder says environmental disruption doesn't feature high on the agenda when they engage with fund managers.

"Environmental risk does arise in discussions with fund managers, but they don't tend to feature this centrally within our conversations," he says. "It wouldn't be a focal point for our meetings."

There is such nuance within both of these aspects of disruption, that assessing and communicating the appropriate investment response is no straight-forward task.

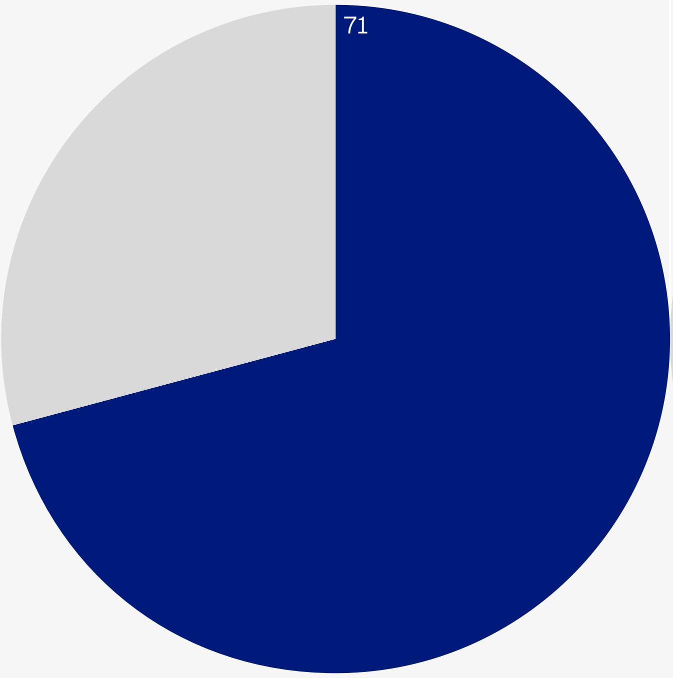
Companies in certain industries have innate protections built-in, such as regulatory barriers or high cost of entry, that may keep disruptors out – while others are more vulnerable targets. At the micro-level, individual companies and their management teams are responding to disruptive threats and opportunities at different speeds.

"Companies, asset managers and our clients are all living in a rapidly changing world. Fundamental investors benefit from taking into account environmental, social and governance (ESG) issues when investing, because these trends are clearly only becoming more economically relevant. We therefore do consider these when evaluating future investment opportunities and in our dialogue with companies."

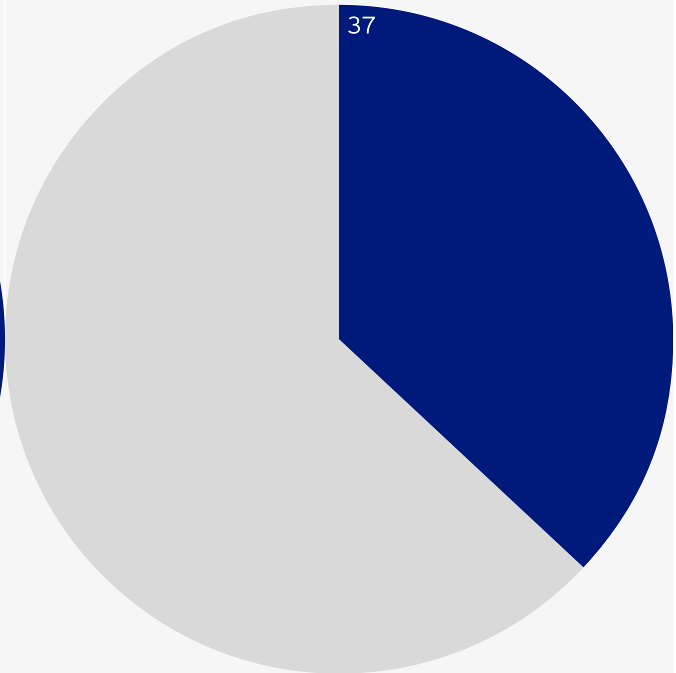
Cathrine de Coninck-Lopez,
Head of ESG, Invesco Henley Investment Centre

Fig 9. Importance of disruption analysis on fund selection in the future – Fund selectors (%)

Analysis of digital disruption becoming more important



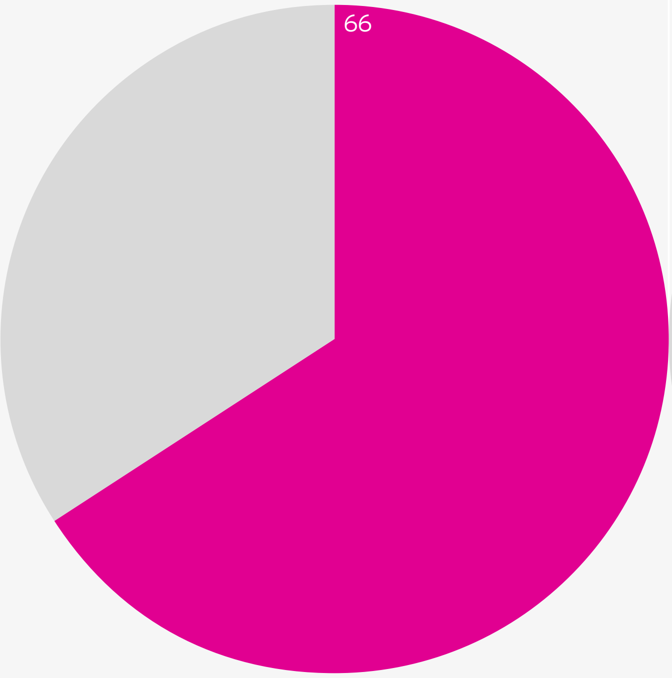
Analysis of environmental disruption becoming more important



