Digital Economy Business Survey 2021

A report for South of Scotland Enterprise

July 2021
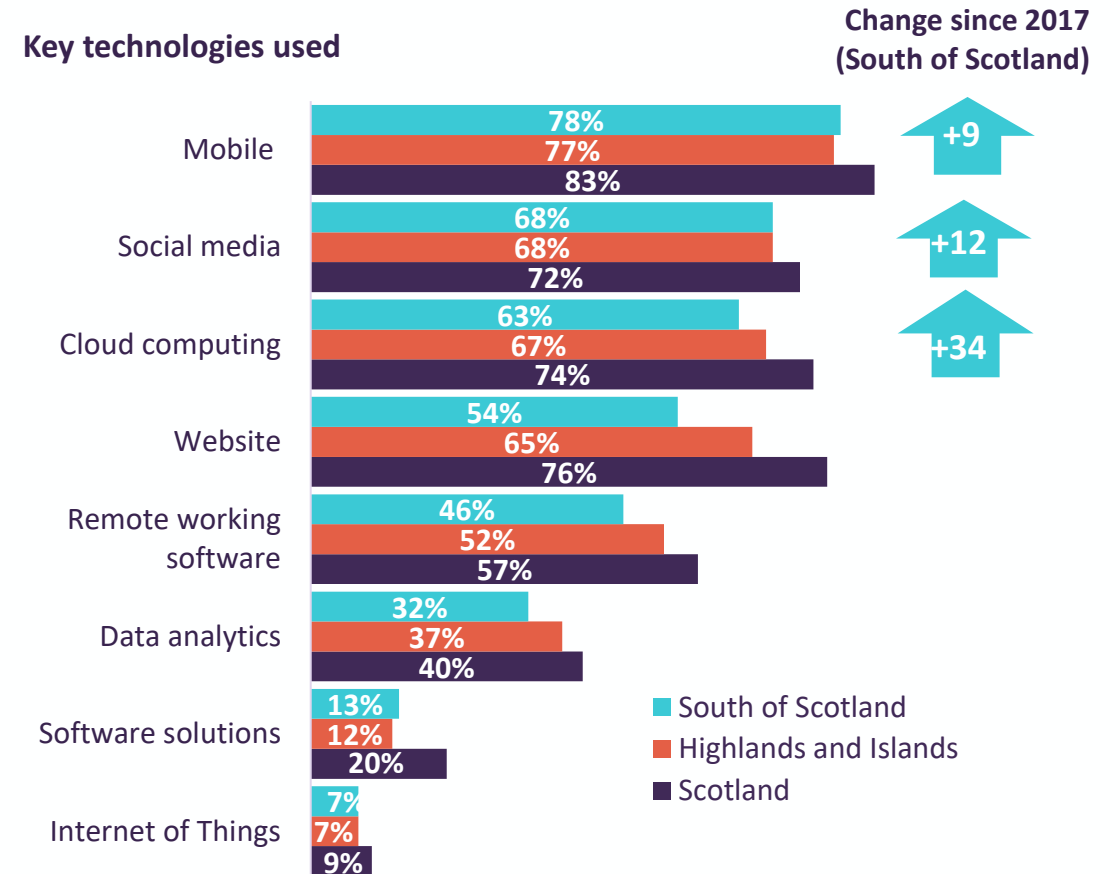
Summary and introduction

Executive summary (1)

This report presents the findings of the 2021 Digital Economy Business Survey (DEBS) for businesses located in the South of Scotland region.

Overall, engagement with digital technologies by South of Scotland businesses had grown since 2017. In particular, use of mobile technology, social media and cloud computing had all increased. However, levels of digital engagement were still lower among businesses in the region than among Scotland's businesses as a whole.

Recent investment in digital technologies in the region was lower than in Scotland overall. Two in five (39%) businesses in the region had increased their investment in digital technologies over the past two years, lower than Scottish average of 45%.

Over two thirds said digital technologies had made an impact on their productivity in the last 12 months, including a fifth for whom these had made a significant impact. The most commonly mentioned impacts for businesses were making processes more efficient, increasing skills and enhancing the business's competitive position.

One in five South of Scotland businesses sold goods or services outside the UK, higher than in 2017, but lower than the figure for Scotland as a whole. 14% of the region's businesses were planning to sell goods or services to new or different markets in the coming year, below the Scottish average of 23%.

Key technologies used

Change since 2017 (South of Scotland)

Technology	South of Scotland	Highlands and Islands	Scotland	Change since 2017
Mobile	78%	77%	83%	+9
Social media	68%	68%	72%	+12
Cloud computing	63%	67%	74%	+34
Website	54%	65%	76%	
Remote working software	46%	52%	57%	
Data analytics	32%	37%	40%	
Software solutions	13%	12%	20%	
Internet of Things	7%	7%	9%	

Legend:
- South of Scotland
- Highlands and Islands
- Scotland

Base: All businesses; South of Scotland (610), Highlands and Islands (1,150) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE

Executive summary (2)

A third of businesses carried out e-commerce, higher than the level in 2017 but still lower than in Scotland overall. COVID-19 had brought changes for regional businesses using e-commerce; a third reported an increase in online sales compared to pre-pandemic, a third said sales had stayed the same; and a quarter that online sales had either decreased or stopped.

Turning to cyber security, 28% of businesses reported they had experienced a cyber attack (equal to that across Scotland). Almost three-quarters of businesses did not feel fully equipped with the skills to protect against and deal with cyber security threats – higher than in Scotland overall.

Findings suggest a growing digital skills gap both regionally and nationally. 17% of businesses felt their staff were fully equipped to meet their business's digital technology needs (21% nationally). This had decreased from 2017, and may reflect the challenge of aligning skills development with the rapid pace of technological advancement.

Seven in ten (71%) businesses felt that digital technology was important to their operation in responding to COVID-19. Almost a quarter (23%) had applied to UK or Scottish Government COVID-19 support schemes to enhance digital capability (in line with the average for Scottish businesses overall).

South of Scotland businesses had similar levels of engagement to those in the Highlands and Islands. However, businesses in the South of Scotland were less likely to: use e-commerce; have a plan or strategy in place for their use of digital technology; or to say that it was important in the response to COVID-19.

Certain types of business appeared to be more digitally engaged and digitally mature that others. Broadly speaking, across the various topics covered in the survey, the types of business that were more digitally engaged tended to be:

- Those working in the business activities*, manufacturing and wholesale/retail sectors
- Larger businesses, with at least 10 employees
- Located in urban areas
- Selling goods or services to international markets (i.e. to the EU or to markets outside of the EU)
- With optimistic growth expectations (i.e. expecting to grow in the next 12 months)
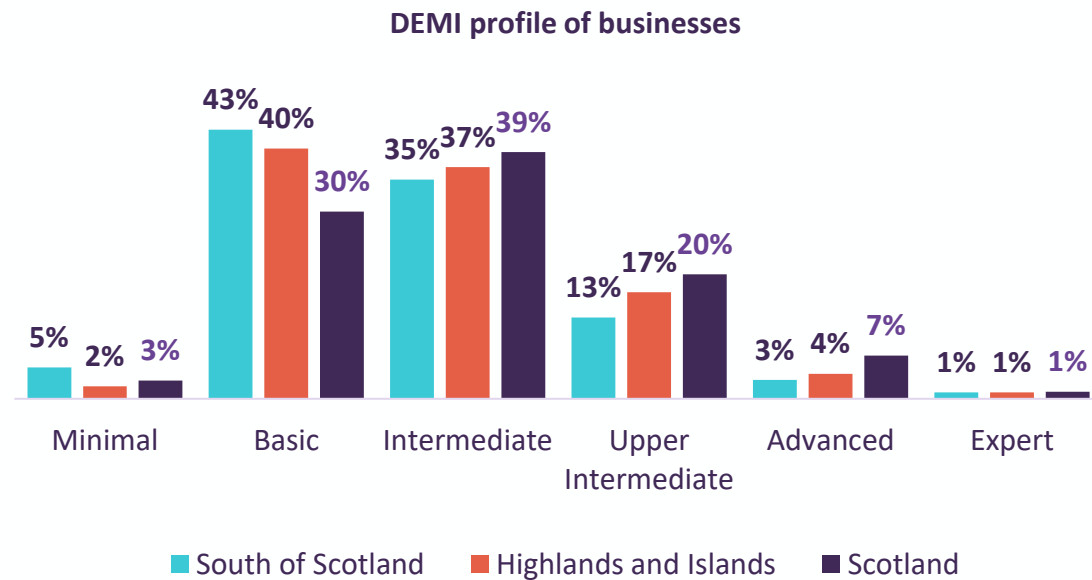
On the other hand, those that were less digitally engaged tended to be:

- Those working in the agriculture sector
- Smaller businesses with 1-4 employees
- Operating for at least 10 years
- Selling only in domestic markets

These characteristics were also broadly echoed in the findings from the Digital Economy Maturity Index (DEMI) – see overleaf.

Executive summary (3)

Findings from the **Digital Economy Maturity Index (**DEMI) analysis show that the majority of South of Scotland businesses (83%) fell within the lower half of the index, with the largest proportions being classed as either having either Basic (43%) or Intermediate (35%) maturity. Overall, South of Scotland businesses were lower on the maturity index than those across Scotland as a whole, and slightly lower than those in the Highlands and Islands.

DEMI profile of businesses

	Minimal	Basic	Intermediate	Upper Intermediate	Advanced	Expert
South of Scotland	5%	43%	35%	13%	3%	1%
Highlands and Islands	2%	40%	37%	17%	4%	1%
Scotland	3%	30%	39%	20%	7%	1%

■ South of Scotland   ■ Highlands and Islands   ■ Scotland

Base: All businesses in South of Scotland (610) and Scotland (3,346).

For the least digitally mature, DEMI findings suggest a lack of interest in digital technologies and lack of appetite for growing digital engagement in the future. Those in the *Minimal* segment had low use of digital technologies, and were least likely to have experienced their benefits. None had plans or strategies for future use of technology. It could therefore be argued that some businesses in the *Minimal* segment are unlikely to benefit from efforts to increase their digitisation.

However, the two least mature groups, *Minimal* and *Basic* were the least equipped for cyber security threats and sizeable proportions identified digital skills gaps. Therefore, these segments may benefit both from digital skills development and enhanced cyber resilience.

There are also opportunities for future skills development among the more mature businesses. For example, those in the *Intermediate*, *Upper Intermediate* and *Advanced* segments still identified at least some level of skills gaps in their organisations

In addition, though digital technologies were widely used among the more mature segments, there is still potential to drive engagement with some of the lesser-used technologies such as data analytics, management software and the Internet of Things.

Introduction and methodology

The Digital Economy Business Survey

In 2021 the Scottish Government, in partnership with South of Scotland Enterprise (SOSE), Scottish Enterprise, Highlands and Islands Enterprise and Skills Development Scotland, commissioned the third wave of the Digital Economy Business Survey (DEBS). Previous waves were conducted in 2014 and 2017*.

The survey provides SOSE and its partners with an evidence base that tracks adoption and use of digital technologies, explores the challenges and opportunities facing businesses and social enterprises in the region, and provides insight into the types of support or interventions required to help them keep pace with digital advancements.

Survey methodology

Results are based on an Ipsos MORI survey of 3,346 businesses in Scotland, including 610 businesses in the South of Scotland, conducted between 22nd February and 23rd April 2021. Quotas were set based on region, sector and business size, and data was weighted to ensure a representative sample.

The interviews were targeted at the most relevant person in each business:

- For smaller businesses (<10 employees) this was the business owner

- For larger businesses, interviews were carried out with the person responsible for making decisions about IT systems (Managing Director, IT Manager or equivalent).

Presentation of data

Throughout this report, the overall findings for South of Scotland are presented alongside comparable findings for Scotland as a whole.

Variation by types of businesses are also presented. These include variation by sector, size of business, location (urban or rural, or authority area), number of technologies used (out of the 8 tested in the survey), the markets businesses sell to, and their growth expectations over the next 12 months.

The sectors shown in the report include some groupings of a longer list of individual categories from the Standard Industry Classification 2007 (https://www.gov.scot/publications/standard-industrial-classification/) The full list is shown in the Appendix.

SOUTH SCOTLAND ENTERPRISE

Note: * In both 2021 and 2017, the number of interviewers in the South of Scotland area was boosted to allow for separate analysis for the region. This was not the case in 2014, therefore in this report regional data is compared with 2017 where appropriate but not with 2014.

02

Internet connection

Type of internet connection

97% **of businesses in South of Scotland had an internet connection**, in line with the Scottish average (97%) and findings for the Highlands and Islands (98%).
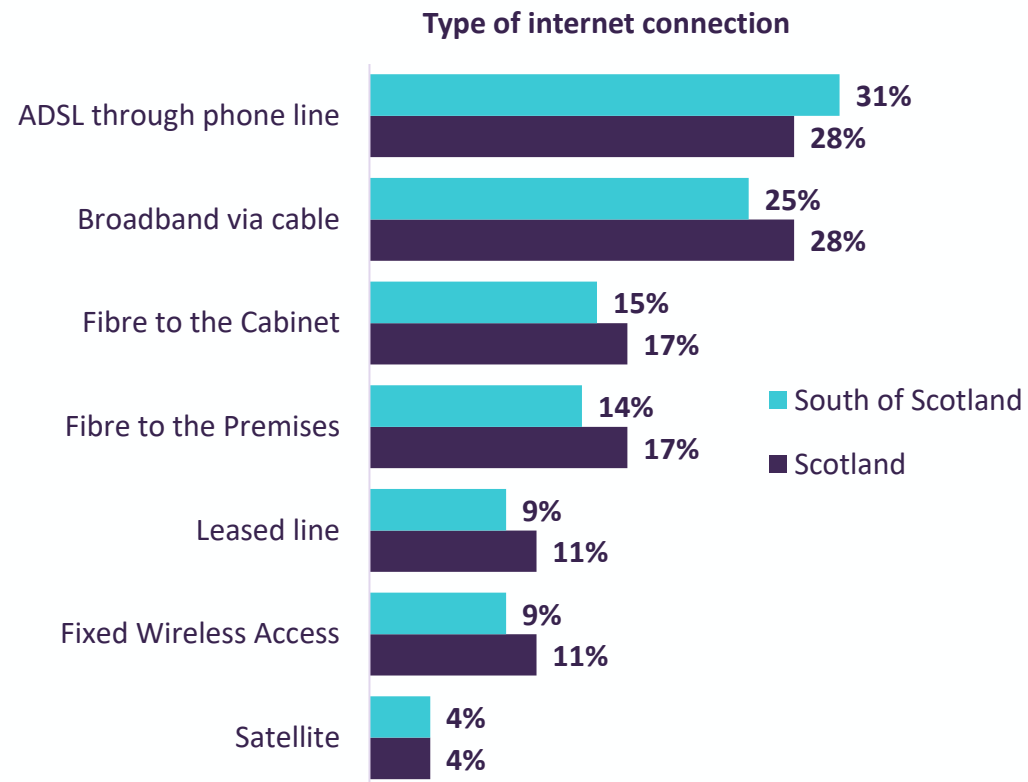
The **most commonly reported types of internet connection were ADSL via phone, broadband via cable, and Fibre to the Cabinet.**

The types of internet connection used by businesses in South of Scotland was in line with the average for Scotland.

It should be acknowledged that these results reflect businesses' own understanding of their connection type at the time of the interview, but we cannot be certain that it accurately reflects their actual connection type .

Variation by sector:
- Broadband via cable was higher than average for **construction** businesses (40%)
- Fibre to the Cabinet was higher than average among the **business activities*** sector (23%)
- Satellite higher than average for **agriculture** (10%)

Type of internet connection

	South of Scotland	Scotland
ADSL through phone line	31%	28%
Broadband via cable	25%	28%
Fibre to the Cabinet	15%	17%
Fibre to the Premises	14%	17%
Leased line	9%	11%
Fixed Wireless Access	9%	11%
Satellite	4%	4%

Base: All those with an internet connection in South of Scotland (596) and Scotland (3,271).

Note: * The "business activities" sector includes - Finance and Insurance; Real Estate; Professional, Scientific and Technical; and Administrative and Support Services

Internet connection speed

Of those businesses in the region that knew their approximate internet speed, **just under half (48%) said they had superfast broadband,** an increase from 27% in 2017. The proportion with superfast in the region was on par with that in the Highlands and Islands (45%) but still below the Scottish average of 62%. Over half of businesses in South of Scotland (61%) and Scotland (58%) did not know what speed their internet connection was. This is in line with 2017 (when 60% and 59% said don't know).

Internet connection speed	South of Scotland (%)		Scotland (%)	
	2021	**2017**	**2021**	**2017**
Up to 23 Mbit/s	43	67	33	52
Between 24 and 29 Mbit/s	9	4	4	4
Between 30 Mbit/s and 1 Gbit/s	38	25	51	35
Over 1 Gbit/s	6	1	7	6
At least 24 Mbit/s	**57**	32	67	46
At least 30 Mbit/s (superfast)	**48**	27	62	44
Base: All those with internet access, excluding 'don't knows'	230	81	1,377	1,333

Variation by sector:

- **Business activities** sector more likely than average to have superfast broadband (70%)
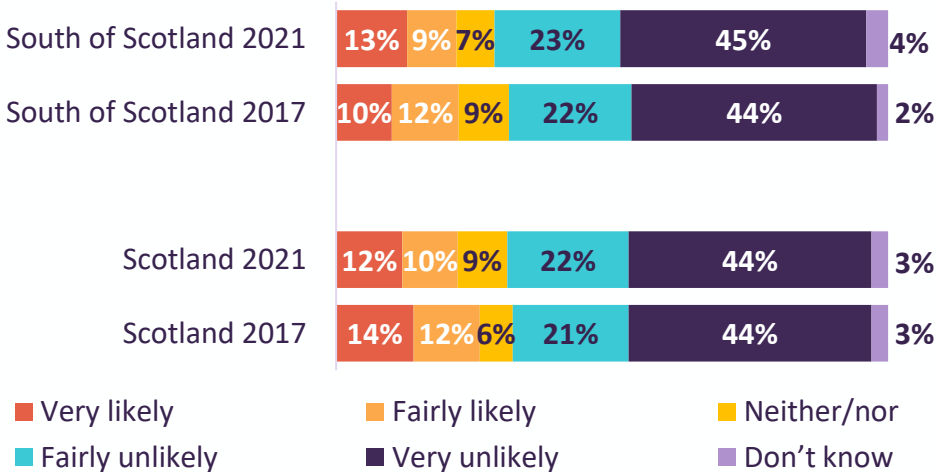- **Agriculture** *least* likely to have superfast broadband (26%)

Variation by location:

- Superfast broadband was more common in **urban** than rural locations (67% vs 40%)
- It was more common among businesses in **Scottish Borders** (53%) compared with Dumfries and Galloway (44%)

SOUTH of SCOTLAND ENTERPRISE

NOTE: Superfast broadband is defined as broadband with a speed of at least 30 Mbit/s.

Future improvements

68% were unlikely to improve their internet connection in the next 12 months, while 21% were likely to. This is in line with the Scottish average (66% unlikely, 22% likely) and with findings from 2017.

The most commonly perceived benefit of acquiring or improving internet connections was increased efficiencies, followed by increased productivity and more reliable service for customers. Findings were similar for those of Scotland overall.

Likelihood of improving internet connection

	Very likely	Fairly likely	Neither/nor	Fairly unlikely	Very unlikely	Don't know
South of Scotland 2021	13%	9%	7%	23%	45%	4%
South of Scotland 2017	10%	12%	9%	22%	44%	2%
Scotland 2021	12%	10%	9%	22%	44%	3%
Scotland 2017	14%	12%	6%	21%	44%	3%

- ■ Very likely
- ■ Fairly likely
- ■ Neither/nor
- ■ Fairly unlikely
- ■ Very unlikely
- ■ Don't know

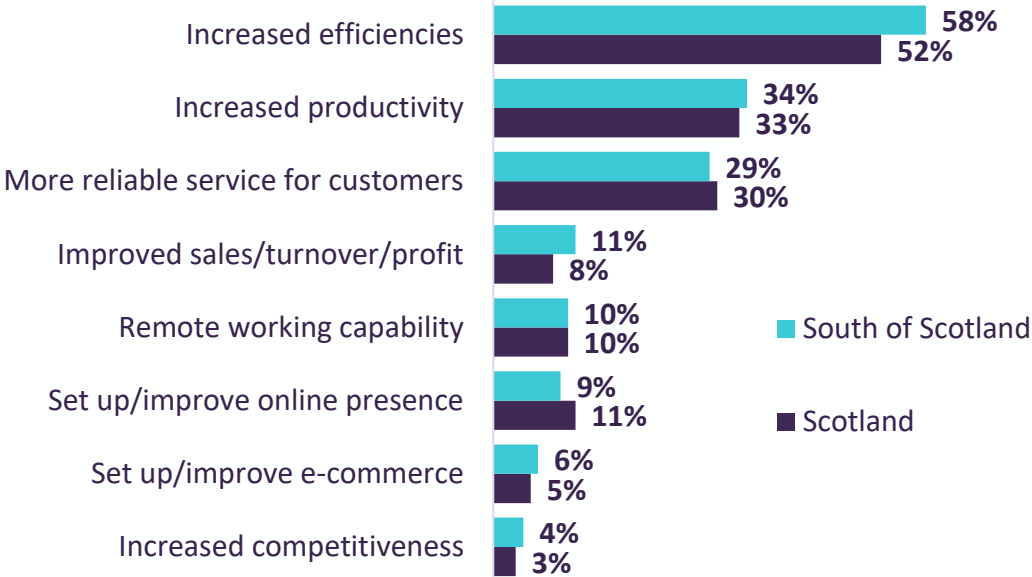Base (2021): All with an internet connection in South of Scotland (596) and Scotland (3,271)

Variation by sector
- **Agriculture** businesses were more likely than average to seek an upgrade to their internet connection (29% likely)

Benefits of acquiring/improving internet connection

	South of Scotland	Scotland
Increased efficiencies	58%	52%
Increased productivity	34%	33%
More reliable service for customers	29%	30%
Improved sales/turnover/profit	11%	8%
Remote working capability	10%	10%
Set up/improve online presence	9%	11%
Set up/improve e-commerce	6%	5%
Increased competitiveness	4%	3%

Base (2021): All those planning on acquiring/getting an internet connection, in South of Scotland (139) and Scotland (777)
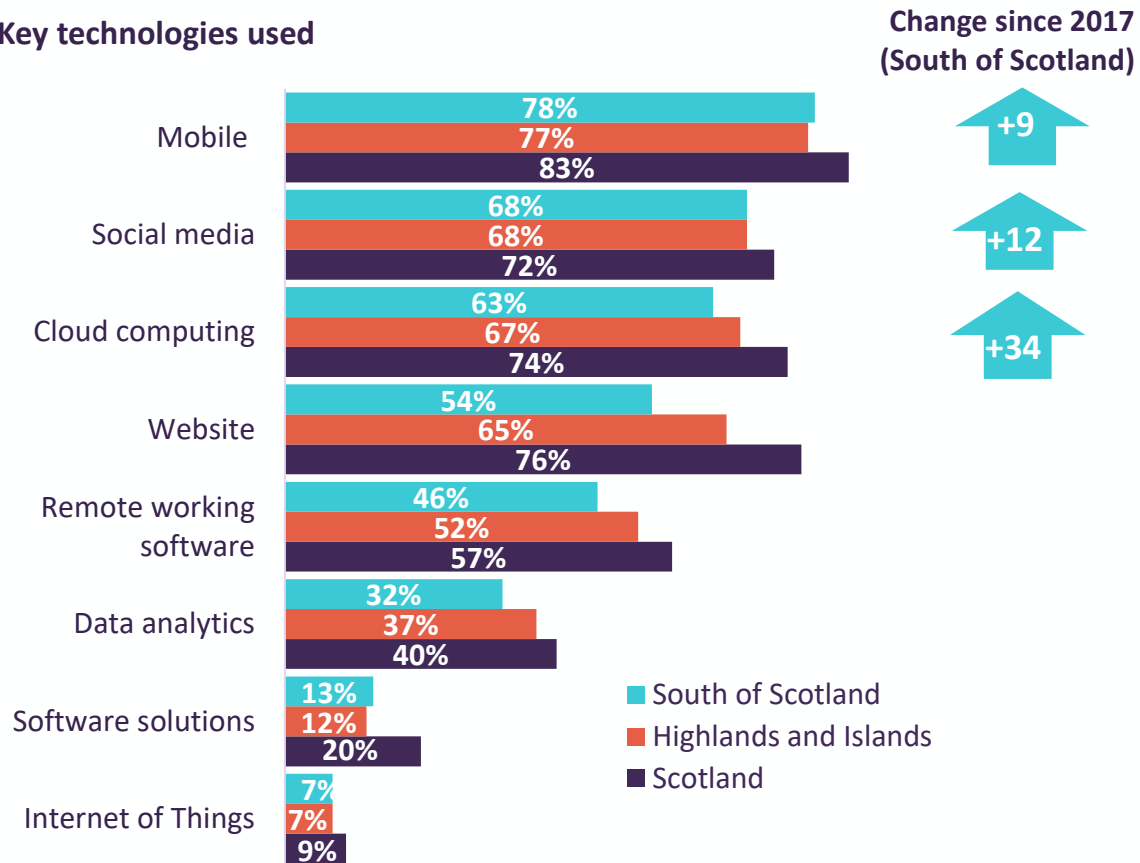
SOUTH of SCOTLAND ENTERPRISE

03

Use of digital technologies

Overall engagement with technologies

Overall, **engagement with digital technologies by South of Scotland businesses increased since** 2017. In particular, use of mobile technology, social media and cloud computing all increased. However, levels of engagement were still lower than for Scotland as a whole.

