

Scotland's Digital Economy Maturity Index 2021

Report by Ipsos MORI

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Background and methodology

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Background

In 2021, the Scottish Government, in partnership with Highlands and Islands Enterprise, Scottish Enterprise, South of Scotland Enterprise and Skills Development Scotland, commissioned the Digital Economy Business Survey (DEBS).

The survey aimed to build upon the findings from the previous two survey waves in 2014 and 2017 and to provide an understanding of the level of digitisation of Scotland's businesses, allowing for benchmarking and progress to be measured over time.

Using data from the Digital Economy Business Survey, the Scottish Government and partners developed a **Digital Economy Maturity Index (DEMI)**, which allows for the segmentation of businesses in Scotland according to their level of digitisation.

This report presents details of the Digital Economy Maturity Index for 2021.

The aims of DEMI are:

- to measure the level of digitisation of Scottish businesses and segment the business population into levels of digital maturity.
- to 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.
- to measure progress of digitisation of Scotland's businesses over time.

Methodology

- Scotland's Digital Economy Maturity Index (DEMI) has been constructed using a range of indicators from the Digital Economy Business Survey 2021 (DEBS).
- The DEMI indicators developed in 2014, and updated in 2017, have since been updated to again 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). This change in indicators means findings are not directly comparable with those of 2017.
- The 2021 index consists of six main strands (Adoption, Usage, Benefits, Cyber Resilience, Skills and Productivity)
- Each indicator has been given a score based on its relative importance in terms of digital maturity.
- A maximum score of 100 can be achieved.

DEMI indicators

The DEMI model is made up of the following six indicators, and fifteen sub-indicators:

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

Based on their score (out of the maximum of 100) 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

Key findings

02

Summary of key findings (1)

Overall profile of DEMI

Businesses exhibited a wide range of digital maturity. Overall, most businesses lay within the lower end of the maturity index, with 72% in the bottom half of the scale and 28% in the top half.

The largest segments were *Basic* and *Intermediate* levels of maturity. Only a small minority were at the very lowest end of the scale (*Minimal*), or the highest (*Advanced* or *Expert*).

Findings were broadly in line with those from 2017, though there was a small increase in maturity overall. However, changes in the indicators used mean findings are not directly comparable with 2017.

Variation by key characteristics

Businesses differed in terms of their size, sector, location, length of operation and future growth aspirations.

Broadly speaking, those that tended to be **more digitally mature** were:

- larger (with 10-19 or 20+ staff)
- in the business activities sector (which covers finance, administration and professional services)
- located in central belt areas of Glasgow, Lothians and Central Scotland
- operating for less than 10 years, and
- selling to international markets

The **less digitally mature**, on the other hand, tended to be:

- micro businesses (with 1-4 staff)
- in the agriculture, construction or transport/communications sectors
- in South Scotland, and
- selling only to domestic markets.

These variations suggest that different approaches may be needed for different sectors, locations and sizes of business, reflecting the key opportunities for the maturity segment they fall into (see overleaf).

Summary of key findings (2)

Key opportunities by segment

For the least digitally mature, 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. Findings suggest that the least mature segments may also benefit from support in the following areas (if relevant to their business):

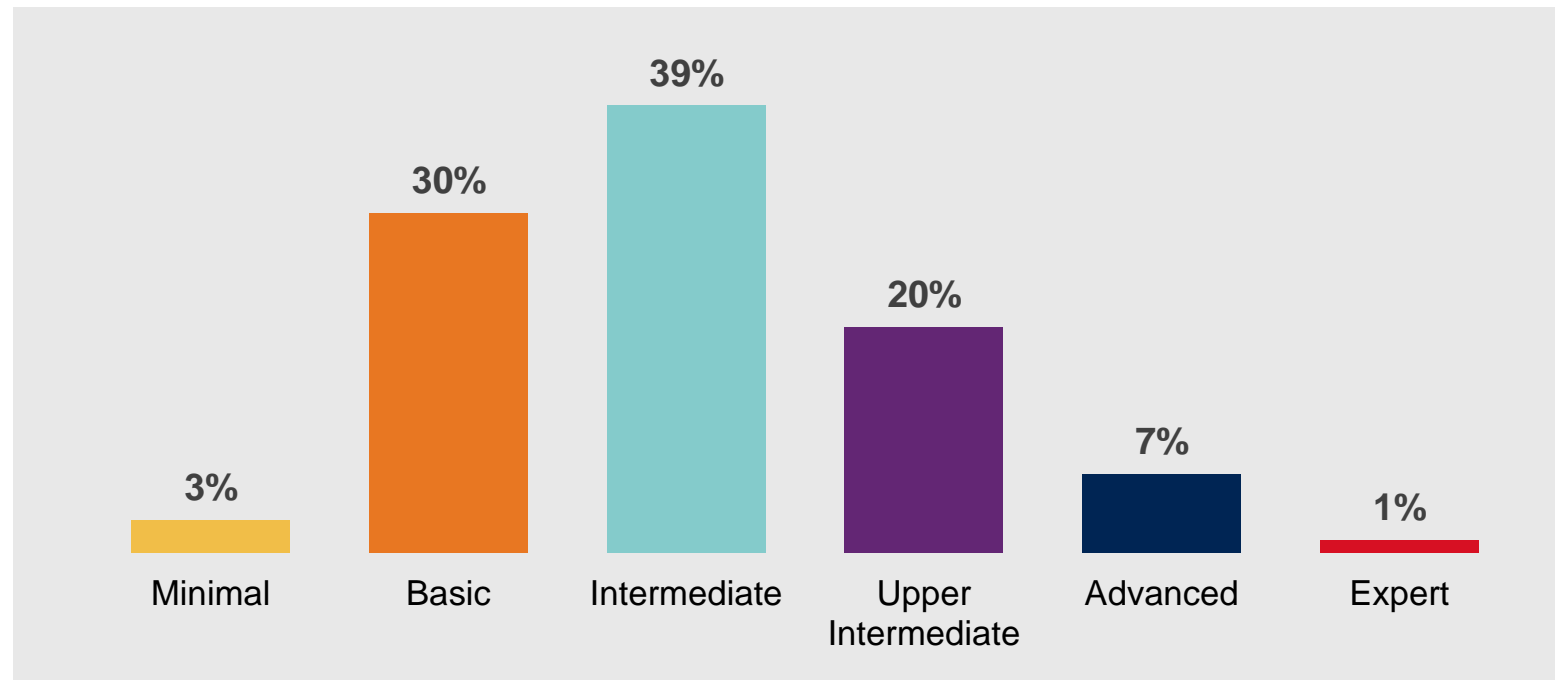
- using e-commerce
- targeting and selling to international markets, and
- investing in their digital technology.

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

In addition, through 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.

Proportion in each maturity segment

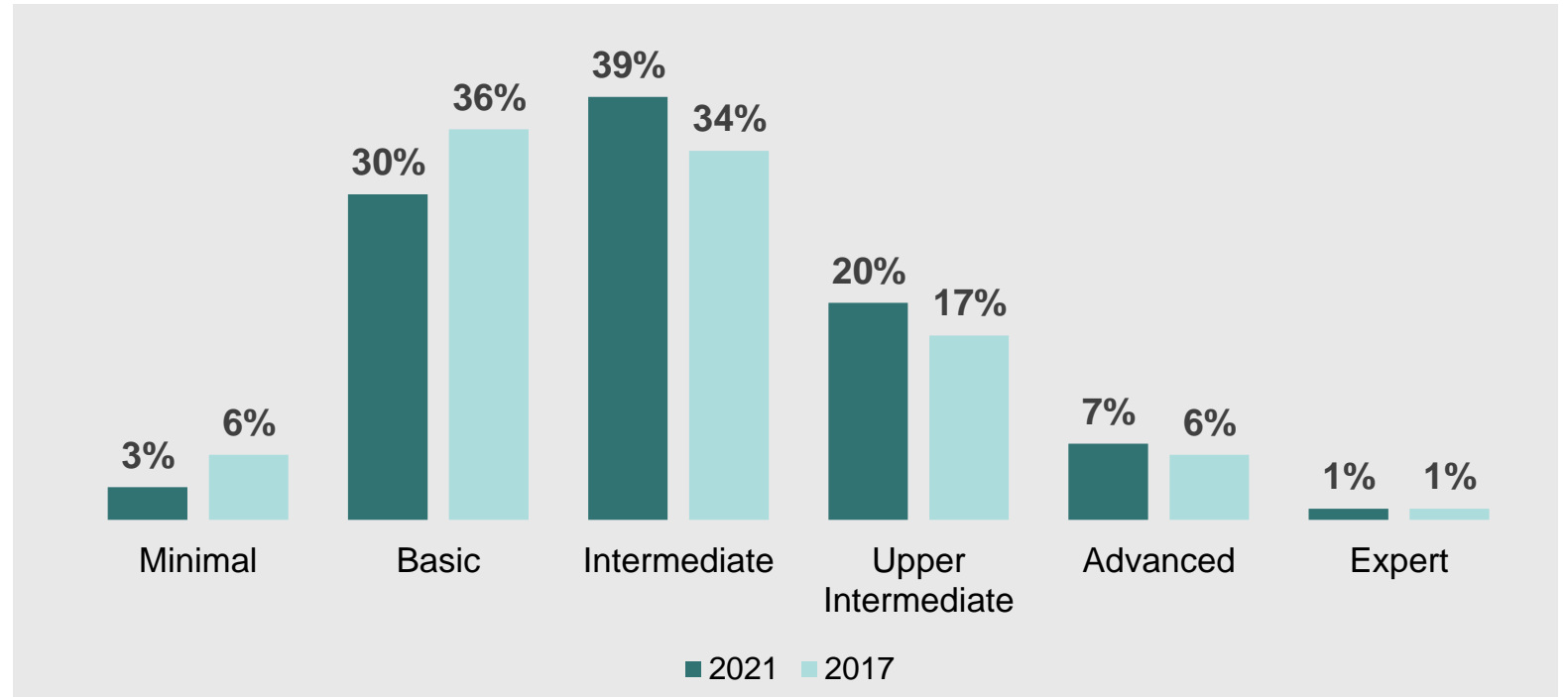
- The majority of businesses (72%) fall within the lower half of the index. The largest proportions have either *Basic* (30%) or *Intermediate* (39%) maturity levels.
- Only 3% are classed as *Minimal*, while 7% are *Advanced* and 1% *Expert*.
- The mean score overall was 40, out of a maximum of 100.



Base: All businesses interviewed 22nd Feb 23rd April 2021 (3,346)

Maturity segments 2014 - 2017

- Findings are broadly in line with those from 2017. However, there was a small increase in maturity overall, with the mean score increasing from 36 to 40.
- The most notable changes were in the *Basic* and *Intermediate* categories: those classed as *Basic* decreased from 36% to 30%, while classed as *Intermediate* increased from 34% to 39%.



Base: All businesses in 2021 (3,346) and 2017 (3,258)

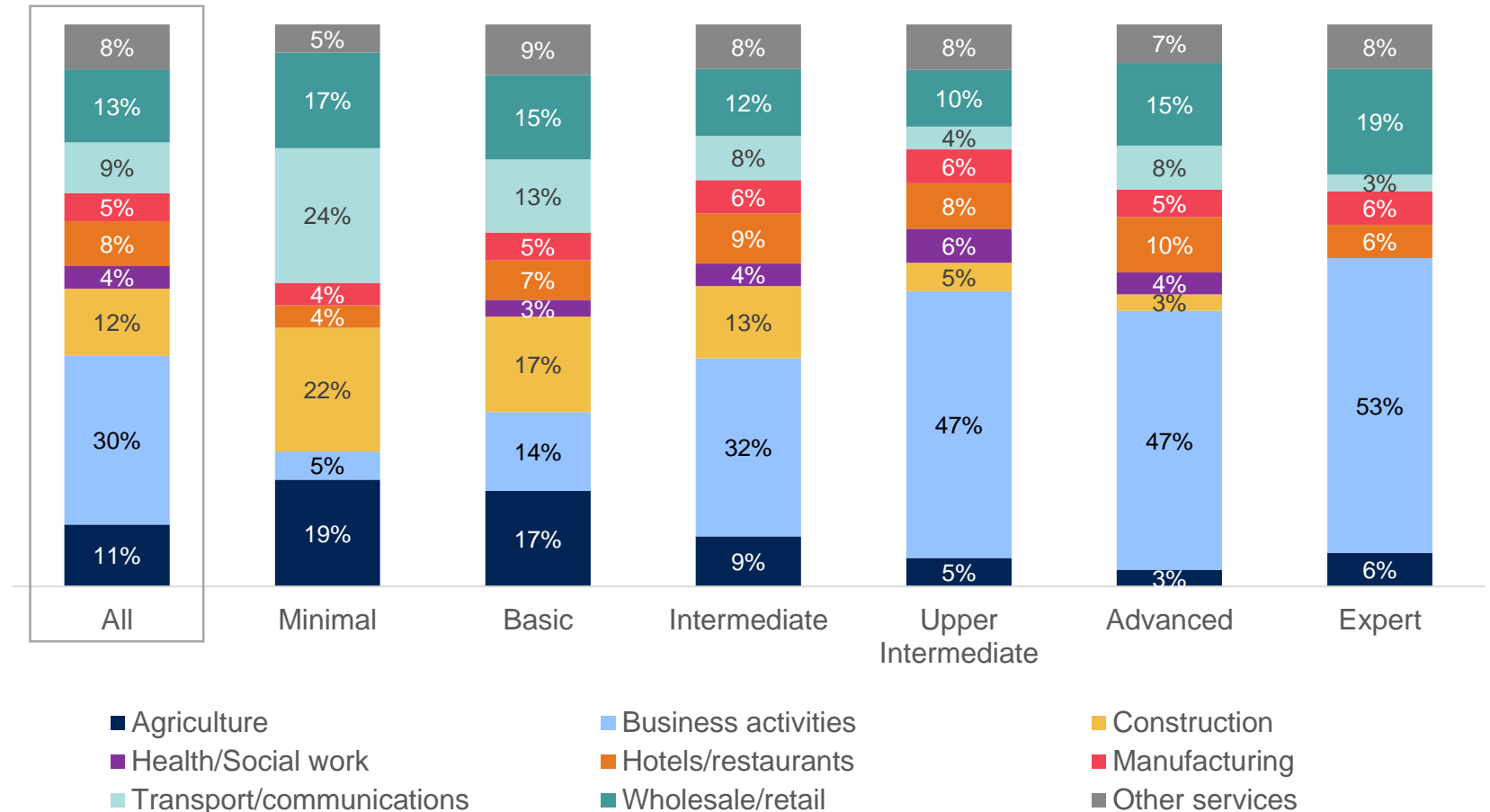
Note: Changes to the indicators used in 2017 and 2021 mean that results are not directly comparable. Any differences between the two years reported here should therefore be viewed as indicative only, rather than statistically significant. The names of the six maturity segments also changed between 2017 and 2021 (though the scores assigned to each label were the same).

Maturity segments by sector

Overall, the less digitally mature sectors were agriculture, construction and transport/communications – these sectors were over-represented in the *Minimal* or *Basic* segments.

The most digitally mature sector was business activities (covering finance, administration and professional services). The *Upper Intermediate* and *Advanced* segments had higher than average proportions of businesses from this sector.

Sector profile of each DEMI segment



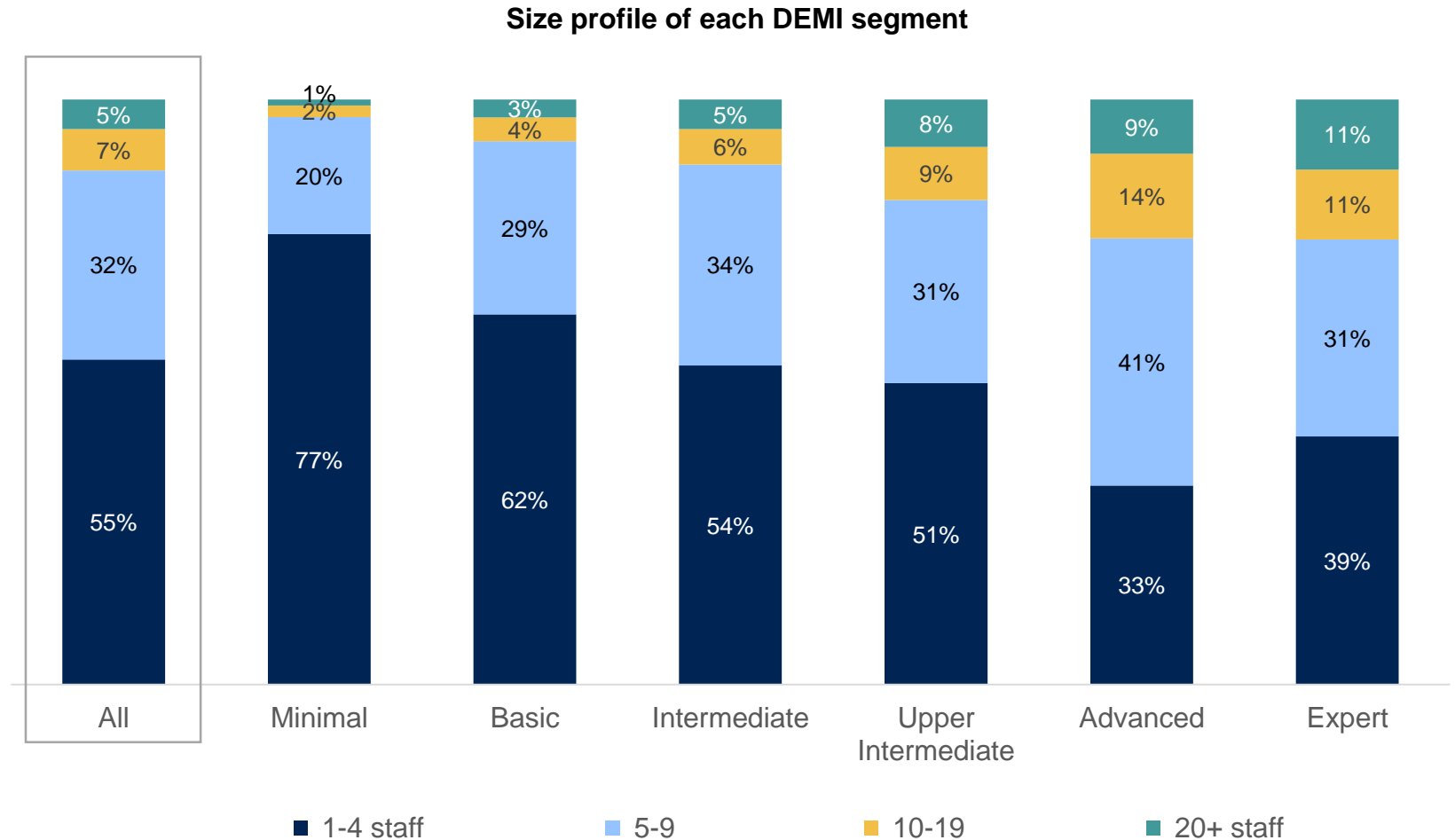
Note: due to the small number of businesses in the Expert segment (36), apparent differences between their findings and the average are often not statistically significant and have therefore not been commented on in the remainder of this section.

Base: All businesses (3,346)

Maturity segments by size

Smaller businesses tended to be less digitally mature, while larger business tended to be more mature.

Those with 1-4 staff were over-represented in the *Minimal* and *Basic* segments. The *Advanced* segment had higher than average proportions of businesses with 10-19 and 20+ staff.



