Building for the Future

Insights from senior industry leaders

JANUARY 2023

INTRODUCTION

The challenges facing all industries are ever changing. As the Covid pandemic and Brexit shock start to recede, the war in Ukraine, associated fuel crisis and a looming recession are all emerging for industry to now confront. Having shown resilience to manage and adapt to previous challenges, the construction industry must now display similar adaptability to future-proof itself against these (and other unforeseen) headwinds.

From a similar forward-facing perspective, the construction industry, like all others, is experiencing the incessant march of digital technology - what has become known as *digital transformation*. Talk of ERP, SaaS and cloud computing is now common parlance in all aspects of business.

So having looked back and forward, now then is the opportune moment to explore and understand the current state of the construction industry. **What are the issues that are keeping the industry awake at night** and **how is the industry planning for the future?** These are the questions that we at 4PS set out to answer in this report.

Working in partnership with Trinity McQueen we have conducted an extensive survey of senior industry decision makers to generate the insights provided here.

This report sets out what we see as the key issues at play for the industry today and how we can start to understand and approach them. Central to our findings are two core themes:

- An **illusion of control**, representing a behavioural bias that can make individuals and even entire organisations - believe that they can control outcomes which, realistically, they cannot. Where identified, the illusion of control can potentially lead to organisations underestimating the scale of change required, or challenge to be faced.

- **Present bias** where current needs are afforded more concern and attention than future needs. Where identified, present bias has the potential to become a negative influence on strategic thinking and organisational progress.

Identifying and understanding how these biases play out in the construction industry can provide us with a more informed picture of business needs into the 2020s.

4PS designs, builds, implements, and maintains fully integrated end-to-end construction software specifically designed for the industry. With over 20 years' experience, our focus is on providing and supporting the right functionality for users in the construction, installation, civil engineering, service, and plant sectors.

Trinity McQueen is a full-service market research and insight consultancy based in London and Leeds. We specialise in research in the retail, consumer, digital, media, technology, business to business and finance sectors.

WHAT’S THE STORY?

1 AN INDUSTRY CONFIDENT IN ITS REACTION TO SETBACKS AND ABILITY TO ACHIEVE CHANGE

- Looking back, there is positive industry and business sentiment around recent setbacks.
- Then, looking forward, the majority have confidence for the future.
- Drilling down, all elements of businesses are considered permanently changed / in the process of change but confidence to achieve this abounds.
- Suggestions of an **illusion of control** are found with individual business being more positive about themselves than the industry as a whole.

2 BUT THE FUTURE IS NOT WITHOUT CHALLENGES

- 'Traditional' construction challenges dominate thinking around medium term challenges - H&S; sustainability and risk management.
- 'New' challenges of decentralisation of workers and digital transformation score lower.
- Hints of **present bias** are suggested, where there is a focus on the ‘here and now’ in decision making as opposed to long-term planning (plus more indications of the importance of control). And more evidence on the importance of control is found.

3 PRESENT BIAS RISKS DOWNPLAYING DIGITAL TRANSFORMATION

- On the whole digital transformation seen as welcome step forward.
- However there is notable resistance to 'modern' IT - a possible indication of present bias (where there is a focus on the ‘here and now’ in decision making as opposed to long-term planning). A high expectation of future IT churn is revealed.
- There is still a way to go for the majority of businesses ahead of digital transformation.

4 PINPOINTING INDUSTRY SUPPORT NEEDED FOR DIGITAL TRANSFORMATION

- High claimed awareness of utility of digital transformation but no clear RoI metric observed.
- Two major themes emerge from the primary challenges perceived around digital transformation - 1) Technical (i.e. system integration and utility of outputs); 2) People (i.e. internal upskilling and culture).
- Customer education and buy-in can also be lagging and the majority of business do not yet have a digital partner in place.

GENERAL TREND

LARGER COMPANIES AHEAD OF THE CURVE

In this report, larger companies are defined as companies with **£150m - £500m** T/O in last accounting 12 months.

Smaller companies with **£15m - £49m** T/O.

01

Eligibility & Sample

METHODOLOGY AND SAMPLE

1 15 minute online survey

2 Respondents recruited through IRB, global online B2B data collection specialist.

3 **Fieldwork period:** 30th May - 12th July, 2022.

Notes:

Unless specified, % figures referred to in this report show the % of all respondents answering in the different ways.