Key technologies used

Technology	South of Scotland	Highlands and Islands	Scotland
Mobile	78%	77%	83%
Social media	68%	68%	72%
Cloud computing	63%	67%	74%
Website	54%	65%	76%
Remote working software	46%	52%	57%
Data analytics	32%	37%	40%
Software solutions	13%	12%	20%
Internet of Things	7%	7%	9%

Legend:
- South of Scotland
- Highlands and Islands
- Scotland

Change since 2017 (South of Scotland)
- Mobile: +9
- Social media: +12
- Cloud computing: +34

Base: All businesses; South of Scotland (610), Highlands ands Islands (1,150) and Scotland (3,346).
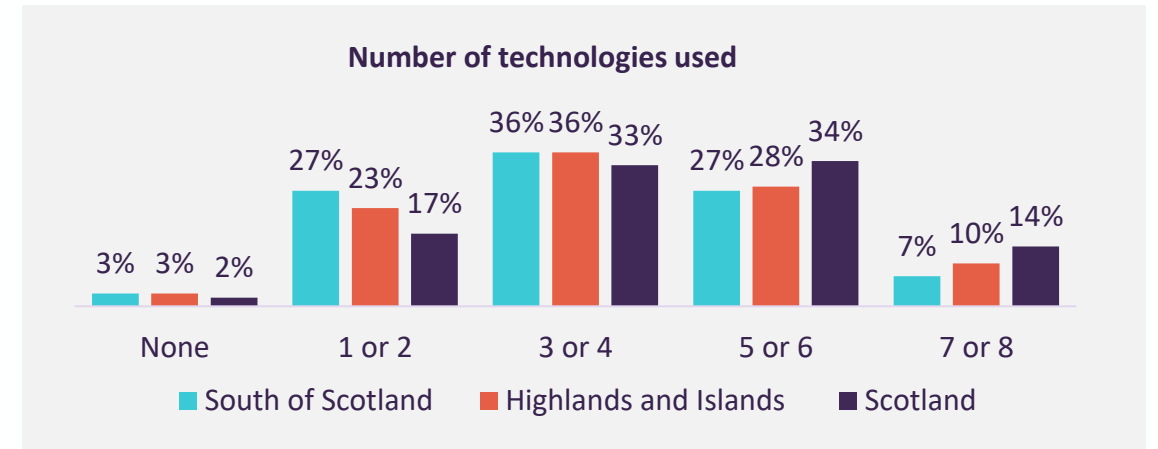
NOTE: Levels of use of websites, data analytics and software solutions were similar to 2017 levels. Remote working software and Internet of Things were not asked about in the 2017 wave of the survey.

Number of technologies used

Of the 8 key technologies covered in the survey, 7% of businesses in South of Scotland had used most or all (7 or 8) of these, 62% had used between 3 and 6, while 31% had used 2 or fewer.

The mean number of technologies used in the region was 3.6 (3.8 in Highlands and Islands, 4.3 in Scotland).

Number of technologies used

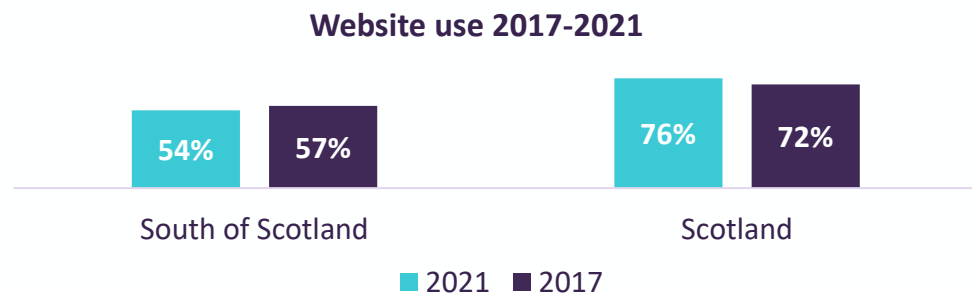|	South of Scotland	Highlands and Islands	Scotland
None	3%	3%	2%
1 or 2	27%	23%	17%
3 or 4	36%	36%	33%
5 or 6	27%	28%	34%
7 or 8	7%	10%	14%

Those most likely to have used most or all (7 or 8) technologies were:

- Those with 20+ staff (24%)
- Wholesale and retail sector (17%)
- Those saying digital technologies were essential to their response to Covid-19 (16%)

Company websites and social media

54% **of businesses in South of Scotland had a website**
(lower than the Scotland average of 76% and the Highlands and Islands level of 65%)

68% **of businesses in South of Scotland had social media**
(lower than the Scotland average of 72% but in line with the Highlands and Islands level of 68%)

Website use 2017-2021

	2021	2017
South of Scotland	54%	57%
Scotland	76%	72%

Base (2021): All businesses; South of Scotland (610) and Scotland (3,346).
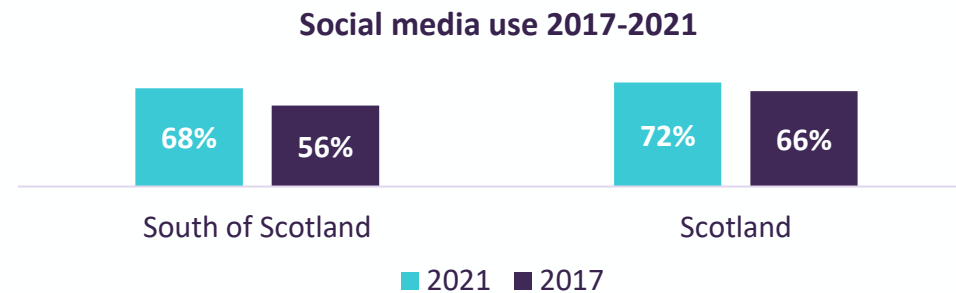
Company websites were more common among:
- **Business activities** sector (78%)
- Those with **10-19** (74%) and **20+** (89%) **employees**
- Selling to rest of the UK (58%), the EU (81%) and outside the EU (84%)
- Businesses expecting to grow in the next 12 months(63%)

They were less common among:
- **Agriculture sector** (20%)
- Those with **1-4 employees** (47%)

Social media use 2017-2021

	2021	2017
South of Scotland	68%	56%
Scotland	72%	66%

Base (2021): All businesses; South of Scotland (610) and Scotland (3,346).

Social media use was more common among:
- **Business activities** sector (76%)
- Those with **10-19 employees** (85%)
- Selling to the EU (78%) and outside the EU (81%)

It was less common among:
- **Agriculture** sector (46%)
- Those with **1-4 employees** (61%)
- Those operating for over 10 years (65%)

Benefits of websites and social media

Of those that had a company website or used social media, almost all (94%) reported some benefits from their use. The most common benefit by far was increased exposure for the organisation. Overall, findings were in line with those for Scotland as a whole, although slightly more businesses in the South of Scotland referenced improved sales/turnover/profit (18%) compared to the Scottish average (14%).

Variation by sector

- **Agriculture businesses** were more likely to cite better communication within their organisation (11%)
- **Wholesale/retail** were more likely to say increased competitiveness (12%)
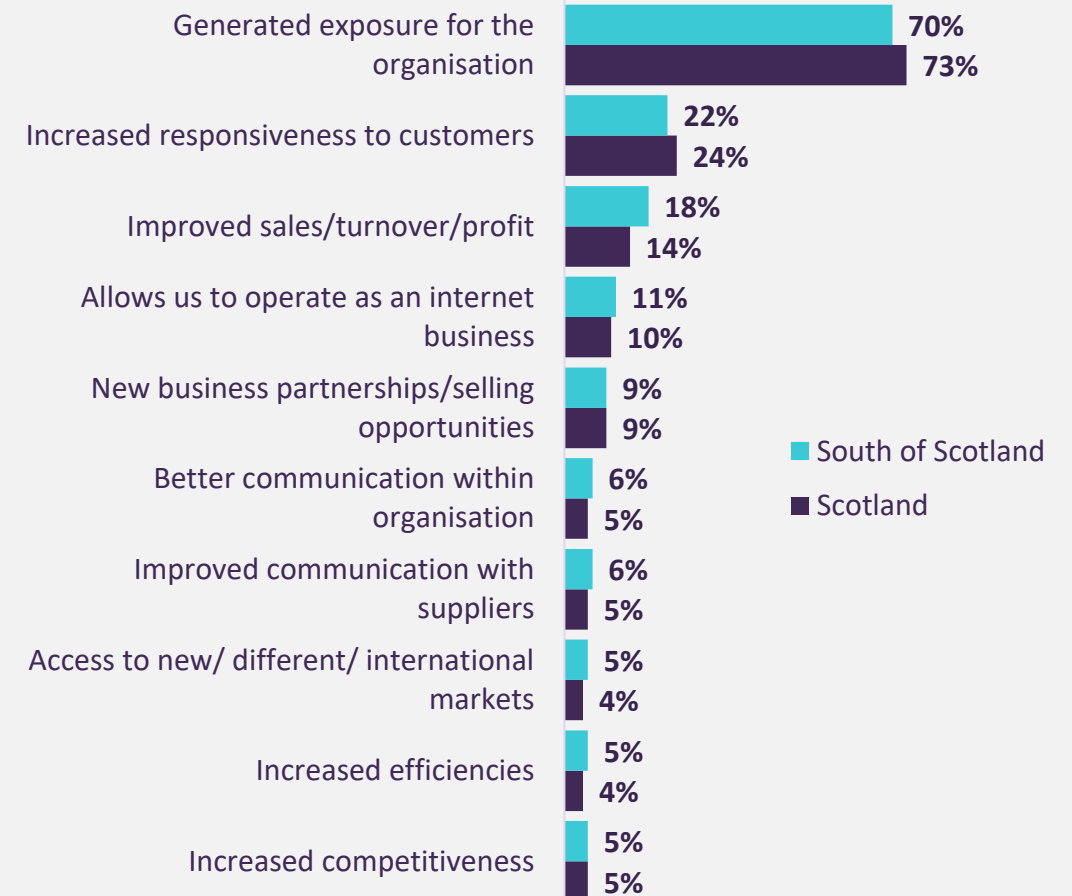
Variation by size

- Businesses with **10-19 employees** were more likely to reference increased responsiveness to customers (37%) and new business partnerships (16%)

Variation by market

Improved sales / turnover / profits was more commonly mentioned by those:

- selling to rest of the UK (24%)
- selling to the EU (31%)
- selling outside the EU (36%)

Benefits of website or social media

Benefit	South of Scotland	Scotland
Generated exposure for the organisation	70%	73%
Increased responsiveness to customers	22%	24%
Improved sales/turnover/profit	18%	14%
Allows us to operate as an internet business	11%	10%
New business partnerships/selling opportunities	9%	9%
Better communication within organisation	6%	5%
Improved communication with suppliers	6%	5%
Access to new/ different/ international markets	5%	4%
Increased efficiencies	5%	4%
Increased competitiveness	5%	5%

Base: All businesses with a website or social media; South of Scotland (490) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE

Types of mobile internet and technologies

77% of businesses in the South of Scotland used mobile internet and technologies, which is an increase on 2017 (68%) but remains lower than the Scottish average of 83%. Use of mobile internet and technologies was similar to the level seen in the Highlands and Islands (78%).

Mobile technologies used	South of Scotland (%)		Scotland (%)	
	2021	**2017**	**2021**	**2017**
Other portable devices like Smartphones or Tablets	70	63	77	68
Mobile broadband connection via portable device (e.g. tethering to mobile 3G or 4G networks)	37	34	41	38
Portable computers using mobile phone networks (e.g. laptops with inbuilt 3G or 4G)	27	23	30	30
None of these	23	31	17	26
Any mobile technology	**77**	**68**	**83**	**73**
Base: All businesses	*610*	*408*	*3,346*	*3,258*

More likely to use mobile technology:
- **Agriculture** sector (86%)
- **Construction** sector (89%)
- Those selling to the rest of the UK (84%)

Less likely to use mobile technology:
- **Hotels and restaurants** (41% said they used none of the types listed)
- **Charities** (45% said no, compared with 21% of private sector businesses)

SOUTH of SCOTLAND ENTERPRISE

Benefits of using mobile technologies

The ability of employees to work remotely or on the go was the most commonly reported benefit of using mobile technologies, both in the South of Scotland (60%) and across Scotland as a whole (62%).
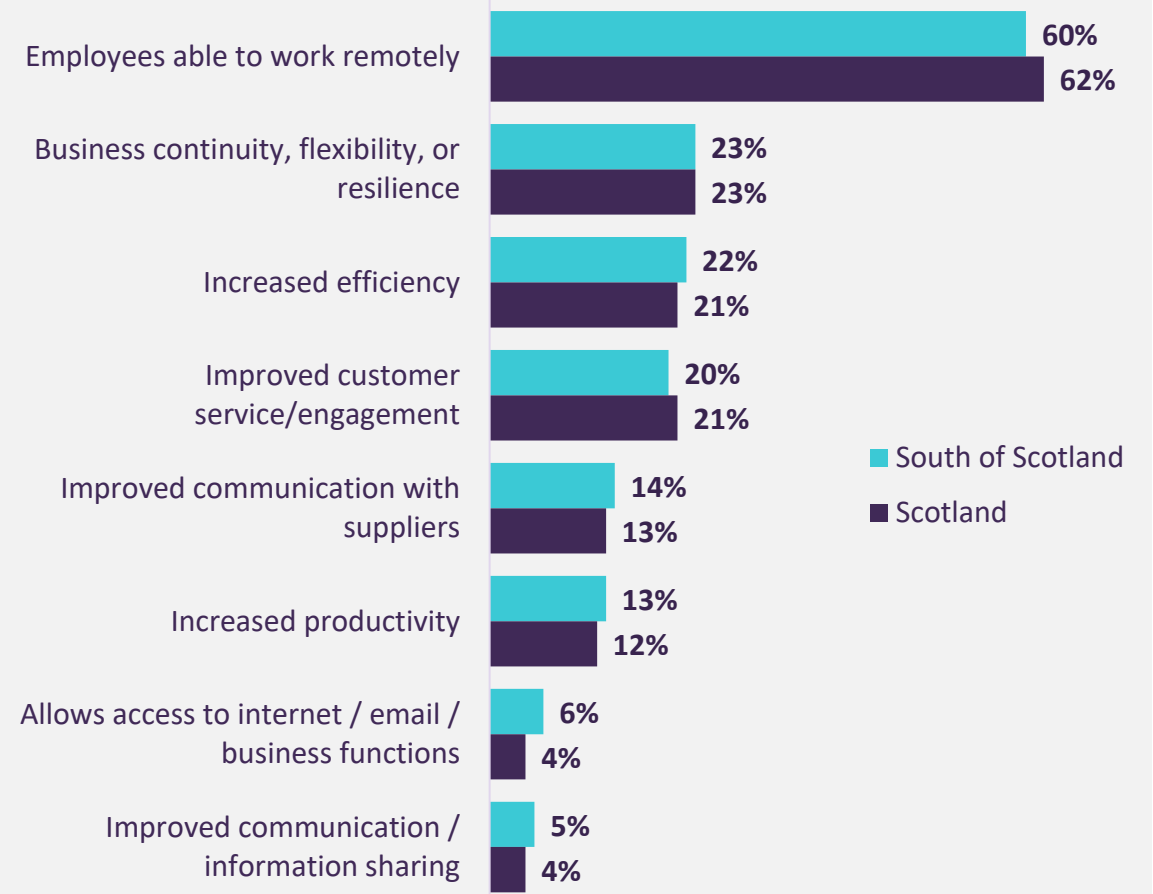
Variation by sector

- **Business activities** organisations were more likely than average to cite employees working remotely (74%)
- **Wholesale/retail** businesses were more likely than average to say improved customer service (31%)
- **Agriculture businesses** were more likely than average to reference allowing access to internet / email / business functions (11%)

Variation by market

- **Businesses selling to the EU** were more likely more likely than average to cite employees working remotely (73%)
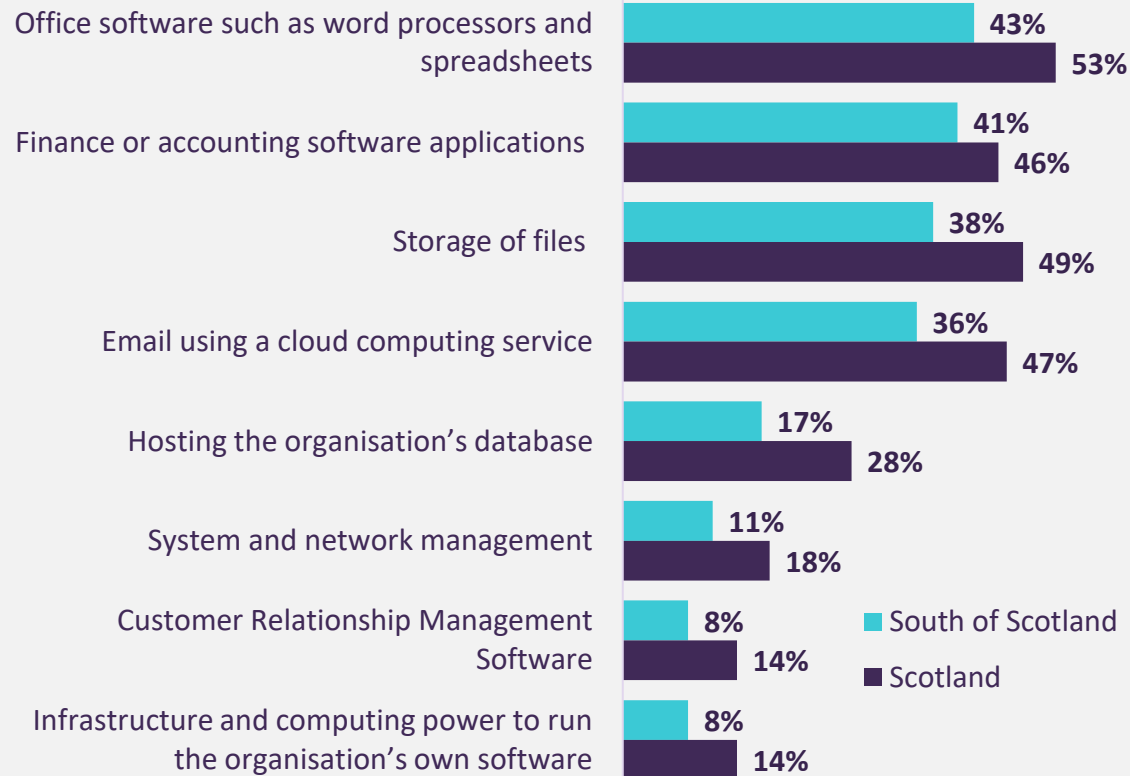
Benefits of using mobile technologies

Benefit	South of Scotland	Scotland
Employees able to work remotely	60%	62%
Business continuity, flexibility, or resilience	23%	23%
Increased efficiency	22%	21%
Improved customer service/engagement	20%	21%
Improved communication with suppliers	14%	13%
Increased productivity	13%	12%
Allows access to internet / email / business functions	6%	4%
Improved communication / information sharing	5%	4%

Base: All businesses using mobile technologies in South of Scotland (468) and Scotland (2,698).