Note: due to the small number of businesses in the Expert segment (36), apparent differences between their findings and the average are often not statistically significant and have therefore not been commented on in the remainder of this section.

Base: All businesses (3,346)

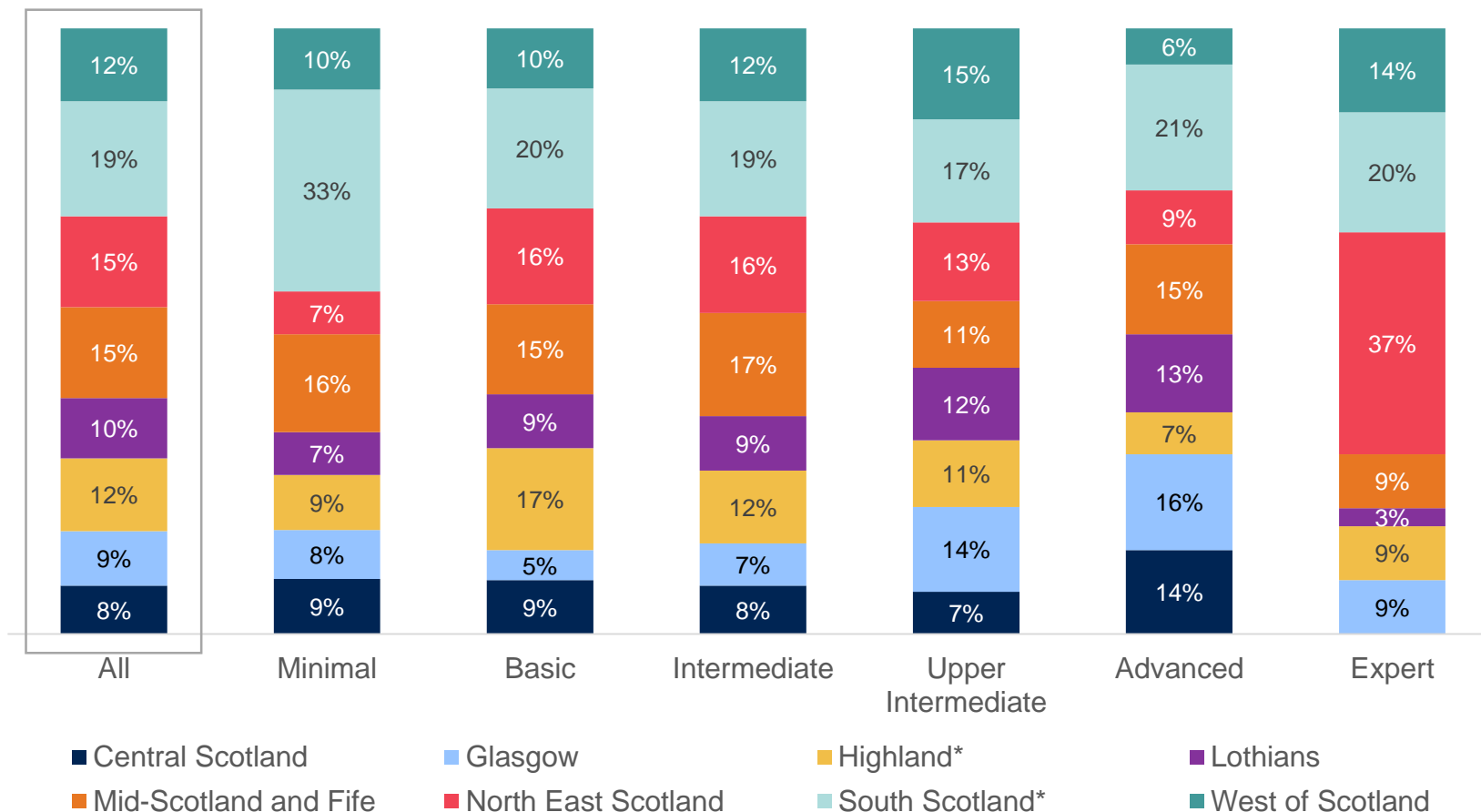
Maturity segments by location

Businesses in South Scotland were more likely than average to fall within the least mature segment (*Minimal*).

More digitally mature businesses were concentrated in the central belt area:

- Those in Glasgow tended to fall within the higher end of the index: they were more likely than average to be in the *Upper Intermediate* and *Advanced* segments.
- Lothians and Central Scotland were also over-represented in the *Advanced* segment.

Location profile of each DEMI segment



Note 1: due to the small number of businesses in the Expert segment (36), apparent differences between their findings and the average are often not statistically significant and have therefore not been commented on in the remainder of this section.

Note 2: *South Scotland* refers to one of the eight Scottish Parliamentary regions. This is a larger area than that covered by the South of Scotland Enterprise, which covers only the Dumfries and Galloway and Scottish Borders local authority areas. For this report, *Highland* corresponds with the area covered by the Highlands and Islands Enterprise.

Base: All businesses (3,346)

Maturity segments by rural and urban area

Businesses in more rural areas tended to be less digitally nature, while those in urban areas tended to be more mature.

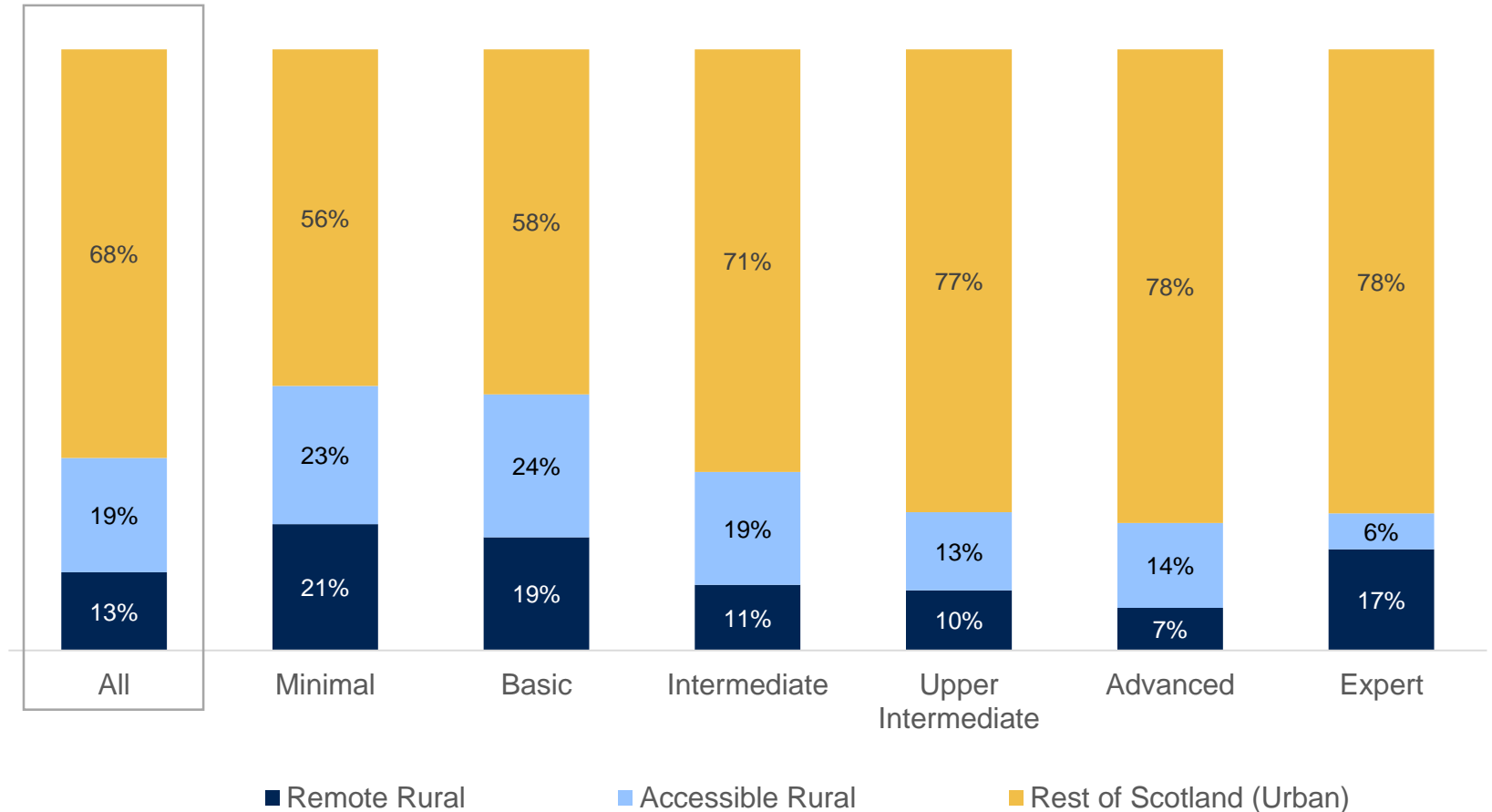
Those in the *Minimal* and *Basic* segments had a higher than average proportion of businesses in both remote rural and accessible rural locations.

Those in the *Upper Intermediate* and *Advanced* segments had a higher than average proportion of businesses in urban areas.

Note 1: due to the small number of businesses in the Expert segment (36), apparent differences between their findings and the average are often not statistically significant and have therefore not been commented on in the remainder of this section.

Note 2: Rural and urban areas are based on the Scottish Government's 3-fold classification: "Accessible rural" = within 30 minute drive from the centre of a settlement of 10,000 or more; "Remote rural" = greater than 30 minutes drive; "Rest of Scotland" = large or other urban, accessible or remote small towns

Rural/urban profile of each DEMI segment



Base: All businesses (3,346)

Key characteristics of each segment

Types of businesses that are over represented in each segment

	Minimal	Basic	Intermediate	Upper Intermediate	Advanced	Expert
Size	Micro (1-4 or 5-9 staff)	Micro (1-4 or 5-9 staff)	-	-	Small (10-19 staff) and Medium/Large (20+ staff)	-
Sector	Agriculture Construction Transport/ communications	Agriculture Construction	-	Business activities	Business activities	-
Location	South Scotland	-	-	Glasgow	Central Scotland Glasgow Lothians	-
Urban/rural	Remote/ accessible rural	Remote/ accessible rural		Urban	Urban	
Age	Operating 10 years or more	Operating 10 years or more	-	Less than 10 years	Less than 10 years	-
Markets of operation	Sell to domestic markets only	Sell to domestic markets only		Sell to international markets	Sell to international markets	-
Growth expectations	Expect to remain the same	Expect to remain the same		Expect growth	Expect growth	-

Note: due to the small number of businesses in the Expert segment (36), apparent differences between their findings and the average are often not statistically significant and have therefore not been included in this table

Note: Those that “sell to domestic markets only” = those that sell only to Scotland and not to the rest of UK or outside the UK. Those that “sell to international markets” = those that sell to the EU or markets outside of the UK and EU

Levels of activity in each segment

Levels of engagement with digital technology in each segment

	Minimal	Basic	Intermediate	Upper Intermediate	Advanced	Expert	All businesses
Average number of technologies used	0.6	2.5	4.5	5.9	7.0	7.7	4.3
% using e-commerce	2	17	38	53	55	75	35
% trading internationally	6	13	26	39	64	83	27
% with skills gaps	47	65	75	76	75	57	71
% increased their investment in digital technology	6	18	47	70	85	86	45
% equipped for cyber security threats	26	71	88	90	96	100	82

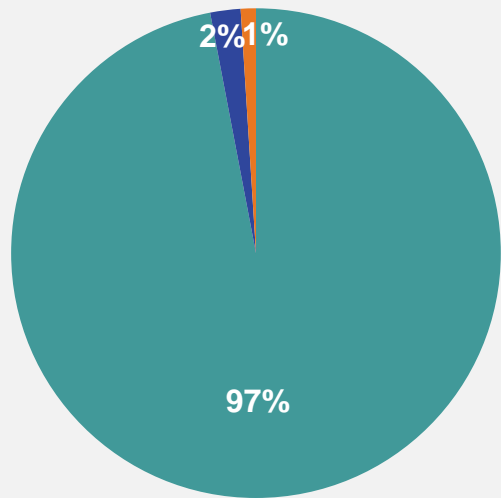
Findings by segment

Segment 1: Minimal

03

Minimal: characteristics

Size: More likely than average to be micro (97% vs 87% overall)



■ Micro ■ Small ■ Medium/Large

Sector: Higher than average proportion of business in:

Agriculture (19% vs 11%)

Construction (22% vs 12%)

Transport/Communications (24% vs 9%)

Location: Businesses in **South Scotland** were over-represented (33% vs 20%)

More likely than average to

- be the only establishment in the organisation (99% vs 90% overall)
- have operated more than 10 years (92% vs 78%)
- be a family owned business (85% vs 71%)
- expect to continue operating at the same level over the next 12 months (65% vs 38%)

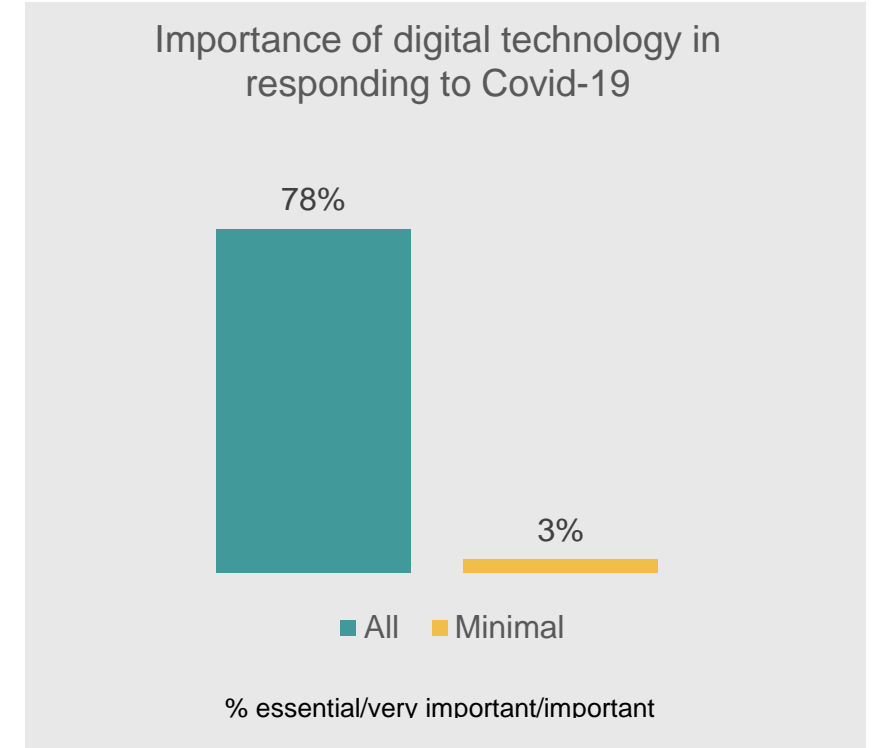
Note: *South Scotland* refers to one of the eight Scottish Parliamentary regions. This is a larger area than that covered by the South of Scotland Enterprise, which covers only the Dumfries and Galloway and Scottish Borders local authority areas

Minimal: adoption of technologies

- Businesses with Minimal maturity had lower than average levels of internet connection (57% vs 89% overall).
- Of those without internet, most (73%) were unlikely to get it in the future. The main reason given was a lack of business need (94%)
- They were less likely than average to say digital technology was important to their business response to Covid-19.

57%
had internet connection

73%
of those without internet connection were unlikely to get one



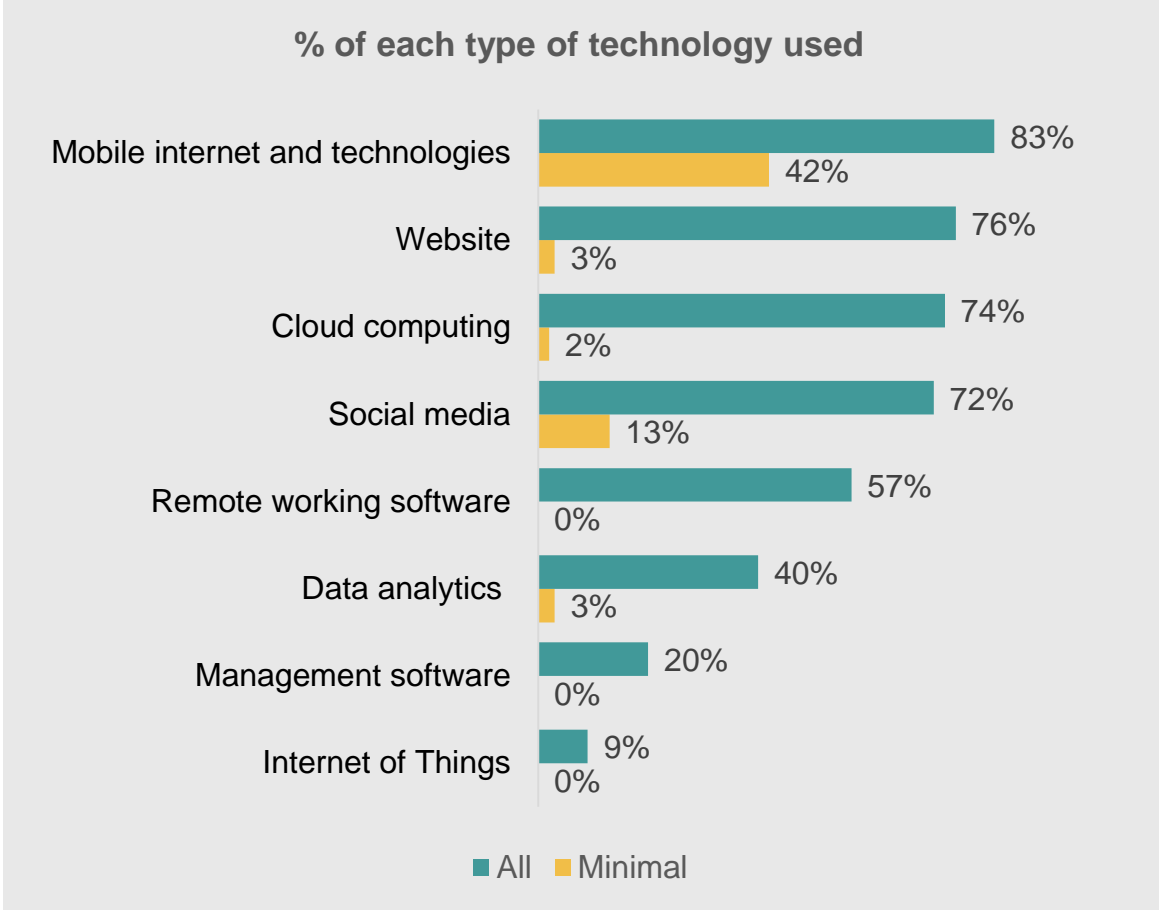
Minimal: usage

- Overall use of digital technologies was low – an average of 0.6 technologies were used by businesses in this segment (of a maximum of 8).
- Of those that used technologies, mobile were the most common, among 42% (compared with 83% of all businesses). None used remote working software, management software or the Internet of Things.
- None had a plan or strategy in place for use of digital technology (vs 22% overall).