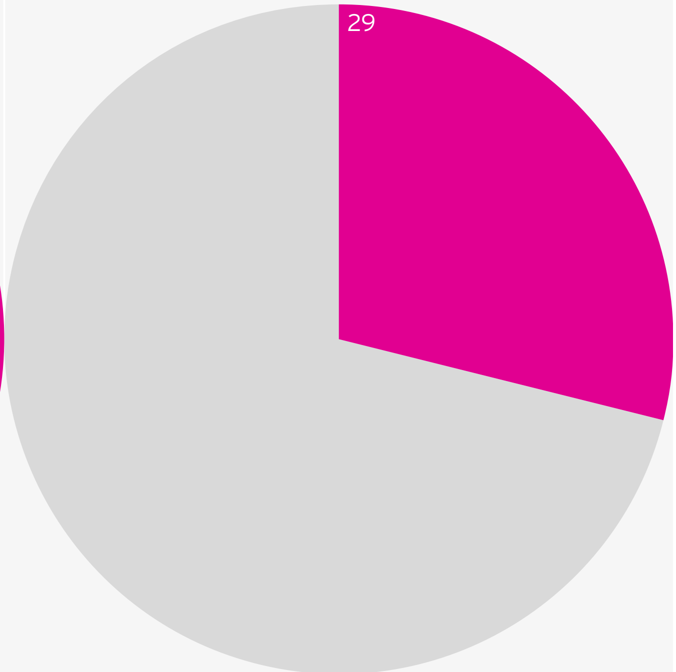
Sample=100

Fig 10. Fund managers' capabilities on analysing disruption – Fund selectors (%)

Think fund managers are well-equipped to mitigate disruption risk within their funds

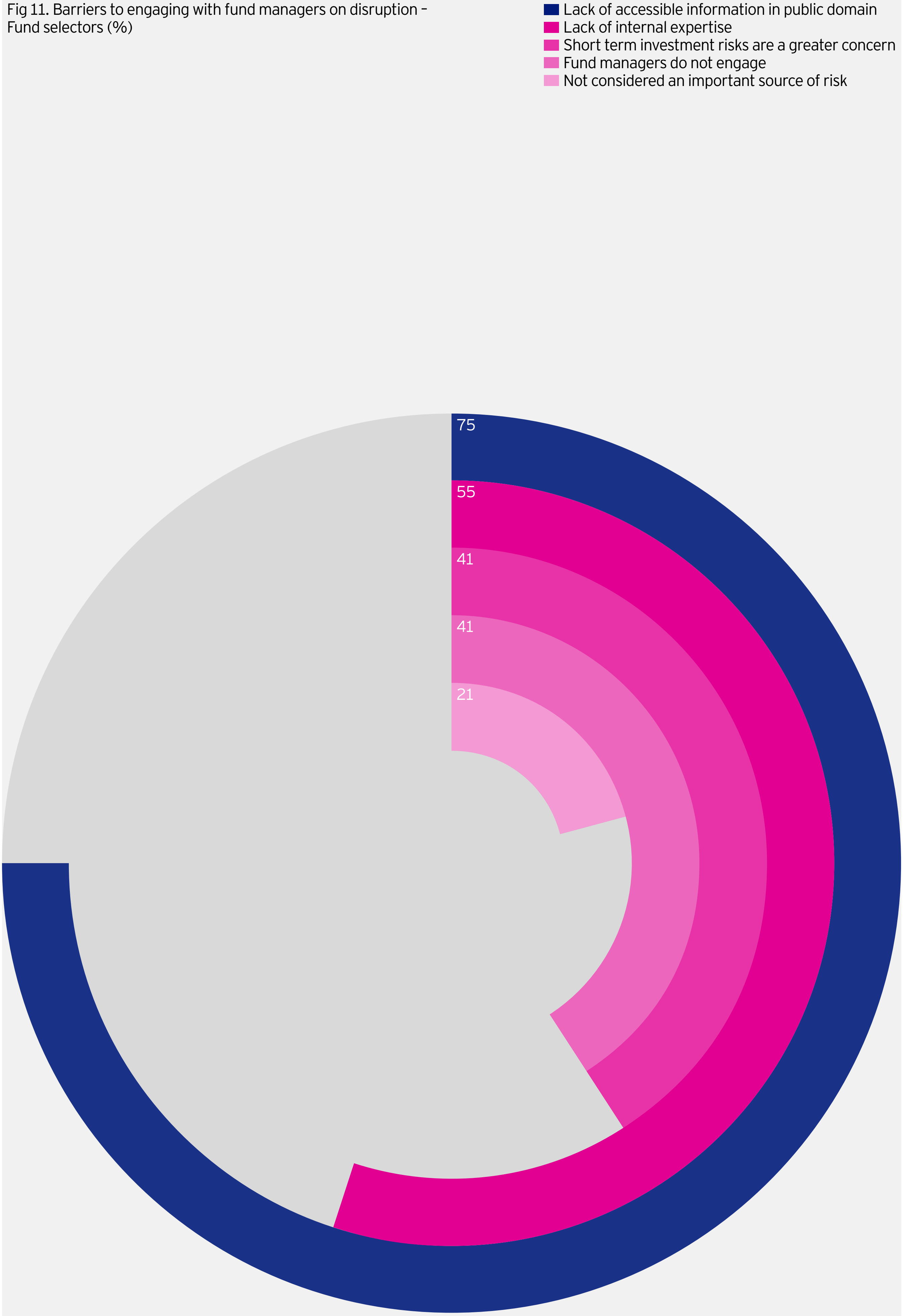


Are confident fund managers are equipped to identify and mitigate environmental risks within their funds



Sample=100

Fig 11. Barriers to engaging with fund managers on disruption – Fund selectors (%)



Sample=100

With such a complex picture, we believe some new approaches to communication and education will be needed to elevate the disruption dialogue between fund managers and fund selectors.

Investment Quorum's Lee Robertson reports mixed experiences in the approach of fund managers. "There are some incredibly good managers that are very good at sharing research and expertise around digital disruption – this gives us confidence in their investment process. But others continue to believe that simply sending out a fact sheet once a month is what you want," he says.

This suggests that a hands-on approach from managers is required to reassure fund selectors that digital trends are being accounted for in an appropriate way. There may be a need to go beyond more traditional communication approaches that may have sufficed in the past.

Rob Morgan, Pension and Investment Analyst at Charles Stanley Direct, says active managers are a valuable source of insight on digital disruption. "Active fund managers who conduct thorough proprietary research are well-placed to understand how well-equipped an organisation is to respond," he says. "As a fund selector, I have good information from fund managers in that sense, they tend to go quite far – but they don't tend to disseminate that on a wider basis, so they could do better there."

The implication here is that while active fund managers may be perceived as a go-to source of insight on disruptive trends, they perhaps need to work harder to share that knowledge with a broader audience.