SOUTH of SCOTLAND ENTERPRISE

Types of cloud computing technologies

Types of cloud computing used by businesses

Office software such as word processors and spreadsheets
- South of Scotland: 43%
- Scotland: 53%

Finance or accounting software applications
- South of Scotland: 41%
- Scotland: 46%

Storage of files
- South of Scotland: 38%
- Scotland: 49%

Email using a cloud computing service
- South of Scotland: 36%
- Scotland: 47%

Hosting the organisation's database
- South of Scotland: 17%
- Scotland: 28%

System and network management
- South of Scotland: 11%
- Scotland: 18%

Customer Relationship Management Software
- South of Scotland: 8%
- Scotland: 14%

Infrastructure and computing power to run the organisation's own software
- South of Scotland: 8%
- Scotland: 14%

Legend: South of Scotland / Scotland

Base: All businesses with an internet connection in South of Scotland (596) and Scotland (3,271).

65% of businesses in the South of Scotland used cloud computing services, lower than the Scottish average of 74% but in line with the level in the Highlands and Islands (67%).

Use of cloud computing increased since 2017, in both South of Scotland and Scotland overall **–** from 29% and 38% respectively.

The most common types of cloud computing used were office software, finance or accounting software, storage of files, and e-mail using a cloud computing service.

Variation
Use of cloud computing was higher than average among:

- **business activities** sector (80%)
- those with 10-19 (74%) or 20+ (73%) employees
- those expecting to grow (73%)

SOUTH of SCOTLAND ENTERPRISE

NOTE: Cloud computing was defined in the survey as follows: *Cloud computing services over the internet. These are sometimes also known as "software as a service", for example software or data storage that is hosted online rather than on your local server or computer.*
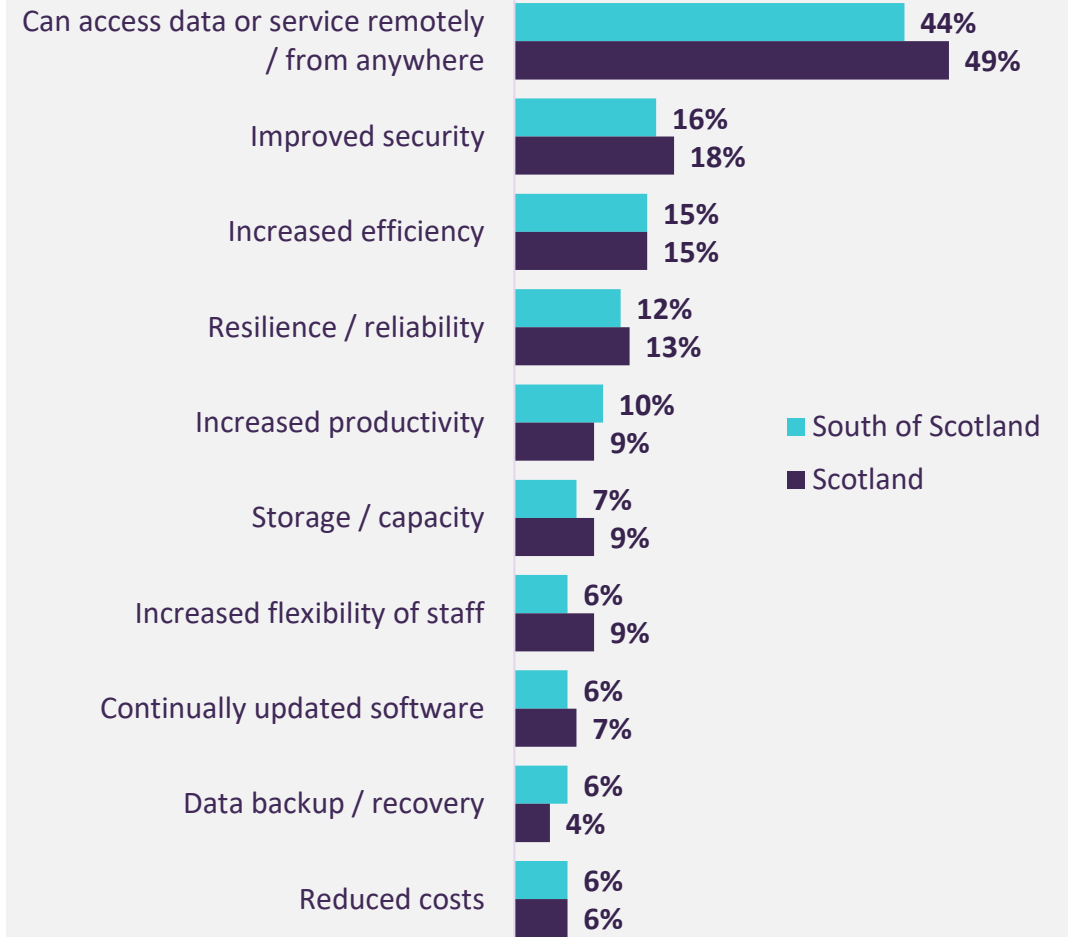
Benefits of using cloud computing

The main benefit of cloud computing for businesses in the South of Scotland (as well as across Scotland as a whole) was accessing data/services remotely. This was also the top benefit in 2017 (for 42%).

Findings were broadly in line with Scotland as a whole.

Variation

- **Business activities** organisations were more likely than average to cite continually updated software (10%)
- Businesses selling to the rest of the UK (8%) and to the EU (13%) were more likely to reference reduced costs

Benefits of using cloud computing

Benefit	South of Scotland	Scotland
Can access data or service remotely / from anywhere	44%	49%
Improved security	16%	18%
Increased efficiency	15%	15%
Resilience / reliability	12%	13%
Increased productivity	10%	9%
Storage / capacity	7%	9%
Increased flexibility of staff	6%	9%
Continually updated software	6%	7%
Data backup / recovery	6%	4%
Reduced costs	6%	6%

Base: All businesses using cloud computing in South of Scotland (399) and Scotland (2,382).

Use of of data analytics

32% of businesses in the South of Scotland used data analytics, lower than the average for Scotland (40%).

Use of data analytics among South of Scotland businesses is similar to 2017 levels, when 34% said it played a large/some role in their business.
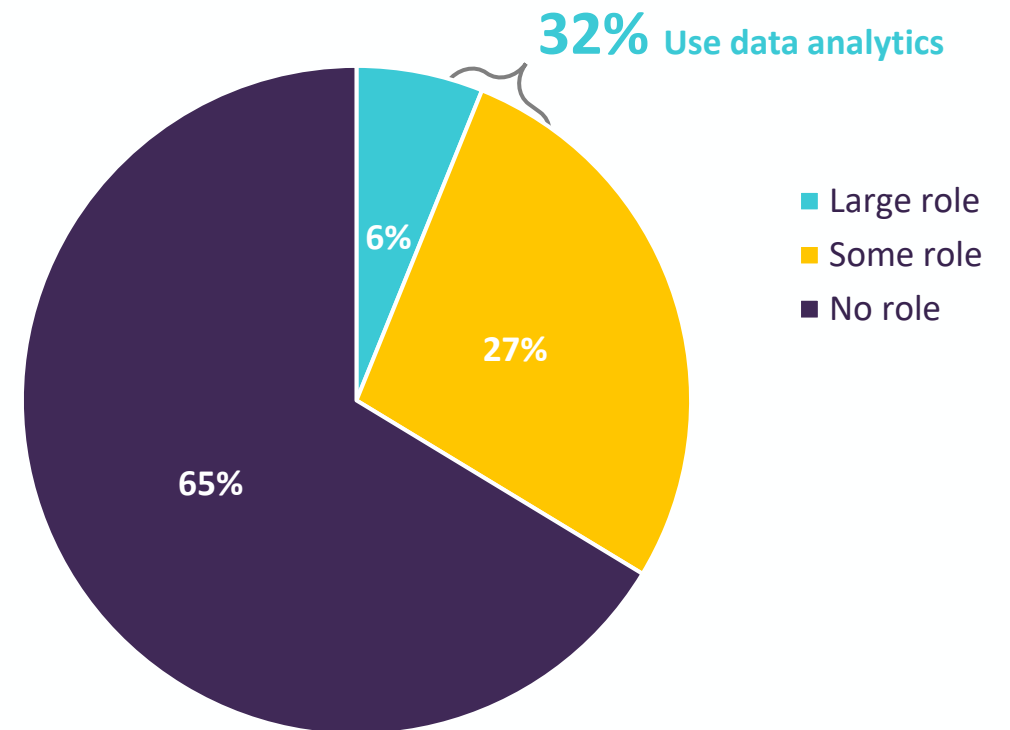
Variation

Data analytics was more likely than average to be used by:

- **Business with 10-19 employees** (49%)
- **Business activities** sector (42%)
- Those selling to the EU (43%) and outside the EU (48%)
- Those expecting growth in the next 12 months (39%)

It was more likely to play no role for:

- Small businesses with **1-4 employees** (71%)
- **Construction** sector (83%)
- Those expecting to remain the same size over the next 12 months (73%)
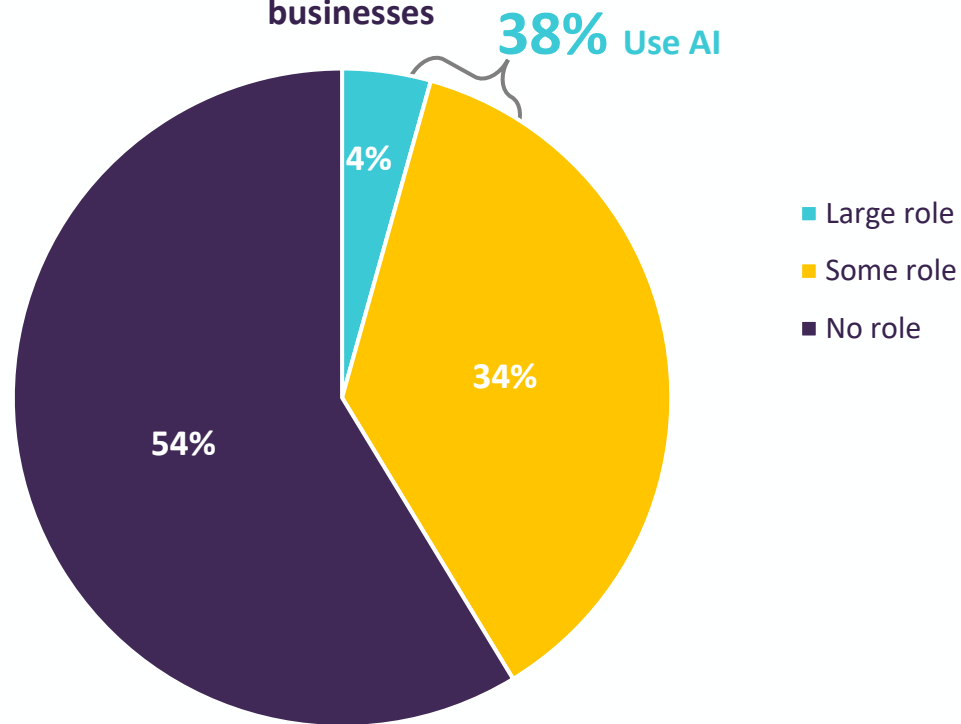
Role of data analytics in South of Scotland businesses

32% Use data analytics

- ■ Large role
- ■ Some role
- ■ No role

- 6%
- 27%
- 65%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

NOTE: Data analysis was defined in the survey as follows: *Things like business intelligence, data mining, advanced statistical analysis and capturing insights about customers, competitors, suppliers and markets. We are not interested in standard accounting.*

Use of artificial intelligence

38% of those that used data analytics also used artificial intelligence (AI), in line with Scotland as a whole (34%).

Role of AI in the use of data analytics by South of Scotland businesses

38% Use AI

- Large role
- Some role
- No role

4%

34%

54%

Business variation

There was little variation among businesses when it came to use of artificial intelligence.

However, artificial intelligence was more likely to play a role for **wholesale / retail businesses** (59% of which said it played at least some role)

It was less likely to play a role for **agriculture businesses** (67% said it played no role)

Base: All businesses using data analytics in South of Scotland (229) and Scotland (1,410)

SOUTH of SCOTLAND ENTERPRISE
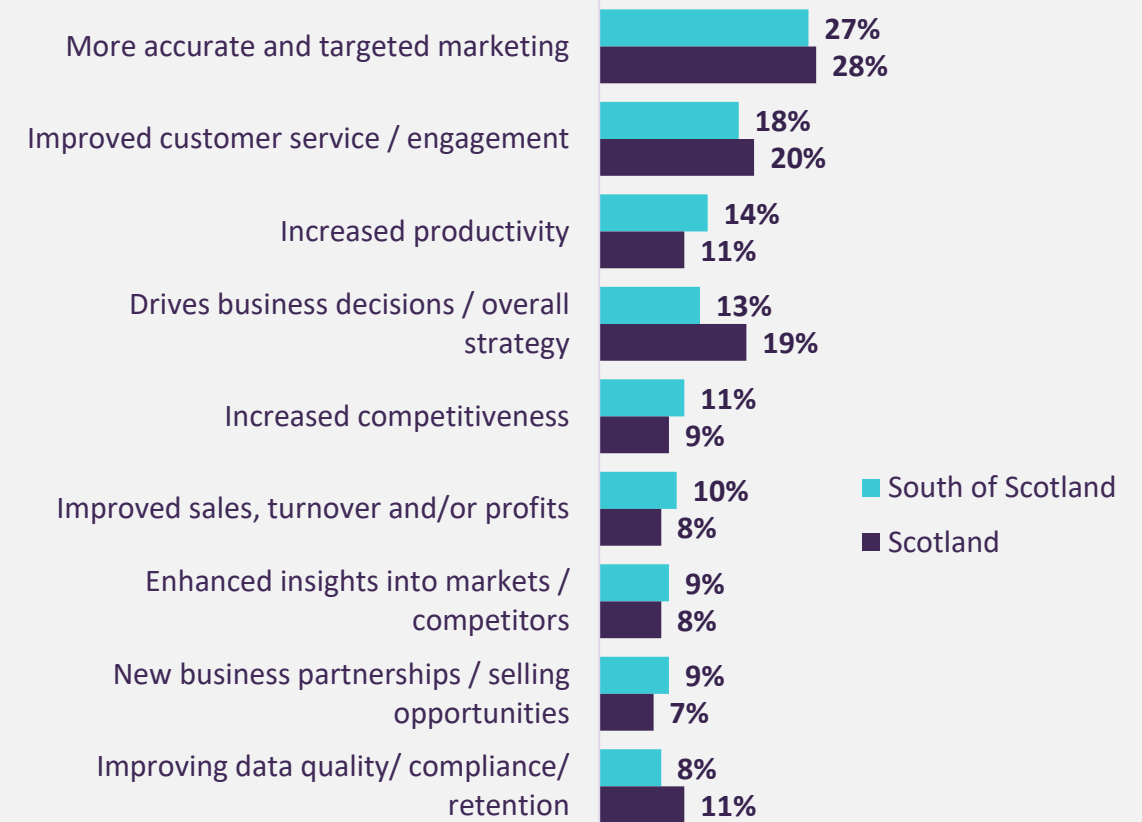
Benefits of data analytics

91% of South of Scotland businesses that used data analytics felt it had benefited their business.

The top benefits of using data analytics across both the South of Scotland and Scotland as a whole were more accurate and targeted marketing, followed by improved customer service/engagement. These were also the top two benefits in 2017.

Variation

- Businesses selling to the EU were more likely than average to mention improved customer service (37%)
- Businesses selling outside the EU were more likely to say data analytics drove business decisions/overall strategy (23%) and increased competitiveness (20%)

Benefits of using data analytics

Benefit	South of Scotland	Scotland
More accurate and targeted marketing	27%	28%
Improved customer service / engagement	18%	20%
Increased productivity	14%	11%
Drives business decisions / overall strategy	13%	19%
Increased competitiveness	11%	9%
Improved sales, turnover and/or profits	10%	8%
Enhanced insights into markets / competitors	9%	8%
New business partnerships / selling opportunities	9%	7%
Improving data quality/ compliance/ retention	8%	11%

Base: All businesses using data analytics in South of Scotland (229) and Scotland (1,410).

SOUTH of SCOTLAND ENTERPRISE

Use of management software

Around one in ten (13%) businesses used management software, broadly unchanged from 2017 levels (12%). This was in line with the level in the Highlands and Islands (12%) but lower than the Scottish average (20%).
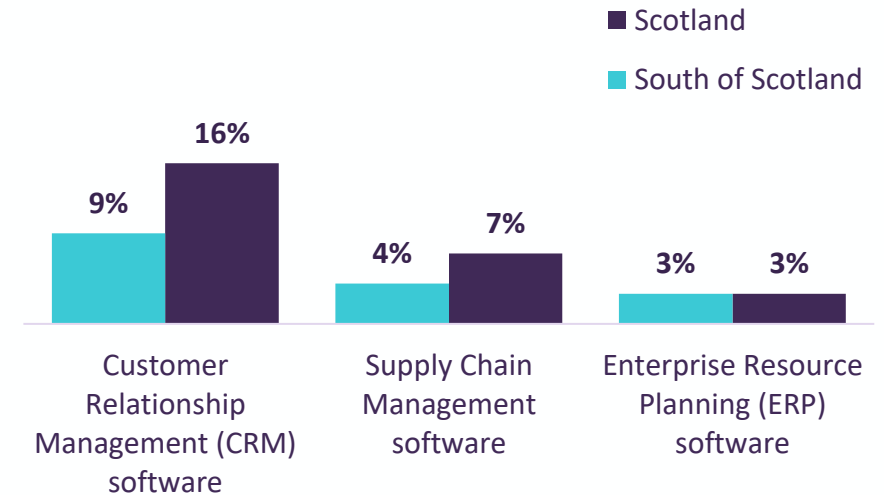
The vast majority of businesses (83%) stated that they were unlikely to adopt any management software solutions in the next 12 months. This is in line with 2017 results (85%).

Variation

Those more likely to use software solutions were:

- **Business activities** sector (19%)
- **Wholesale/retail** sector 22%)
- Businesses with **10-19** (21%) or **20+** (33%) **employees**
- International businesses:
    - Those selling to the EU (16%)
    - Those selling to outside the EU (21%)

Current use of management software

■ Scotland
■ South of Scotland

Customer Relationship Management (CRM) software — 9% / 16%

Supply Chain Management software — 4% / 7%

Enterprise Resource Planning (ERP) software — 3% / 3%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of **SCOTLAND ENTERPRISE**

NOTE: Management software was defined in the survey as follows: *Software solutions which aim to help with business functions, management and efficiencies.* Individual definitions were then provided if required for the three types of software shown.
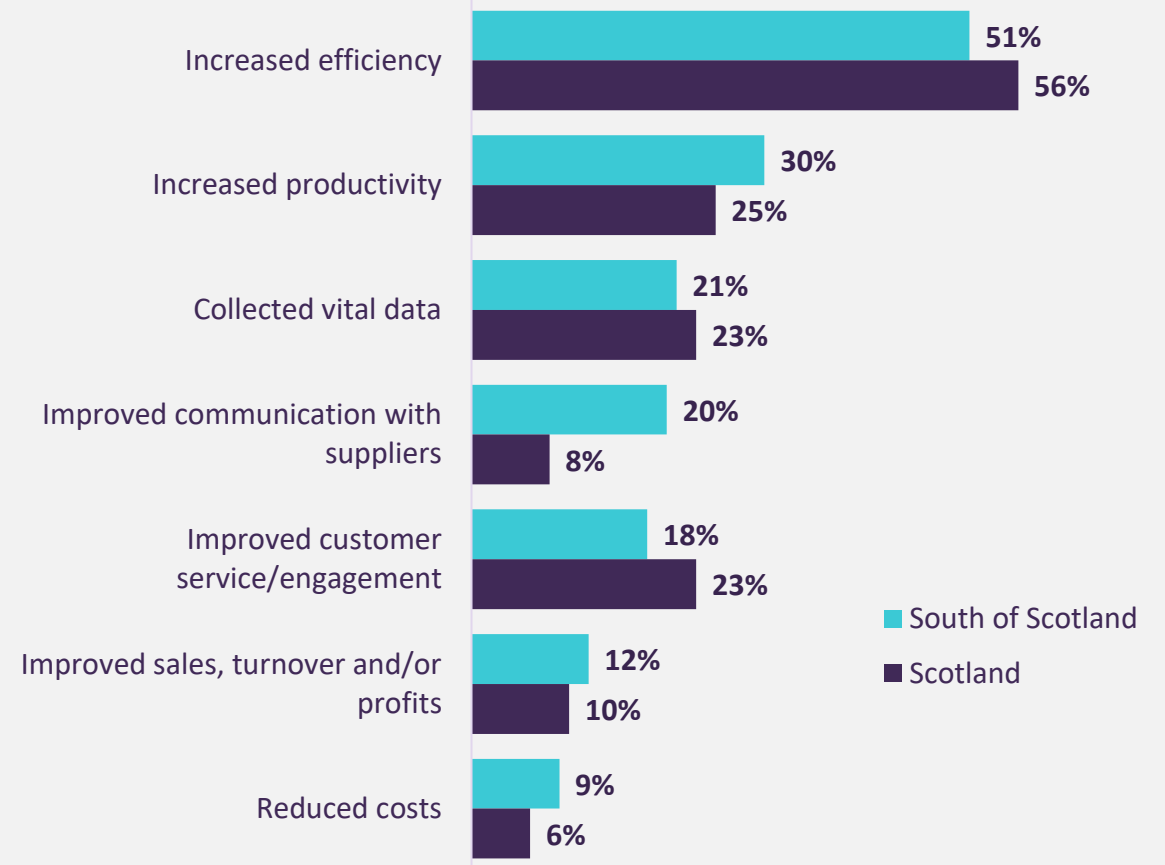
Benefits of using management software

94% of South of Scotland businesses that used management software solutions reported that these had benefited their business.

The top benefit of using management software was increased efficiency**,** mentioned by half of all businesses (51%). This was also the top benefit listed in 2017, when 50% cited this.

Results were generally in line with Scotland as a whole, although fewer businesses in the South of Scotland said management software improved communication with suppliers (8% vs 20%).

Base sizes were too small for subgroup analysis.

Benefits of using management software

Benefit	South of Scotland	Scotland
Increased efficiency	51%	56%
Increased productivity	30%	25%
Collected vital data	21%	23%
Improved communication with suppliers	20%	8%
Improved customer service/engagement	18%	23%
Improved sales, turnover and/or profits	12%	10%
Reduced costs	9%	6%

Base: Businesses using business software in South of Scotland (100) and Scotland (689).

SOUTH of SCOTLAND ENTERPRISE

Overall importance of digital technologies

Of those using each digital technology, the majority of businesses in the South of Scotland saw them as either essential or important to their business.