Statistically significant differences between sub-populations are shown by the following icon: (!)

Question(s):

A1 / 2 / 3

Screening Base:

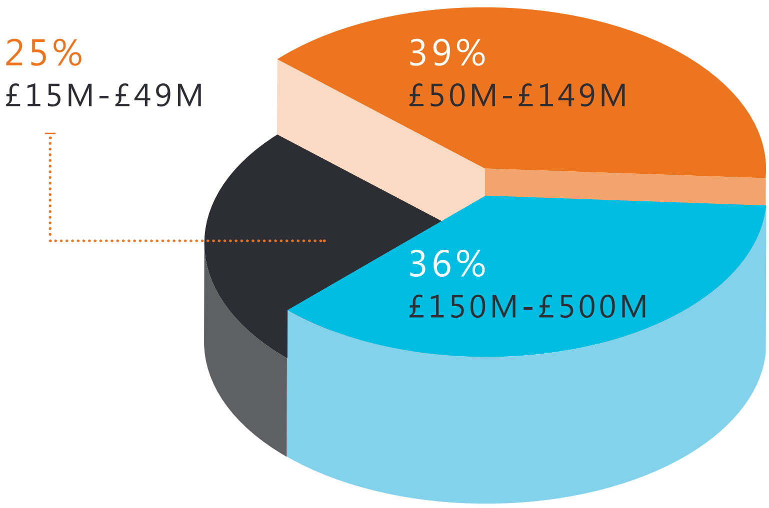
132

INDUSTRY SECTOR

Primary decision makers around strategic direction of businesses.

- Main contractors
- Specialist subcontractors
- Residential
- Commercial
- Installation
- Civil Engineering

TURNOVER



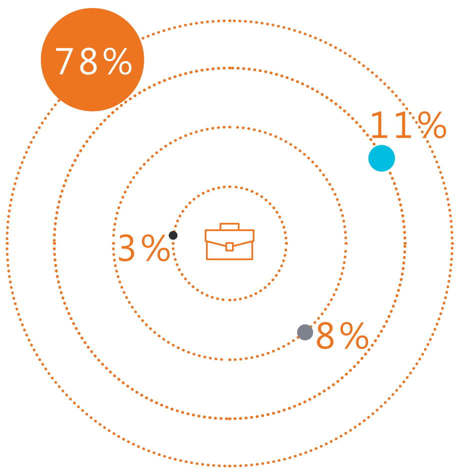
FOCUS OF ROLE

Construction / Operations

Director (General Management)

Commercial

Finance



02

An industry confident in its reaction to setbacks and ability to achieve change

COVID AND BREXIT

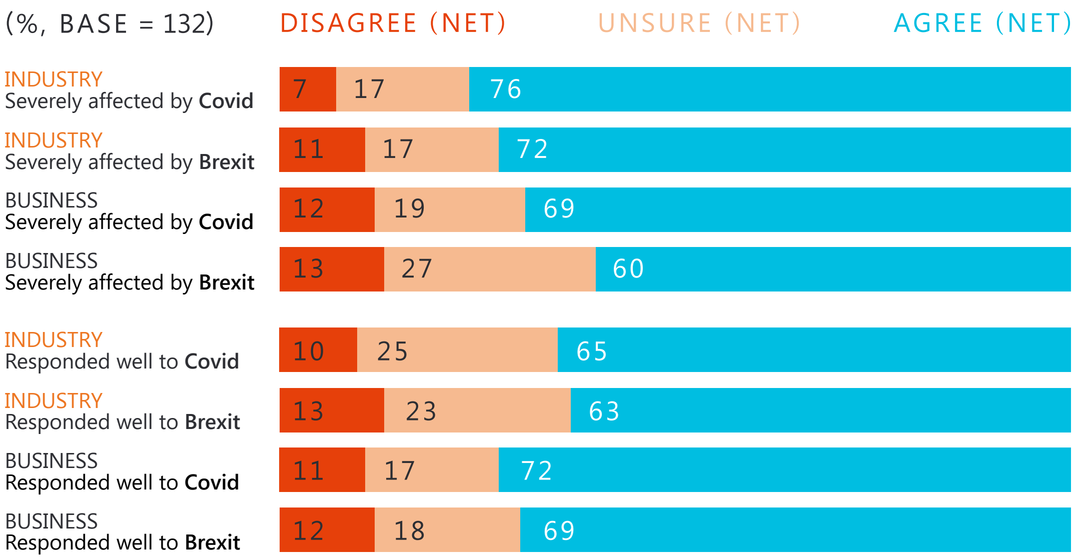
There is no doubting the impact of the twin challenges of Covid and Brexit. Typically, at least two thirds of respondents believe that Covid and Brexit have had a severe impact on the industry and their businesses (barring Brexit for individual businesses, although still this stands at 60%) (Fig. 1). Despite these setbacks, there is a confidence in how the industry and businesses have responded. (Fig. 2)