Average number of technologies used =

0.6

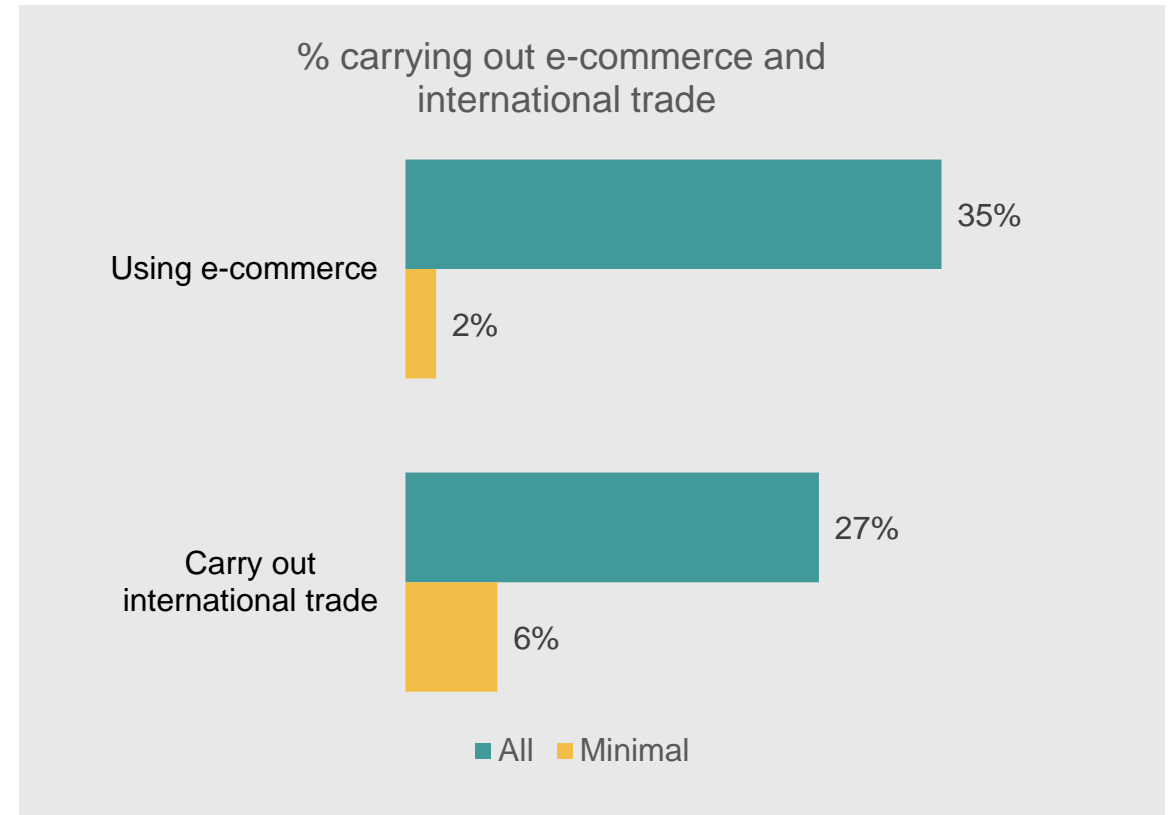
vs 4.3 overall



Minimal: benefits

- The Minimal segment were less likely than average to have experienced benefits from any digital technologies (44% vs 96% overall).
- They were less likely than average to carry out e-commerce (2% vs 35% overall) and to trade internationally (6% vs 27%).

44%
experienced benefits from
digital technology

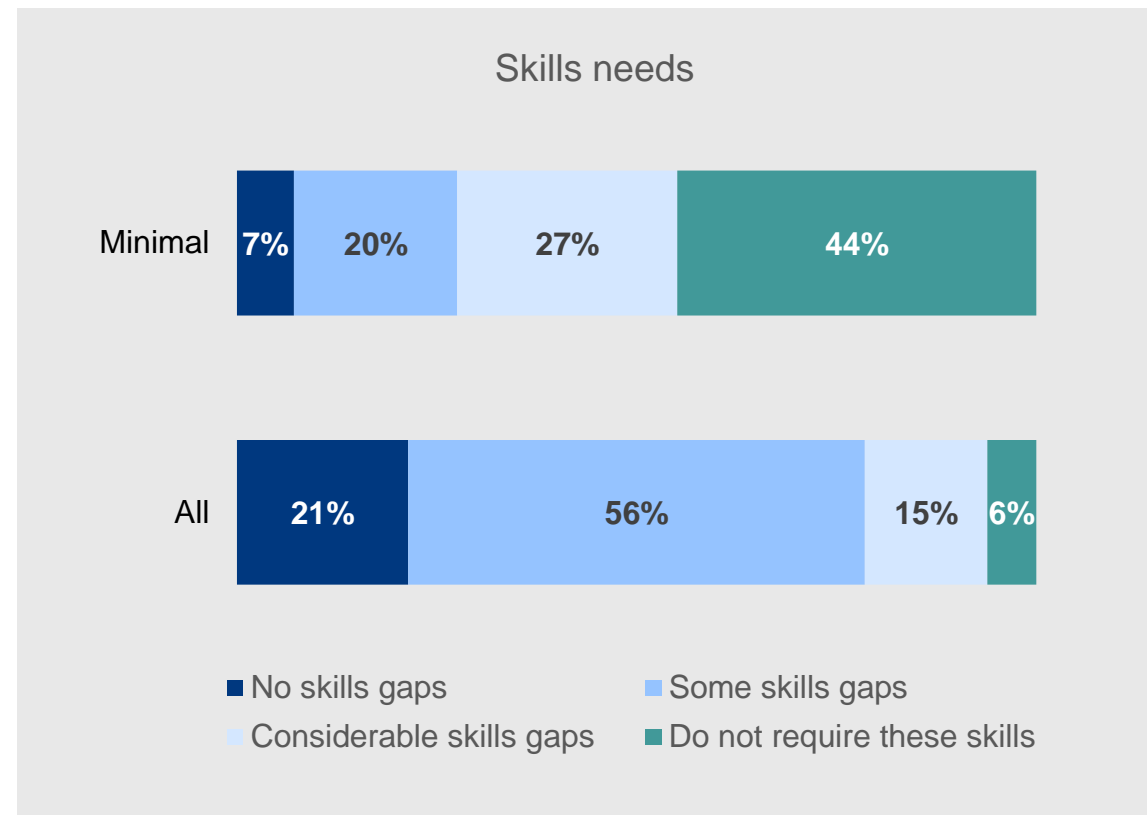


Minimal: skills

- Half of businesses in this segment (47%) had 'considerable' or 'some' skills gaps (vs 71% overall). However, 44% felt they did not require digital skills (vs 6% overall).
- They were less likely than average to be taking action, or planning to take action, to improve skills gaps (88% not taking/planning actions, vs 46% overall)

47%
had skills gaps

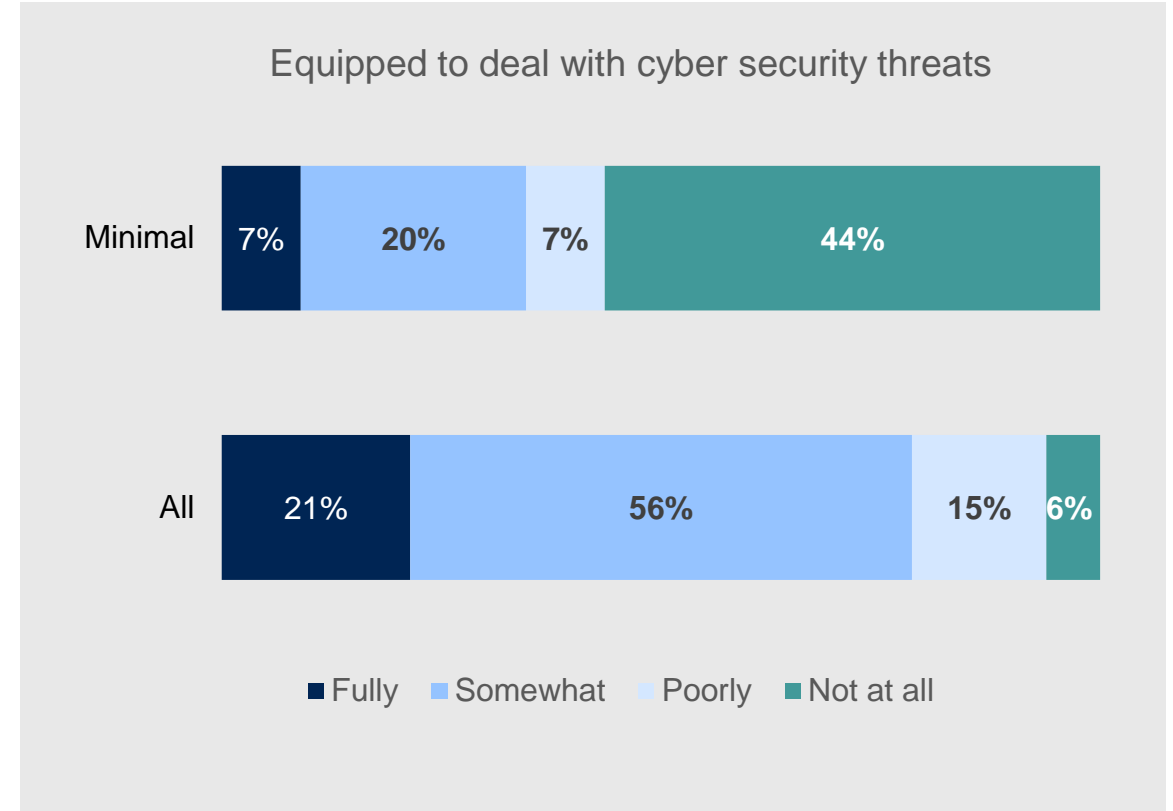
88%
not taking or planning
action to improve skills



Minimal: cyber security

- The Minimal segment were less equipped to deal with cyber security threats than businesses were overall - 44% felt they were not at all prepared for cyber security threats (vs 6% overall)
- They were less likely to have, or plan to obtain, cyber security accreditation such as Cyber Essentials (none have, compared with 15% overall)

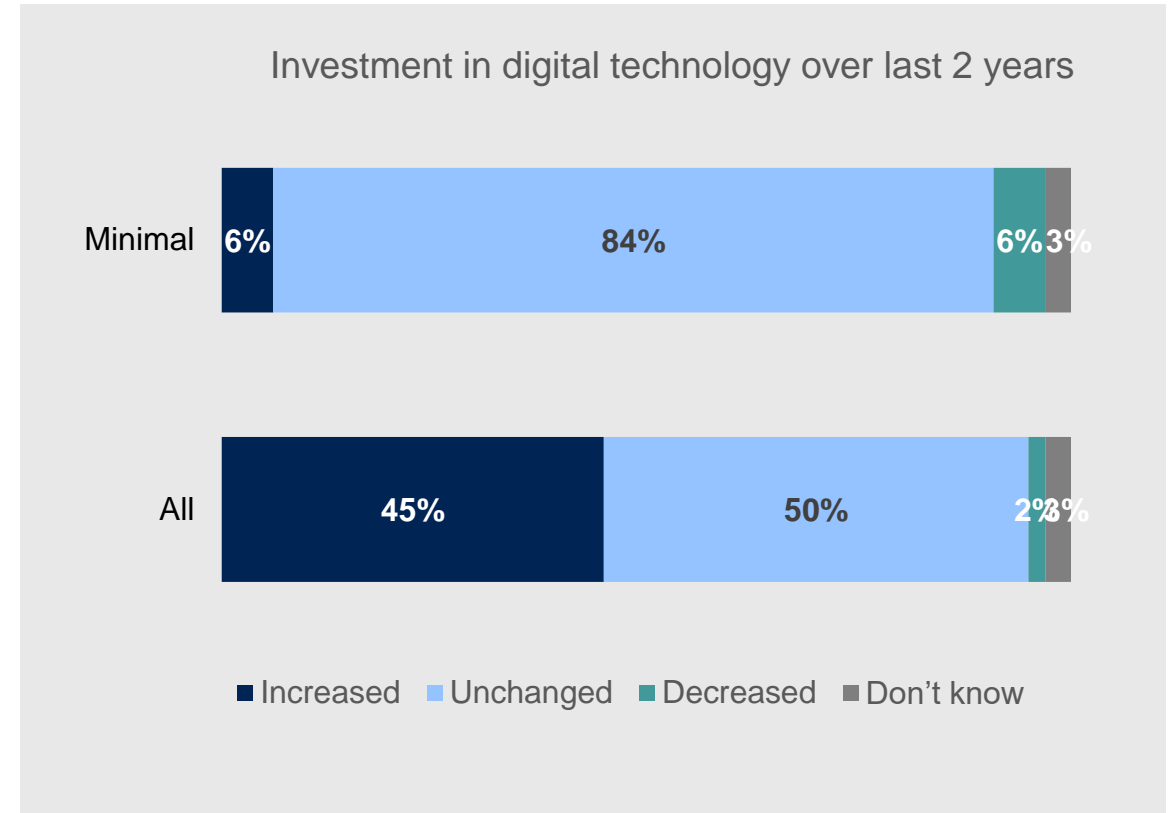
0%
had/planned to get cyber security accreditation



Minimal: productivity

- Most (84%) had not changed their investment in digital technologies over the last 2 years (vs 50% overall), while just 6% had increased their investment (vs 45% overall)
- Just 3% felt digital technology had impacted on their productivity in the last 12 months (vs 70% overall).

3%
felt digital technology had
impacted on their
productivity



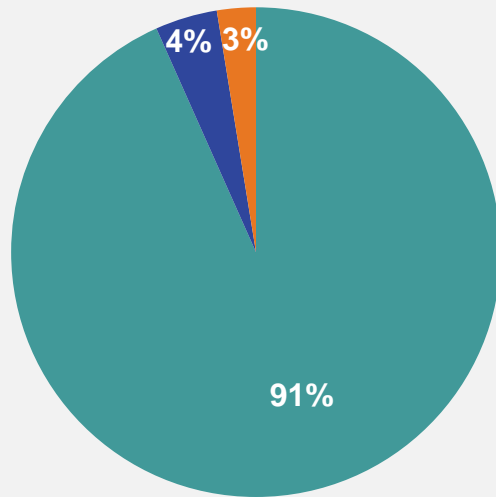
Findings by segment

Segment 2: Basic

04

Basic: characteristics

Size: More likely than average to be micro (91% vs 87% overall)



■ Micro ■ Small ■ Medium/Large

Sector: Higher than average proportion of business in:

Agriculture
(17% vs 11%)

Construction
(17% vs 12%)

More likely than average to

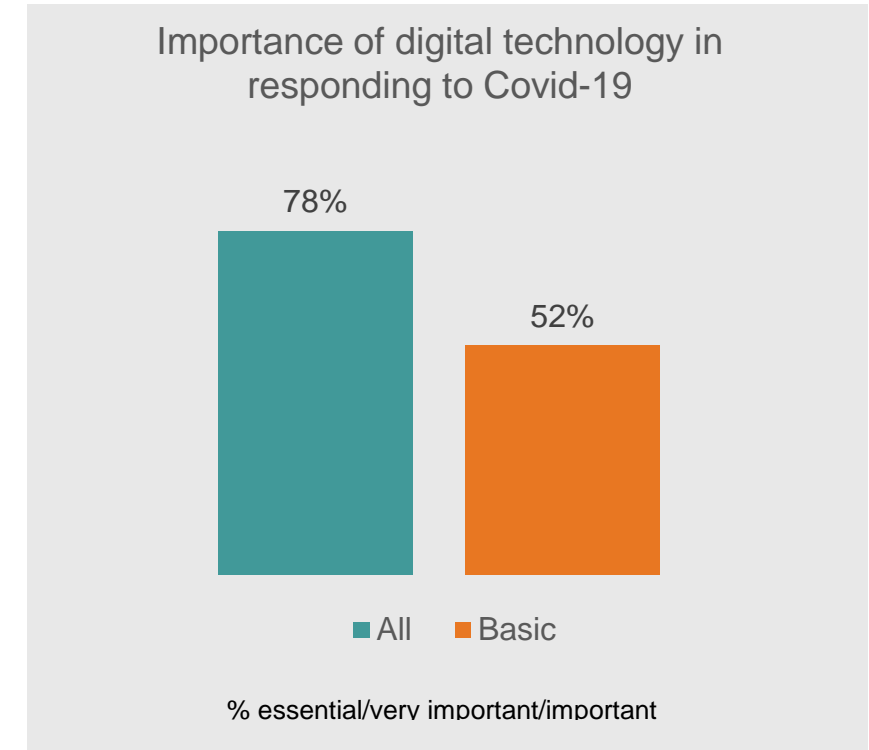
- have operated more than 10 years (85% vs 78%)
- be a family owned business (83% vs 71%)
- expect to continue operating at the same level over the next 12 months (51% vs 38%)

Basic: adoption of technologies

- Businesses with Basic maturity had average levels of internet connection, but lower connection speeds: 95% had internet (vs 97% overall), and 49% had a superfast connection (vs 63% overall).
- They were less likely than average to say digital technology was important to their business response to Covid-19.

95%
had an internet connection

49%
had a superfast connection



Note: For the purposes of this report, superfast broadband is defined as broadband with a speed of at least 30 Mbit/s. The %s shown exclude those businesses saying they did not know the speed of their connection.

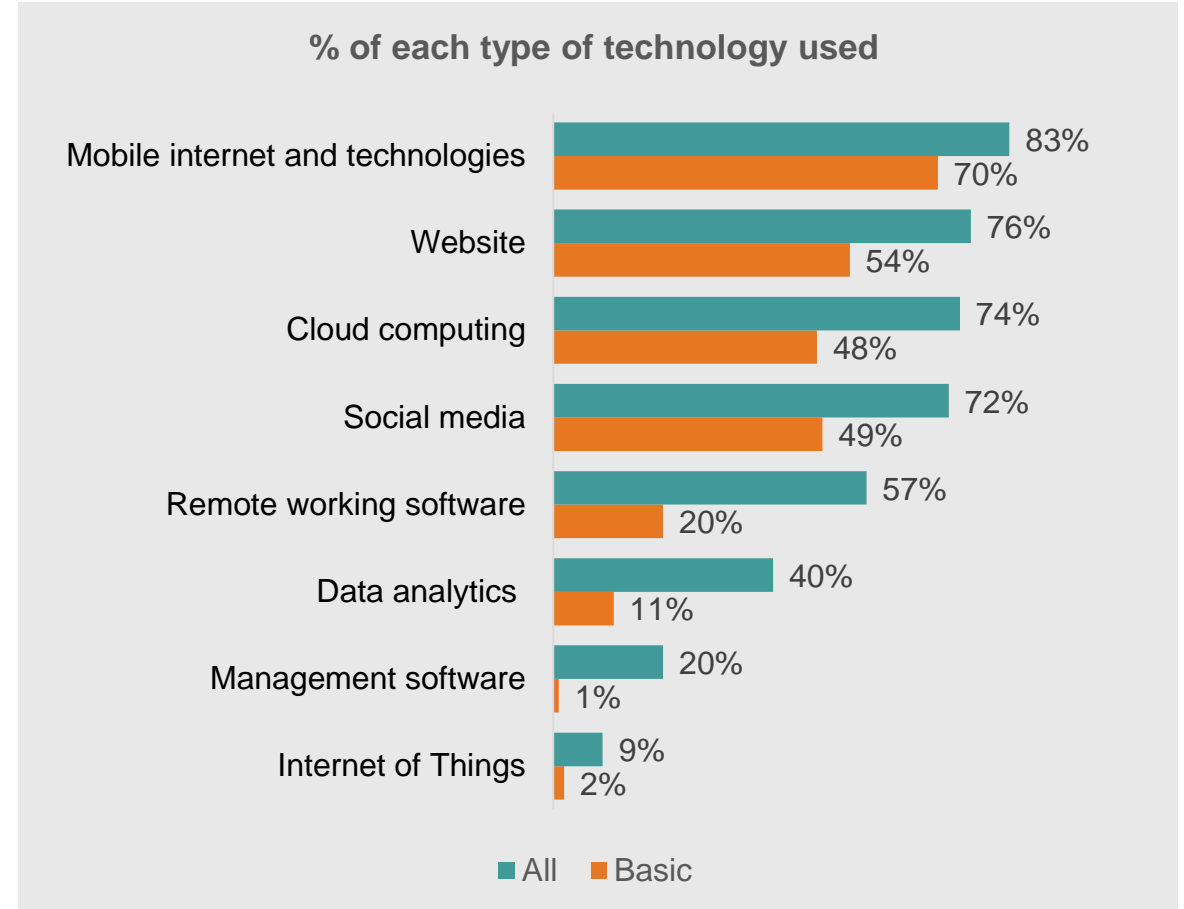
Basic: usage

- An average of 2.5 technologies were used by businesses in this segment (of a maximum of 8).
- The most commonly used technologies were mobile, websites, social media and cloud computing, but at lower than average levels.
- 3% had a plan or strategy in place for use of digital technology (vs 22% overall).