Wider dissemination of expertise and information will be key to enabling more informed, productive discussions on the impact of disruptive trends. For the fund selectors in our research, a dearth of useful information in the public domain that can strengthen their view of disruption, and a shortage of specialist in-house expertise on disruptive trends, create barriers to deeper engagement with fund managers (see Figure 11).

Implications for the investment industry

Our research highlights that managers' competence on disruption is becoming more of an influence on fund selection. It also shows that while the disruption dialogue is happening today, it remains fairly limited and fund selectors report mixed experiences when engaging in such discussions.

To bridge this gap, fund managers may want to consider how they can deliver this information in a more targeted way. Digital and environmental disruption are affecting different sectors at a varied pace and level of transformation, and these nuances might need to be addressed in greater detail.

At the same time, fund selectors might see fit to pressure managers to deliver more detail about how their assessment of disruptive trends is being factored into the investment process. And as this becomes a more important influence on fund selection decisions, could it be embedded within formal selection criteria and relevant governance frameworks to ensure it receives due consideration?

Understanding 'disruption resilience' is key to better outcomes for end investors.
There is some disagreement among FTSE companies and fund selectors about the most effective indicators of resilience to digital and environmental disruption, but both groups agree that a disruption-savvy leadership team and clear strategic vision are key. This emphasises the need for in-depth analysis that goes beyond the fundamentals when assessing which companies are best-placed to mitigate the threats – and capture the opportunities – from disruption.

4

Svalbard Global Seed Vault
Norway

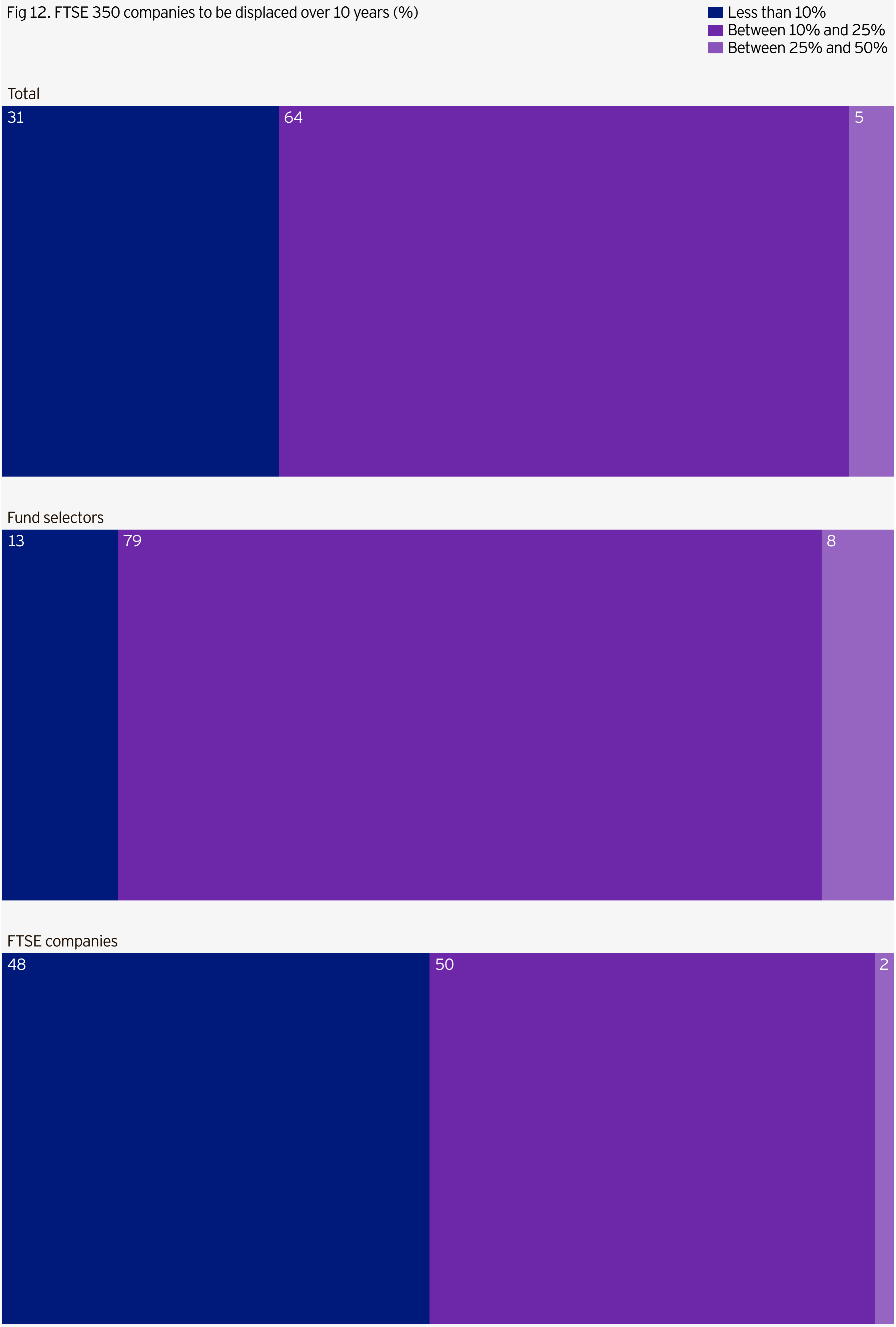
There are no fool-proof solutions to picking the winners and losers of disruption – but there is a lot that can be done to help evaluate firms and identify those that are best placed to compete in the future business environment.

Part of the challenge is that the impact of disruptive trends and the optimal response of companies is a multi-layered discussion. There are very different views regarding the likely turnover rate of today's FTSE 350 companies among the two groups in our research. Nearly half of the listed company-respondents expect at least 90% of the FTSE 350 to survive (less than 10% to be displaced) over the next ten years. However, just 13% of fund selectors share the same level of optimism (see Figure 12). Differing perceptions on the effect of digital disruption may explain this. As we saw in Theme 1, 73% of fund selectors think digital disruption will be a significant driver of today's FTSE 350 companies being displaced, while just 55% of corporate respondents say the same (see Figure 2).

"Every sector in the UK is being challenged in some way, shape, or form, by the Fourth Industrial Revolution. It's changing the face of where we are – it will have a massive impact on all companies over the next ten years."