Beyond this, there is a trend for business to perceive the impact on their own business as less severe than the industry as a whole (Fig. 1) and also their ability to bounce back as better than the industry as a whole. (Fig. 2). This could be down to an **illusion of control** (an overestimation of ability to control events) or, more prosaically, a better knowledge of their own business than competitors.

POSITIVE INDUSTRY AND BUSINESS SENTIMENT AROUND RECENT SETBACKS

FIG. 1

FIG. 2



Question(s):

B1 / 2 - To what extent would you agree or disagree with the following statements about the construction industry / your business?

!

31% VS 6%

Larger businesses significantly more likely to strongly agree that the construction industry responded well to Brexit **(31% vs. 6% for smaller companies).**

!

31% VS 9%

Larger businesses significantly more likely to strongly agree that their own business has responded well to the pandemic and Brexit **(31% vs. 6% for smaller businesses).**

LOOKING FORWARD

Interestingly, the **illusion of control** is again hinted at in terms of future confidence for the industry with a net confidence score of +36% for individual businesses (Fig. 4) compared to +28% for the industry as a whole. (Fig. 3)

LOOKING FORWARD, THE MAJORITY HAVE CONFIDENCE FOR THE FUTURE

	(%, BASE = 132)	NOT CONFIDENT	CONFIDENT	NET CONFIDENCE
FIG. 3	THE CONSTUCTION INDUSTRY	30	58	+28
FIG. 4	MY BUSINESS	24	60	+36

42% VS 22%

Larger companies are significantly more confident about the future of the industry compared to other size companies **(42% vs. 22% for small businesses).**

Question(s):

C1a / b Medium-term (5 years) future confident vs. not confident industry / business?

BUSINESS DOMAIN CHANGE

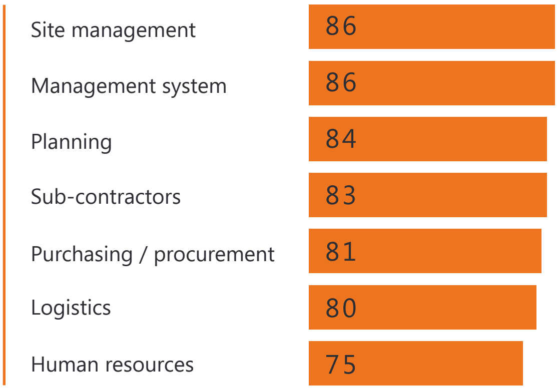
ALL ELEMENTS OF BUSINESSES ARE CONSIDERED PERMANENTLY CHANGED OR ARE IN THE PROCESS OF CHANGE...

Relatively speaking there is slightly less agreement that the Human Resource function in a business has undergone change as a result of Covid / Brexit (75% vs. min. 80%) (Fig 5).

FIG. 5

UNDERGONE / UNDERGOING GOING CHANGE - AGREE (NET)

(%, BASE = 132)



...BUT CONFIDENCE TO ACHIEVE THIS ABOUNDS

However at the same time there is belief that this one of the 'easier' aspects of a business to in which to achieve change (74% vs. max. 75%) (Fig 6).

Typically around one in 10 believe that change across the different business domains will be difficult to achieve (Fig 7). The ability to achieve change with subcontractors is deemed as more difficult (nearly one in five claiming this) – likely reflecting a lack of control of this group (again linked to an **illusion of control**). One tactic that can help achieve business transformation is the effective use of software, especially around planning, purchasing and management systems.