Average number of technologies used =

2.5

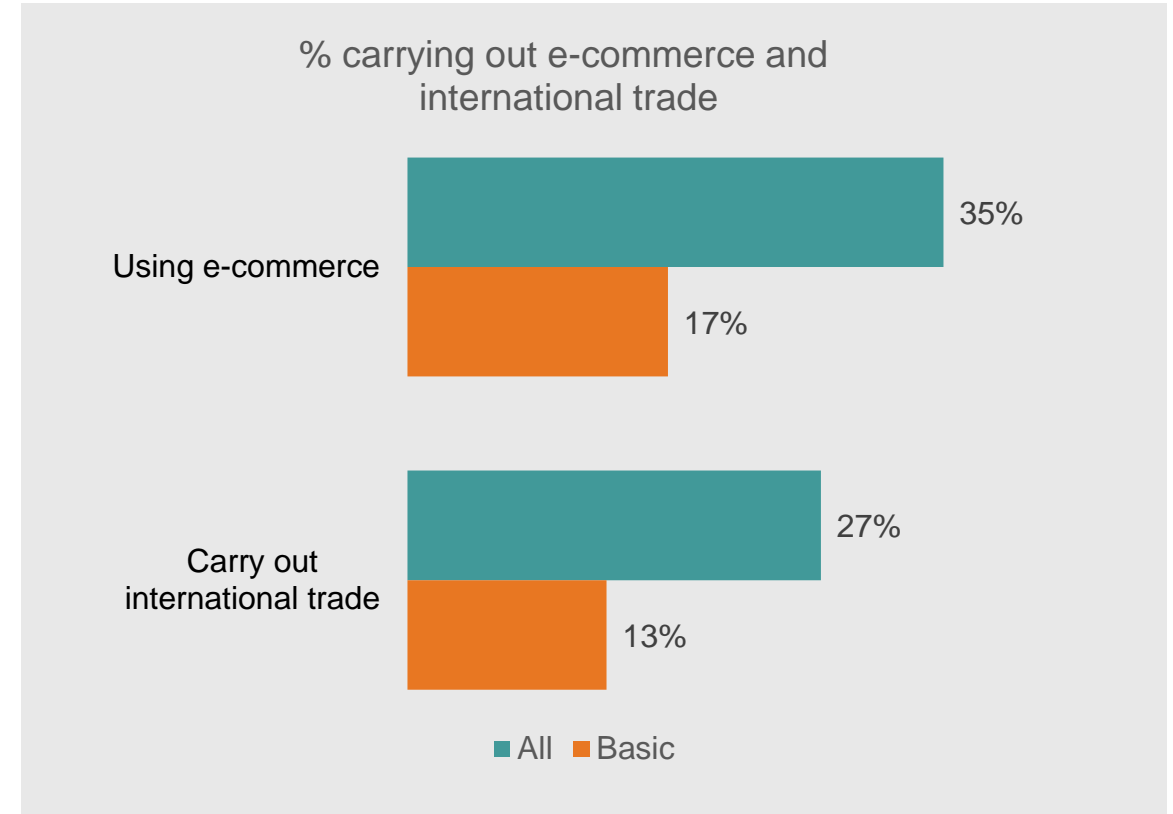
vs 4.3 overall



Basic: benefits

- The majority (92%) had experienced benefits from using digital technologies (vs 96% overall).
- They were less likely than average to carry out e-commerce (17% vs 35% overall) and to trade internationally (13% vs 27%).

92%
experienced benefits from
digital technology

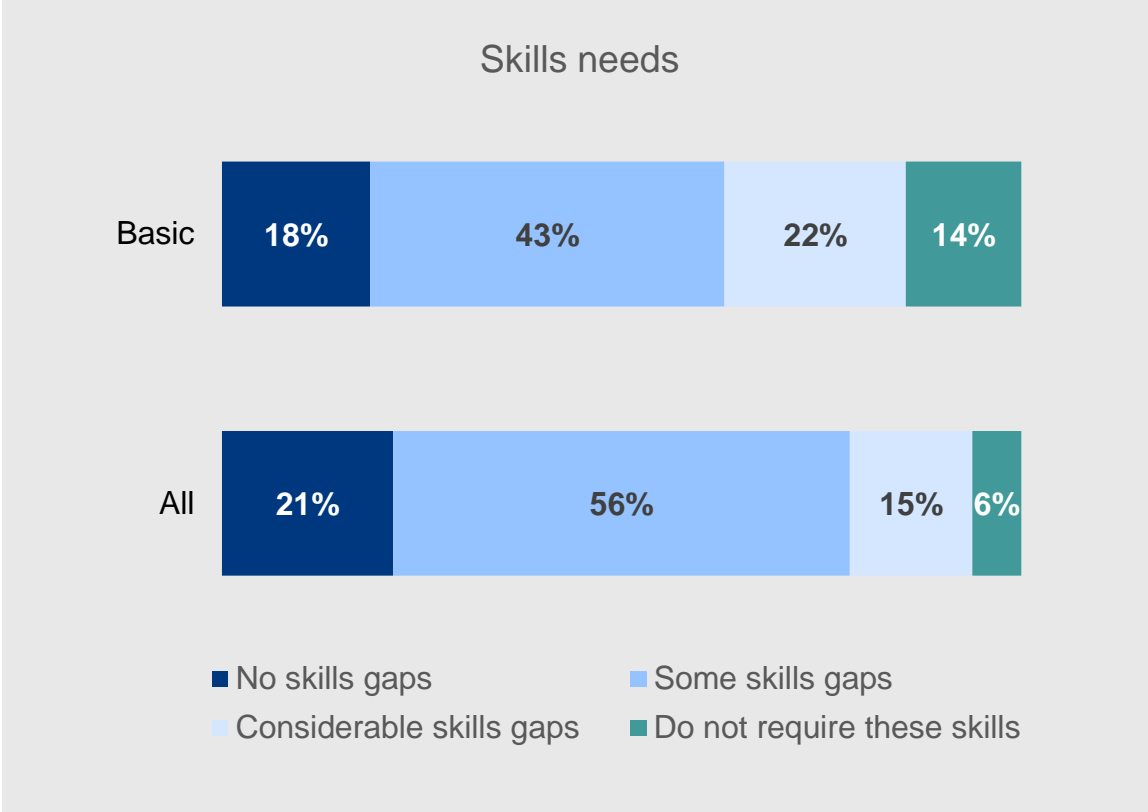


Basic: skills

- Around two thirds in this segment (65%) had ‘considerable’ or ‘some’ skills gaps (vs 71% overall). However, 14% felt they did not require digital skills (vs 6% overall).
- They were less likely than average to be taking action, or planning to take action, to improve skills gaps (74% not taking/planning actions, vs 46% overall)

65%
had skills gaps

74%
not taking or planning
action to improve skills



Basic: cyber security

- 72% felt they were equipped to deal with cyber security threats, in line with the average (77%).
- They were less likely to have, or plan to obtain, cyber security accreditation such as Cyber Essentials (5% had, compared with 15% overall)

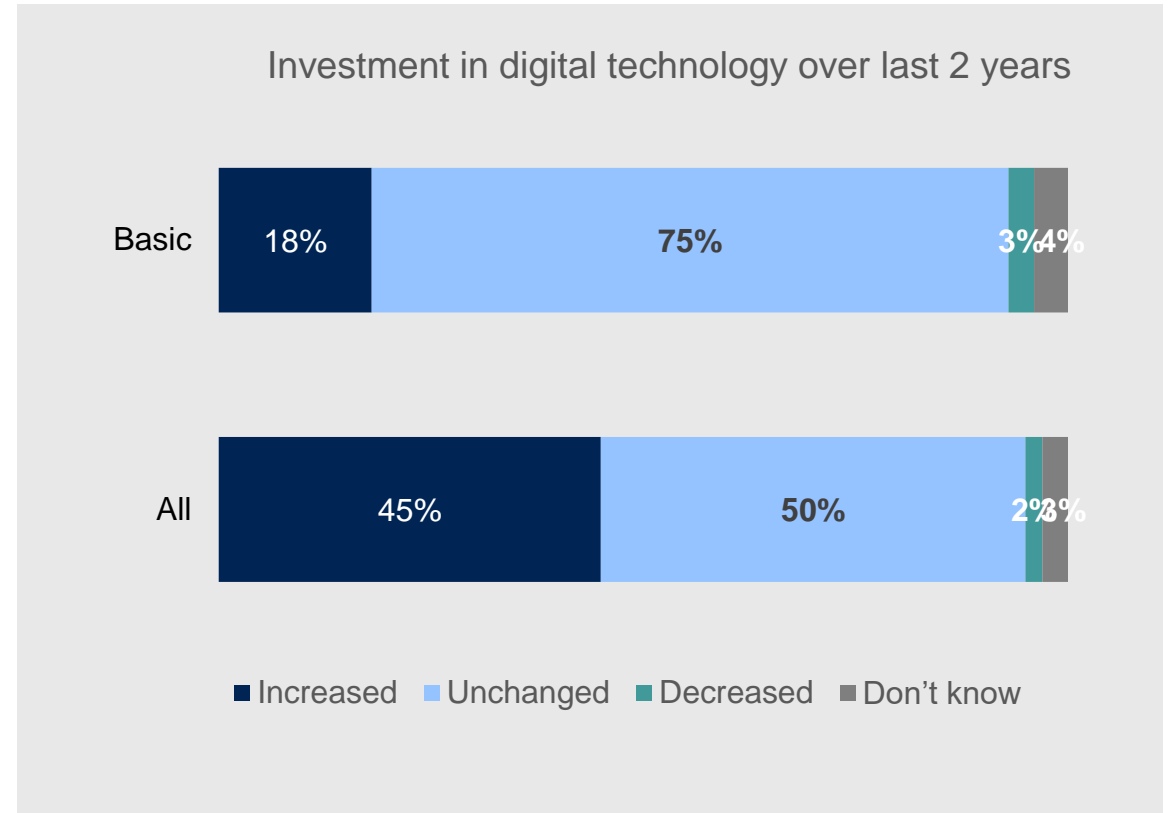
5%
had/planned to get cyber security accreditation



Basic: productivity

- Three quarters (75%) had not changed their investment in digital technologies over the last 2 years (vs 50% overall), while 18% had increased their investment (vs 45% overall)
- 41% felt digital technology had impacted on their productivity in the last 12 months (vs 70% overall).

41%
felt digital technology had
impacted on their
productivity



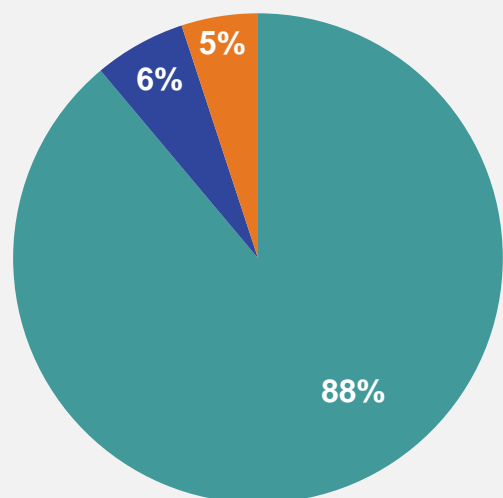
Findings by segment

05

Segment 3: Intermediate

Intermediate: characteristics

Size profile is line with that of all businesses surveyed (e.g. 88% were micro vs 87% overall)



■ Micro ■ Small ■ Medium/Large

Sector profile and **location** of those in the Intermediate sector was also in line with profile of all businesses in surveyed (i.e. no sector or location was over-represented in this segment).

They were in line with average in terms of:

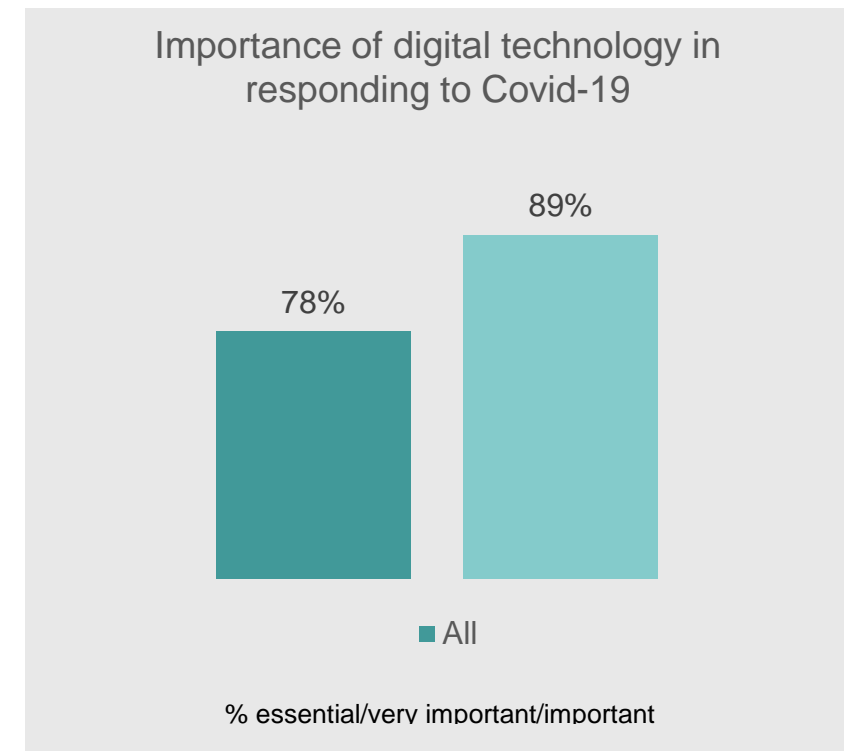
- being the only establishment in the organisation (91% vs 90% overall)
- length of operation – 78% had operated for 10+ years (vs 78% overall), 21% for less than 10 years (vs 21% overall)
- expecting growth (51% vs 49% overall), remaining the same (36% vs 38%) and downsizing (9% vs 9% overall) in the next 12 months

Intermediate: adoption of technologies

- All businesses with Intermediate maturity had an internet connection, while 60% had a superfast connection (vs 63% overall).
- They were more likely than average to say digital technology was important to their business response to Covid-19.

100%
had an internet connection

60%
had a superfast connection



Note: For the purposes of this report, superfast broadband is defined as broadband with a speed of at least 30 Mbit/s. The %s shown exclude those businesses saying they did not know the speed of their connection.

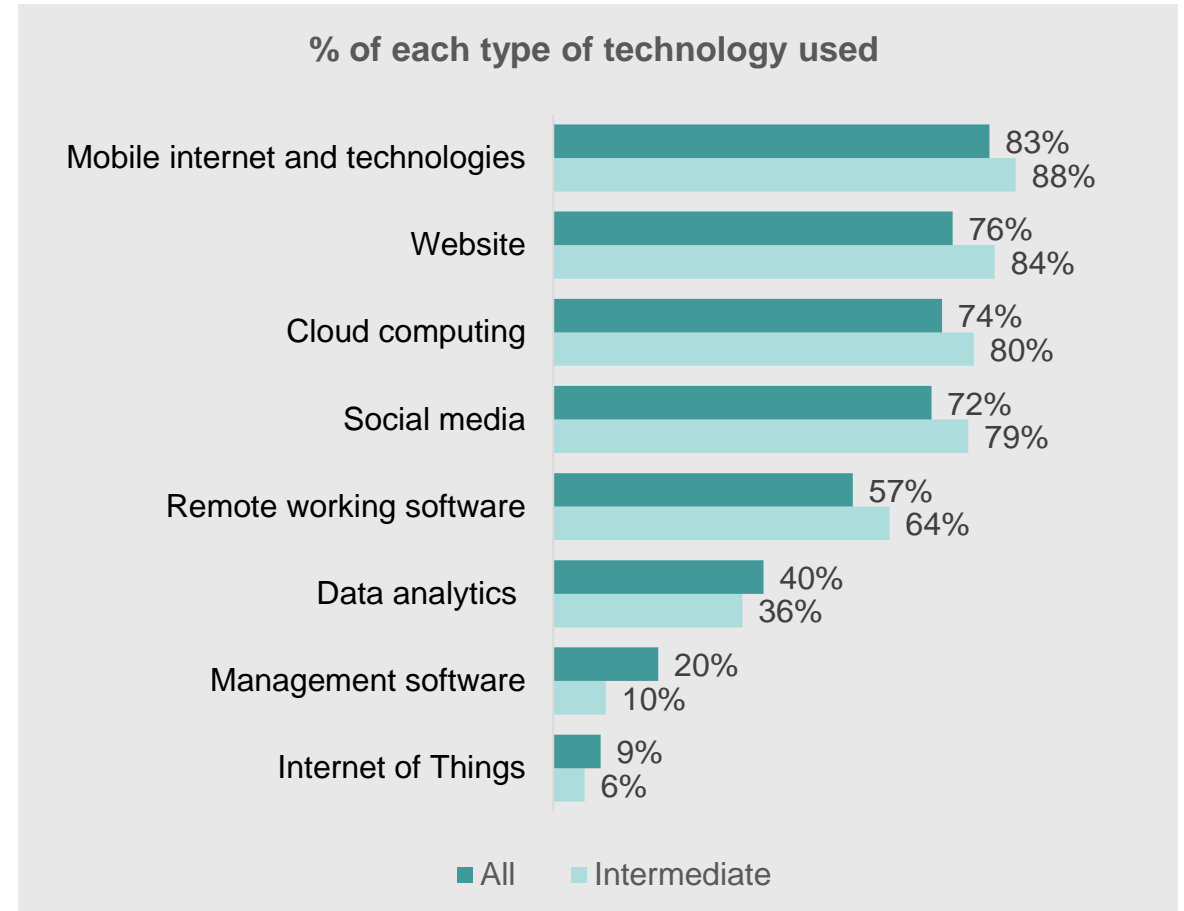
Intermediate: usage

- An average of 4.5 technologies were used by businesses in this segment (of a maximum of 8).
- The most commonly used technologies were mobile, websites, cloud computing and social media. Use of each technology was at a similar level of the overall average.
- 17% had a plan or strategy in place for use of digital technology (vs 22% overall).