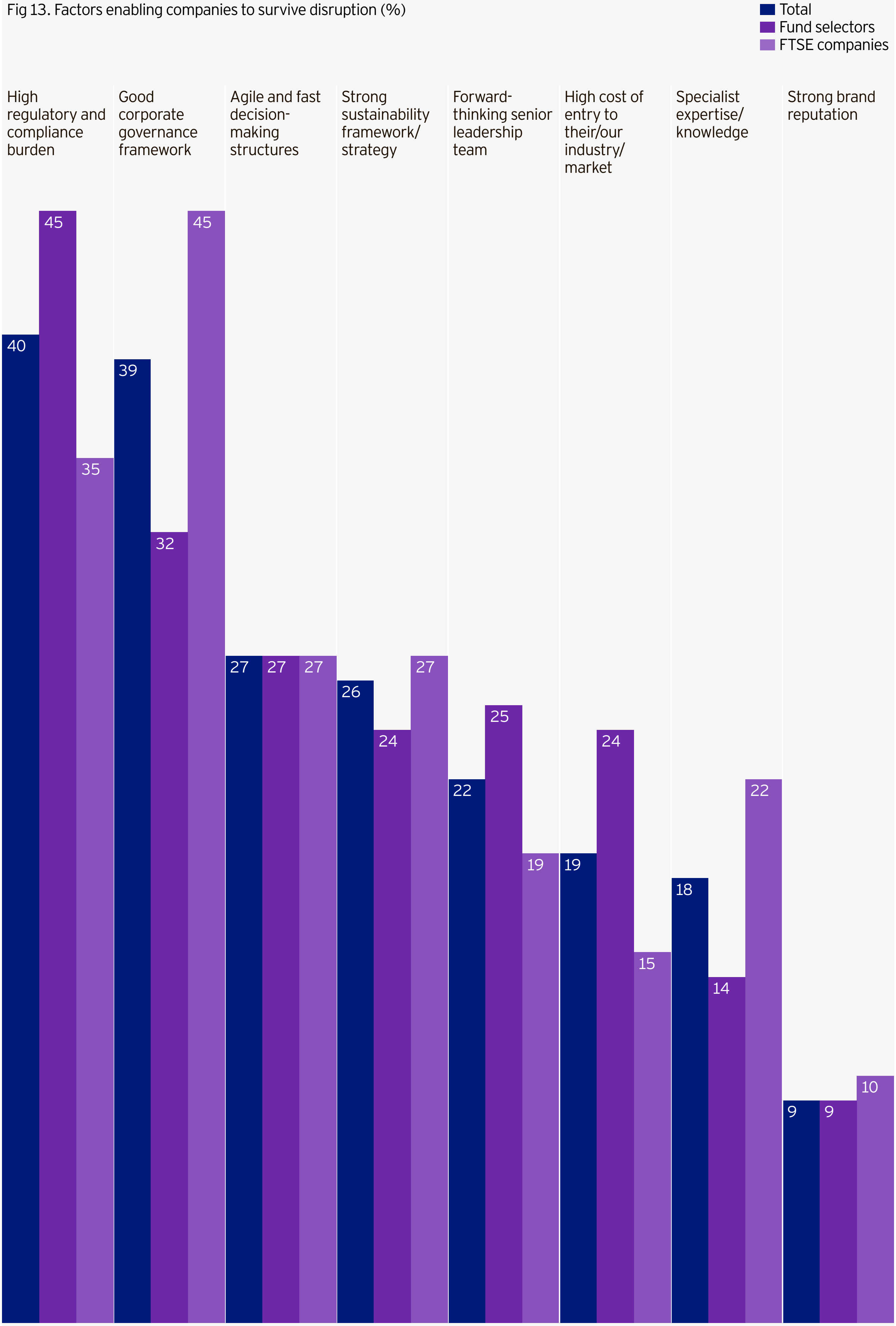
Peter Lowman, CIO,
Investment Quorum

Fig 12. FTSE 350 companies to be displaced over 10 years (%)



Sample=202, Fund selectors=100, FTSE companies=102

Fig 13. Factors enabling companies to survive disruption (%)



Sample=202, Fund selectors=100, FTSE companies=102

Disruption-proofing: What goes into a defensive 'moat'?

In-depth analysis at an industry and company level is critical in understanding where pockets of disruption resilience – those businesses least vulnerable to such risks – are most likely to be found.

Our survey respondents suggest there are certain factors that may enable companies to keep would-be disruptors at bay (see Figure 13). At an aggregate level, the FTSE companies we surveyed felt that a high regulatory burden (35%) would be a more important condition for disruption resilience than agile decision-making structures (27%) or a forward-thinking leadership team (19%). This suggests executives feel some external conditions which are out of their control will be a bigger determinant of their resilience than key internal factors that they can control.

Digging deeper, we found some differentiation across sectors too. Among the FTSE companies we surveyed, financial services and healthcare firms were more likely to think that regulation and high cost of entry will protect them, while those in heavy industries sectors placed greater importance on a strong sustainability strategy for their survival.

There is good reason for this. Banks, for example, are rightly concerned about the foray of large technology companies into the payments market, but it will be harder for these firms to encroach on other core banking activities. To offer banking products and advice, the tech companies would be forced to submit to regulatory scrutiny of pricing and marketing practices, for instance. And they would need to maintain minimum capital levels too. As companies that have thrived up until now through avoiding the gaze of regulators, this may be an unappealing prospect.

In the healthcare industry, stringent regulation governing medical research, drug development and distribution make it difficult for outsiders to mount their challenge. Amazon has recently entered the market and Alphabet subsidiary Verily is growing its presence too, yet GSK's Chief Digital and Technology Officer, Karenann Terrell, says there is likely a limit to where and how they will be able to operate. "Technology companies are not medicine developers or manufacturers and don't understand how to deliver them safely to patients – it's not their core competency," she says. "The model they embrace is a capital-light technology platform driven approach, so they will make headway in collapsing information oriented parts of the value chain, but not complete disruption of the core life sciences business."

Though only 18% of our respondents rank specialist knowledge as one of their top disruption defences, companies with substantial intellectual property might hold an advantage over new market entrants too. Willis Owen's Adrian Lowcock points to information provider RELX group as one example. "The company holds all of the case files and historical data on legal proceedings in the UK and it's transferring all that data onto a digital platform. It's not like an Amazon can say, 'We're going to compete against you', because they don't have the intellectual capital, the expertise and the history," he says.