FIG. 6

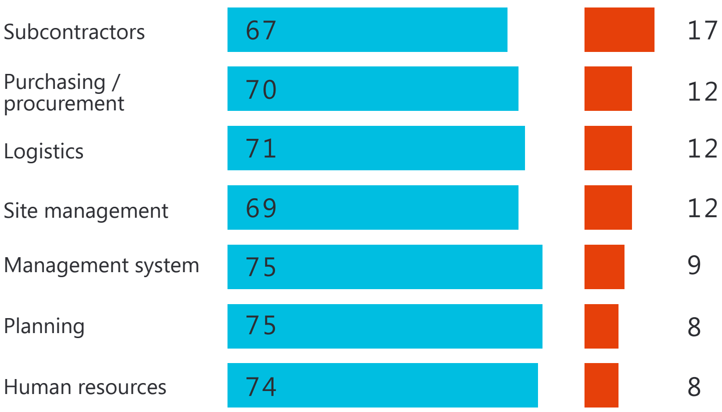
EASY TO ACHIEVE - AGREE (NET)

(%, BASE = 132)

FIG. 7

DIFFICULT TO ACHIEVE - AGREE (NET)

(%, BASE = 132)



!

Larger business significantly more likely than smaller businesses to see changes as easy to achieve across all domains bar sub-contractors and site management.

Question(s):

B3 / 4 -Agree or disagree permanent changes? Difficult or easy to achieve?

03

But the future is not without challenges

SUMMARY

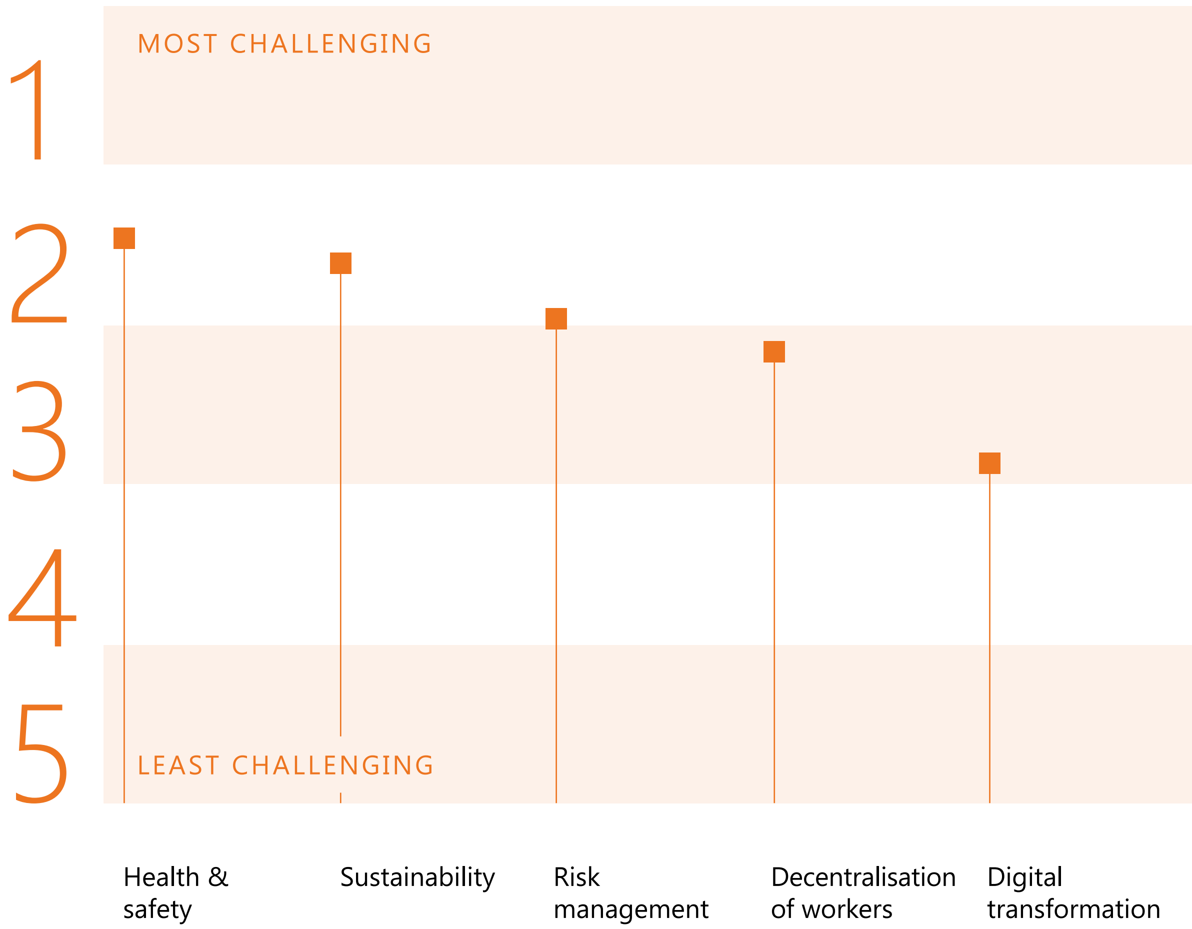
'Traditional' construction challenges dominate thinking around medium term (5 year) challenges. 'New' challenges of decentralisation of workers and digital transformation score lower.