Average number of technologies used =

4.5

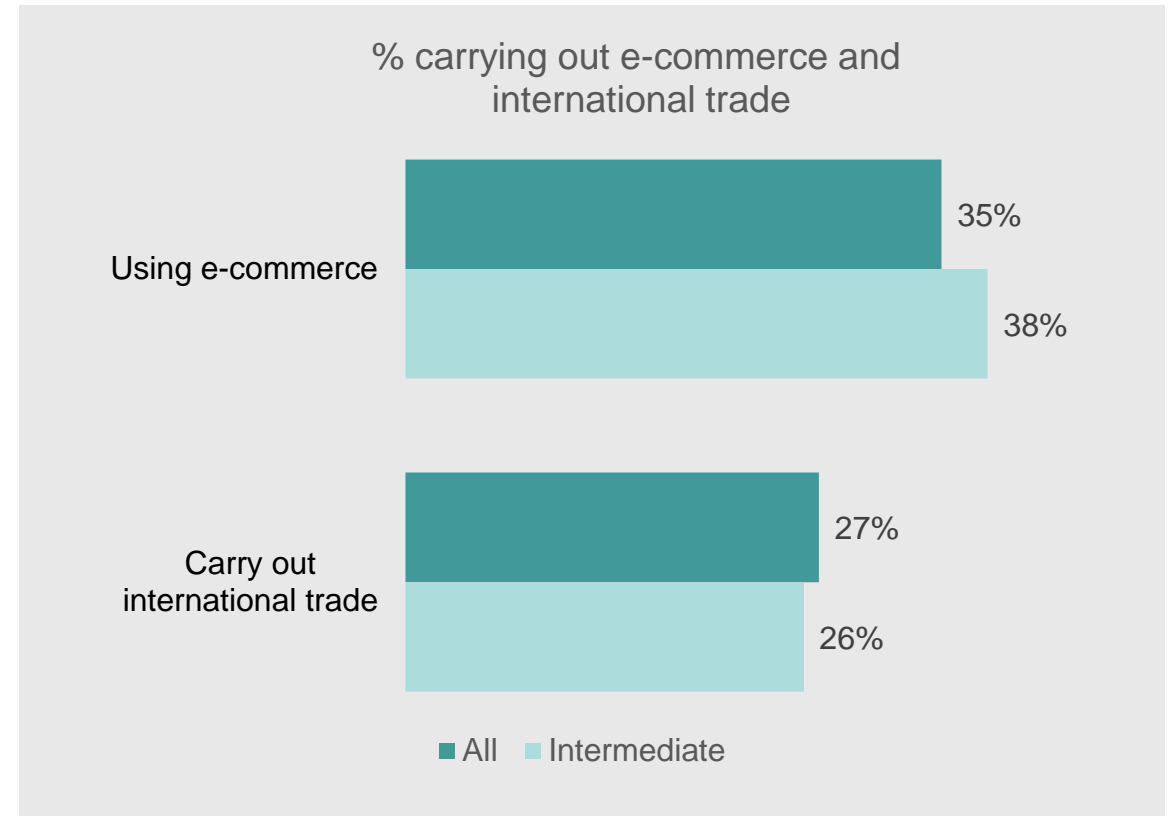
vs 4.3 overall



Intermediate: benefits

- All in the Intermediate segment had experienced benefits from using digital technologies (vs 96% overall).
- They were in line with the average in terms of carrying out e-commerce (38% vs 35% overall) and trading internationally (26% vs 27%).

100%
experienced benefits from
digital technology

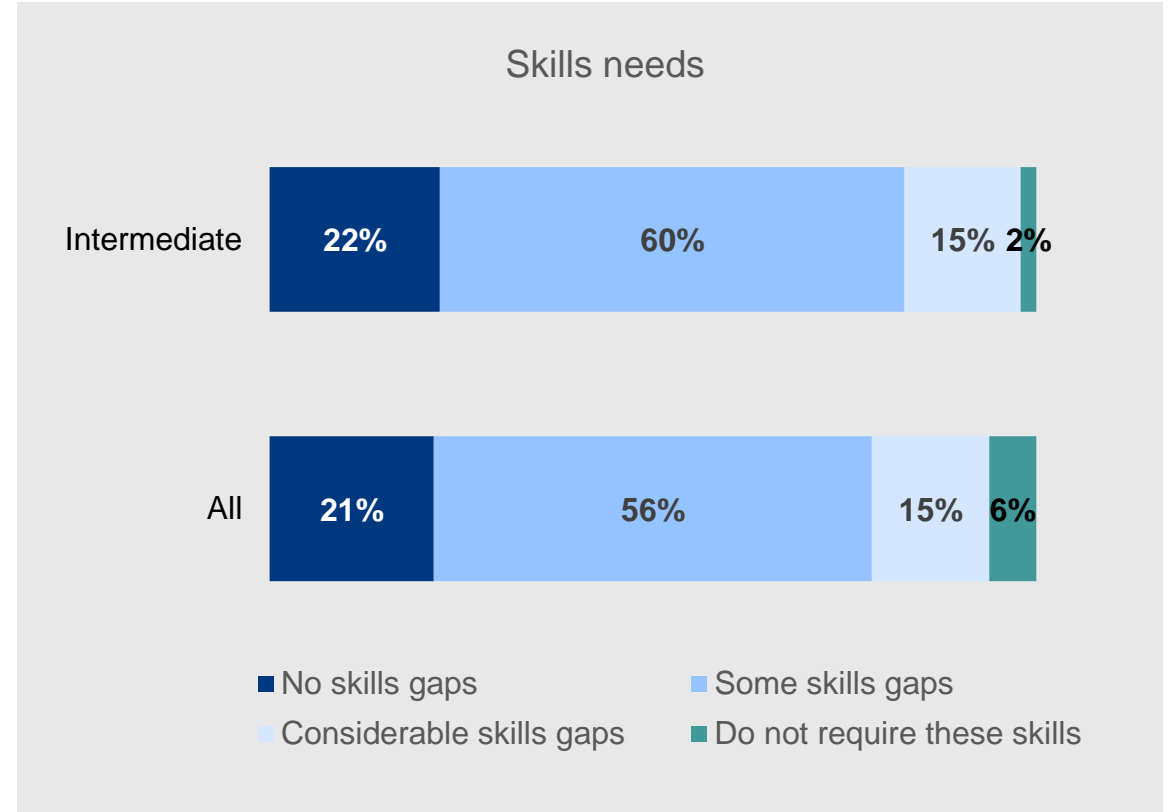


Intermediate: skills

- Three quarters in this segment (75%) had 'considerable' or 'some' skills gaps (higher than the 71% overall).
- Just over half (54%) were taking action, or planning to take action, to improve skills gaps (in line with 51% overall).

75%
had skills gaps

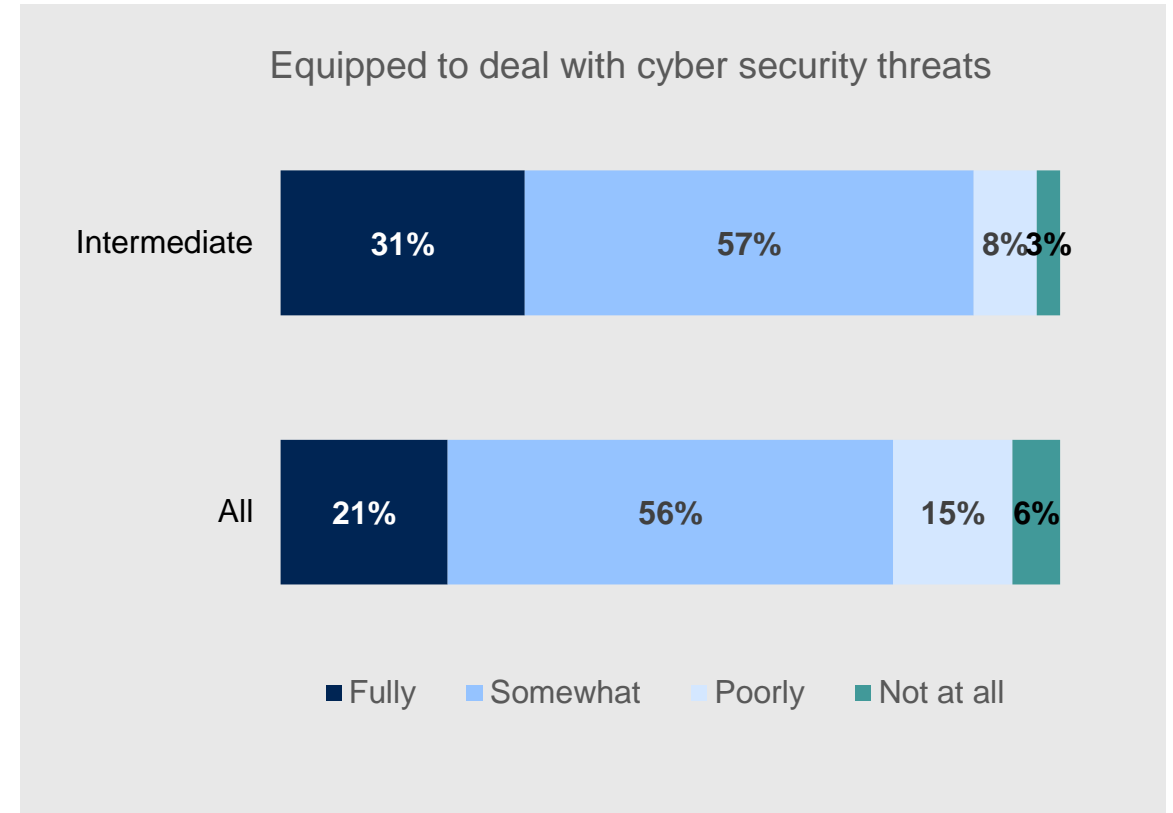
54%
were taking or planning
action to improve skills



Intermediate: cyber security

- 88% felt they were fully/somewhat equipped to deal with cyber security threats, higher than the average (77%).
- They were less likely to have, or plan to obtain, cyber security accreditation such as Cyber Essentials (10% had, compared with 15% overall)

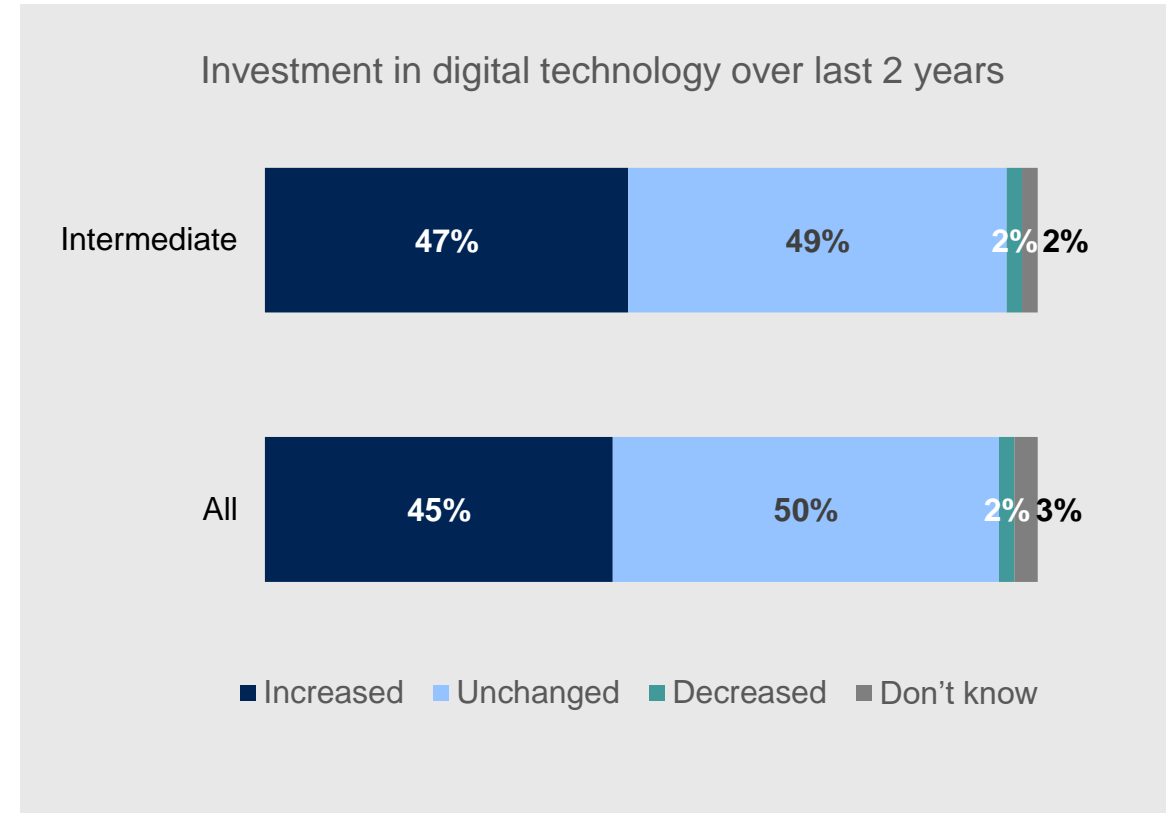
10%
had/planned to get cyber security accreditation



Intermediate: productivity

- Around half (47%) had increased their investment in digital technology over the last two years, in line with the average (45%).
- A majority (80%) felt digital technology had impacted on their productivity in the last 12 months (higher than 70% overall).

80%
felt digital technology had
impacted on their
productivity



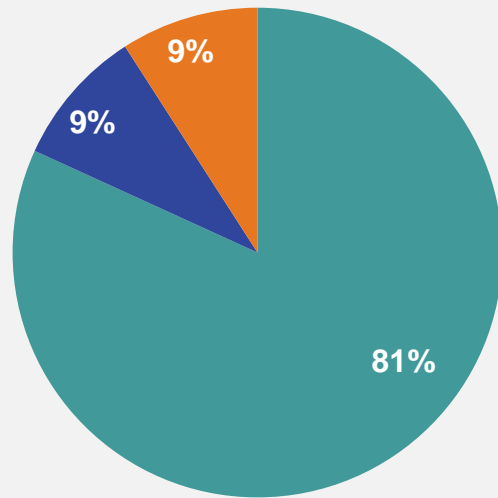
Findings by segment

06

Segment 4: Upper Intermediate

Upper Intermediate : characteristics

Size: more likely to be small (9% vs 7% overall) and medium/large businesses (9% vs 5%)



■ Micro ■ Small ■ Medium/Large

Sector: Higher than average proportion of business in:

Business activities (47% vs 30%)

Location: Businesses in **Glasgow** were over-represented (14% vs 9% overall)

They were more likely than average to:

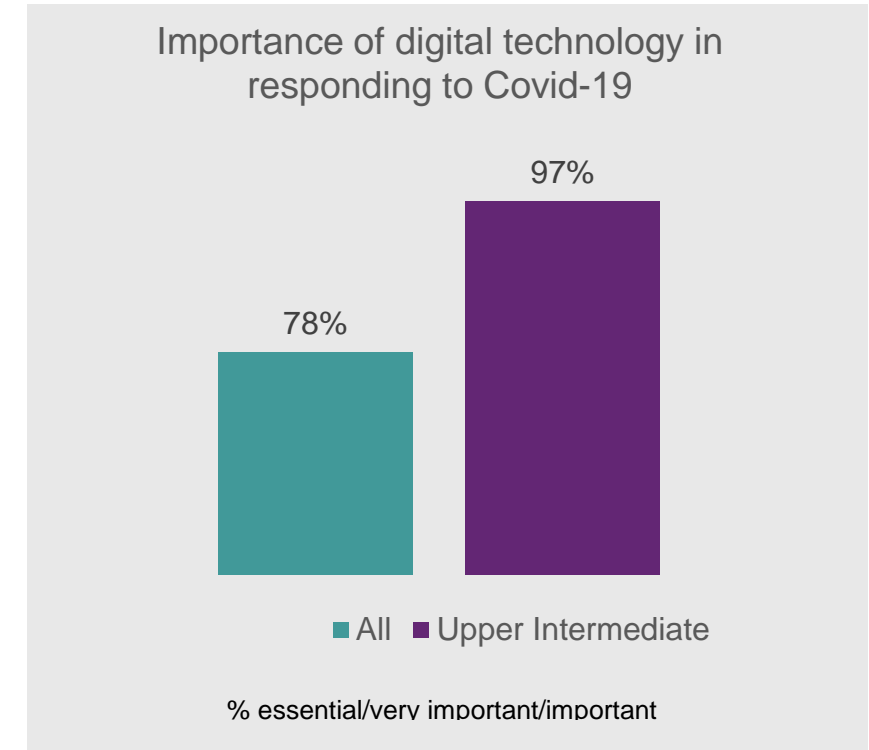
- be one of a number of establishments in the organisation (15% vs 11% overall)
- have operated for less than 10 years (29% vs 21%)
- not be a family owned business (37% were not, vs 39% overall)
- expect to grow over the next 12 months (64% vs 49% overall)
- have turnover of £1million or more (15% vs 9% overall)

Upper Intermediate: adoption of technologies

- All businesses with Upper Intermediate maturity had an internet connection. They were more likely to have a superfast connection (69% vs 63% overall).
- They were more likely than average to say digital technology was important to their business response to Covid-19.

100%
had an internet connection

69%
had a superfast connection



Note: For the purposes of this report, superfast broadband is defined as broadband with a speed of at least 30 Mbit/s. The %s shown exclude those businesses saying they did not know the speed of their connection.

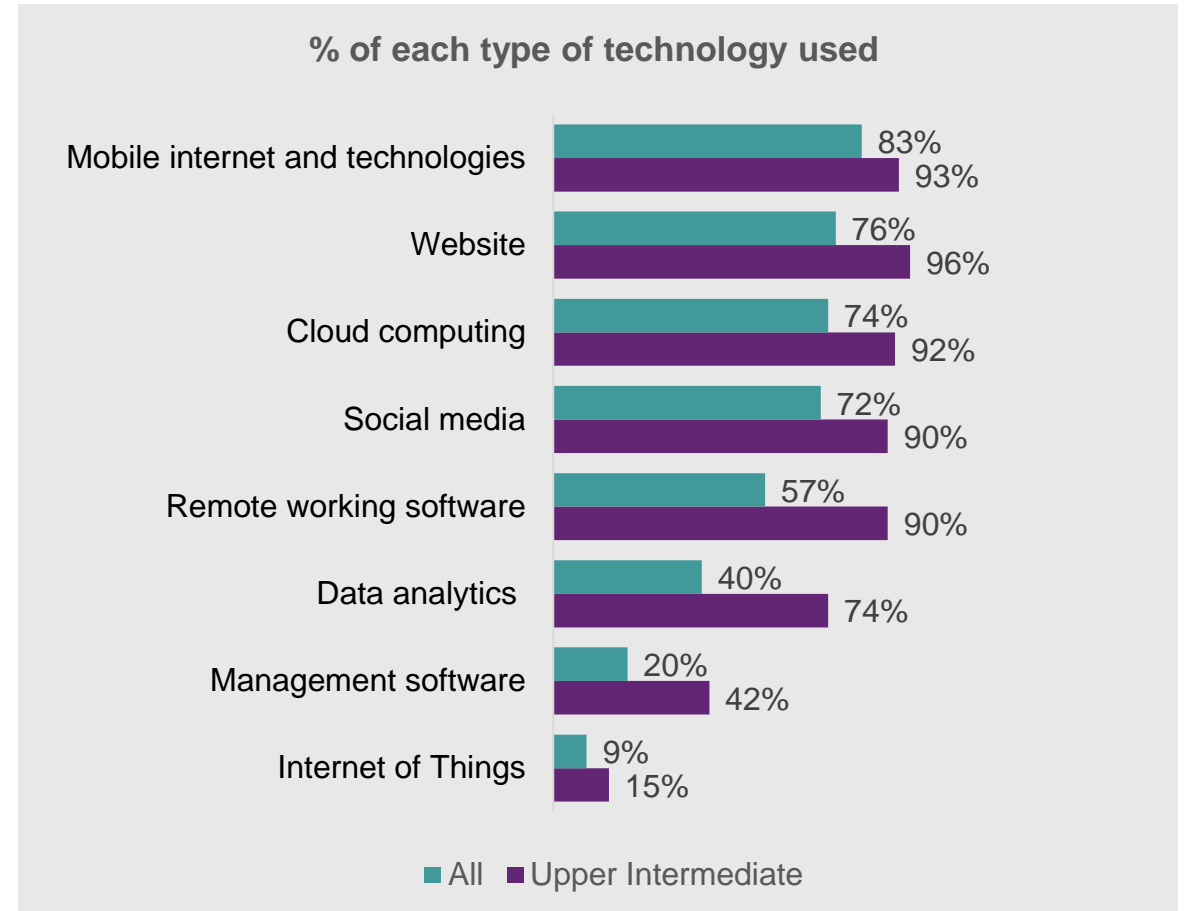
Upper Intermediate: usage

- An average of 5.9 technologies were used by businesses in this segment (of a maximum of 8).
- Use of each digital technology was higher than average in this segment. All were used by at least three quarters of businesses, with the exception of management software and the Internet of Things.
- They were more likely than average to have a plan or strategy in place for use of digital technology (39% vs 22% overall).