Importance of digital technologies used

Technology	Essential/Important	Essential	Important	Not important
Mobile	91%	58%	33%	8%
Website	89%	51%	38%	11%
Internet of Things	85%	48%	37%	12%
Remote working software	82%	41%	41%	18%
Social media	81%	30%	51%	19%
Cloud computing	80%	36%	44%	18%
Software solutions	70%	26%	44%	28%
Data analytics	66%	18%	48%	30%

■ Essential　■ Important　■ Not important　◯ =Essential/Important

Base: All businesses in the South of Scotland that had used each digital technology

Variation in perceived importance:

	Higher than average saying essential/important	Higher than average saying *not* important
Websites	Wholesale/retail sector (97%)	Agriculture sector (35%)
Social media	Hotels/restaurants (97%)	Agriculture businesses (33%)
Data analytics	Wholesale/retail sector (91%) Those selling to outside EU (83%)	1-4 employees (39%)
Remote working tools	Multi-site organisations (92%) Those selling to outside EU (95%)	

SOUTH of SCOTLAND ENTERPRISE

Mobile, websites, and the internet of things had the highest proportions saying they were essential/important.

Data analytics had the lowest, although a majority (two thirds) of businesses still viewed this as essential/important.

Applications of digital technology

81% of businesses **did not have a specific plan or strategy in place** for their use of digital technology, higher than the Scotland average (73%) but similar to the Highlands and Islands (80%) and to 2017 levels.
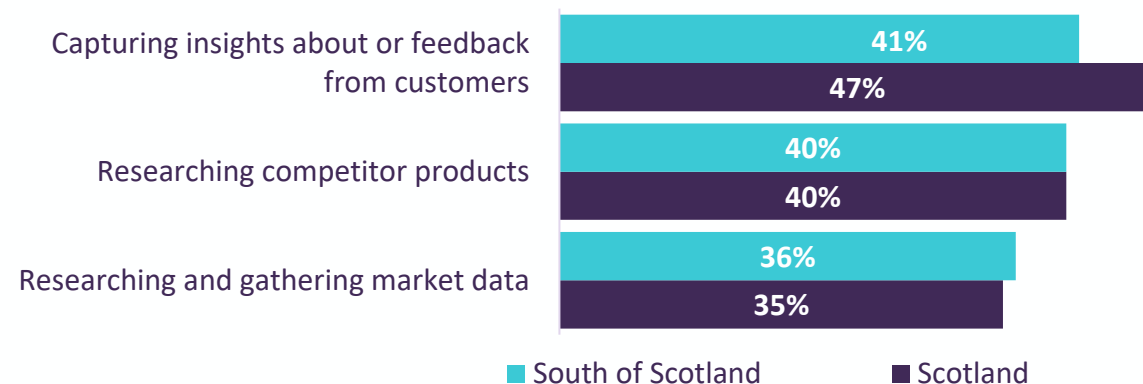
Of those using digital technologies, 41% did so to capture insights from customers, 40% to research competitor products, and 36% to research and gather market data. Findings were broadly line with Scotland, apart from capturing insights about/feedback from customers which was lower.

Strategy for use of digital technology

■ Yes ■ No

	2021	2017
No	81%	82%
Yes	16%	15%

Plans or strategies were more common among certain types of business:

Plan or strategy in place	Yes
South of Scotland average	16
Those with 10-19 employees	25
Those with 20+ employees	35
Business activities sector	30
Those who increased investment in digital technology	28
Selling to the EU	24
Selling outside the EU	29

Use of digital technologies

	South of Scotland	Scotland
Capturing insights about or feedback from customers	41%	47%
Researching competitor products	40%	40%
Researching and gathering market data	36%	35%

■ South of Scotland ■ Scotland

Base: All businesses using any digital technology; South of Scotland (594) and Scotland (3,287).
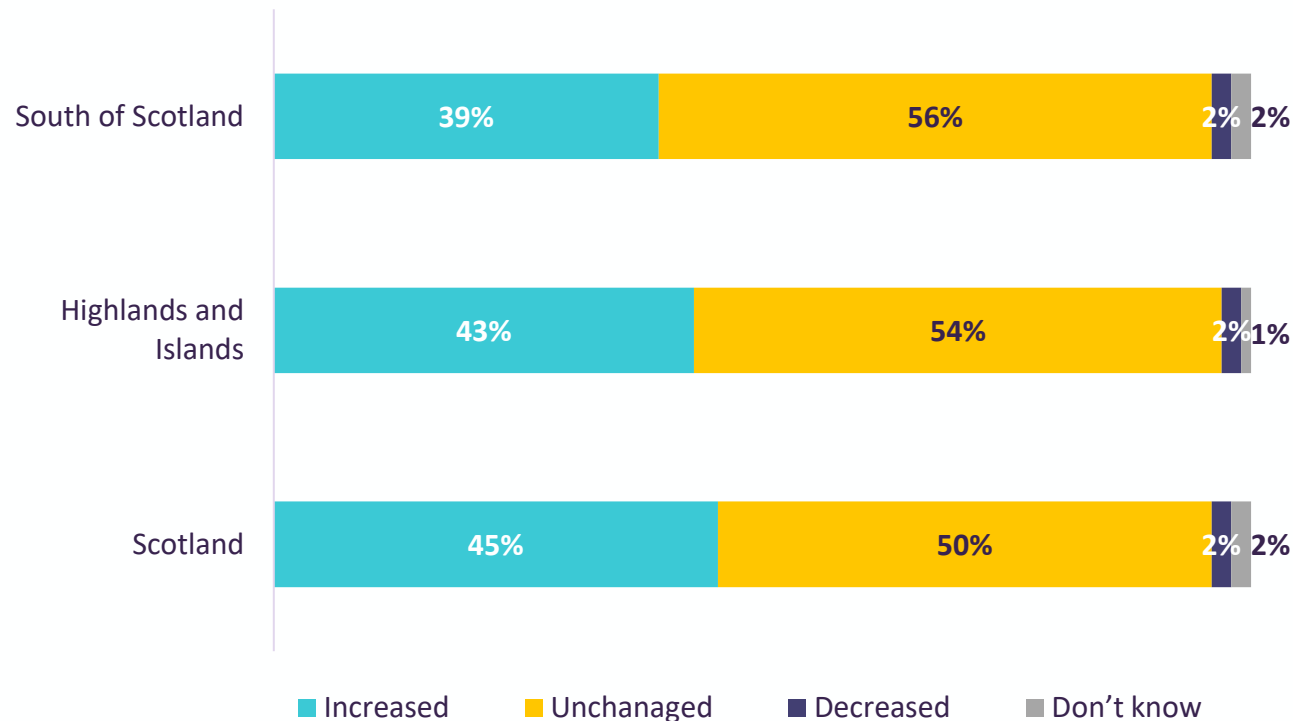
Variation
- Capturing customer insights/feedback was higher among: 20+ employees (65%); hotels and restaurants (59%), manufacturing (62%); and those selling to the EU (53%) and outside the EU (57%).
- Researching competitor products was higher among: 20+ employees (58%); those selling to rest of the UK (47%), the EU (53%) and outside the EU (57%).
- Researching/gathering market data was higher among: agriculture (51%) and those selling to rest of the UK (43%).

SOUTH of SCOTLAND ENTERPRISE

04

Productivity and innovation

Investment in digital technology

Change in level of investment in digital technology in last 2 years

Region	Increased	Unchanged	Decreased	Don't know
South of Scotland	39%	56%	2%	2%
Highlands and Islands	43%	54%	2%	1%
Scotland	45%	50%	2%	2%

Legend: ■ Increased ■ Unchanged ■ Decreased ■ Don't know

Base: All businesses in South of Scotland (610), Highlands and Islands (1,150) and Scotland (3,346)

Over half (56%) of South of Scotland businesses had not changed the amount they invested in digital technologies over the past 2 years, in line with the Highlands and Islands (54%) but higher than the average for Scotland (50%)

Investment had been increased by 39% of businesses (lower than Scottish average of 45%) and decreased by 2% (in line with Scottish average).

Business variation

Increased investment was more common among those:

- with 10-19 employees (54%) and 20+ employees (62%)

- selling to the rest of the UK (42%), the EU (48%) and outside the EU (52%)

- using e-commerce (49%)

- expecting growth in the next 12 months (44%)

Impact on productivity

Impact of digital technology on productivity over last 12 months
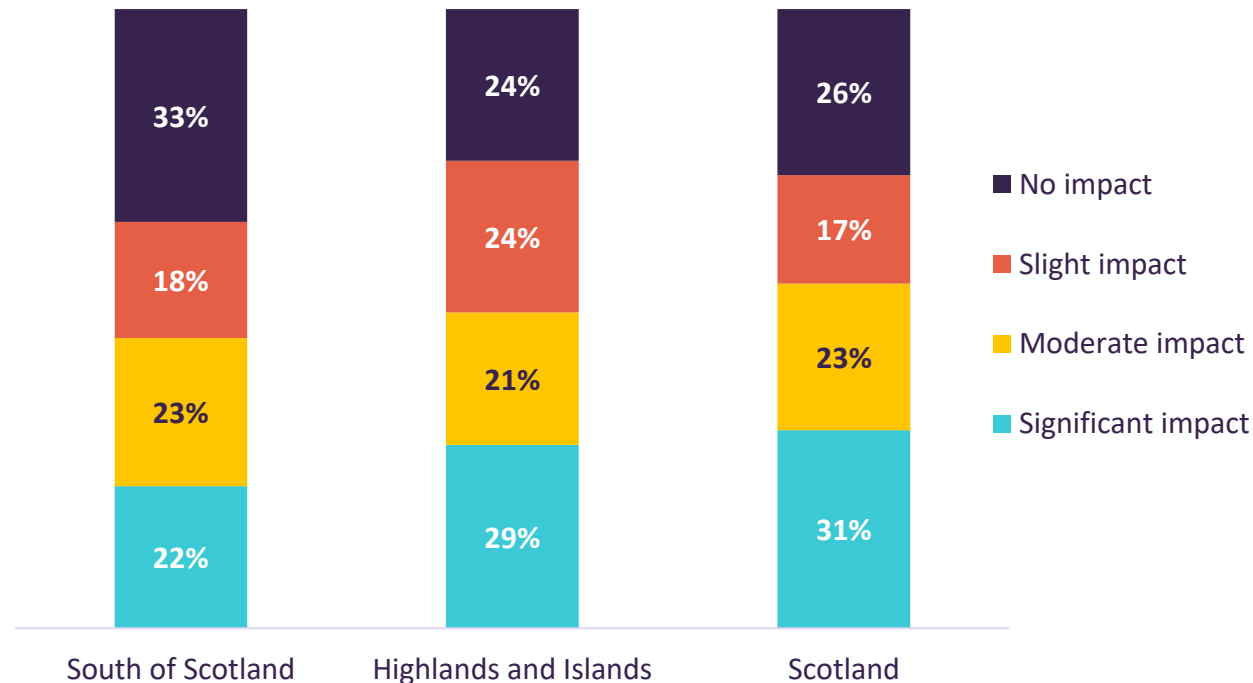
Base: Businesses using any digital technologies in South of Scotland (594), Highlands and Islands (1,126) and Scotland (3,287)

Almost two thirds (63%) said digital technology had made an impact on their productivity over the last 12 months (22% significant, 23% moderate and 18% slight impact).

Compared with the average for Scotland, and for the Highlands and Islands, fewer businesses in South of Scotland said digital technologies had made an impact on productivity (63% overall compared with 71% in Scotland and 69% in Highlands and Islands).

Business variation

Those more likely to have seen an impact on productivity were:

- business activities sector (75%)

- those selling outside the EU (76%)

- those using e-commerce (76%)

- those expecting growth in the next 12 months (68%)

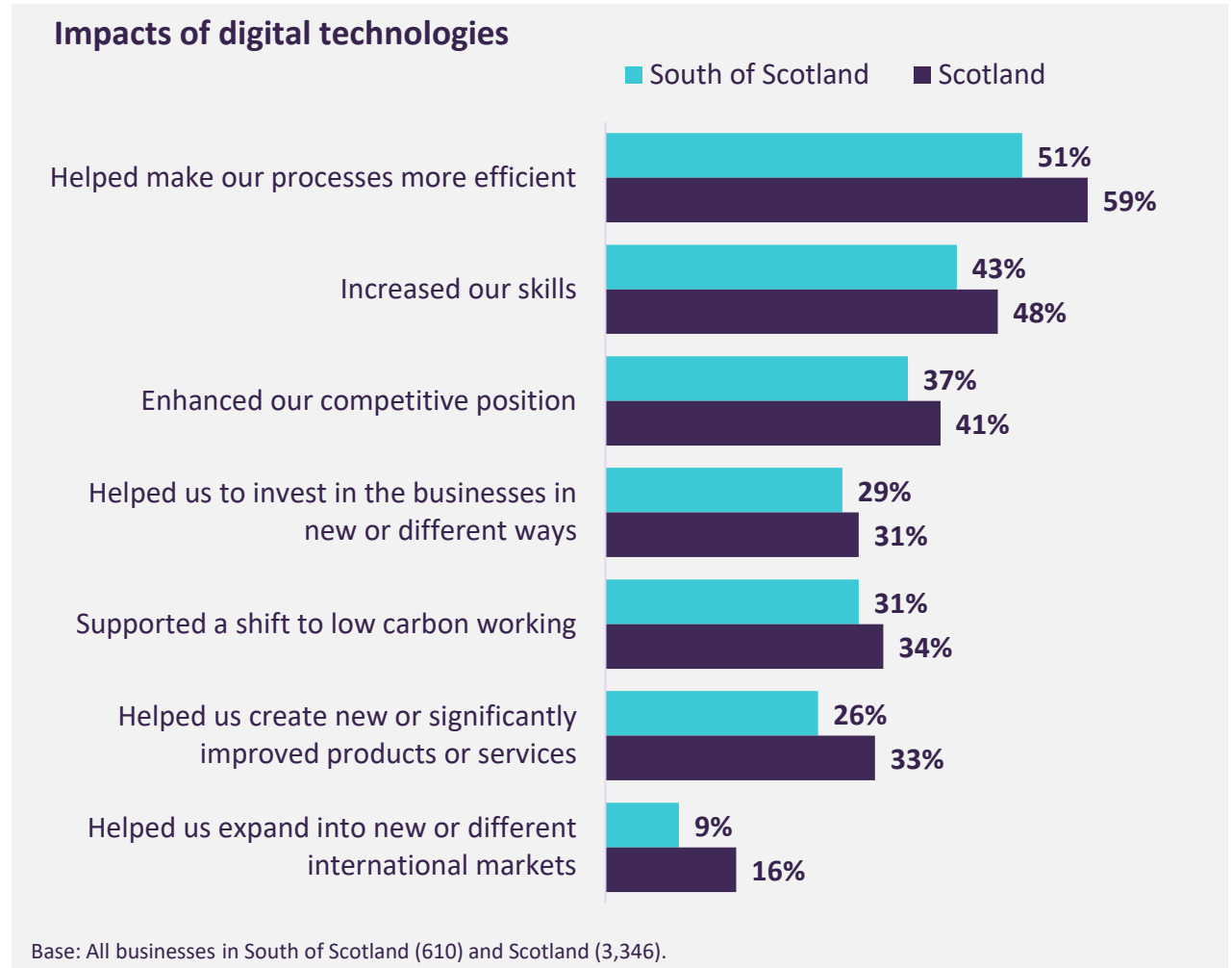# Impact on productivity, innovation and low-carbon

The most commonly cited impacts of digital technologies for businesses in South of Scotland were: making processes more efficient, increasing skills and enhancing competitive position.

This reflected findings for Scotland as a whole, however businesses in the region were slightly more likely to say they had seen no/none of these impacts (27% compared with 22% overall).
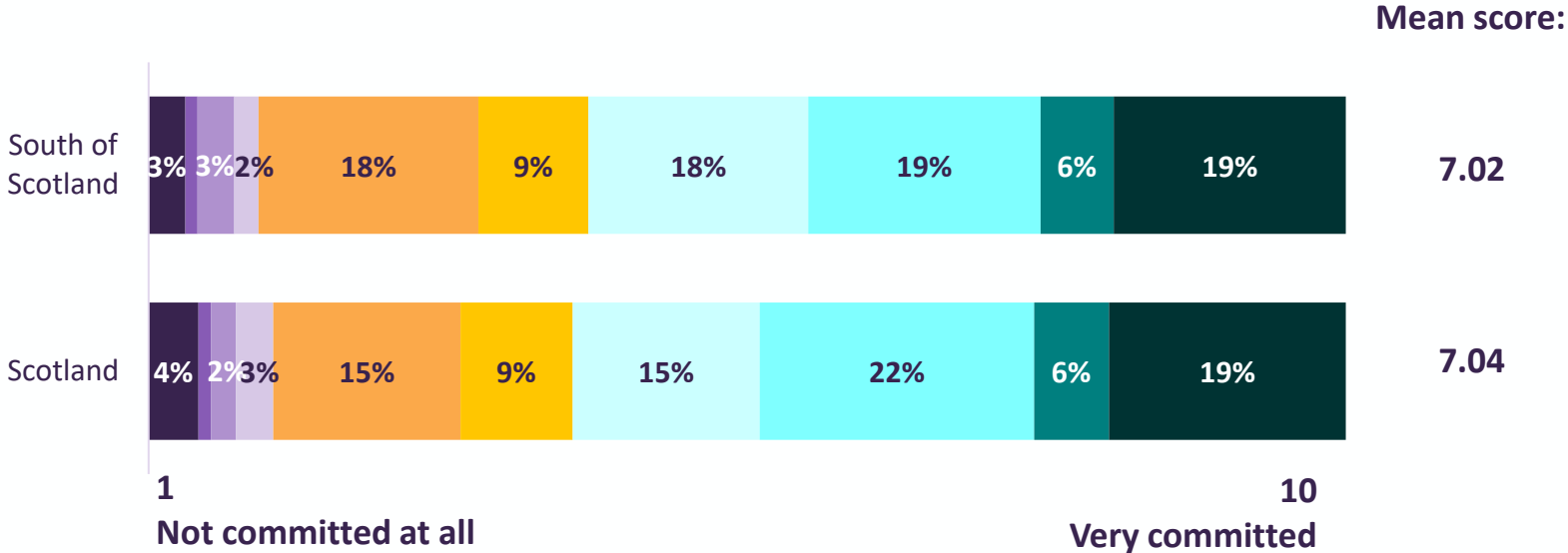
Variation

Impacts were more likely to be seen in certain sectors:

- **business activities -** processes becoming more efficient (59%), increased skills (53%), enhanced competitive position (47%) and shifting to low-carbon working (37%)

- **manufacturing** - enhanced competitive position (45%), investing in the business in different ways (46%) and expanding in international markets (25%)

- **hotels and restaurants** - enhanced competitive position (55%)

- **construction** - more likely to say they had seen **no impacts** (43% compared with 27% overall)

Impacts of digital technologies

■ South of Scotland   ■ Scotland

Impact	South of Scotland	Scotland
Helped make our processes more efficient	51%	59%
Increased our skills	43%	48%
Enhanced our competitive position	37%	41%
Helped us to invest in the businesses in new or different ways	29%	31%
Supported a shift to low carbon working	31%	34%
Helped us create new or significantly improved products or services	26%	33%
Helped us expand into new or different international markets	9%	16%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

Reducing environmental impact

Q: How committed would you say your organisation is to reducing its environmental impact, where 10 is very committed and 1 not at all?

Mean score:

South of Scotland: 3% 3% 2% 18% 9% 18% 19% 6% 19% — **7.02**

Scotland: 4% 2% 3% 15% 9% 15% 22% 6% 19% — **7.04**

1
Not committed at all

10
Very committed

Base: All businesses in South of Scotland (610) and Scotland (3,346)

A quarter (25%) of South of Scotland businesses said they were very committed to reducing their environmental impact (i.e. answered 9 or 10 out of a maximum of 10), in line with the Scottish average. The mean score for the region was 7.02.

Business variation

There were higher levels of commitment among:

- multi-site organisations (mean score 7.58)

- those that had increased their investment in digital technologies (7.35)

- those selling to the EU (7.44) and outside the EU (7.46)

05

International trade and e-commerce

Markets of operation

Almost all (97%) businesses sold to markets in Scotland, with 40% *only* selling to Scotland ("domestic" businesses). 59% sold to the rest of the UK (higher than Scottish average of 50%), while 20% sold to international markets either within or outside the EU (lower than the average of 27%).