For decentralisation this may be because the issue is in hand having been the 'norm' since 2020. For digital transformation this may represent a lack of knowledge / understanding and also hint at a **present bias,** where there is a focus on the 'here and now' in decision making as opposed to long-term planning.

AVERAGE RANKING

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



Question(s):

C2, 3, 4, 5 & 6 - Please rank the following in order of the CHALLENGE presented to your business over the next five years?

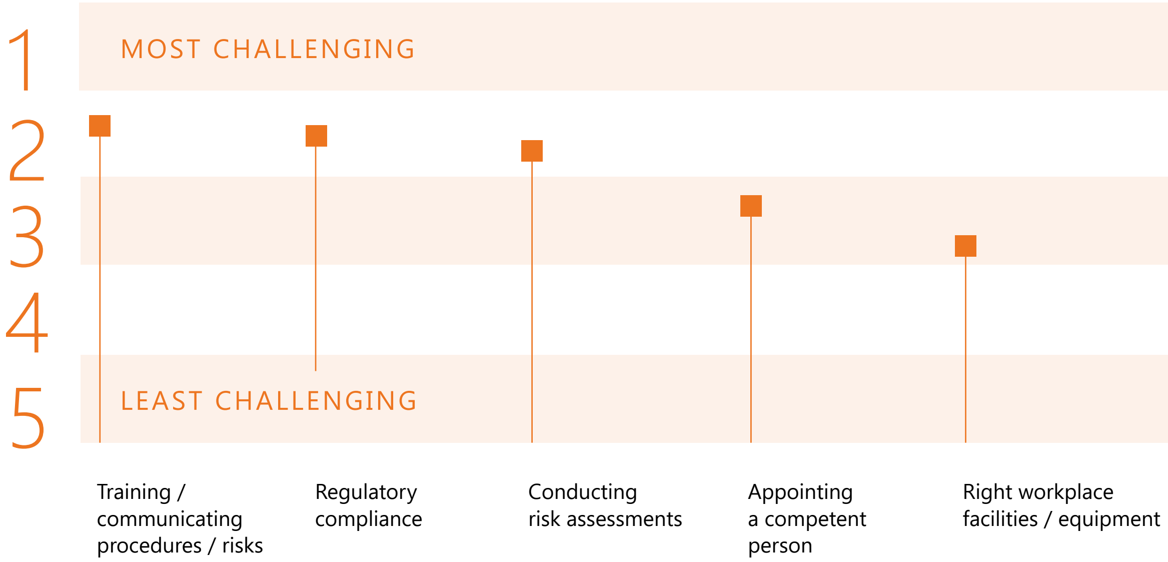
HEALTH & SAFETY

From a health & safety perspective the ability to share and communicate up-to-date procedures / risks is seen as most challenging. Issues around the appropriate personnel and facilities are potentially less challenging. This suggests support around process and systems – rather than people – may be most needed.