Beware the 'unseen' disruptive threats

The factors outlined in Figure 13 might not provide a fail-safe defence against disruption, though many of them could create a longer lead time that will help today's market-leading companies prepare.

That said, even where such defences exist, sometimes disruptors come along that are 'unseen', or at least more difficult to detect early on.

For instance, within the healthcare industry, drugs that target neurological, non-physiological conditions, such as depression or ADHD, could be disrupted by computational neuroscience to some extent. Start-up firms such as Promena VR are already testing virtual reality-based tools that clinicians could use to treat behavioural and mental health issues. Where disruption creates such an extreme level of transformation, existing regulations tend to become unfit for purpose very quickly.

At Williams F1, Chief Information Officer Graeme Hackland says they have employed an important strategy to ensure they are not blindsided by unseen threats, and can actually get to the forefront of them. "We set up an EIS fund in 2017 in the UK that looks to invest in growing new technologies where Williams Advanced Engineering can apply their know-how," he says. "The plan is to invest in any company where we can contribute our expertise to help accelerate its growth and then we'll drive fresh innovation in a range of industries."

Understanding the indicators of disruption resilience

With such a complex picture to contend with, the question arises as to what lenses investors need to apply to companies to assess their preparedness for an era of accelerated disruption.

Our research uncovers the indicators that FTSE companies and fund selectors feel are important when making these assessments. It also reveals the importance of moving beyond companies' fundamentals, to understand how well-equipped the management and governance of a company is for the tests ahead.

Digital indicators

Both FTSE companies and fund selectors agree that the digital expertise of a company's leadership team, its vision for digital transformation and its approach to on-boarding new digital skills are relatively important indicators to assess resilience to digital disruption (see Figure 14).

These three measures go a long way to understanding whether a company has a vision for how its business model should look in future, and the operating model that will be needed to underpin this. Further details on how these indicators may be tested are outlined in Table 1 (See Appendix).

Our respondent groups are less closely aligned on the importance of other indicators, however. The FTSE companies in our survey think the level of adoption of emerging technologies is the most important indicator, but fund selectors believe that the speed at which companies can integrate new technologies is more important to understand. This suggests they view the agility of an organisation's technology and operating model to change as being more important than its maturity with respect to any specific technology.

FTSE companies also place greater emphasis on whether a company has established digital innovation labs to expedite experimentation with new technologies, yet fund selectors do not see this as a useful yardstick for disruption resilience. One of the criticisms often levelled at digital innovation labs is that many companies set them up to generate positive public relations stories but then they often fail to deliver any material gains for the business.

Environmental indicators

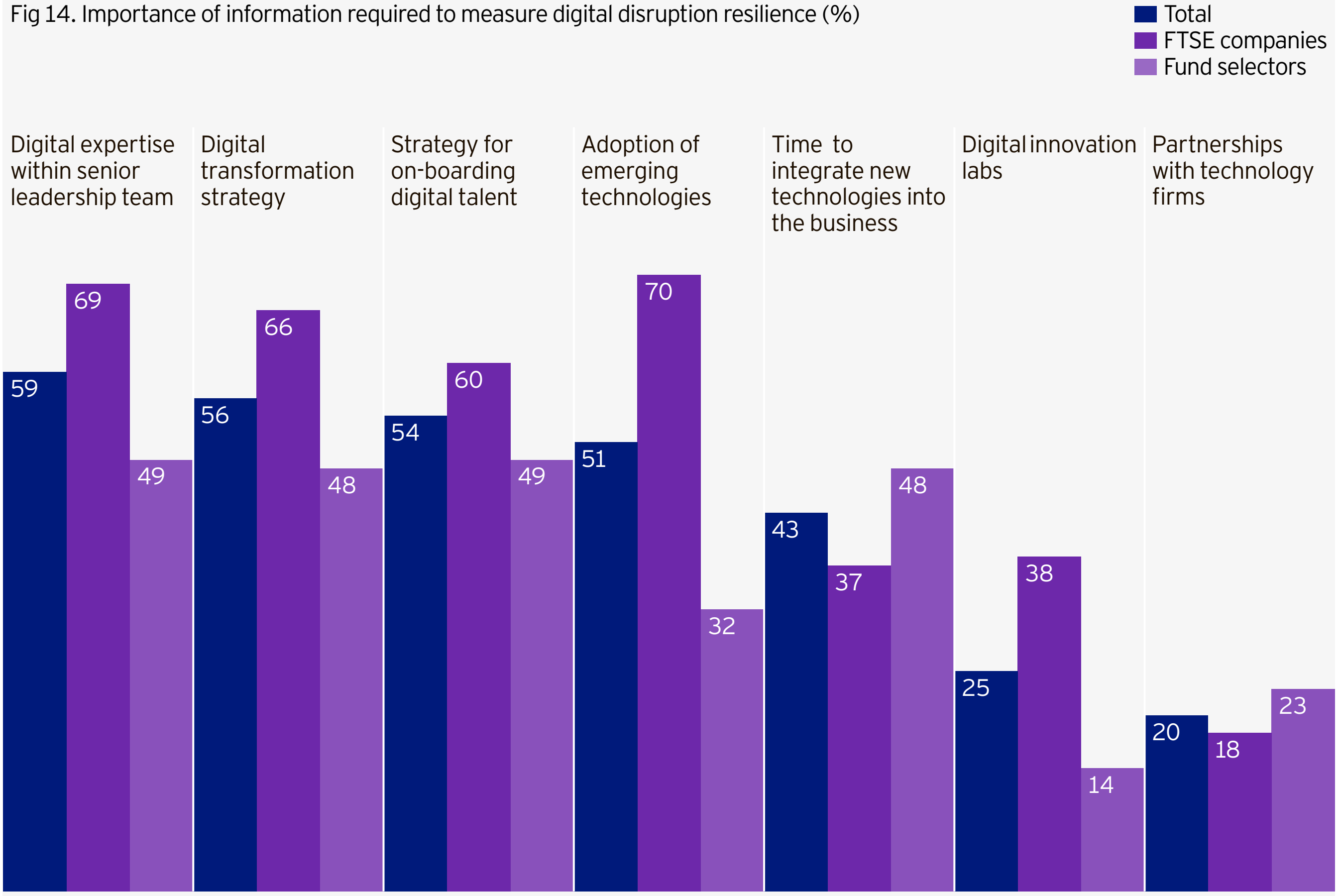
FTSE companies and fund selectors agree that the way a company is working toward improving its sustainability expertise, the extent to which sustainability frameworks are integrated across an organisation, and its approach to developing greener technologies, can be relatively important indicators to assess resilience to environmental disruption (see Figure 15).