Markets businesses sold goods/provided services to

Market	South of Scotland	Scotland
Scotland	97%	97%
Rest of UK	59%	50%
Outside UK, within EU	19%	24%
Outside UK, outside EU	12%	20%

■ South of Scotland
■ Scotland

Base: All businesses in South of Scotland (610) and Scotland (3,346).
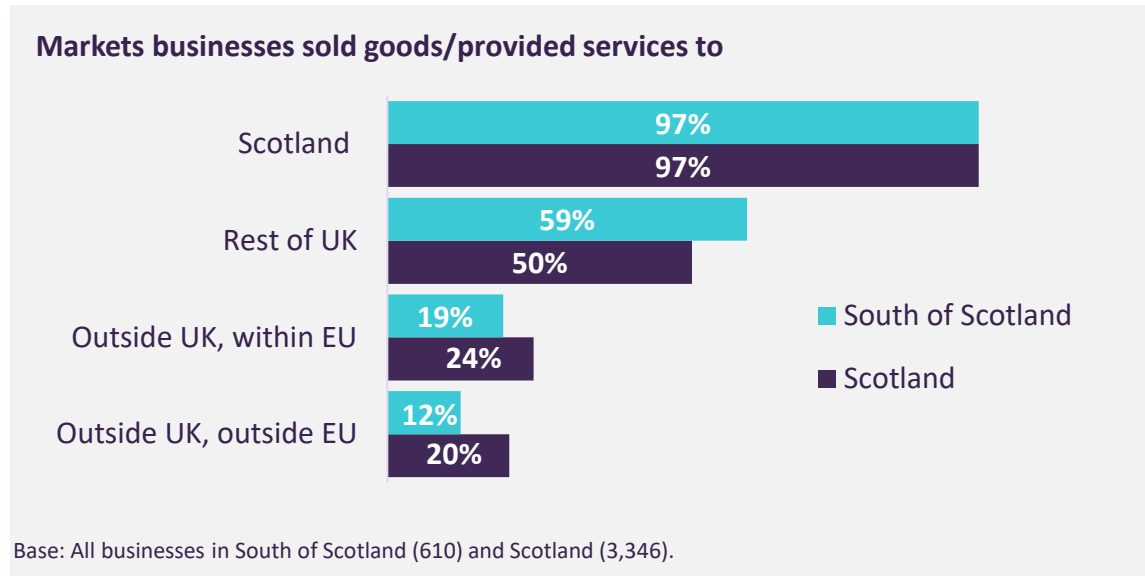
Variation
Those selling internationally were more likely to be:
- **manufacturing** (59%) and **wholesale and retail** (35%) sectors
- in the **Scottish Borders** (23% compared with 18% in Dumfries and Galloway)
- those that had increased investment in digital technology (25%)

14%

of South of Scotland businesses were planning to sell goods or provide services to new or different markets in the next 12 months (lower than Scotland average of 23%)
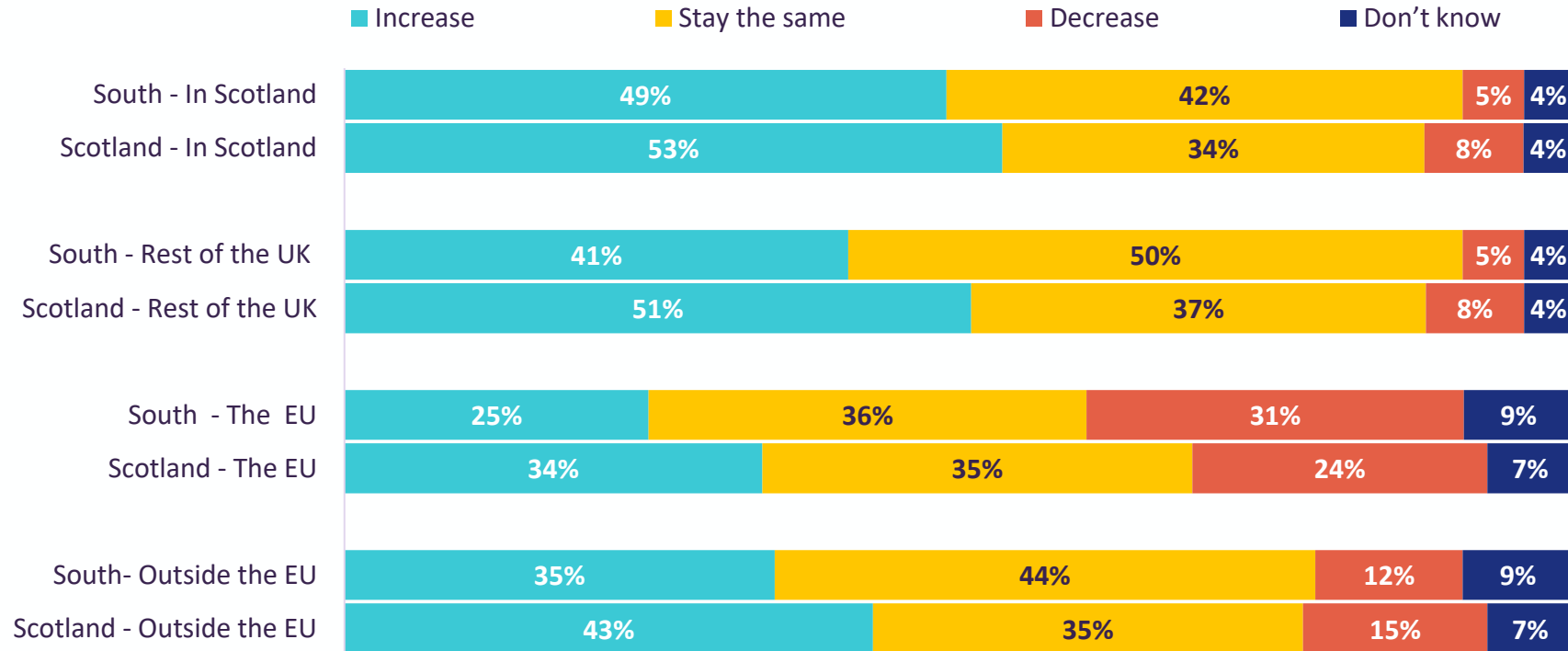
Variation
Business more likely to sell to different markets in the next 12 months were:
- **manufacturing** sector (41%)
- those using most or all (7-8) of the technologies covered by the survey (35%)
- those that had increased their investment in digital technology (23%)
- those anticipating growth (20%)

SOUTH of SCOTLAND ENTERPRISE

Outlook for markets

Among businesses currently selling to each market, increased sales were most likely to be expected over the next 12 months in domestic (49%) and rest of the UK (41%) markets. A third (35%) of those selling outside the EU expected sales to increase, while 25% of those currently selling within the EU expected an increase. Across all markets, businesses in the South of Scotland were less likely than those in Scotland overall to expect increased sales.
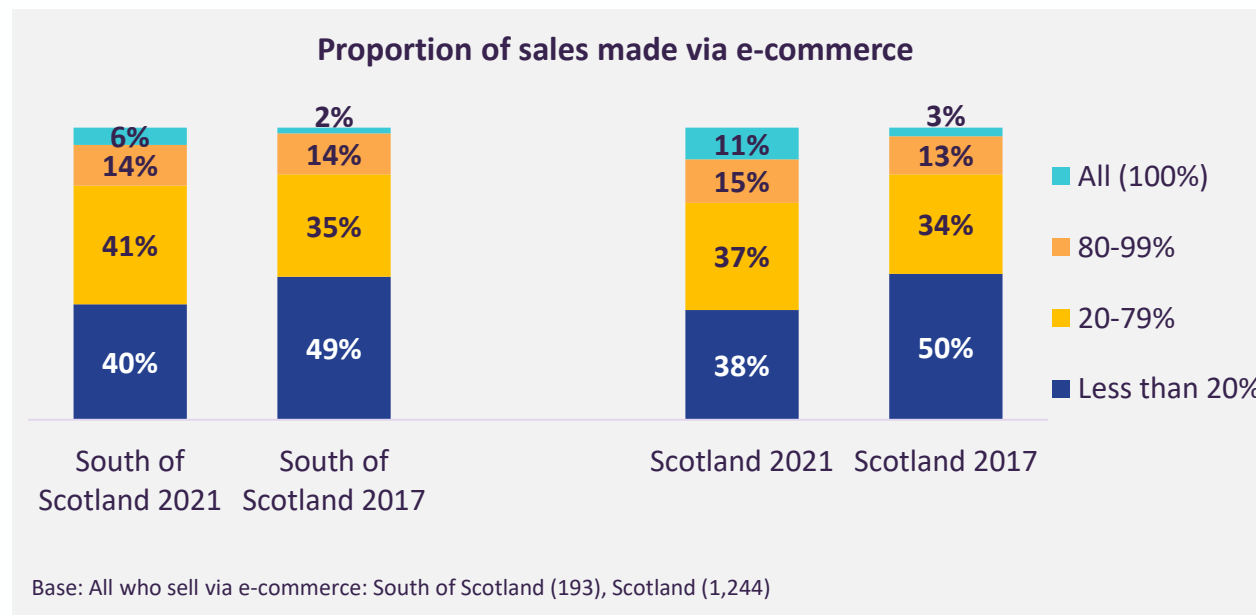
Legend: ■ Increase ■ Stay the same ■ Decrease ■ Don't know

Market	Increase	Stay the same	Decrease	Don't know
South - In Scotland	49%	42%	5%	4%
Scotland - In Scotland	53%	34%	8%	4%
South - Rest of the UK	41%	50%	5%	4%
Scotland - Rest of the UK	51%	37%	8%	4%
South - The EU	25%	36%	31%	9%
Scotland - The EU	34%	35%	24%	7%
South - Outside the EU	35%	44%	12%	9%
Scotland - Outside the EU	43%	35%	15%	7%

Base: Businesses currently selling in each market (i.e. excluding those saying 'not applicable')

SOUTH of SCOTLAND ENTERPRISE

E-commerce sales

E-commerce levels in the South of Scotland, at 32%, was higher than in 2017 (23%) but lower than for Scotland overall (35%) and lower than the level for Highlands and Islands (38%). Two thirds (66%) of businesses did not sell via e-commerce at all (61% for Scotland).

Businesses using e-commerce were doing so in higher volumes than in 2017. Among those that did sell via e-commerce, 20% said it accounted for at least 80% of their sales, 41% said it accounted for 20-79% of sales, and 40% for less than 20% of sales. These volumes were higher than those reported in 2017, and similar to those seen in Scotland overall.

Proportion of sales made via e-commerce

	South of Scotland 2021	South of Scotland 2017	Scotland 2021	Scotland 2017
All (100%)	6%	2%	11%	3%
80-99%	14%	14%	15%	13%
20-79%	41%	35%	37%	34%
Less than 20%	40%	49%	38%	50%

Base: All who sell via e-commerce: South of Scotland (193), Scotland (1,244)

More likely to use e-commerce:
- **Hotels and restaurants** (65%)
- **Manufacturing** (60%)
- **Wholesale and retail** (43%)
- Businesses selling to the EU (61%) outside the EU (68%)
- Those who had increased investment in digital technologies (40%)
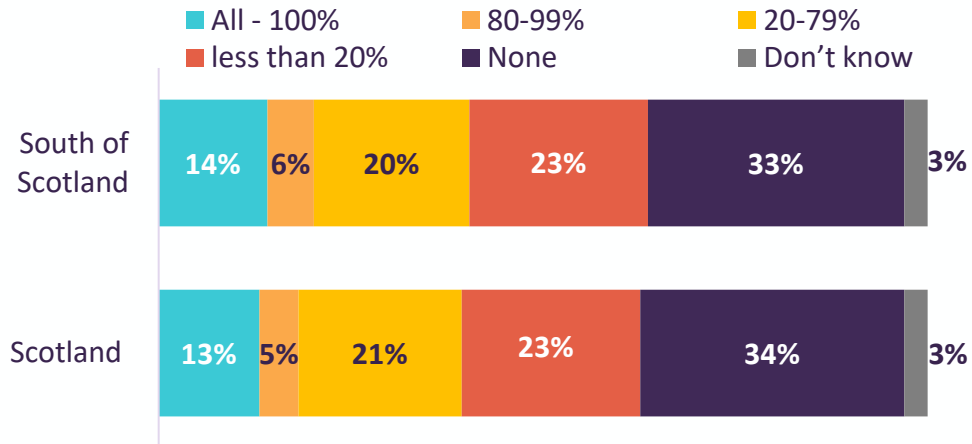- Those anticipating growth in next 12 months (41%)

Less likely use e-commerce
- **Agriculture** (78% did not)
- Those only using 0-2 technologies (81%)
- Those operating for 10+years (61%)

SOUTH of SCOTLAND ENTERPRISE

Nature of e-commerce and change since COVID-19

Of those selling via e-commerce, 64% made these sales to other businesses, in line with the average for Scotland overall (63%).

Proportion of e-commerce sales to other businesses in last 12 months

Legend: All - 100% | 80-99% | 20-79% | less than 20% | None | Don't know

South of Scotland: 14% | 6% | 20% | 23% | 33% | 3%

Scotland: 13% | 5% | 21% | 23% | 34% | 3%

Base: All who sell via e-commerce: South of Scotland (211) and Scotland (1,244).

41% of businesses using e-commerce had either started selling online (6%) or had increased online sales (35%) since COVID-19. Around a third (31%) reported consistent sales, while 23% had either stopped or decreased their online sales. A similar pattern was seen in Scotland overall.

Online sales since COVID-19

Legend: Started | Increased | Stayed the same | Decreased | Stopped | Don't know

South of Scotland: 6% | 35% | 31% | 20% | 3% | 5%

Scotland: 6% | 30% | 30% | 24% | 4% | 6%

Base: All who sell via e-commerce: South of Scotland (211) and Scotland (1,244).

SOUTH of SCOTLAND ENTERPRISE
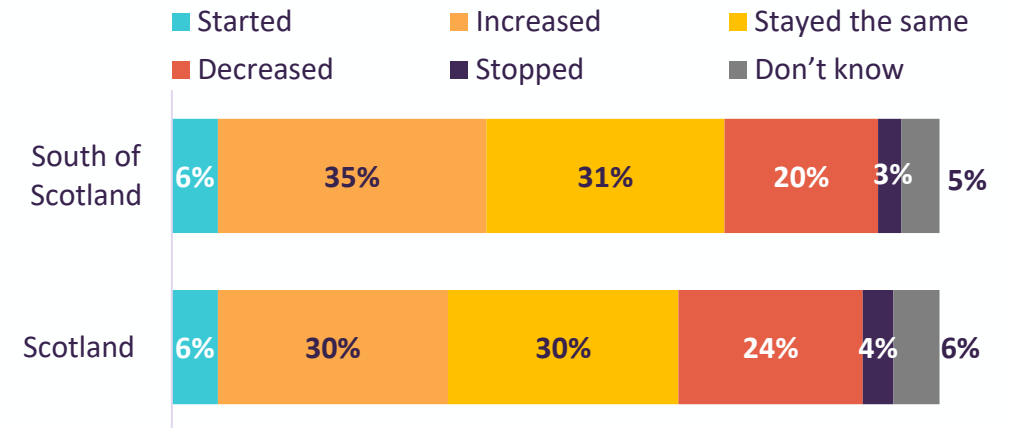
Reasons for not using e-commerce

Reasons for not selling via e-commerce at present
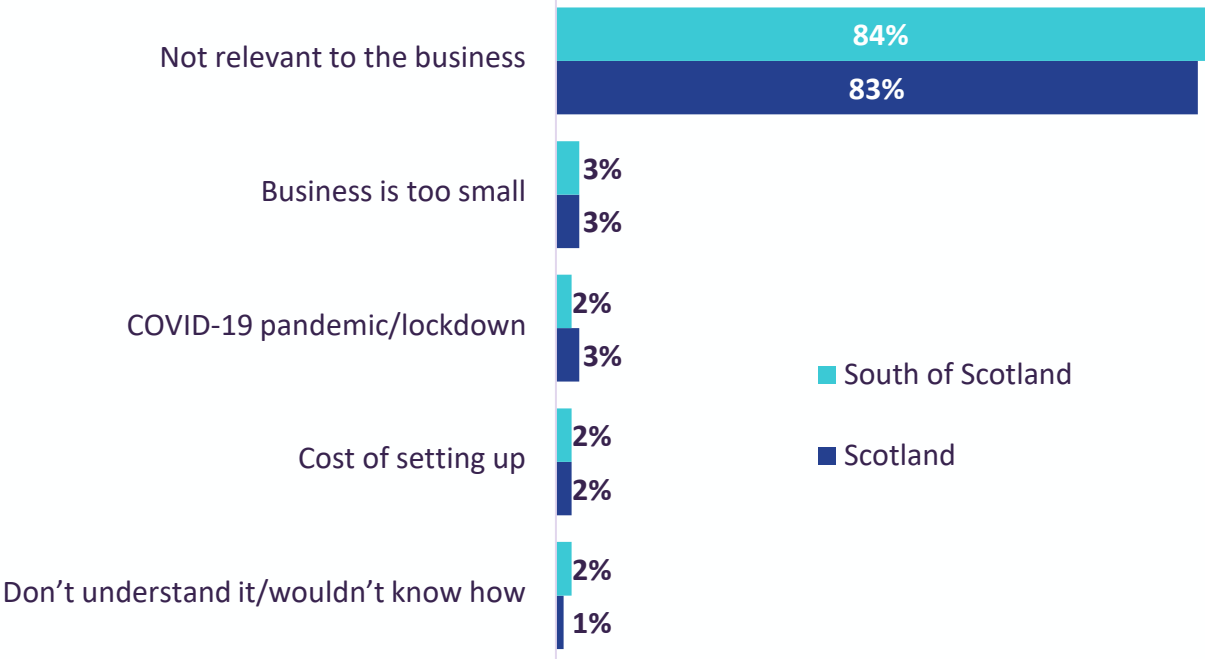
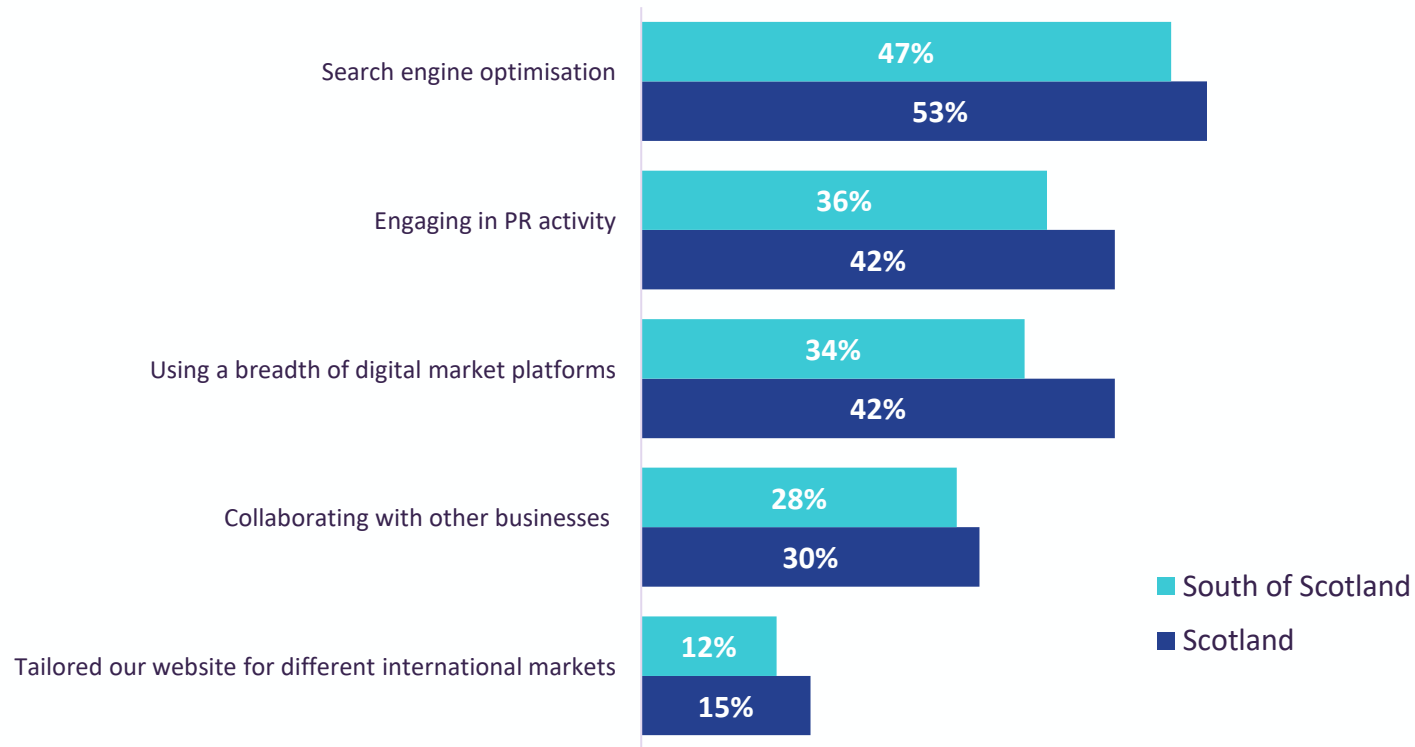Base: All who do not sell via e-commerce: South of Scotland (377) and Scotland (1,936).

Among businesses not currently using e-commerce, the main reason for not doing so was that it was not relevant to their business (84%).

Findings were in in line with 2017 and with the average for Scotland. There was little variation in findings by types of business.

Maximising digital presence

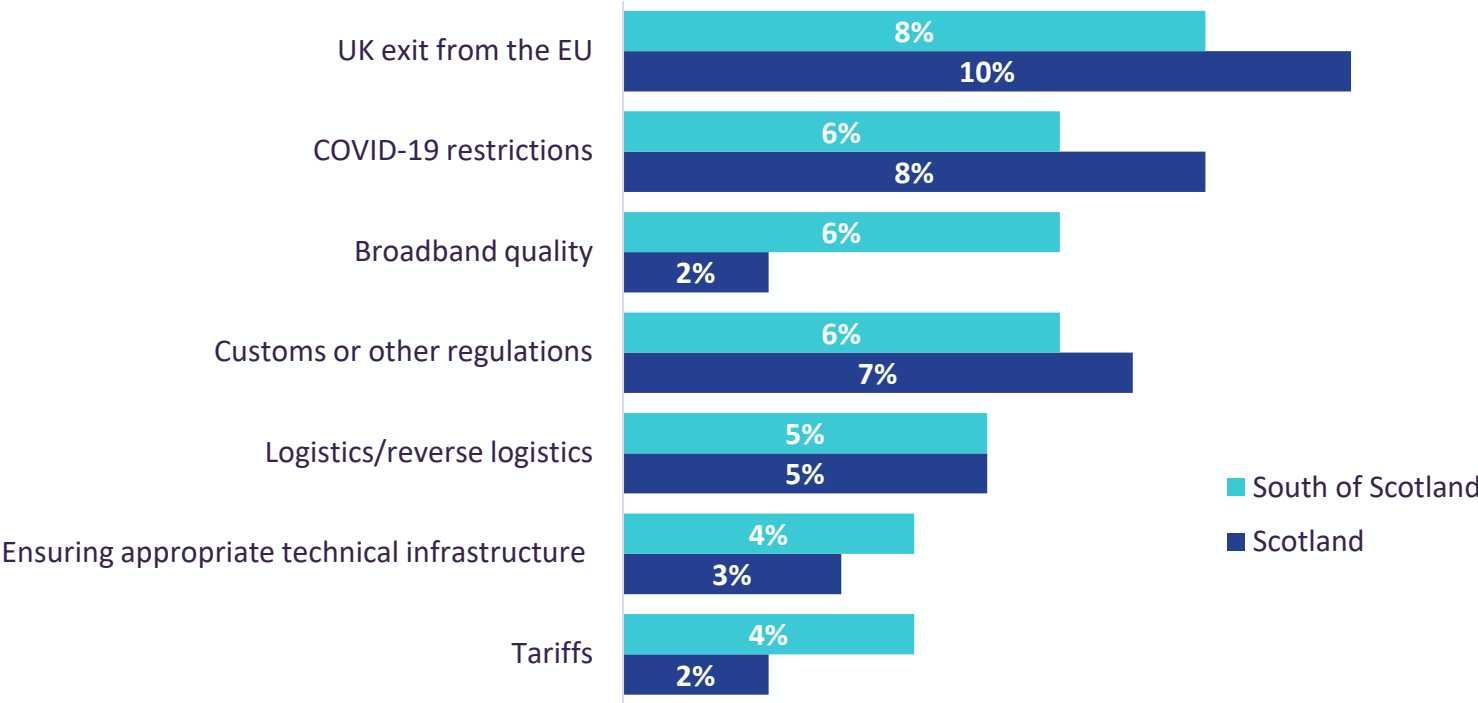**Steps taken to maximise digital presence and support e-commerce activity**

Search engine optimisation
- South of Scotland: 47%
- Scotland: 53%

Engaging in PR activity
- South of Scotland: 36%
- Scotland: 42%

Using a breadth of digital market platforms
- South of Scotland: 34%
- Scotland: 42%

Collaborating with other businesses
- South of Scotland: 28%
- Scotland: 30%

Tailored our website for different international markets
- South of Scotland: 12%
- Scotland: 15%

■ South of Scotland
■ Scotland

Base: All who sell via e-commerce: South of Scotland (211) and Scotland (1,244).