Average number of technologies used =

5.9

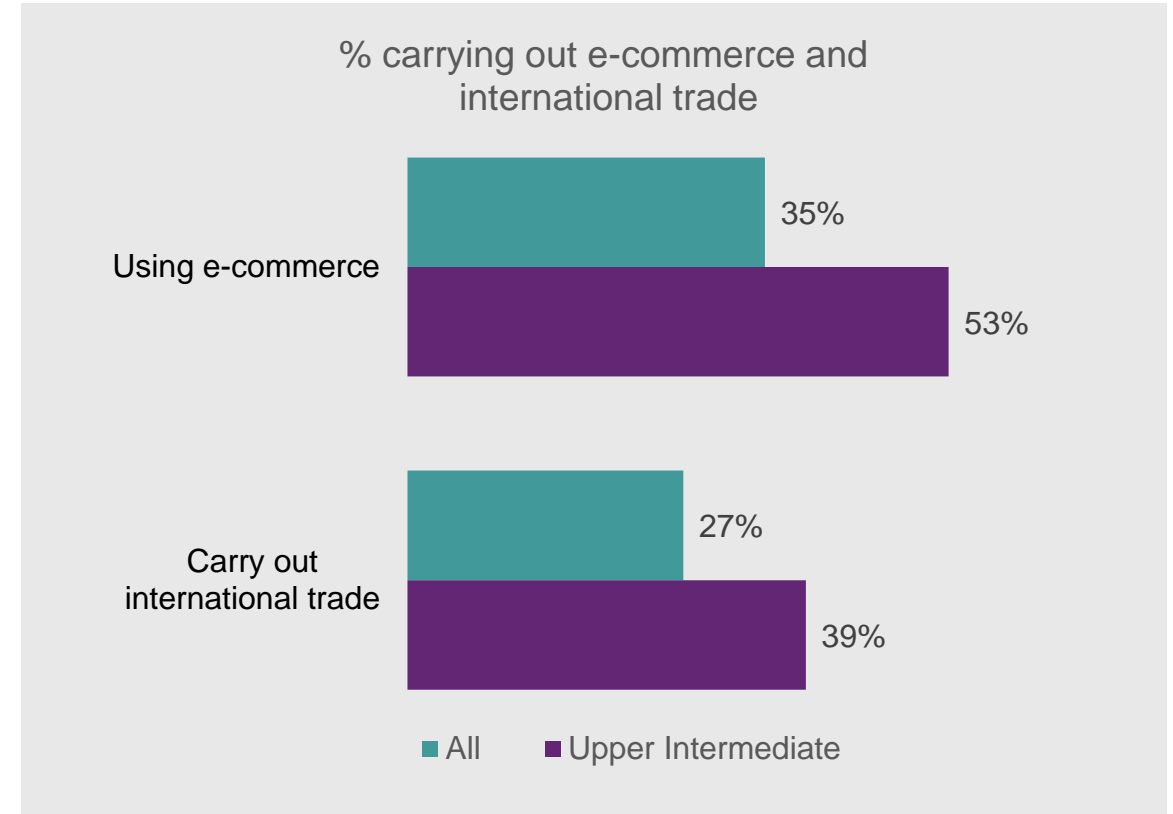
vs 4.3 overall



Upper Intermediate: benefits

- All in the Upper Intermediate segment had experienced benefits from using digital technologies (vs 96% overall).
- They were more likely than average to use e-commerce (53% vs 35% overall) and to trade internationally (39% vs 27%).

100%
experienced benefits from
digital technology

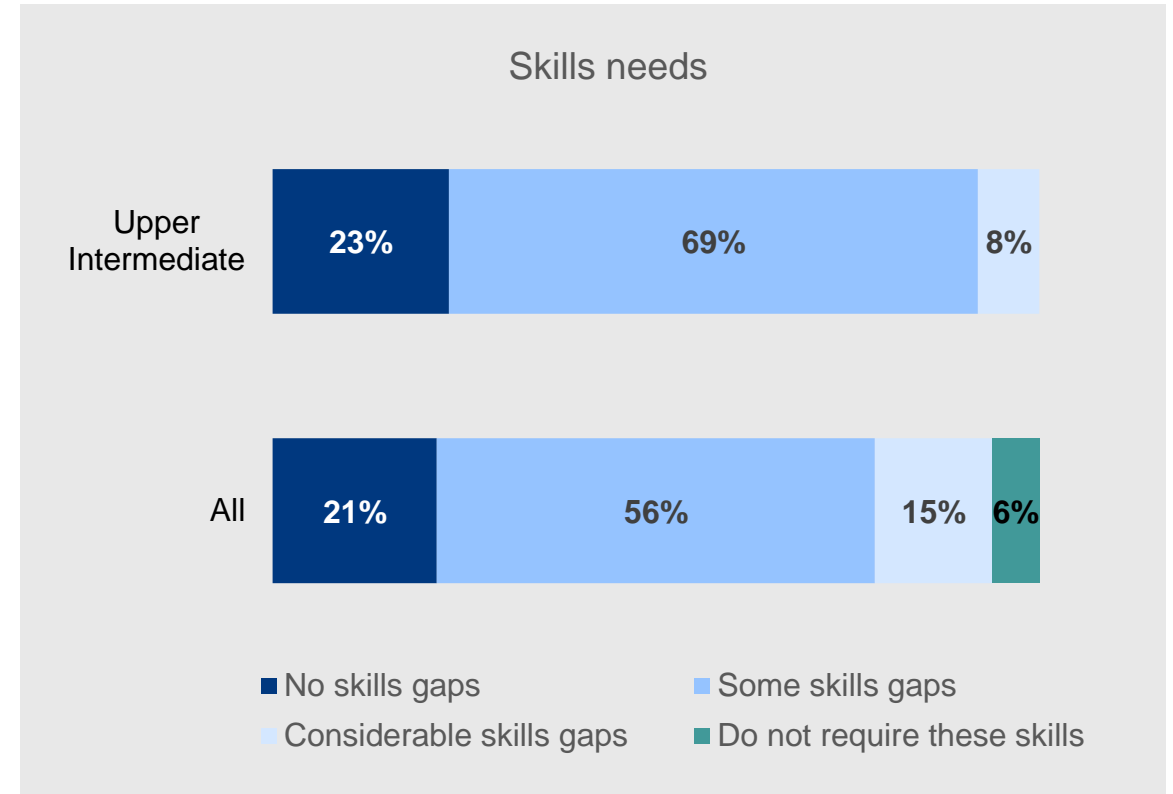


Upper Intermediate: skills

- Around three quarters in this segment (77%) had 'considerable' or 'some' skills gaps (higher than the 71% overall).
- They were more likely to be taking action, or planning to take action, to improve skills gaps (81% vs 51% overall).

77%
had skills gaps

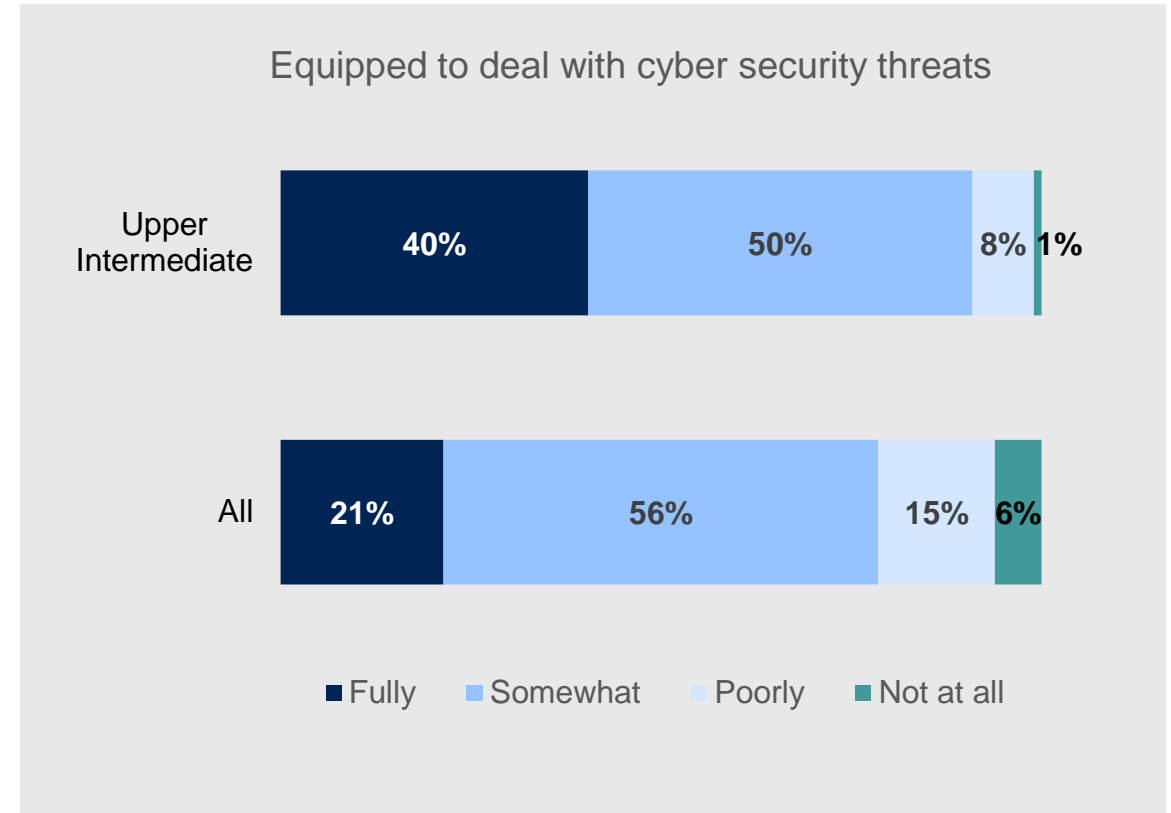
81%
were taking or planning
action to improve skills



Upper Intermediate: cyber security

- A majority (90%) felt they were fully/somewhat equipped to deal with cyber security threats, higher than the average (77%).
- They were more likely to have (12%) or plan to obtain (18%) cyber security accreditation such as Cyber Essentials (compared with 6% and 9% overall).

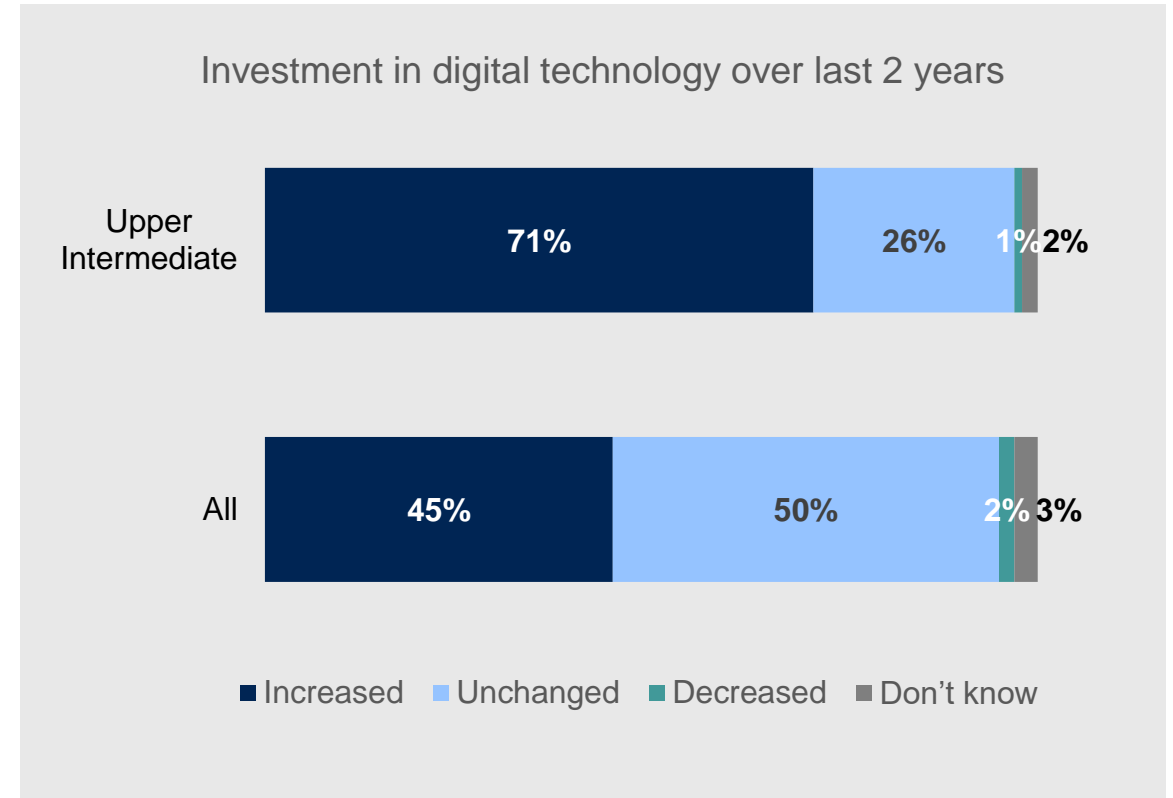
30%
had/planned to get cyber security accreditation



Upper Intermediate: productivity

- Just under three quarters (71%) had increased their investment in digital technology over the last two years, higher than the average (45%).
- A majority (92%) felt digital technology had impacted on their productivity in the last 12 months (higher than 70% overall).

92%
felt digital technology had
impacted on their
productivity



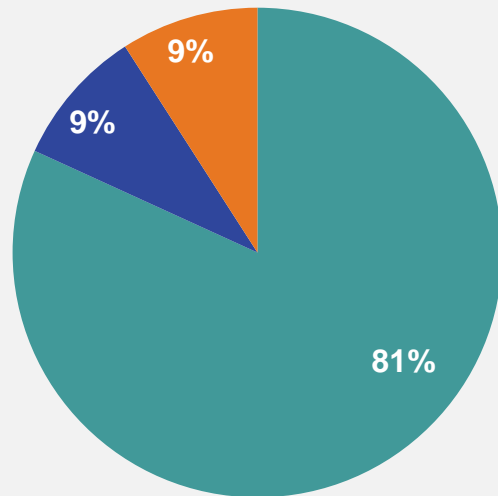
Findings by segment

Segment 5: Advanced

07

Advanced: characteristics

Size: more likely to be small (9% vs 7% overall) and medium/large businesses (9% vs 5%)



■ Micro ■ Small ■ Medium/Large

Sector: Higher than average proportion of business in:

Business activities (47% vs 30%)

Location: More likely than average to be in:

Glasgow (16% vs 9% overall), **Central Scotland** (14% vs 8%) and **Lothians** (13% vs 10%)

They were more likely than average to:

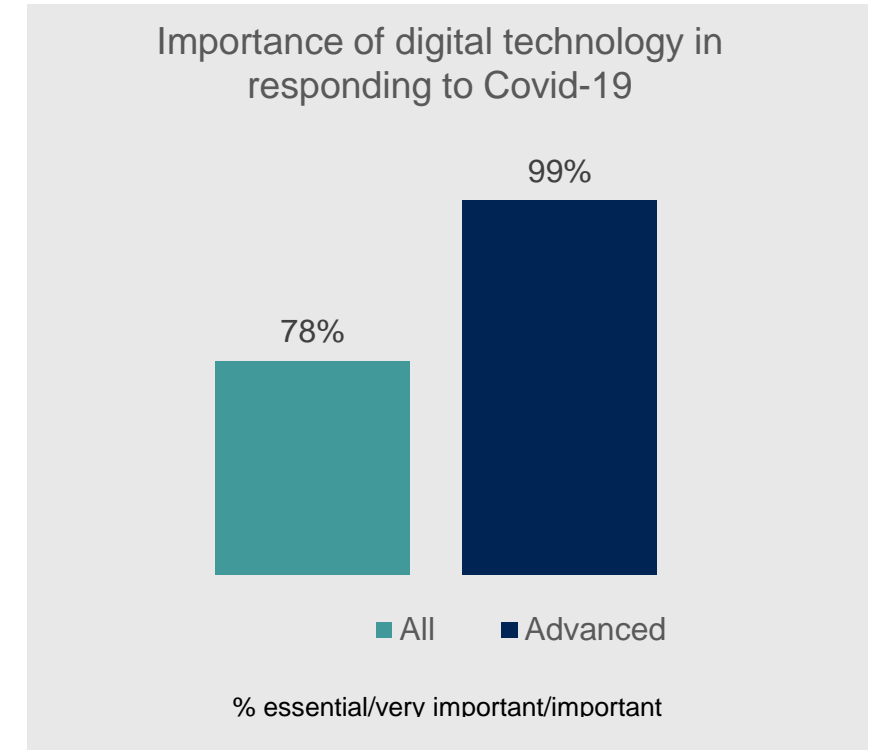
- be one of a number of establishments in the organisation (16% vs 11% overall)
- have operated for less than 10 years (30% vs 21%)
- not be a family owned business (42% were not, vs 39% overall)
- expect to grow over the next 12 months (80% vs 49% overall)
- have turnover of £1million or more (20% vs 9% overall)

Advanced: adoption of technologies

- All businesses with Advanced maturity had an internet connection. They were more likely to have a superfast connection (83% vs 63% overall).
- They were more likely than average to say digital technology was important to their business response to Covid-19.

100%
had an internet connection

83%
had a superfast connection



Note: For the purposes of this report, superfast broadband is defined as broadband with a speed of at least 30 Mbit/s. The %s shown exclude those businesses saying they did not know the speed of their connection.