These three factors – expertise, governance and technology – together could have a significant bearing on the sustainable future of companies. Over the medium- to long-term companies across many sectors will need to transition to more circular business models. This means moving from a 'take, make, waste' linear model of production to one focused on 'reducing, reusing and recycling' materials. Our research findings suggest that without these three ingredients, companies may struggle to undertake this transformation.

There is less alignment between the two groups about the importance that should be attributed to how a company improves its energy efficiency over time. FTSE companies in the survey say this is a highly important indicator of resilience to environmental disruption, but fund selectors disagree. This information is quite readily available to companies and it is becoming more commonplace for listed companies to report on energy efficiency measures and reductions in carbon emissions.

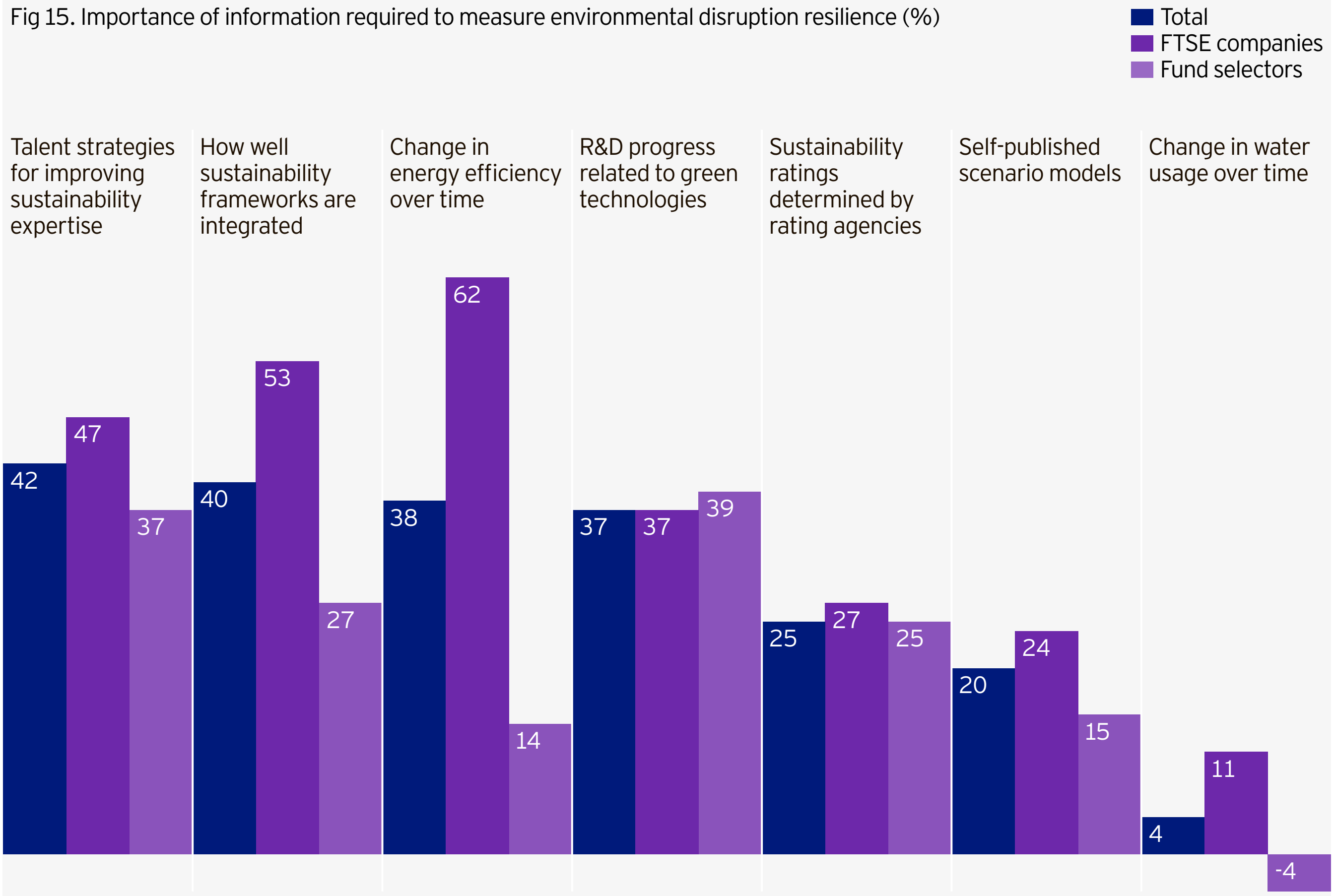
Our research highlighted a series of approaches that can be used to help assess how well-prepared a company is to respond to environmental disruption, which can be found in Table 2 (See Appendix). Information that gives a more complete picture of how seriously a company is taking environmental disruption is perhaps more valuable than simple measures of changing energy efficiency.

Fig 14. Importance of information required to measure digital disruption resilience (%)



Sample=202, Fund selectors=100, FTSE companies=102
Importance of information is calculated on a scale of 1 to 10 where 10 is most important.
Net important scores shown, calculated by aggregating scores of 7-10 and subtracting the aggregate scores of 0-5.

Fig 15. Importance of information required to measure environmental disruption resilience (%)



Sample=202, Fund selectors=100, FTSE companies=102
Importance of information is calculated on a scale of 1 to 10 where 10 is most important.
Net important scores shown, calculated by aggregating scores of 7-10 and subtracting the aggregate scores of 0-5.

The twin threat of digital and environmental disruption poses an enormous challenge to today's business leaders. These forces are acting across all industry sectors and the pace at which they can hit companies' bottom lines is accelerating.

The quality of the disruption dialogue in the investment industry needs to be elevated in response. This will require a collective effort across key stakeholder groups: FTSE companies are already working to evolve their corporate reporting; fund managers are assessing how they can better engage fund selectors and investors on the issue of disruption; and our research shows that fund selectors are increasingly putting these issues on the agenda for discussions with asset managers.