Among businesses using e-commerce, most were taking steps to maximise their digital presence and support their e-commerce activity.

The most common actions being taken were search engine optimisation (47%), engaging in PR activity (36%) and using a breadth of digital market platforms (34%). These were also the most common actions in Scotland overall.

SOUTH of SCOTLAND ENTERPRISE

Challenges in delivering international e-commerce

Challenges faced delivering international e-commerce services

Challenge	South of Scotland	Scotland
UK exit from the EU	8%	10%
COVID-19 restrictions	6%	8%
Broadband quality	6%	2%
Customs or other regulations	6%	7%
Logistics/reverse logistics	5%	5%
Ensuring appropriate technical infrastructure	4%	3%
Tariffs	4%	2%

Base: All who sell via e-commerce: South of Scotland (211) and Scotland (1,244).

Among businesses in South of Scotland using e-commerce, one in ten (12%) faced challenges when delivering international e-commerce services.

The top challenges faced were the exit from the EU (8%), COVID-19 restrictions (6%), broadband quality (6%) and logistics/reverse logistics (6%).

Future e-commerce plans

Among businesses in South of Scotland *not* using e-commerce, 22% planned to do so in the next 2-3 years, while 66% did not - in line with businesses across Scotland as a whole.

Q Are you considering or planning to sell via e-commerce in the next 2-3 years?

Legend (left chart):
- Yes
- No
- Don't know

Left chart values:
- 22% Yes
- 66% No
- 12% Don't know

Legend (right chart):
- Yes
- No
- Don't know

Right chart values:
- 28% Yes
- 60% No
- 12% Don't know
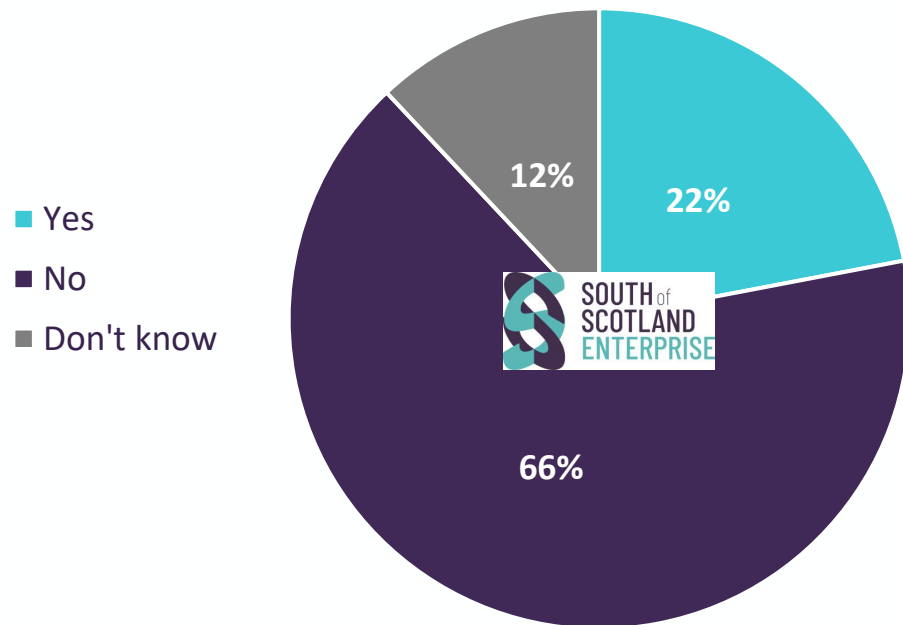
Base: All businesses in South of Scotland with no e-commerce sales, excluding those saying it was not relevant (99)
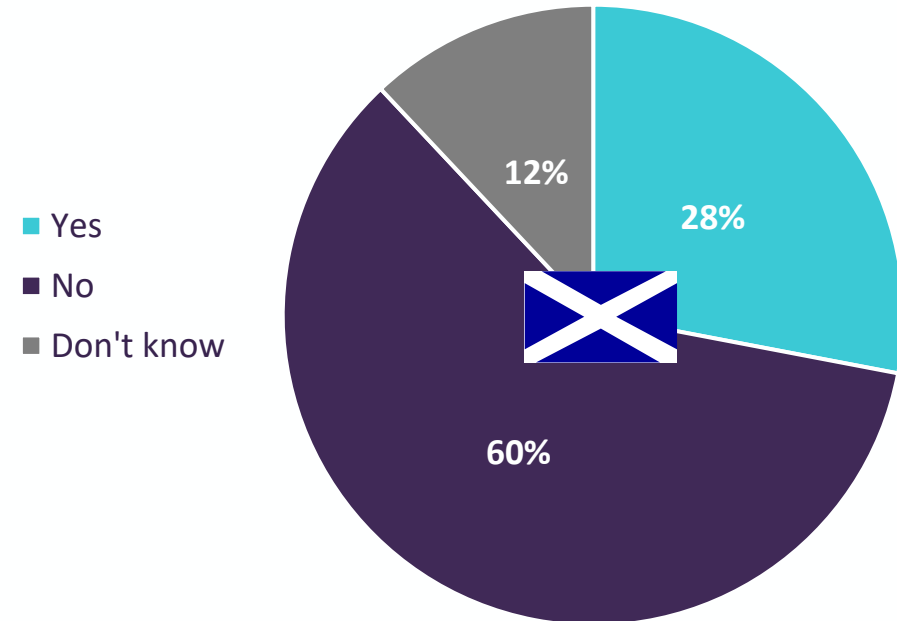
Base: All businesses in Scotland with no e-commerce sales, excluding those saying it was not relevant (591)

06

Cyber resilience

Incidence of cyber attacks

To help inform the Scottish Government's Strategic Framework for a Cyber Resilient Scotland, businesses were asked about their cyber resilience.
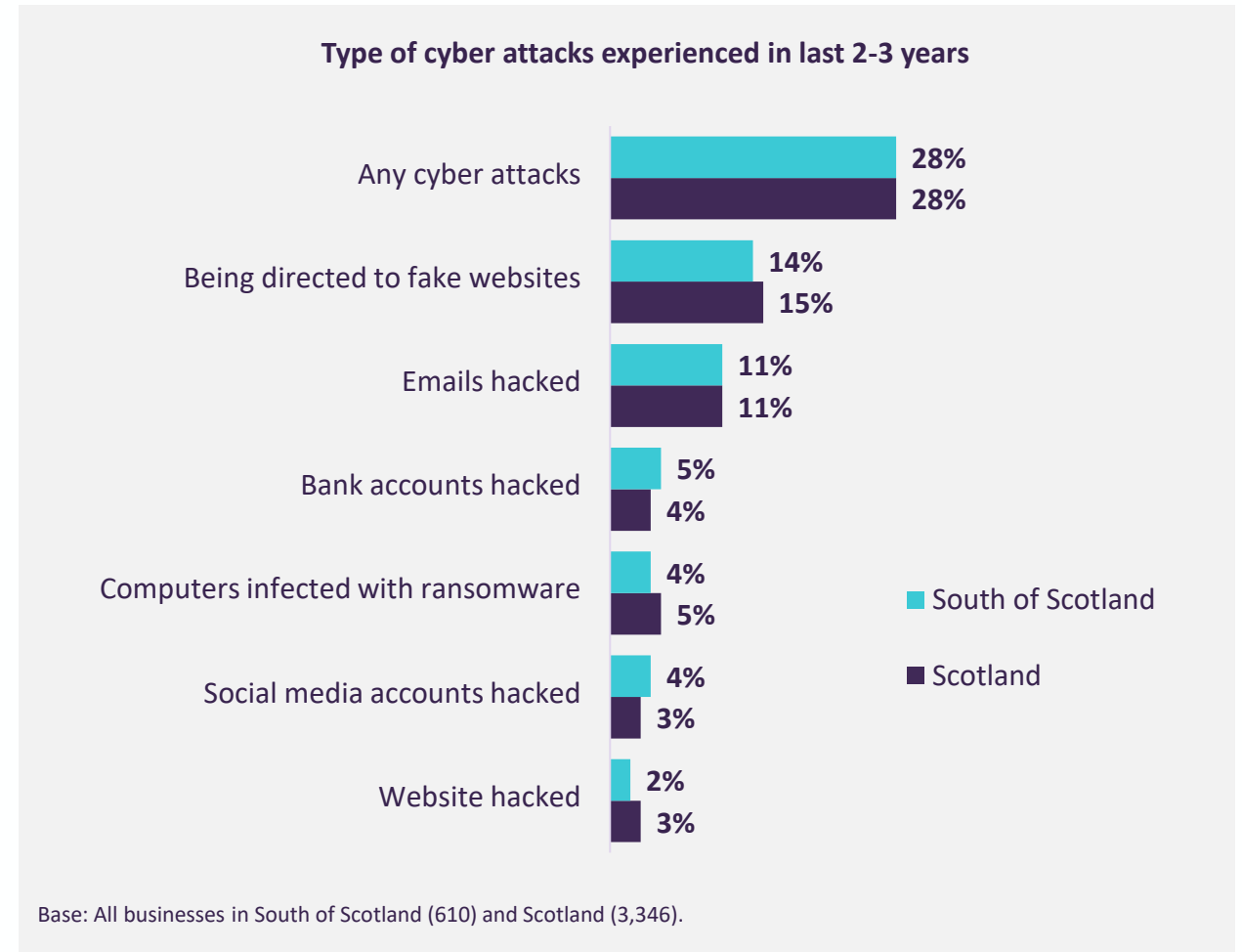
28% of business in Scotland had experienced a cyber attack, in line with the Scottish average (28%) and the level in the Highlands and Islands (27%).

In line with Scotland as a whole, the most common types of cyber attack experienced by businesses in South of Scotland were being directed to fake websites and email hacking

Variation

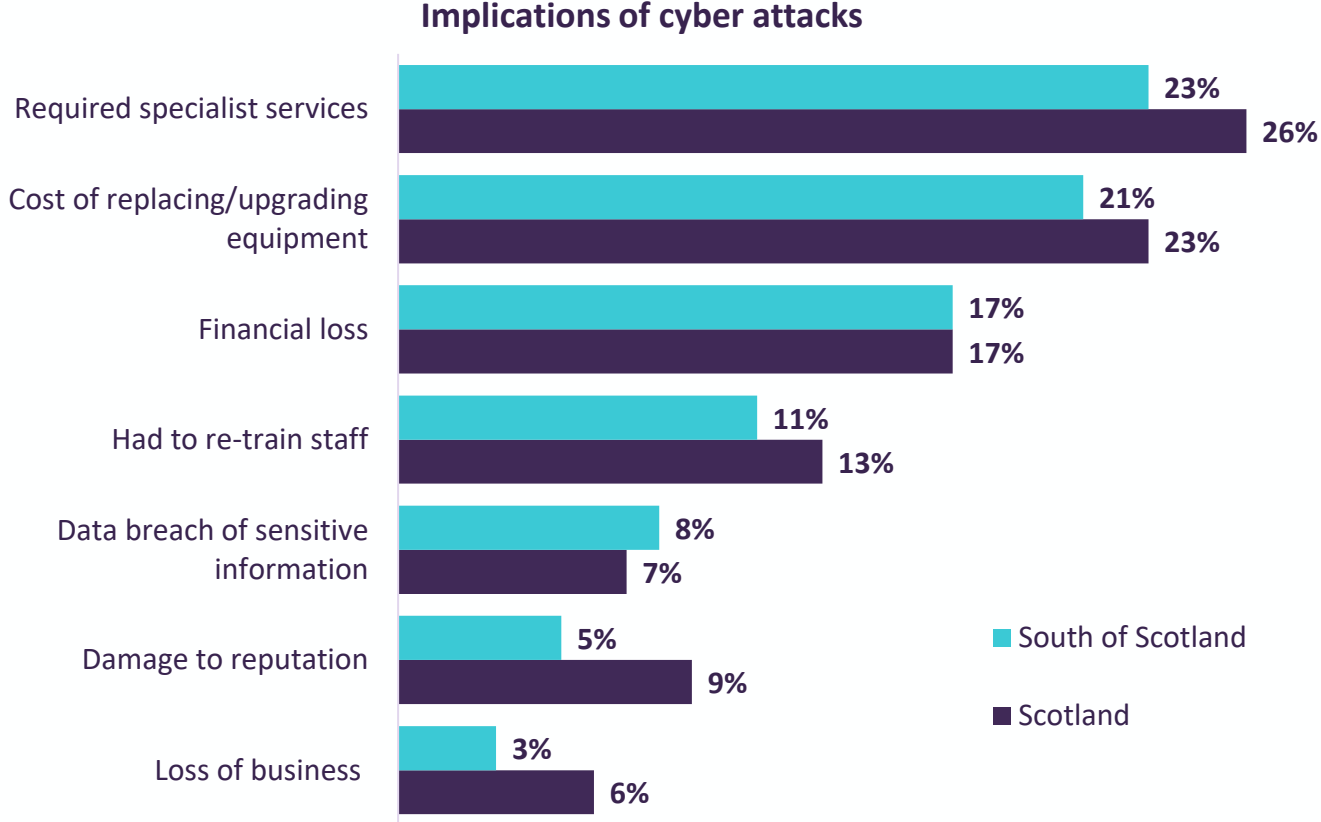Experience of cyber attacks was higher than average among:

- **manufacturing** (41%)
- those using most (7-8) digital technologies (57%)
- e-commerce users (37%)
- those selling to rest of UK (33%), the EU (38%) and outside the EU (42%)

Type of cyber attacks experienced in last 2-3 years

Type	South of Scotland	Scotland
Any cyber attacks	28%	28%
Being directed to fake websites	14%	15%
Emails hacked	11%	11%
Bank accounts hacked	5%	4%
Computers infected with ransomware	4%	5%
Social media accounts hacked	4%	3%
Website hacked	2%	3%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE

Implications of cyber-attacks

Implications of cyber attacks

Implication	South of Scotland	Scotland
Required specialist services	23%	26%
Cost of replacing/upgrading equipment	21%	23%
Financial loss	17%	17%
Had to re-train staff	11%	13%
Data breach of sensitive information	8%	7%
Damage to reputation	5%	9%
Loss of business	3%	6%

■ South of Scotland
■ Scotland

Base: All victims of cyber attacks in South of Scotland (181) and Scotland (996).

Among businesses that had been victims of a cyber attack, the most common implications were that they required specialist services (23%), incurred costs of replacing or upgrading equipment (21%), and suffered financial loss (17%).

Findings were similar to those for Scotland, and there was little variation between types of business.

Management of cyber-security

58% of businesses in South of Scotland managed all their cyber security in-house, above the Scottish average of 52%.

One in five (21%) outsourced all their cyber security (lower than the Scotland overall figure of 27%) while 14% managed some in-house and outsourced some (in line with average).

Those that felt equipped to deal with cyber security threats (see following slide) were more likely to outsource all their cyber-security (24%, compared with 13% of those not feeling equipped).

Other variation

More likely than average to manage all cyber security in-house

- those with **1-4 employees** (6%)
- those that do not use e-commerce (61%)

More likely to outsource all cyber security

- **business activities** sector (29%)
- those with **20+ employees** (39%)

Management of cyber-security

	South of Scotland	Scotland
Manage all in-house	58%	52%
Manage some in-house, outsource some	14%	14%
Outsource all	21%	27%
Don't know	7%	6%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE
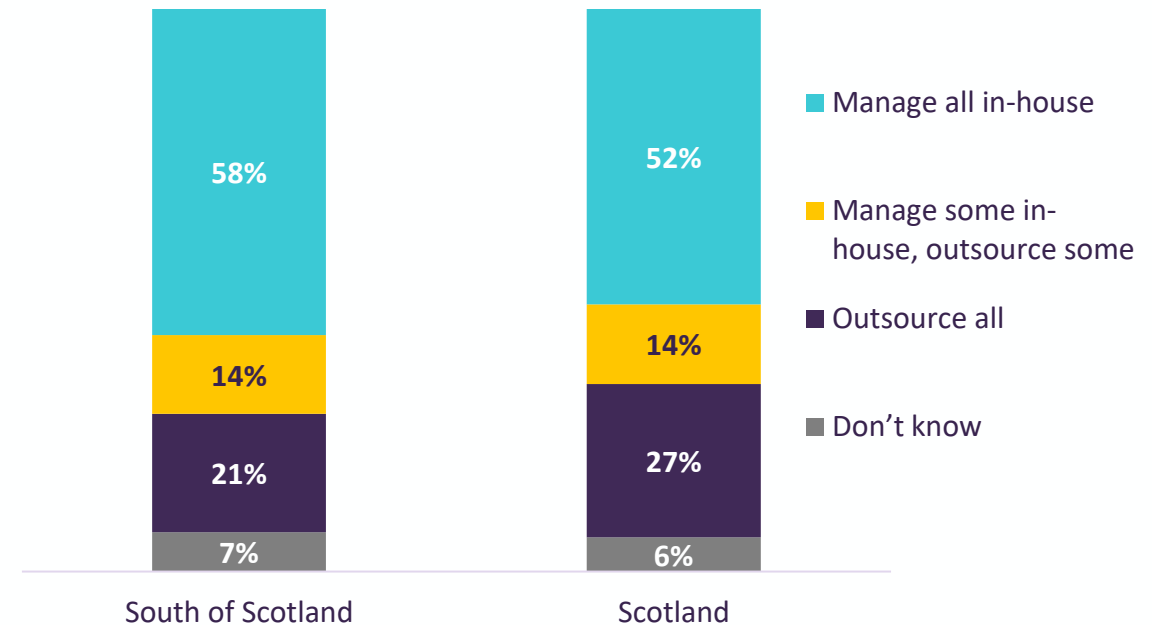
Cyber security skills

76% of South of Scotland businesses felt fully/somewhat equipped to protect against and deal with cyber security threats– in line with 2017 (77%) and the Highlands and Islands (79%), but lower than in Scotland overall (82%). Around one in five (20%) felt poorly (12%) or not at all (8%) equipped.
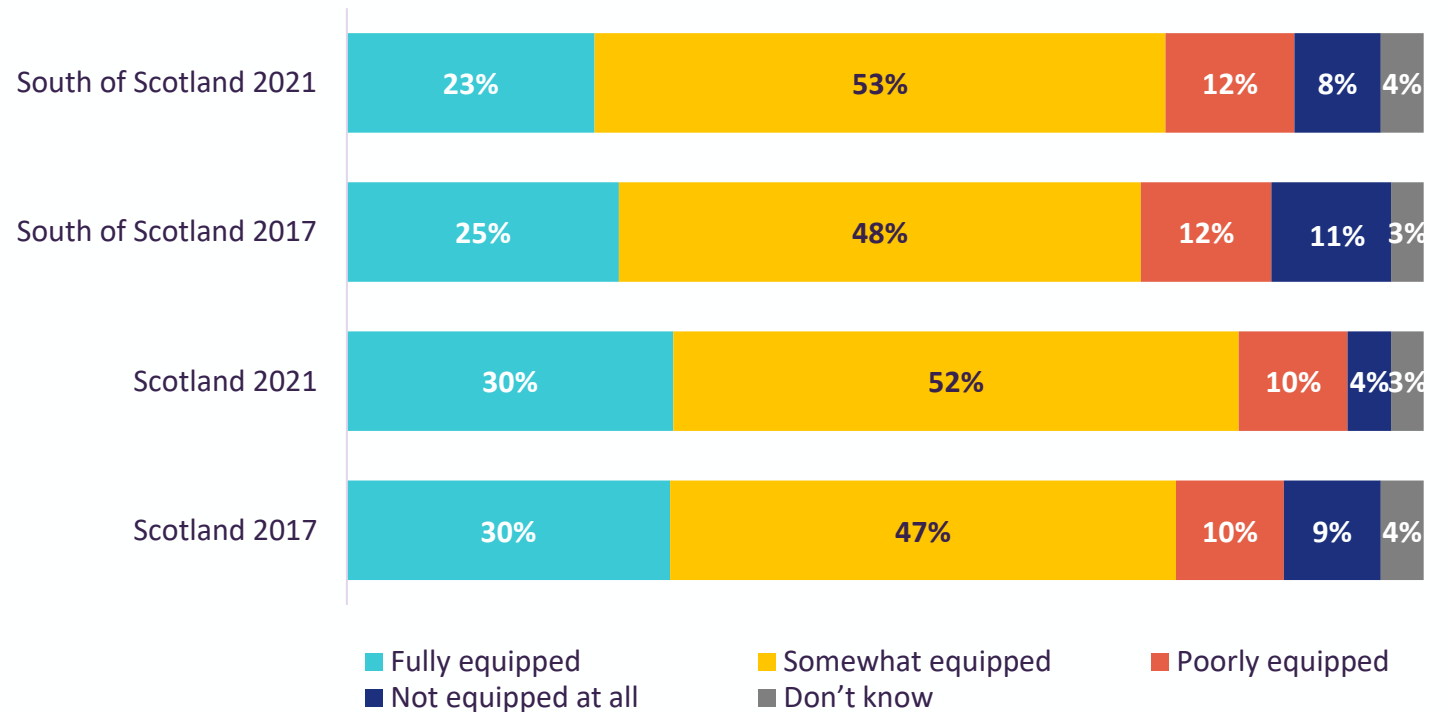
Most likely to feel fully/somewhat equipped
- **Business activities** sector (87%)
- Those using most (7-8) digital technologies (94%)
- Those expecting growth (83%) and whose investment in digital technology had increased (81%)

Most likely to feel poorly/not equipped
- **Agriculture** sector (26%)

How equipped organisations feel with skills to protect against and deal with cyber security threats

	Fully equipped	Somewhat equipped	Poorly equipped	Not equipped at all	Don't know
South of Scotland 2021	23%	53%	12%	8%	4%
South of Scotland 2017	25%	48%	12%	11%	3%
Scotland 2021	30%	52%	10%	4%	3%
Scotland 2017	30%	47%	10%	9%	4%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE

Awareness of cyber security risks

76% **of South of Scotland businesses felt their workforce was very or fairly aware of cyber threat and risk and how to mitigate it**, lower than the average for Scotland (81%) and for the Highlands and Islands (81%). 20% were not very/not at all aware (compared with 15% in Scotland).
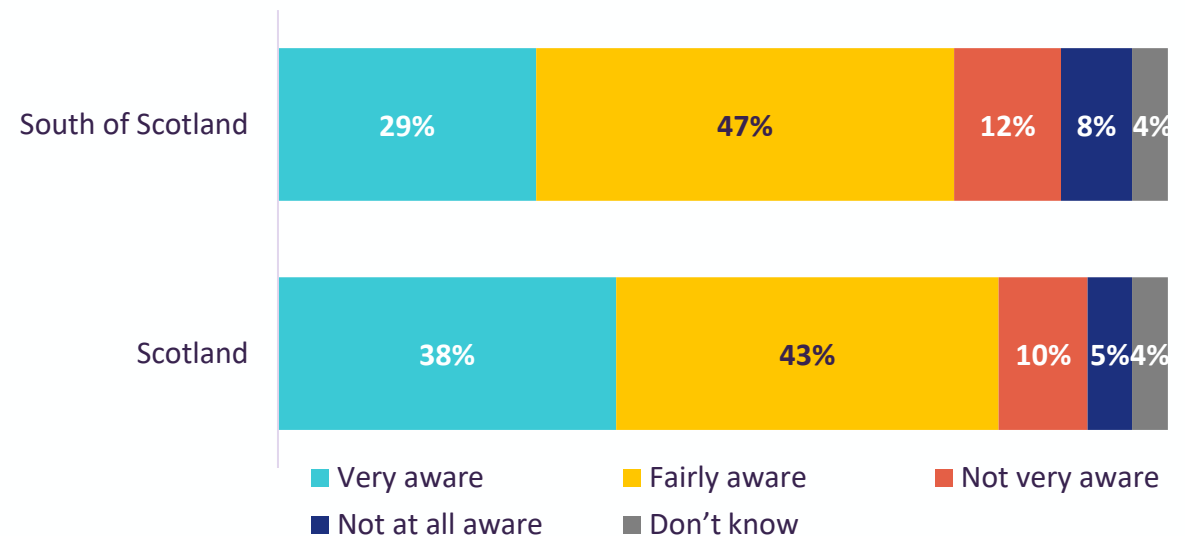
Most likely to be very/fairly aware
- **Business activities** sector (89%)
- E-commerce users (81%)
- Those equipped to deal with cyber security threats (86%)

Most likely to be not very/not at all aware
- **Agriculture** sector (26%)
- Those *not* equipped to deal with cyber security threats (50%)

Workforce awareness of cyber threat and risk and how to mitigate it

	Very aware	Fairly aware	Not very aware	Not at all aware	Don't know
South of Scotland	29%	47%	12%	8%	4%
Scotland	38%	43%	10%	5%	4%

- ■ Very aware
- ■ Fairly aware
- ■ Not very aware
- ■ Not at all aware
- ■ Don't know

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE

Cyber security accreditation

Businesses were asked whether they had, or planned to obtain, cyber security accreditation for example through Cyber Essentials.