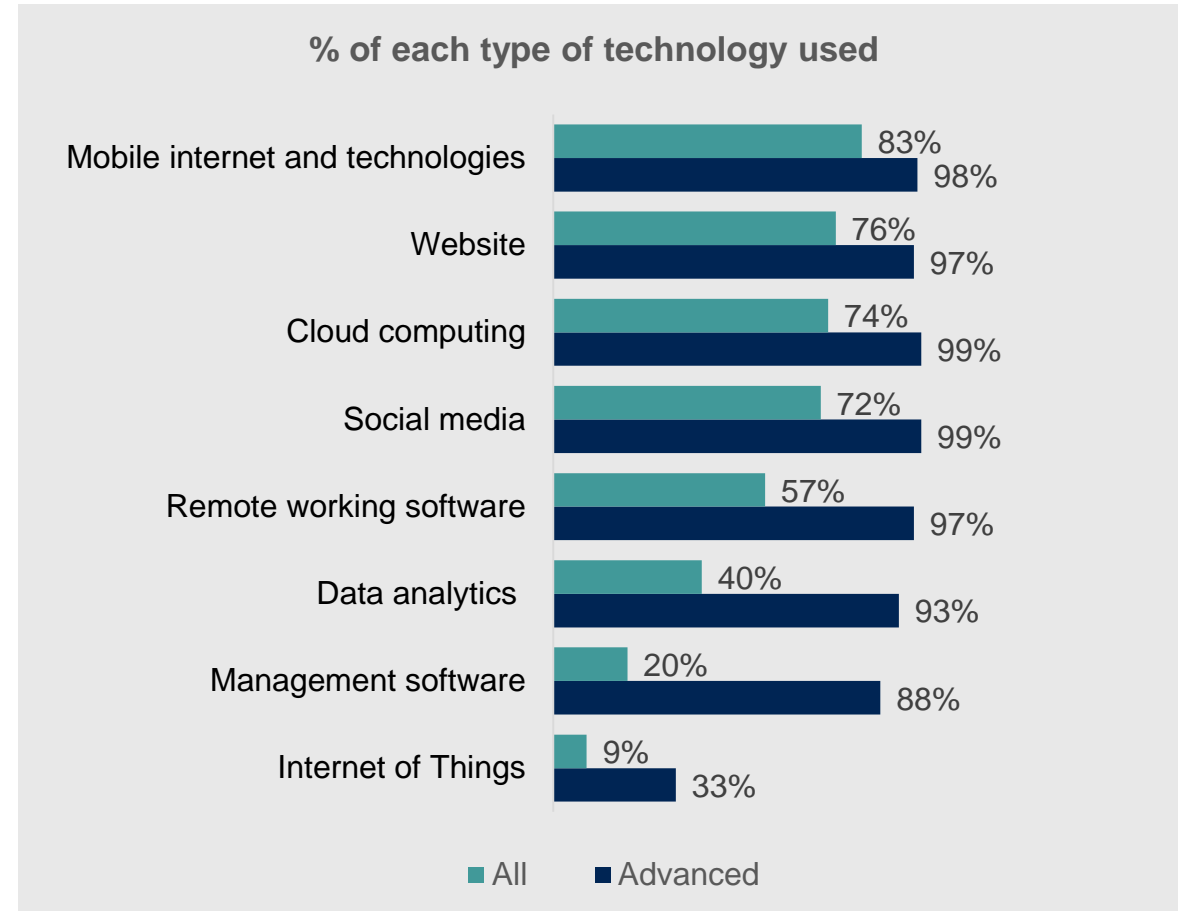
Advanced: usage

- An average of 7.0 technologies were used by businesses in this segment (of a maximum of 8).
- Use of each digital technology was higher than average in this segment. All were used by at eight in ten businesses, with the exception of the Internet of Things.
- They were more likely than average to have a plan or strategy in place for use of digital technology (78% vs 22% overall).

Average number of technologies used =

7.0

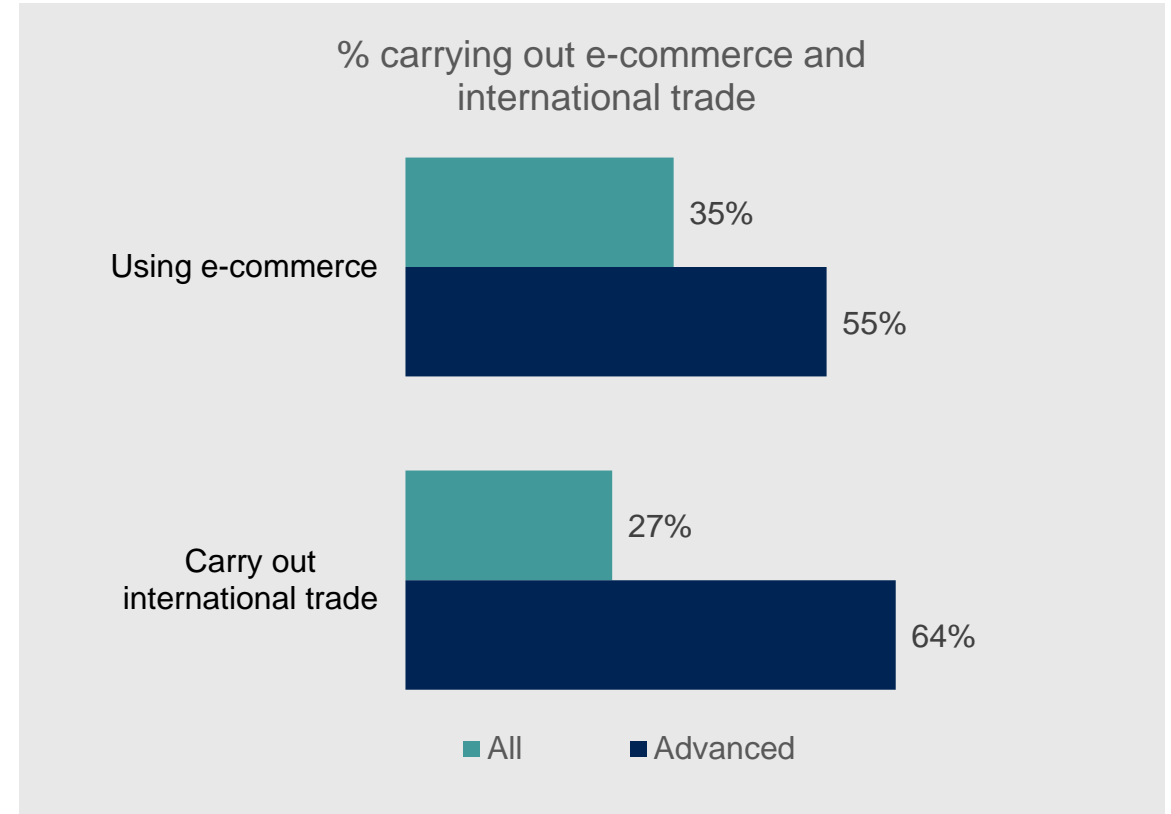
vs 4.3 overall



Advanced: benefits

- All in the Advanced segment had experienced benefits from using digital technologies (vs 96% overall).
- They were more likely than average to use e-commerce (55% vs 35% overall) and to trade internationally (64% vs 27%).

100%
experienced benefits from
digital technology

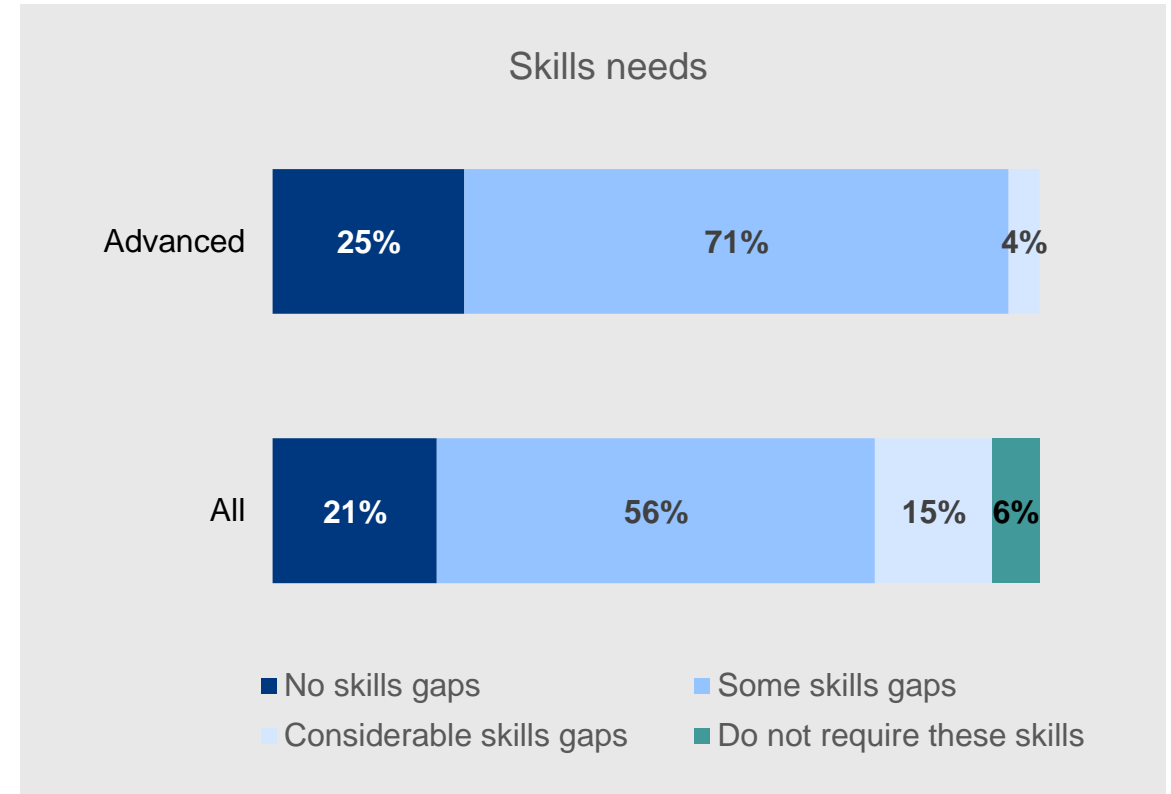


Advanced: skills

- Three quarters in this segment (75%) had 'considerable' or 'some' skills gaps (in line with the average of 71% overall).
- They were more likely to be taking action, or planning to take action, to improve skills gaps (81% vs 51% overall).

75%
had skills gaps

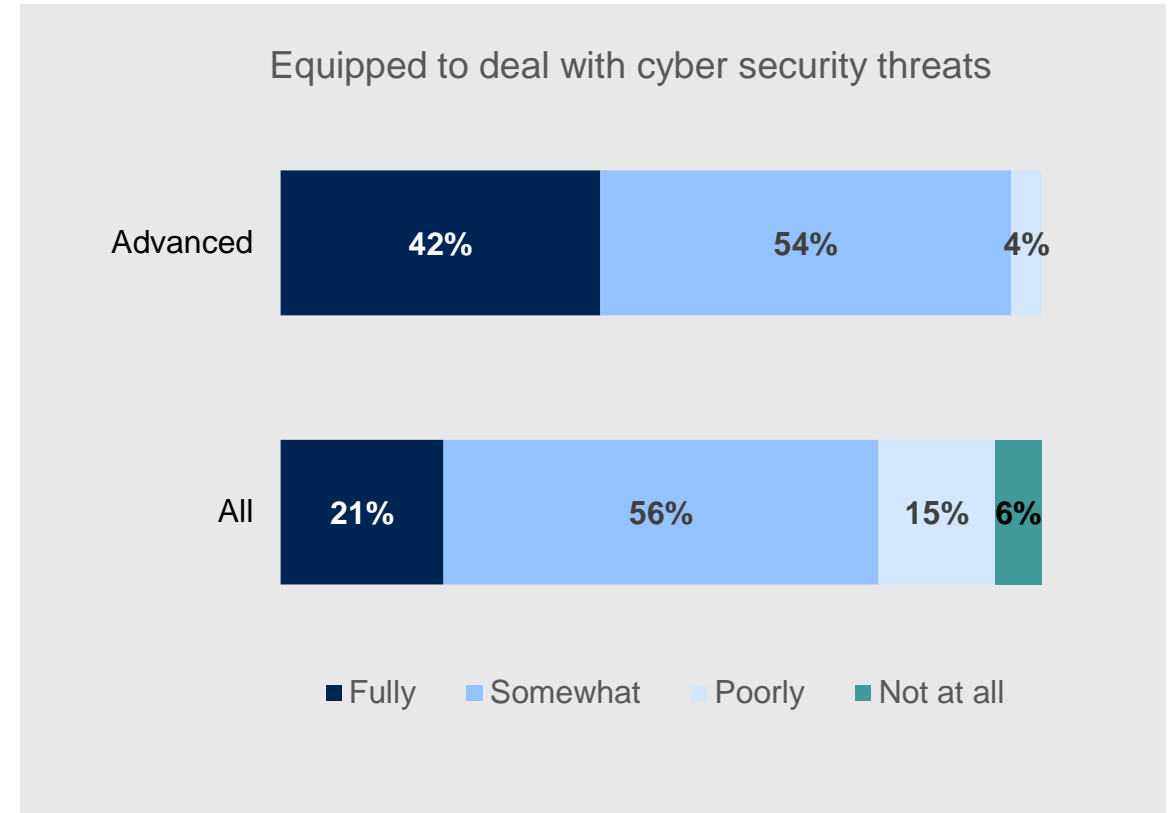
93%
were taking or planning
action to improve skills



Advanced: cyber security

- A majority (96%) felt they were fully/somewhat equipped to deal with cyber security threats, higher than the average (77%).
- They were more likely to have (19%) or plan to obtain (24%) cyber security accreditation such as Cyber Essentials (compared with 6% and 9% overall).

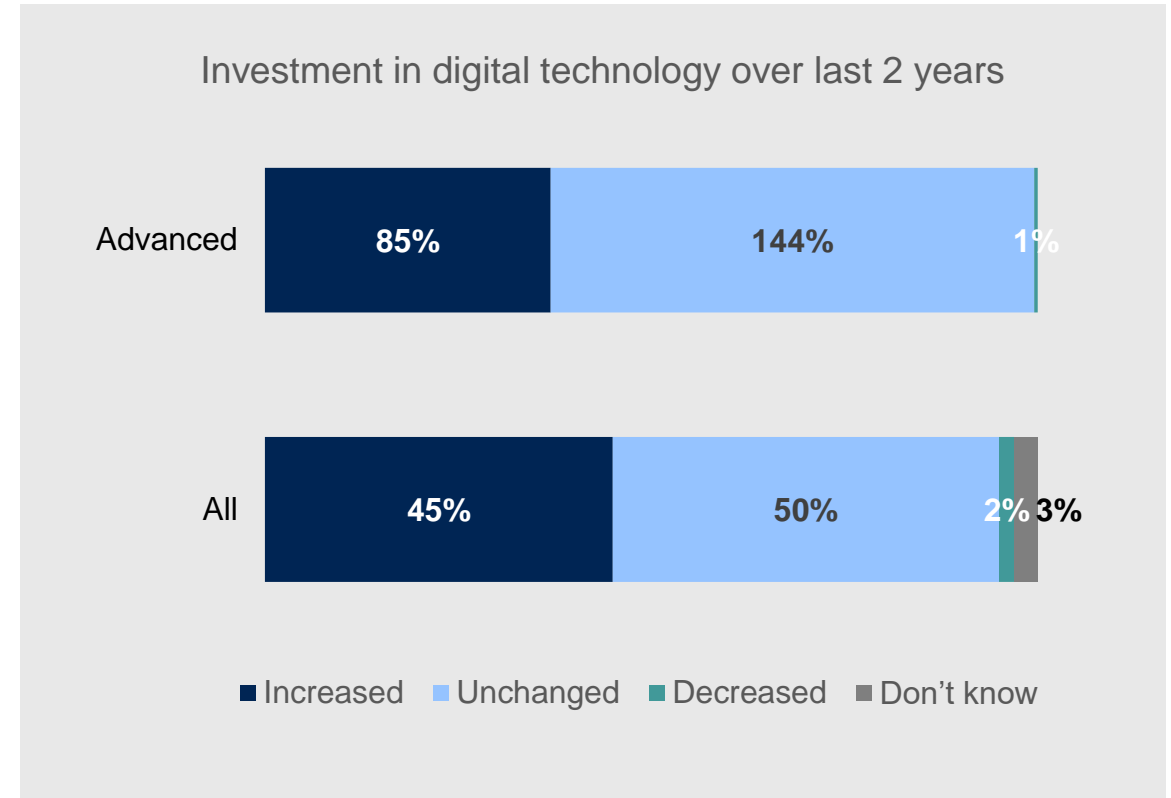
43%
had/planned to get cyber security accreditation



Advanced: productivity

- A majority (85%) had increased their investment in digital technology over the last two years, higher than the average (45%).
- A majority (94%) felt digital technology had impacted on their productivity in the last 12 months (higher than 70% overall).

94%
felt digital technology had
impacted on their
productivity



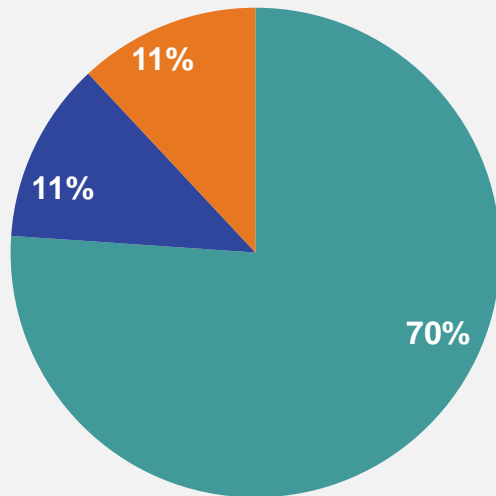
Findings by segment

Segment 6: Expert

08

Expert: characteristics

Size: more likely to be small (11% vs 7% overall) and medium/large businesses (11% vs 5%)



■ Micro ■ Small ■ Medium/Large

Sector: Higher than average proportion of business in:

Business activities (53% vs 30%)

Location: More likely than average to be in **North East Scotland** (38% vs 15%)

They were more likely than average to:

- expect to grow over the next 12 months (83% vs 49% overall)
- have turnover of £1million or more (29% vs 9% overall)

Note: due to the small number of businesses in this segment (36), apparent differences between their findings and the average are often not statistically significant. Where it is not possible to compare with the average, findings are presented for this segment alone, without any comparison with others.

Expert: adoption of technologies

- All businesses with Expert maturity had an internet connection. They were more likely to have a superfast connection (83% vs 63% overall).
- All said that digital technology was important to their business response to Covid-19.

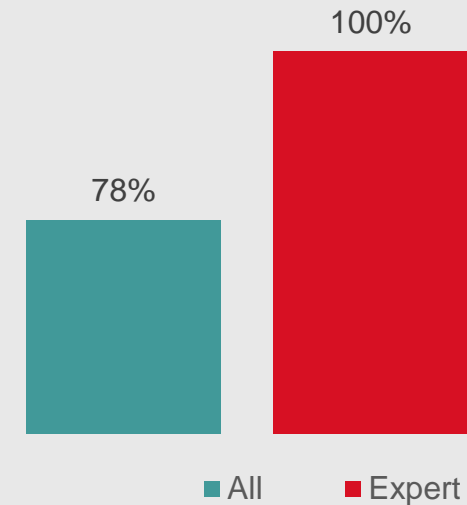
100%

had an internet connection

88%

had a superfast connection

Importance of digital technology in responding to Covid-19



% essential/very important/important

Note: For the purposes of this report, superfast broadband is defined as broadband with a speed of at least 30 Mbit/s. The %s shown exclude those businesses saying they did not know the speed of their connection.