This collaborative response should help to enact positive changes, such as:

— Enabling a deeper dialogue
  Both digital and environmental disruption may feature more centrally in discussions between fund managers and fund selectors. Is there scope to challenge fund managers more on exactly how they are factoring these trends into their investment process?
— Acting over appropriate horizons
  Disruptive trends are playing out over years and sometimes decades. It is important to get ahead of these trends to realise the opportunities they present and to understand how immediate their impact might be. Should fund selectors consider assessing their impact against their clients' investment horizons?
— Getting under the bonnet of disruption resilience
  The complexity of the disruption picture should not be underestimated. Is deeper education needed about how disruption is playing out in different sectors and the full implications of this? Who is best placed to deliver that education?
— Factoring disruption into fund selection criteria
  If it isn't already, then testing a fund manager's competency with respect to understanding the impact of disruption might become part of the fund selection process. Will this become a more important criterion in future? What is the best way to assess this capability?

Crystal Universe
Singapore

About the research
We partnered with Longitude, of the Financial Times Group, to conduct a survey of 213 executives. This included 202 online respondents and 11 telephone qualitative interviews drawn from academia and a not-for-profit organisation.

See graphic opposite for a full breakdown of the respondents to our quantitative survey.

We would like to thank the following interviewees for their contribution to our qualitative interviews:

- Adrian Lowcock, Head of Personal Investing, Willis Owen
- Graeme Hackland, Chief Information Officer, Williams F1
- Greg Maddox, Head of Global Manager Research, Wells Fargo Investment Institute
- Ioannis Ioannou, Associate Professor of Strategy and Entrepreneurship, London Business School
- James Calder, Research Director, City Asset Management
- Karenann Terrell, Chief Digital and Technology Officer, GlaxoSmithKline
- Lee Robertson, Chief Executive Officer, Investment Quorum
- Paul Dickinson, Executive Chair, CDP (formerly the Carbon Disclosure Project
- Peter Lowman, Chief Investment Officer, Investment Quorum
- Rob Morgan, Pension and Investment Analyst, Charles Stanley Direct

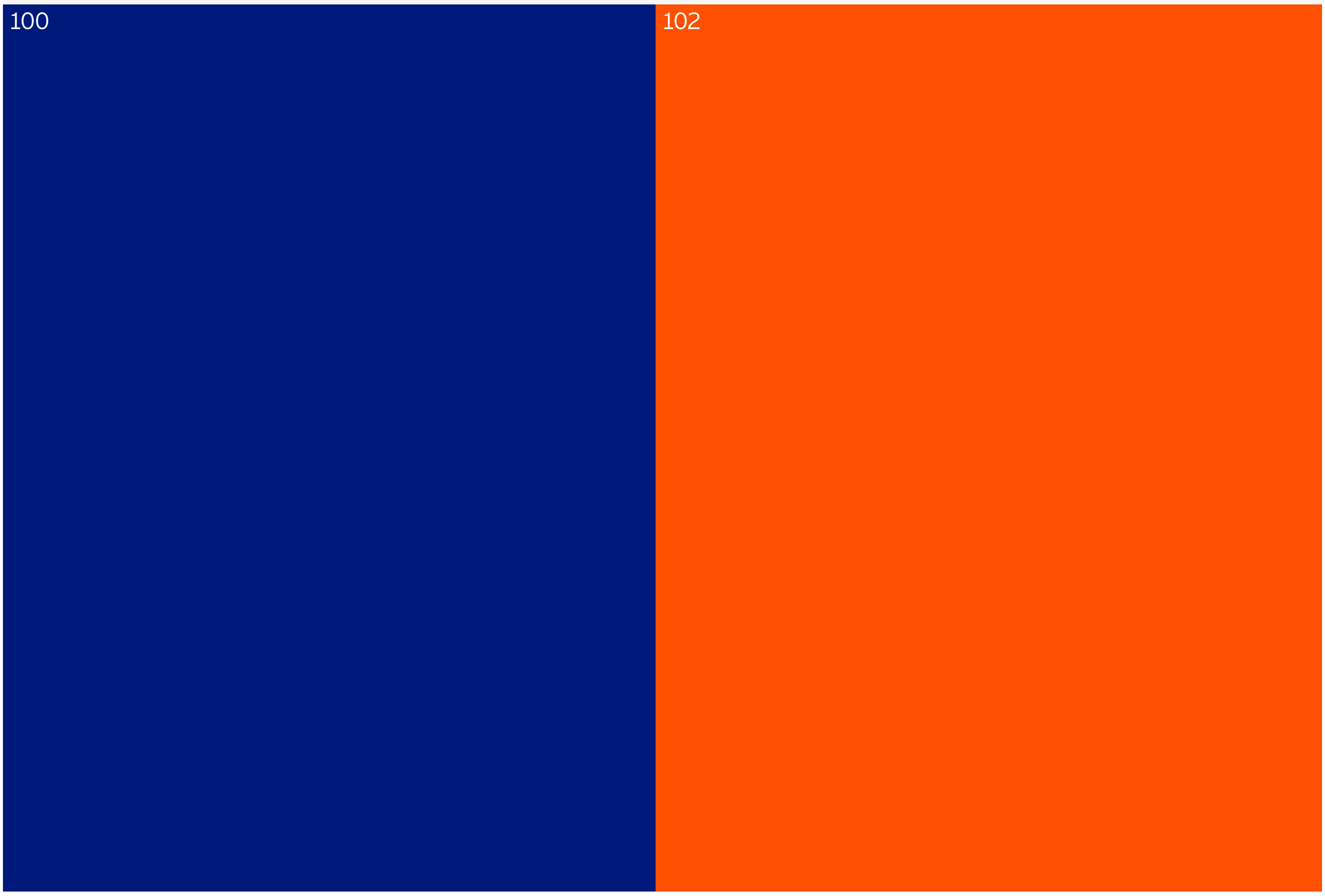
Fund selectors
Institution types: Fund of fund managers, multi-managers, banks, discretionary asset managers wealth managers, national IFAs, multi-family offices, IFA service providers and ratings agencies. Of these, 74% were either fund of fund managers, multi-managers, banks, discretionary asset managers or wealth managers.

Respondent profile: Senior-level respondents with direct involvement in the analysis, research and/or selection of investment funds.