Only a small minority (2%) of businesses in South of Scotland had cyber security accreditation, lower than the Scottish average (6%).

A further 7% were planning to obtain accreditation in the next 12 months (similar to 9% in Scotland overall).

However, the majority (83%) had no accreditation and did not plan to get it (higher than the 76% across Scotland as a whole).

Q Does your organisation have, or is planning to obtain, cyber security accreditation?

Region	Yes, already have	Planning to obtain in next 12 months	No and not planning to	Don't know
South of Scotland	2%	7%	83%	8%
Scotland	6%	9%	76%	9%

- ■ Yes, already have
- ■ Planning to obtain in next 12 months
- ■ No and not planning to
- ■ Don't know

Base: All businesses in South of Scotland (610) and Scotland (3,346).

More likely to have accreditation
- **Business activities** sector (5%)
- Those using most (7-8) technologies (9%) and e-commerce (5%)
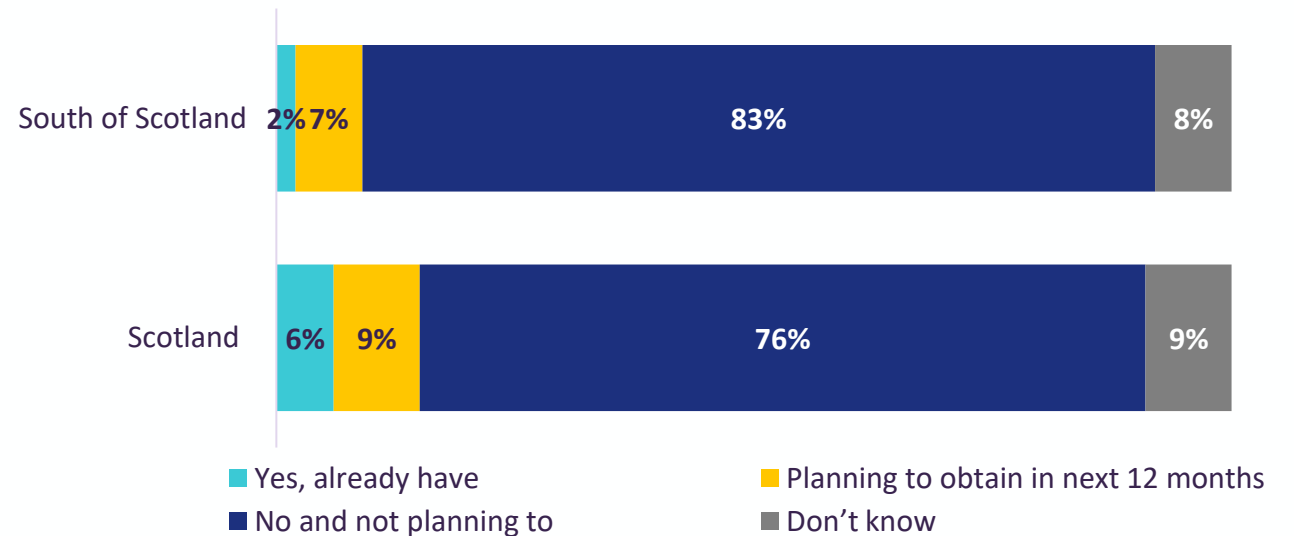
Less likely to have accreditation
- **Agriculture** sector (90% saying no and not planning to)
- Those operating for more than 10 years (85%)

SOUTH of SCOTLAND ENTERPRISE

External advice on cyber security

Go-to sources of advice, guidance and support on cyber-security

Police Scotland
- South of Scotland: 44%
- Scotland: 38%

The National Cyber Security Centre
- South of Scotland: 15%
- Scotland: 19%

Scottish Business Resilience Centre
- South of Scotland: 12%
- Scotland: 12%

External IT provider
- South of Scotland: 2%
- Scotland: 4%

Internal IT provider
- South of Scotland: 2%
- Scotland: 2%

■ South of Scotland
■ Scotland
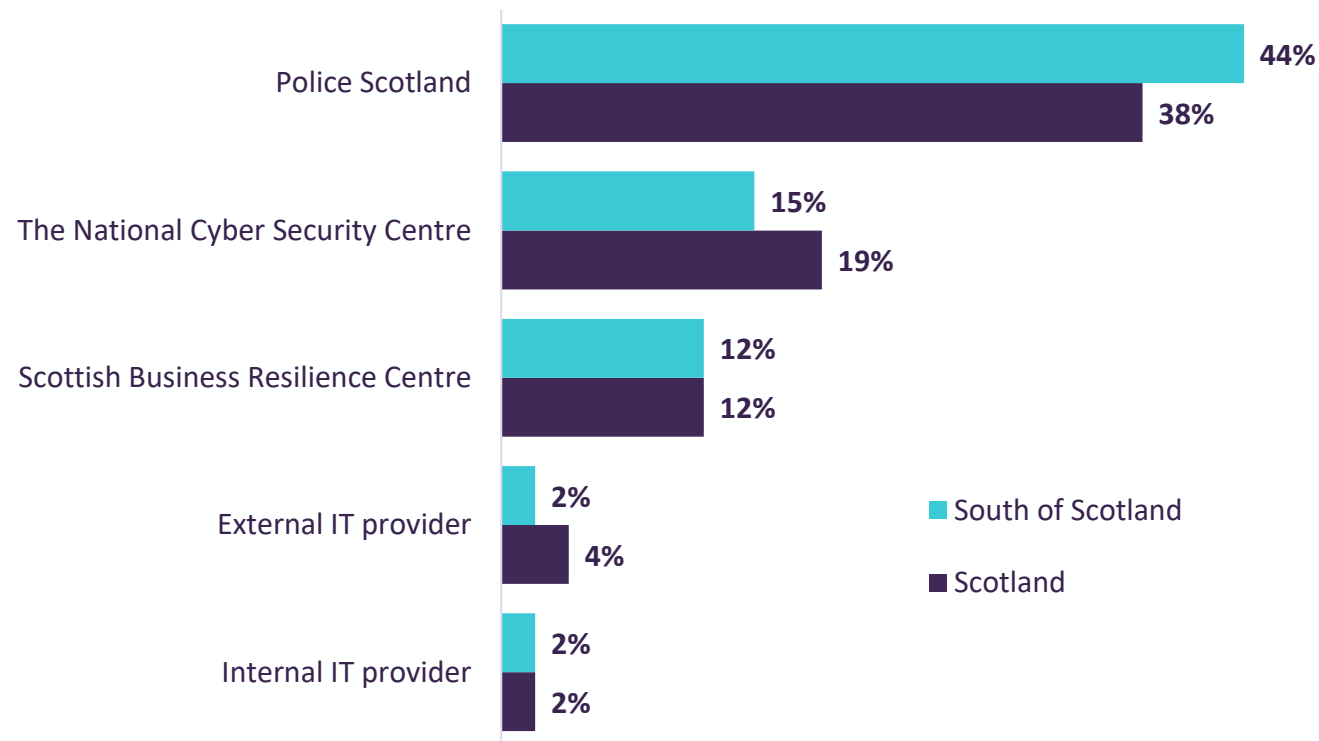
Base: All businesses in South of Scotland (610) and Scotland (3,346).

When asked which sources they would go to for external advice, guidance and support on cyber security, the most common response was Police Scotland (44%, higher than the figure across Scotland as a whole (38%).

SOUTH of SCOTLAND ENTERPRISE

07

Digital skills

Digital skills gaps

Findings suggest a continued digital skills gap among South of Scotland businesses, and in Scotland as a whole.

Only 17% said they were fully equipped to meet their business's digital technology needs, lower than the Scottish average (21%) and lower than the regional figure for 2017 (25%). **Almost three quarters (72%) identified at least some level of skills gap** (71% in Scotland).

Perceived skills gaps were similar as those for the Highlands and Islands (19% fully equipped, 56% well equipped, 20% considerable skills gaps).

The difference in findings since 2017 may reflect the changing nature of digital needs in recent years, for example with the advancement of new technologies such as Artificial Intelligence and Internet of Things – covered in the 2021 survey but not in the previous wave.

Legend:
- Fully equipped to meet needs
- Considerable skills gaps
- Well equipped but some skills gaps
- No needs for these skills/don't know

	Fully equipped	Well equipped	Considerable	No needs
South of Scotland 2021	17%	48%	24%	11%
South of Scotland 2017	25%	45%	23%	8%
Scotland 2021	21%	56%	15%	7%
Scotland 2017	26%	48%	19%	5%
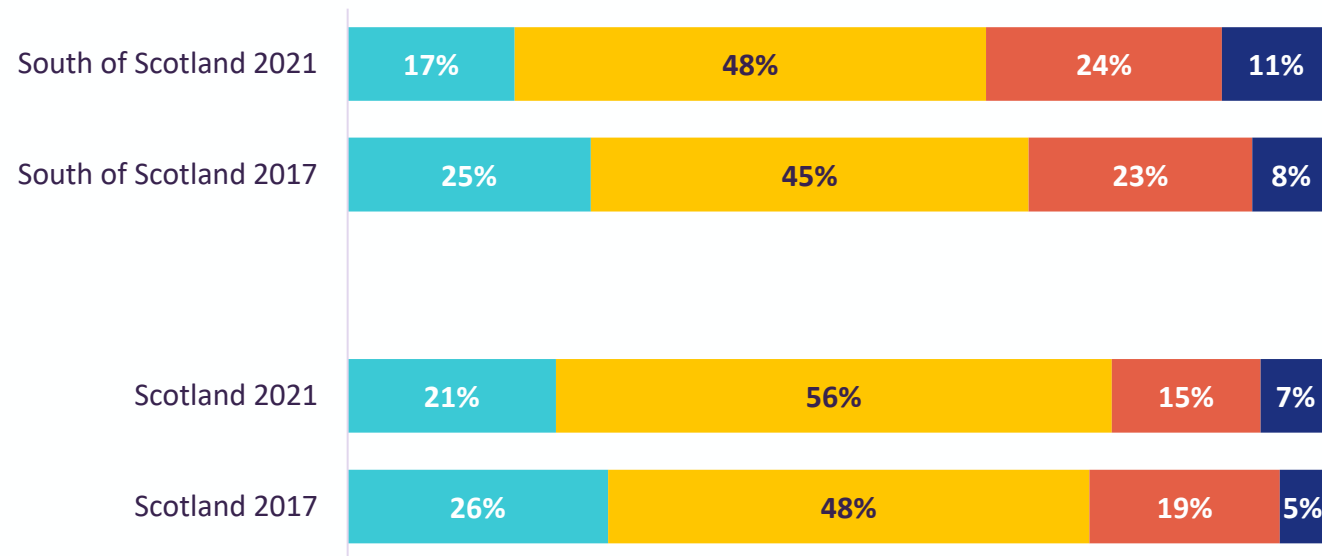
Base: All businesses in South of Scotland (610) and Scotland (3,346).

More likely to have skills gaps
- **Agriculture** sector (31% considerable skills gaps)
- Those using only 1 or 2 digital technologies (32%)
- Those not equipped against cyber threats (54%)

Less likely to have skills gaps
- **Business activities** sector (27% fully equipped)
- Those equipped against cyber threats (20%)

SOUTH of SCOTLAND ENTERPRISE

Specific skills gaps identified

Among those that identified skills gaps, a quarter (25%) mentioned basic digital technology skills, such as emails, internet navigation, Microsoft Office and Excel, in line with Scotland overall (26%).

One in ten identified software (11%) and cyber security (9%) skills gaps. It should be noted that a quarter (26%) did not know what specific skills they needed.

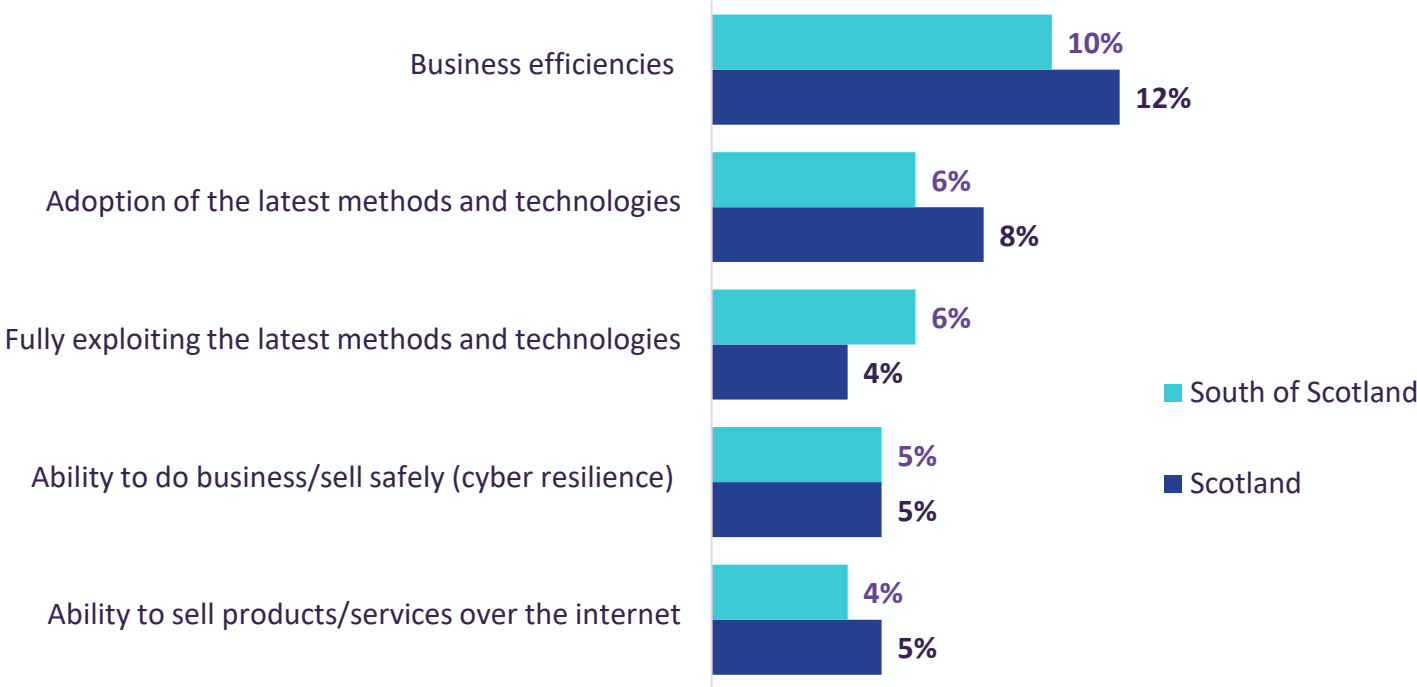| Specific skills gaps identified	South of Scotland (%)		Scotland (%)	
	2021	2017	2021	2017
Basic digital technology skills	25	-	26	-
Software skills	11	17	10	21
Cyber security skills	9	6	11	4
Business and commercial skills	5	5	5	5
Digital product/service marketing skills	4	4	6	6
Web development skills	3	9	5	10
Information security skills	3	1	4	2
Coding skills	3	3	4	3
Web content creation	2	5	4	5
Digital leadership and management skills	2	1	2	2
Data analysis	2	1	3	2
Commercial use of data	2	1	1	3
Mobile development skills	1	2	2	3
None of the above	20	36	20	33
Don't know	30	26	23	24
Base: All who have digital skills gaps	442	272	2,464	2,220

NOTE:

The list of skills asked about was slightly different between 2017 and 2021 (e.g. "Basic digital technology skills" was not asked about in 2017), meaning that the data across the two years is not entirely comparable

Impact of digital skills gaps

Areas impacted by skills gaps (top 5)

Business efficiencies
- South of Scotland: 10%
- Scotland: 12%

Adoption of the latest methods and technologies
- South of Scotland: 6%
- Scotland: 8%

Fully exploiting the latest methods and technologies
- South of Scotland: 6%
- Scotland: 4%

Ability to do business/sell safely (cyber resilience)
- South of Scotland: 5%
- Scotland: 5%

Ability to sell products/services over the internet
- South of Scotland: 4%
- Scotland: 5%

■ South of Scotland
■ Scotland

Base: All businesses with digital skill gaps in South of Scotland (442) and Scotland 2021 (2,464)

Digital skills gaps had impacted on businesses in a range of ways, with 24% of businesses identifying at least one area in which they had been impacted.

The most commonly mentioned impacts were business efficiencies, adoption of the latest methods and technologies, and ability to sell products/services over the internet.
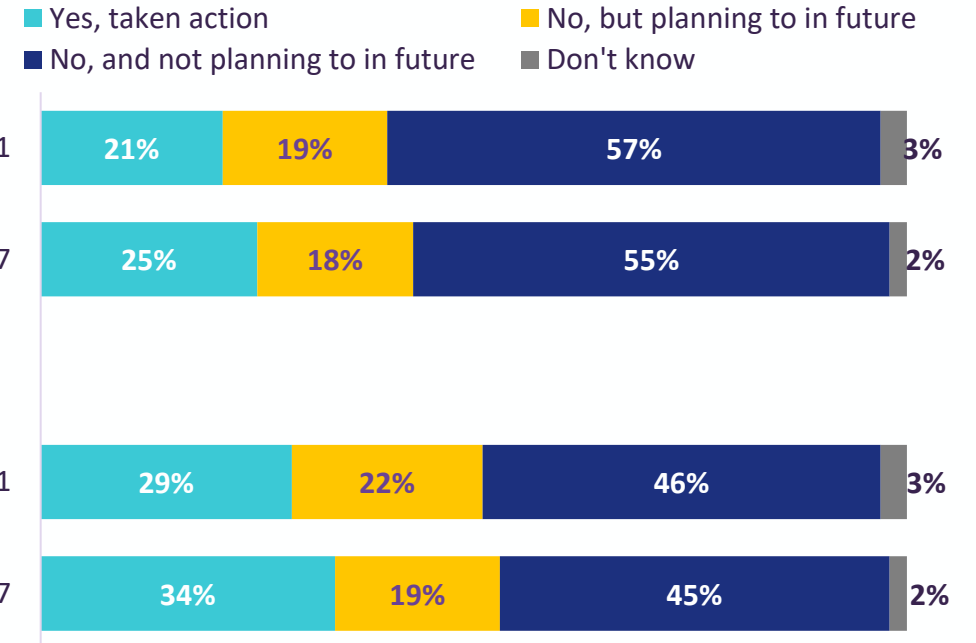
Findings were broadly in line with those for Scotland as a whole.

SOUTH of SCOTLAND ENTERPRISE

Action to address digital skills gaps

Although 72% of businesses identified at least some level of digital skills gap, only **21% were taking action to develop their employees' skills.** A further 19% were not currently taking action but planning to.

Businesses in South of Scotland were less likely to be taking/planning actions that those in Scotland as a whole – 57% were not, compared with 46% in Scotland.

Appetite for addressing skills gaps was similar to that seen in 2017 – 40% were taking action or planning to, compared with 43% in 2017.