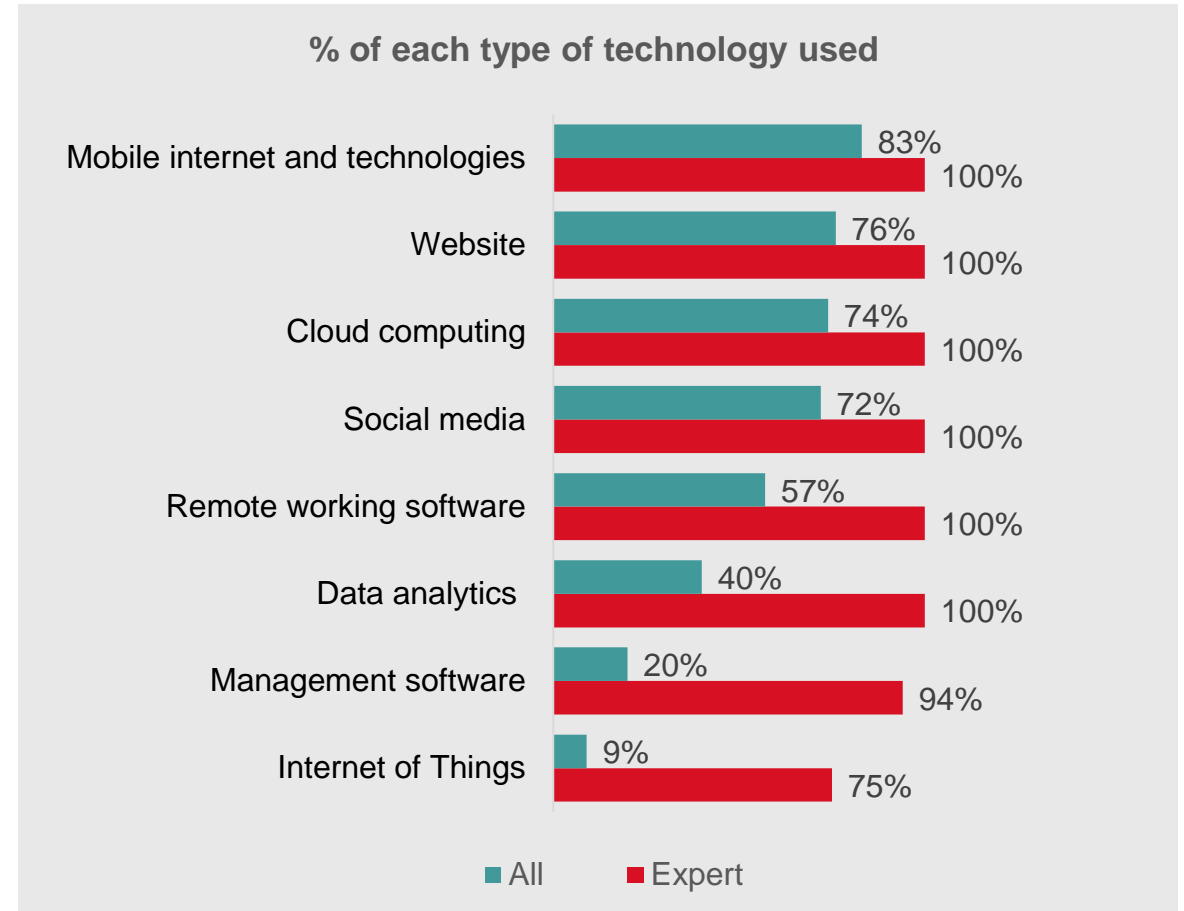
Expert: usage

- An average of 7.7 technologies were used by businesses in this segment (of a maximum of 8).
- Use of each digital technology was higher than average in this segment. All businesses used each technology, with the exception of management software and the Internet of Things.
- They were more likely than average to have a plan or strategy in place for use of digital technology (89% vs 22% overall).

Average number of technologies used =

7.7

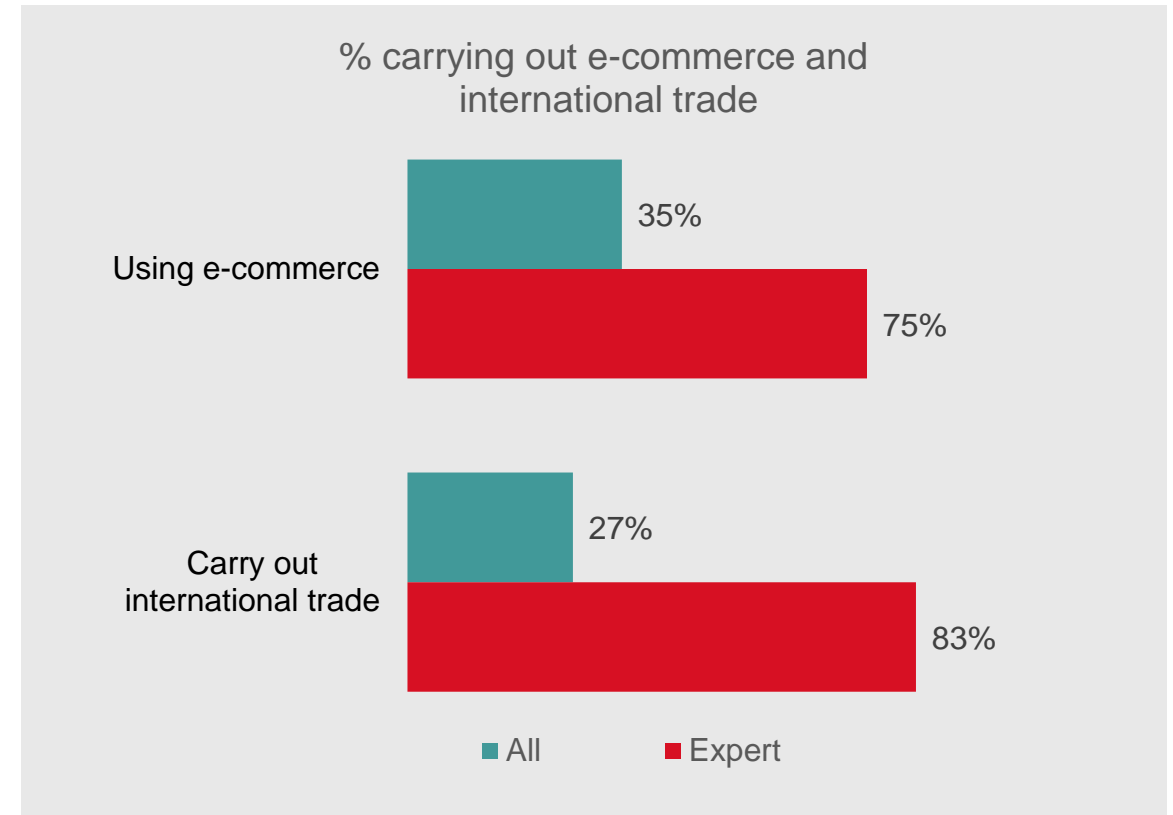
vs 4.3 overall



Expert: benefits

- All in the Advanced segment had experienced benefits from using digital technologies (vs 96% overall).
- They were more likely than average to use e-commerce (75% vs 35% overall) and to trade internationally (83% vs 27%).

100%
experienced benefits from
digital technology

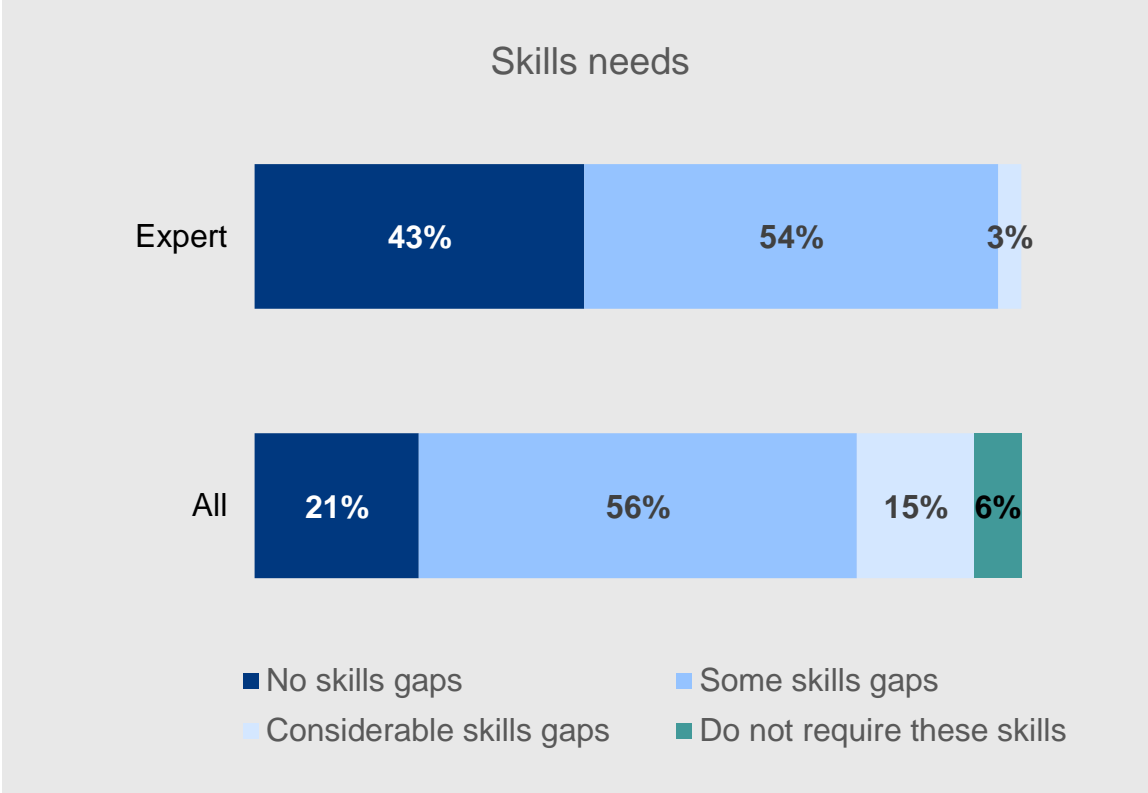


Expert: skills

- 43% in this segment said they had no skills gaps (higher than 21% overall), while 57% had 'considerable' or 'some' skills gaps (lower than 71% overall).
- They were more likely to be taking action, or planning to take action, to improve skills gaps (95% vs 51% overall).

57%
had skills gaps

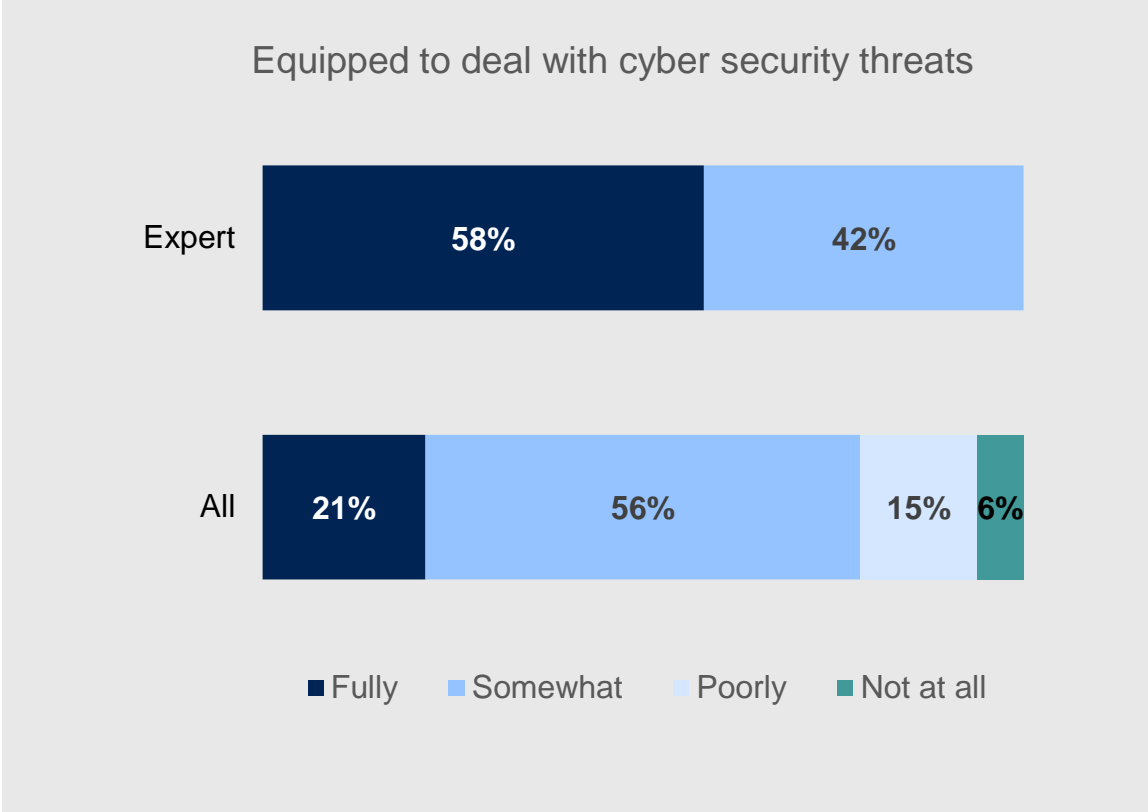
95%
were taking or planning
action to improve skills



Expert: cyber security

- All businesses in this segment felt they were fully/somewhat equipped to deal with cyber security threats, higher than the average (77%).
- They were more likely to have (22%) or plan to obtain (42%) cyber security accreditation such as Cyber Essentials (compared with 6% and 9% overall).

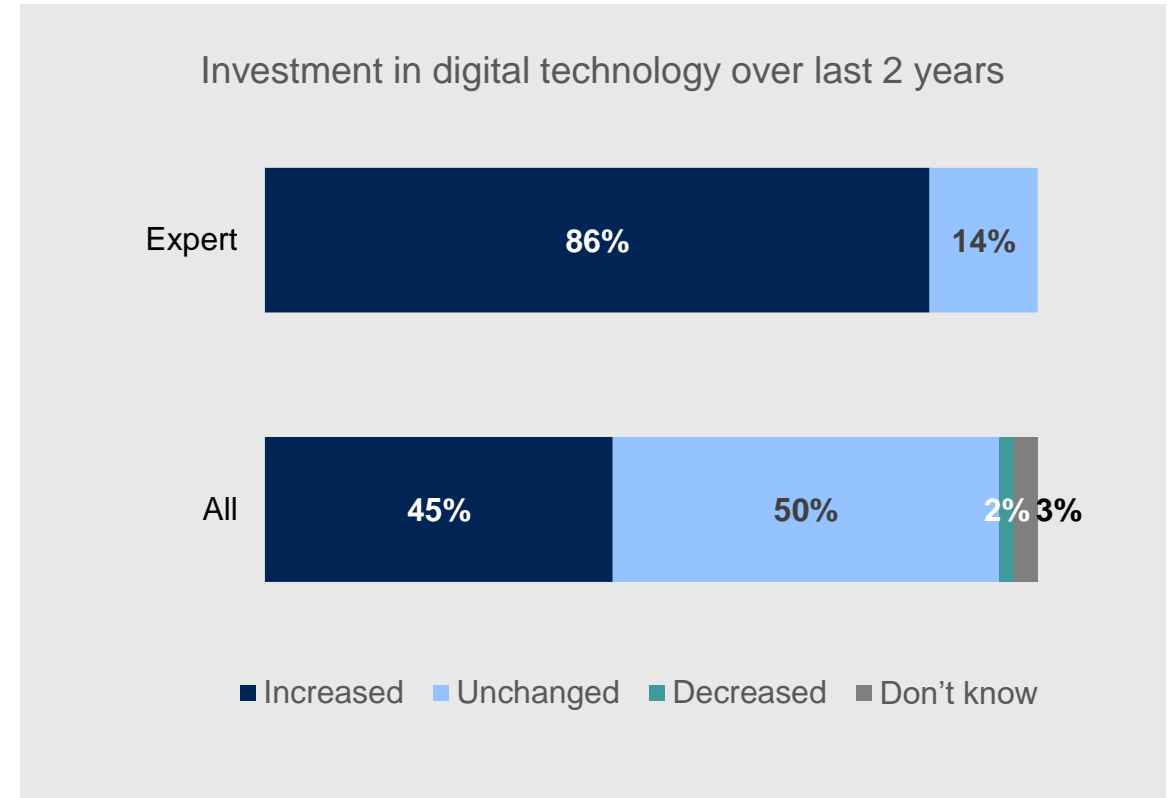
64%
had/planned to get cyber security accreditation



Expert : productivity

- A majority (88%) had increased their investment in digital technology over the last two years, higher than the average (45%).
- A majority (94%) felt digital technology had impacted on their productivity in the last 12 months (higher than 70% overall).

94%
felt digital technology had
impacted on their
productivity



Appendix

09

Profile of businesses surveyed

Size (number of employees)	%	Location	%
Micro (1-4)	55	Lothians	10
Micro (5-9)	32	South of Scotland	19
Small (10-19)	7	North-East Scotland	15
Medium/Large (20+)	5	Mid-Scotland and Fife	15
Sector	%	Location	%
Business activities	30	Highland	12
Wholesale/retail	13	Glasgow	9
Construction	12	West of Scotland	12
Agriculture	11	Central Scotland	8
Transport/communications	9	Age	%
Hotels/restaurants	8	Under 1 year	1
Manufacturing	5	1 – 3 years	2
Health/social work	4	3 – 5 years	4
Other services	8	5 – 10 years	14
		Over 10 years	78

DEMI indicators (1)

Indicator	Sub-indicator	Score	Max score
ADOPTION			
Type of internet connection	Next Generation Access	4	4
	Standard broadband	2	
	Internet not broadband	1	
	No internet connection	0	
Overall importance of digital technology to current operations of business	Essential	4	4
	Very important	3	
	Important	2	
	Not important	0	
USAGE			
Technologies used	Website or Social media	1	12
	Mobile or Cloud	1	
	Data analytics	2	
	Remote working software	2	
	Management software	3	
	Internet of Things	3	
Integration of technology into business	Essential	4	32
	Important	3	
	Not important	1	
Strategy for use of digital in delivering business	Yes	2	2
	No	0	

DEMI indicators (2)

Indicator	Sub-indicator	Score	Max score
BENEFITS			
Benefits experienced from using digital technologies	Website	1	12
	Social media	1	
	Mobile internet and technologies	2	
	Cloud computing	2	
	Data analytics	3	
	Management software	3	
Using digital technology to help innovation	Research competitor products online	1	6
	Researching and gathering market data online	2	
	Collecting consumer feedback via website or social media	3	
Proportion of sales made over the internet	All - 100%	5	5
	80-99%	4	
	60-79%	3	
	40-59%	3	
	20-39%	2	
	<20%	1	
	None	0	
Internationalisation	Use of digital technology has helped expand into new or different international markets	2	4
	Website tailored to international markets	2	

DEMI indicators (2)

Indicator	Sub-indicator	Score	Max score
CYBER RESILIENCE			
Equipped to deal with cyber security threats	Fully	5	5
	Somewhat	3	
	Poorly	1	
	Not at all	0	
Cyber security controls	Have technical controls in place and cyber security accreditation	3	3
	Have controls in place and planning to obtain cyber security accreditation	2	
	Have controls in place, but no accreditation or plans for accreditation	1	
	No controls in place and no accreditation/plans for accreditation	0	
SKILLS			
Digital technology skills gaps	No skills gaps	5	5
	Some skills gaps	3	
	Considerable skills gaps	1	
	Not applicable	0	
Doing anything to develop employees' digital skills	Yes	3	3
	No but planning to in future	1	
	No and not planning to in future	0	
PRODUCTIVITY			
Investment in digital technology	Increased	2	2
	Unchanged	1	
	Decreased	0	
Impact of digital technology on productivity	Significant	3	3
	Moderate	2	
	Slight	1	
	None	0	
TOTAL MAX			100

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

Thank you.

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