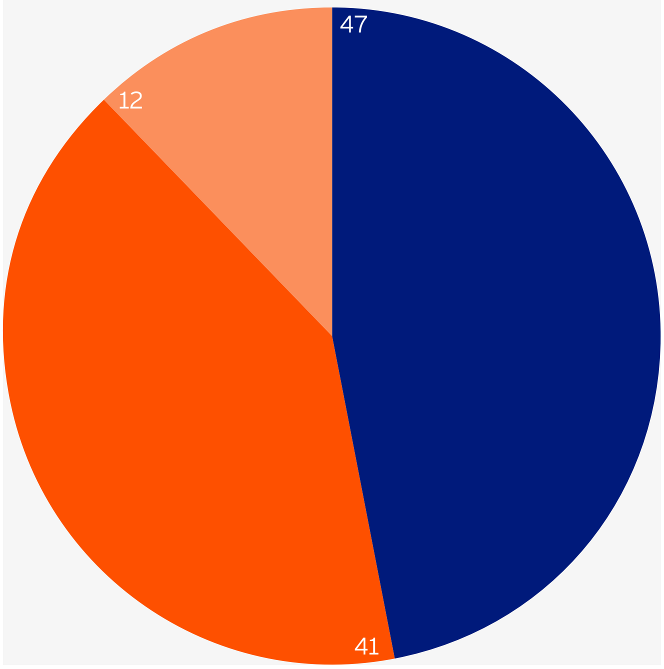
FTSE companies
Institution types: Companies in the top 1000 listed companies on the London Stock Exchange. Of these, 26 were in the FTSE 350.

Respondent profile: Senior-level respondents (C-level or C-level -1 (direct reports)) drawn from the following business functions: CEO, finance, risk and compliance, investor relations, corporate communications.

Online sample, by segment



Online fund selector sample, by AUM



Online FTSE companies sample, by annual revenue

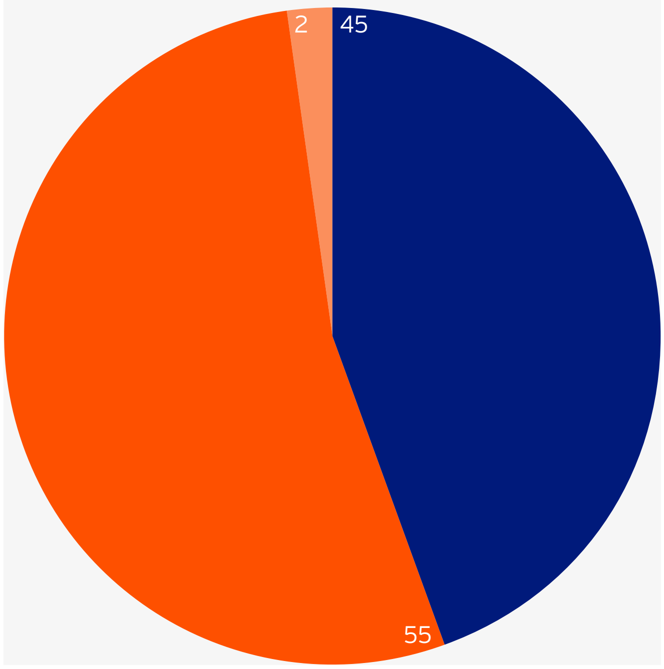


Table 1. Digital disruption – looking beyond the fundamentals

Analysis	What to look for
Understand the story	With digital disruptors, analysing future potential is key. "You need to look at digital differently – you have to look into the story and the potential as much as the fundamentals," says Willis Owen's Adrian Lowcock.
Assess the management team	Credibility of the company's senior leadership team is essential. "We need to understand the credentials of the leadership team and have the CEO give us access to those leading digital initiatives. We also triangulate stories across the organisation: often the CEOs are very articulate on digital, but you detect inconsistent views on objectives, timeframes and budgets among other managers. One of the best tools we have is making sure we're accessing all of the different layers of organisations," says Wells Fargo Investment Institute's Head of Global Manager Research, Greg Maddox.
Access all areas	Talking to leadership is always important, but investors need to get insight from the true knowledge-holders too. "Volkswagen have been great in giving us access to their e-mobility experts, battery technology experts and electric vehicle experts, which has been really helpful in assessing those risks, because they are experts in the field," says Invesco's Joe Dowling.
Look for long-term vision	Short-termism is a major warning sign that an organisation is poorly-equipped to respond to disruption. "If leadership incentives aren't well-aligned with long-term sustainability and value creation, then management teams can sometimes weaken the business by engaging in strategies that are positive for short term profitability at the expense of long term shareholder value creation. One example that comes to mind is cutting costs to flatter profitability at the expense of reinvesting in the moat. These reinvestments are what will protect the business against disruptive threats in the long term," says Invesco's Joe Dowling.
Look for income diversificationn	Digital disruption can hit different income streams of companies but also creates opportunities to open up new ones. It is a good sign if firms are grasping such opportunities and diversifying income streams for the future. "Our advanced engineering division is operating at Formula One speed and we're thinking of new ways of working that our technologies can enable that traditional industries haven't used before. Last year we invested into new intellectual property, building the Williams electric vehicle platform – that's new for us in terms of growing the company by creating IP," says Graeme Hackland of Williams F1.

Table 2. Environmental disruption – testing the governance

Analysis	What to look for
Test the reporting	Companies that truly go the extra mile on environmental reporting will spend time and resource delivering what investors want to see. "The fossil fuels a company purchases and its electricity purchases are key indicators which are already available in the accounts. What investors really want to see is the emissions within the supply chain and in the product use and disposal – and what they're planning to do about it," says CDP's Paul Dickinson.
Test the governance	Most large companies can make the right PR noises on environmental strategy today, but backing it up with good governance practices is a different matter. "If companies want to convince investors they believe environmental disruption is a fundamental component of how their industry is going to evolve, then they embed it in their corporate governance. They make it a formal board responsibility, they incentivise their people on environmental metrics, they join industry associations that focus on sustainability and they seek collaboration on these issues. Such costly commitments sometimes convey a strong message and a genuine message," says London Business School's Ioannis Ioannou.
Test the innovation strategy	In today's world of accelerated disruption, the "innovate or die" mantra has never been more apparent. "How is the R&D budget being allocated? Is this being put behind products or services that have an environmental innovation component – in some industries it might be carbon capture, in other industries it might be low energy consumption. Another way to convince the investors is to invest the R&D budget with environmentally-driven guiding principles or parameters of innovation," says London Business School's Ioannis Ioannou.

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