■ Yes, taken action ■ No, but planning to in future
■ No, and not planning to in future ■ Don't know

	Yes, taken action	No, but planning to in future	No, and not planning to in future	Don't know
South of Scotland 2021	21%	19%	57%	3%
South of Scotland 2017	25%	18%	55%	2%
Scotland 2021	29%	22%	46%	3%
Scotland 2017	34%	19%	45%	2%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

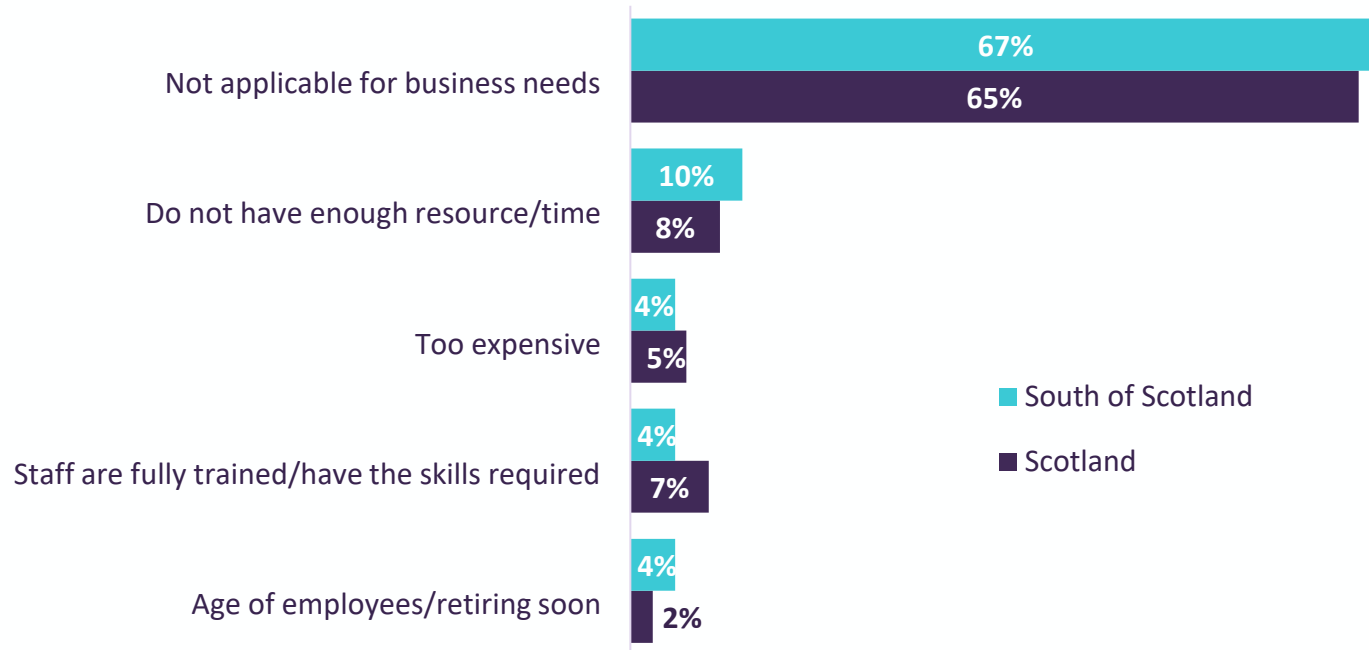**More likely to have already taken action**
- **Business activities** (36%) and **manufacturing** (33%) sectors
- Those that had increased investment in digital technology (36%)
- Those selling to the EU (29%) and outside the EU (35%)
- E-commerce users (32%)

More likely to have not taken action or plan to
- Those not using e-commerce (64%)
- Those whose investment in digital technology remained unchanged in the last year (68%) and who expected their performance to remain the same in the year ahead (67%)

SOUTH of SCOTLAND ENTERPRISE

Reasons for not addressing skills gaps

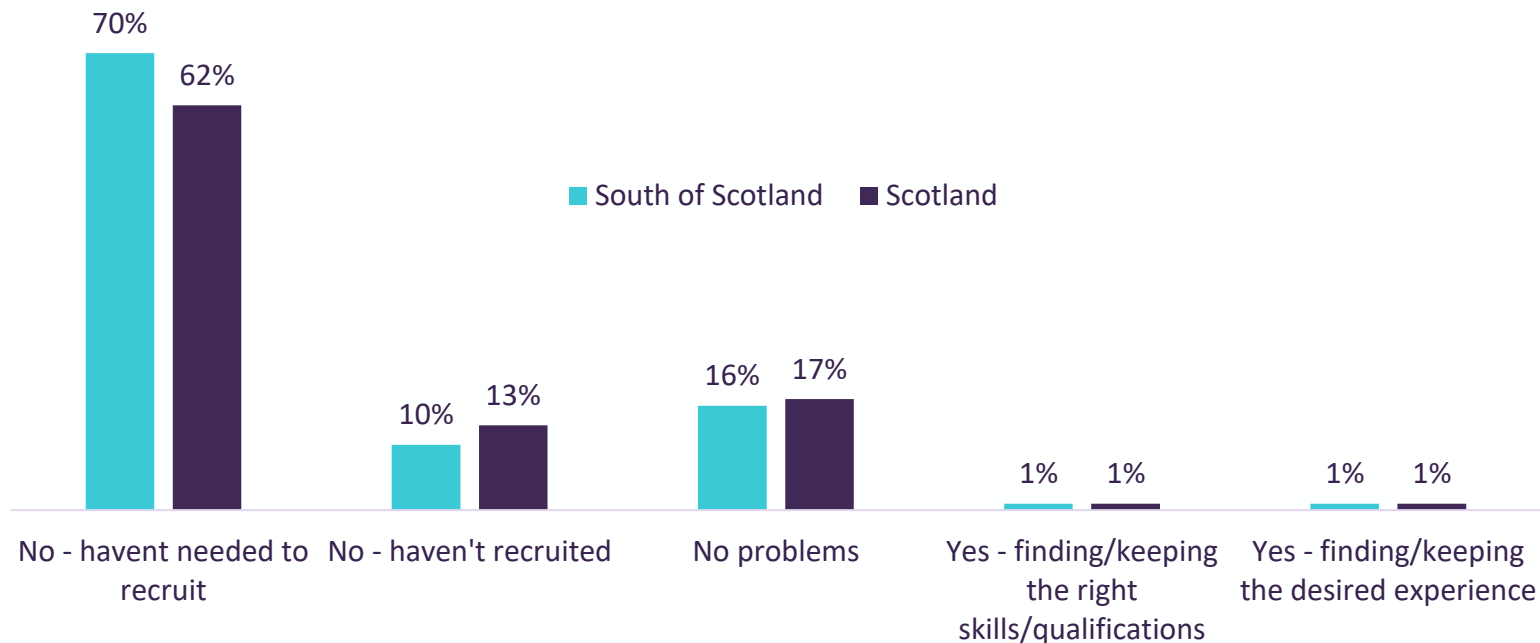**Top reasons for not taking action to develop employees' digital skills**

Not applicable for business needs
- 67%
- 65%

Do not have enough resource/time
- 10%
- 8%

Too expensive
- 4%
- 5%

Staff are fully trained/have the skills required
- 4%
- 7%

Age of employees/retiring soon
- 4%
- 2%

■ South of Scotland
■ Scotland

Base: All businesses not planning to invest in employees' digital skills in South of Scotland (311) and Scotland 2021 (2,464)

Among businesses that were not taking or planning to invest in their employees' digital skills, the main reason (mentioned by 67%) was that they felt it was not applicable for their business needs. This is in line with the Scotland average.

SOUTH of SCOTLAND ENTERPRISE

Recruiting digital specialists

Q: Have you had any difficulties recruiting or retaining digital technology specialist in the last 12 months?

■ South of Scotland   ■ Scotland

Category	South of Scotland	Scotland
No - havent needed to recruit	70%	62%
No - haven't recruited	10%	13%
No problems	16%	17%
Yes - finding/keeping the right skills/qualifications	1%	1%
Yes - finding/keeping the desired experience	1%	1%

Base: All businesses in South of Scotland (610) and Scotland 2021 (3,346)

Despite the apparent digital skills gaps among business in South of Scotland, the majority of businesses (95%) had faced no problems recruiting or retaining digital technology specialists in the last 12 months. Just 2% had experienced difficulties

08

Impact of COVID-19

Importance of digital technology to COVID-19 response

71% of businesses said digital technology had been important to the operation of their business in responding to COVID-19 (lower than for Scotland overall – 78%, and for the Highlands and Islands – 77%)

Variation

Those more likely than average to say digital technology had been important were:

- **Business activities** sector (85%)
- Those which expected to grow (77%)
- Those who had increased their investment in digital technologies (86%)
- Those selling to rest of UK (75%), the EU (80%) and outside the EU (83%)

Those more likely than average to say technology had not been important included:

- **Agriculture** sector (31%)
- Those that planned to remain the same size (36%)

Importance of digital technology in response to COVID-19

	South of Scotland	Highlands and Islands	Scotland
Essential	29%	32%	40%
Very important	17%	18%	16%
Important	26%	27%	22%
Not important	15%	11%	12%
Not at all important	12%	11%	9%

Base: All businesses in South of Scotland (610) and Scotland (3,346)

COVID-19 support schemes

73% of South of Scotland businesses had not applied to COVID-19 support schemes from the UK or Scottish Governments for enhancing digital capability (similar to 70% of businesses in Scotland as a whole and 75% in the Highlands and Islands)

More likely to have applied for support

- **Business activities** sector (30%)
- **Manufacturing** sector (36%)
- Those selling to market in the EU (31%) and outside the EU (36%)
- Those expecting to grow over the next 12 months (29%)

Applications for COVID-19 support for enhancing digital capability

- ■ South of Scotland
- ■ Scotland

	Yes (NET)	Yes, and all have been successful	Yes, and some have been successful	Yes, but I wasn't successful with any	No, haven't applied for any	Don't know
South of Scotland	23%	16%	4%	3%	73%	3%
Scotland	24%	15%	5%	3%	70%	6%

Base: All businesses in South of Scotland (610) and Scotland (3,346).

SOUTH of SCOTLAND ENTERPRISE
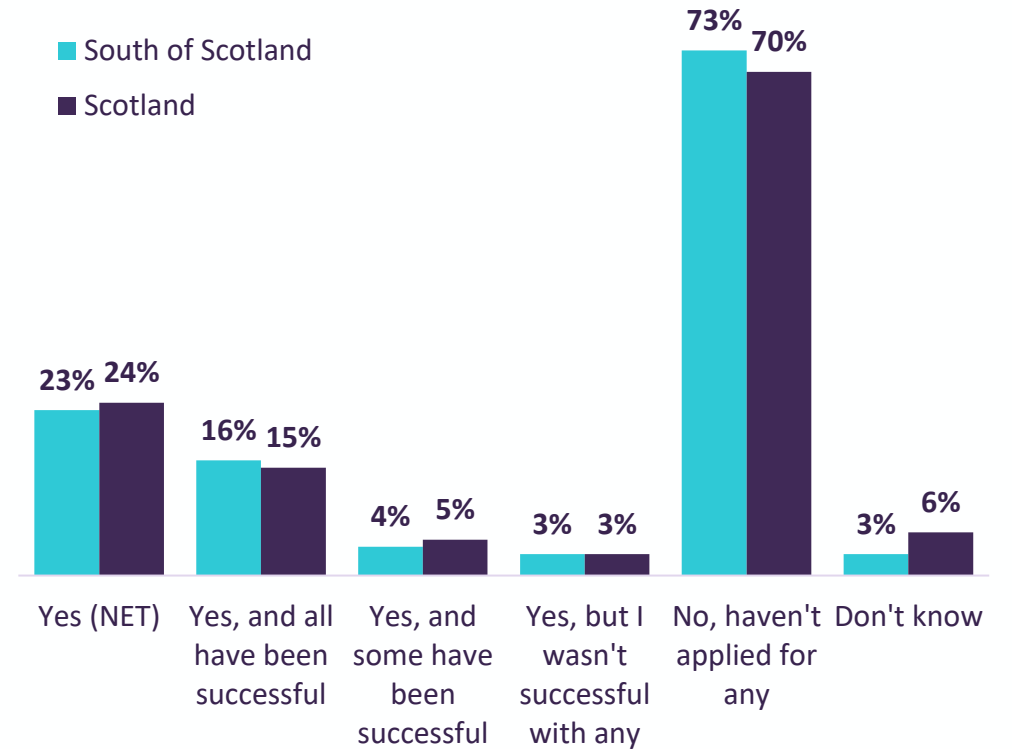
09

Digital Economy Maturity Index

DEMI Indicators

The Digital Economy Maturity Index (DEMI) aims to:

- measure the level of digitisation of businesses and segment the business population into levels of digital maturity;

- establish the characteristics of businesses in each segment and identify the opportunities to develop their use of digital technologies based on their strengths and challenges; and

- measure progress of digitisation of businesses over time

Originally constructed from the 2014 survey, the DEMI indicators have since been updated to reflect new areas that were included in the 2021 survey and in light of the changing context for digital maturity (e.g. newer forms of digital technology used, the importance of digital technology during COVID-19, and its impact on productivity and innovation).

The 2021 index consists of six main strands (Adoption, Usage, Benefits, Cyber Resilience, Skills and Productivity), under which there are a total of 15 sub-indicators (see table below).

ADOPTION	USAGE	BENEFITS	CYBER RESILIENCE	SKILLS	PRODUCTIVITY
Type of internet connection	Technologies used	Benefits experienced from using digital technologies	Equipped to deal with cyber security threats	Digital technology skills gaps	Investment in digital technology
Importance of digital technology to business response to COVID-19	Strategy for use of digital technology	Use of digital technology to help innovation	Cyber security accreditation	Plans to develop employees' digital skills	Impact of digital technology on productivity
		Proportion of sales made over the internet			
Internationalisation					

Maturity segments and scores

Each indicator has been given a score based on its relative importance in terms of digital maturity, with a maximum overall score of 100 being possible. Based on the these scores, businesses are placed within one of the following six segments, which reflect the extent of their digital maturity (e.g Minimal = the least digitally mature, Expert = the most digitally mature):

SEGMENT	DEMI SCORE
Minimal	0-10
Basic	11-30
Intermediate	31-49
Upper Intermediate	50-66
Advanced	67-80
Expert	81-100

The remainder of this section outlines the DEMI findings for businesses in the South of Scotland, benchmarked against the rest of Scotland where appropriate.

SOUTH of SCOTLAND ENTERPRISE

DEMI profiles of businesses

Businesses in the South of Scotland exhibit a wide range of digital maturity, with representation in each of the six DEMI segments. The majority of South of Scotland businesses (83%) fall within the lower half of the index, with the largest proportions having either a Basic (43%) or Intermediate (35%) level of maturity.

Businesses in the South of Scotland are more likely than those in Scotland to fall within the lower half of the index (83% compared with 72%), and less likely to be in the upper half (17% compared with 28%).
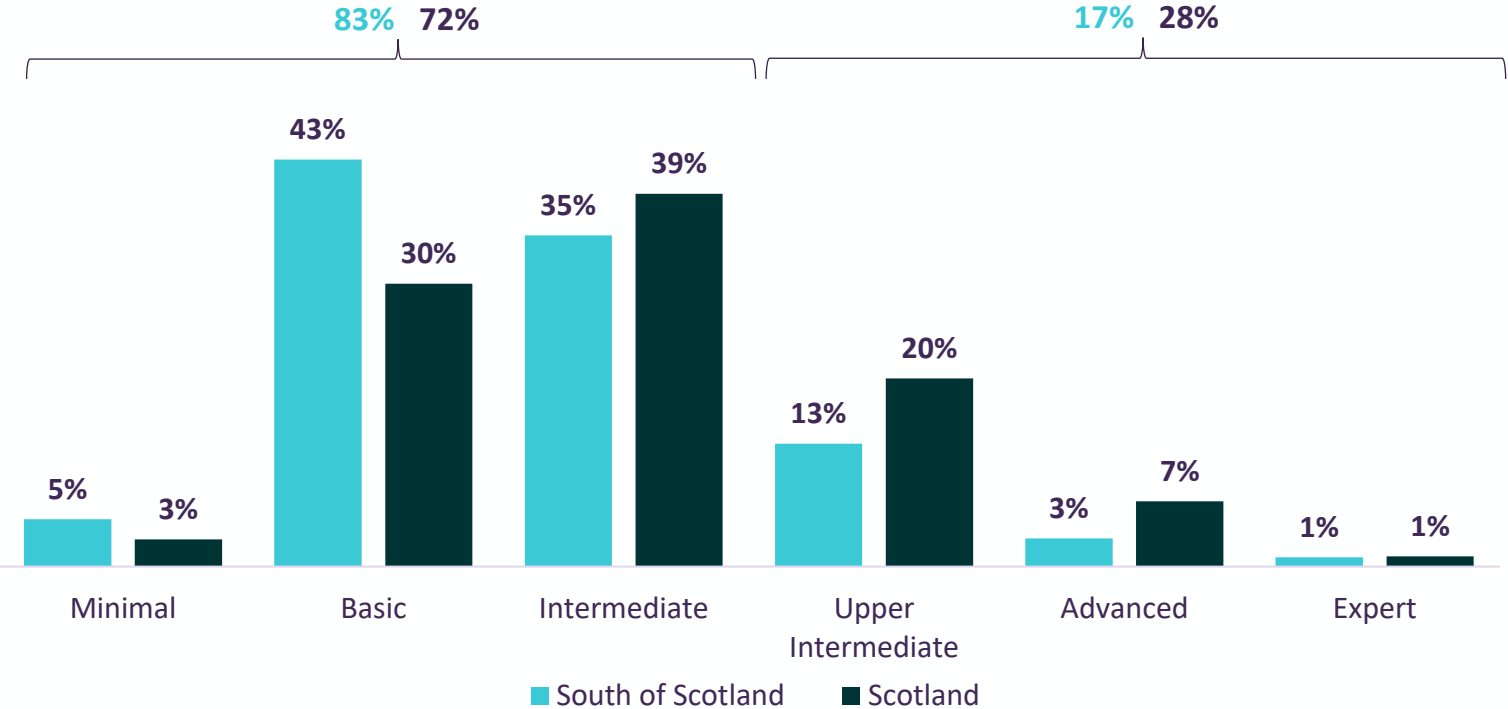
Base: All businesses in South of Scotland (610) and Scotland (3,346).

Characteristics of DEMI segments

Digitally mature businesses tend to be larger and work in the business activities sector. They are more likely to have more than one establishment in the organisation, be located in urban areas, operate in international markets, and to not be family owned.

The less mature businesses tend to be smaller, work in agriculture, and be family owned. They are more likely to have only one establishment in the organisation, and sell only to domestic markets.

MINIMAL	BASIC	INTERMEDIATE	UPPER INTERMEDIATE
Agriculture sector (9% vs 5% overall)	Transport/communications (66%), other services (61%) and agriculture sector (52% vs 43% overall)	Business activities sector (48% vs 35% overall)	Business activities sector (22% vs 13% overall)
-	Micro businesses (1-4 employees) (48% vs 43% overall)	Medium sized businesses (10-19 employees) (47% vs 36% overall)	Large businesses (20+ employees) (9% vs 5% overall)
-	Family-owned (46% vs 28% of non-family owned)	Non-family owned (43% vs 34% of family-owned)	Non-family owned (20% vs 12% of family-owned)
-	Only establishment in the organisation (44% vs 33% of multi-site organisations)	-	One of a number of establishments (23% vs 12% of single-site organisations)
-	Rural areas (45% vs 39% of urban)	-	Urban areas (16% vs 11% of rural)
-	-	-	Scottish Borders (16% vs 11% in Dumfries and Galloway)
Sell only to domestic markets (11% vs 5% overall)	-	-	Sell to international markets (21% vs 13% overall)
-	Expect to remain at same level in next 12 months (50% vs 43%)	Expect to grow in next 12 months (40% vs 35%)	-

NOTE:
The "Advanced" and "Expert" categories are not included in this analysis as the base size was too small to identify any significant characteristics of these businesses (15 and 5 respectively)

SOUTH of SCOTLAND ENTERPRISE

10

Appendix

Sector categories used in the survey

Sector name	Individual sectors included (SIC 2007 label)
Agriculture	Agriculture, forestry and fishing; Mining, quarrying and utilities; Electricity, gas, steam and air conditioning; Water supply, sewerage and waste management
Business activities	Finance and insurance; Real estate activities; Professional scientific and technical; Administrative and support services
Construction	
Health and social work	
Hotels and restaurants	Accomodation and food services
Manufacturing	
Other services	Arts, entertainment and recreation; Other service activities
Transport and communications	Transport and storage; Information and communication
Wholesale and retail	Wholesale and retail trade; Repair of motor vehicles

Ipsos MORI's Standards & Accreditations

Ipsos MORI's standards & accreditations provide our clients with the peace of mind that they can always depend on us to deliver reliable, sustainable findings. Moreover, our focus on quality and continuous improvement means we have embedded a 'right first time' approach throughout our organisation.

ISO 20252 – is the international market research specific standard that supersedes BS 7911 / MRQSA & incorporates IQCS (Interviewer Quality Control Scheme); it covers the 5 stages of a Market Research project. Ipsos MORI was the first company in the world to gain this accreditation.

MRS Company Partnership – By being an MRS Company Partner, Ipsos MORI endorse and support the core MRS brand values of professionalism, research excellence and business effectiveness, and commit to comply with the MRS Code of Conduct throughout the organisation & we were the first company to sign our organisation up to the requirements & self regulation of the MRS Code; more than 350 companies have followed our lead.

ISO 9001 – International general company standard with a focus on continual improvement through quality management systems. In 1994 we became one of the early adopters of the ISO 9001 business standard.

ISO 27001 – International standard for information security designed to ensure the selection of adequate and proportionate security controls. Ipsos MORI was the first research company in the UK to be awarded this in August 2008.

The UK General Data Protection Regulation (UK GDPR) & the UK Data Protection Act 2018 (DPA) – Ipsos MORI is required to comply with the UK General Data Protection Regulation and the UK Data Protection Act; it covers the processing of personal data and the protection of privacy.

HMG Cyber Essentials – A government backed and key deliverable of the UK's National Cyber Security Programme. Ipsos MORI was assessment validated for certification in 2016. Cyber Essentials defines a set of controls which, when properly implemented, provide organisations with basic protection from the most prevalent forms of threat coming from the internet.

Fair Data – Ipsos MORI is signed up as a 'Fair Data' Company by agreeing to adhere to ten core principles. The principles support and complement other standards such as ISOs, and the requirements of Data Protection legislation.

This work was carried out in accordance with the requirements of the international quality standard for market research, ISO 20252 and with the Ipsos MORI Terms and Conditions

Contacts at Ipsos MORI:

Ciaran Mulholland

(Associate Director)

Ciaran.mulholland@ipsos.com

Catriona Millar

(Senior Research Executive)

Catriona.millar@ipsos.com