AVERAGE RANKING

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



SUSTAINABILITY

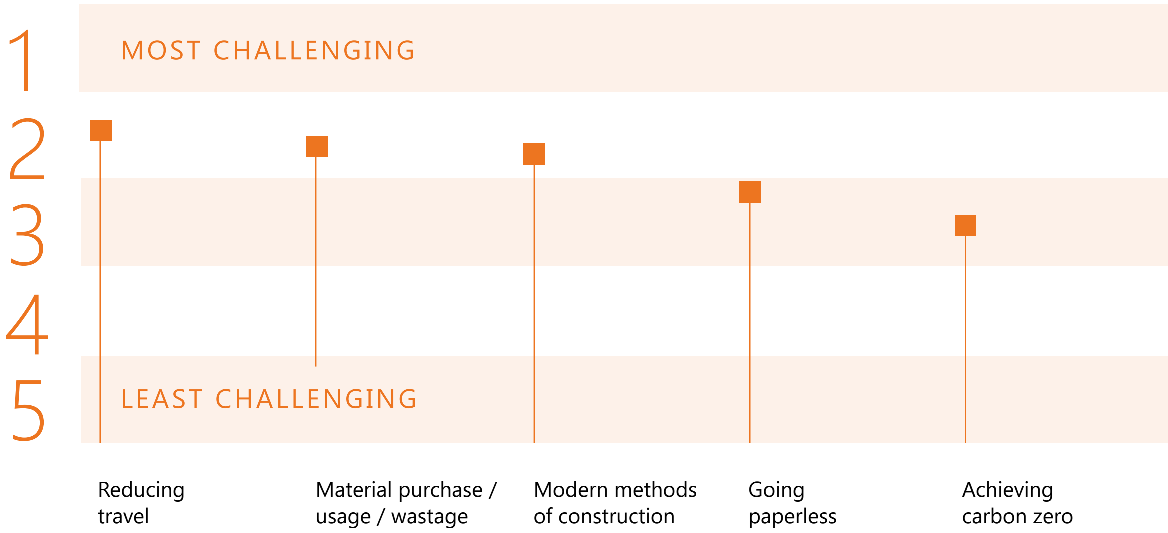
Thinking about sustainability, the industry may be more concerned about challenges where there is a lack of sensible alternatives or options. Travel and materials (plus an industry drive towards sustainability) are all essential elements of the industry that are impossible to ignore and alternatives are not always possible / easily available.

In comparison paper can be (and frequently is) replaced by digital counterparts whilst a drive towards carbon zero puts responsibility into the hands of businesses either through direct reduction or offsetting.

AVERAGE RANKING

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



!

22% VS. 8%

Reducing travel for smaller companies - ranked least challenging **(22% vs. 8% for larger businesses).**

RISK MANAGEMENT

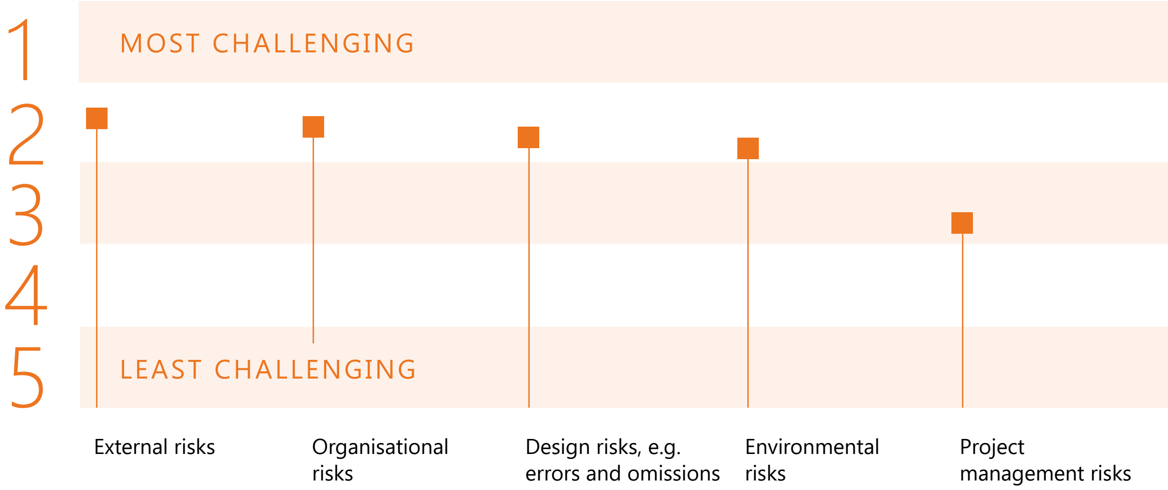
Risk is inherent in the construction industry and all manner of attempts are made to control it. Particularly uncontrollable (for respondents here) are external risks – for example, new stakeholder demands and organisational risks, for example staff churn.

Having a lack of control over these makes them especially challenging. By contrast being able to control one's own risk (project management) is deemed less challenging as systems and procedures can be put in place to control this internally (notice again potential for the **illusion of control**).

AVERAGE RANKING [A]

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



DECENTRALISATION OF WORKERS

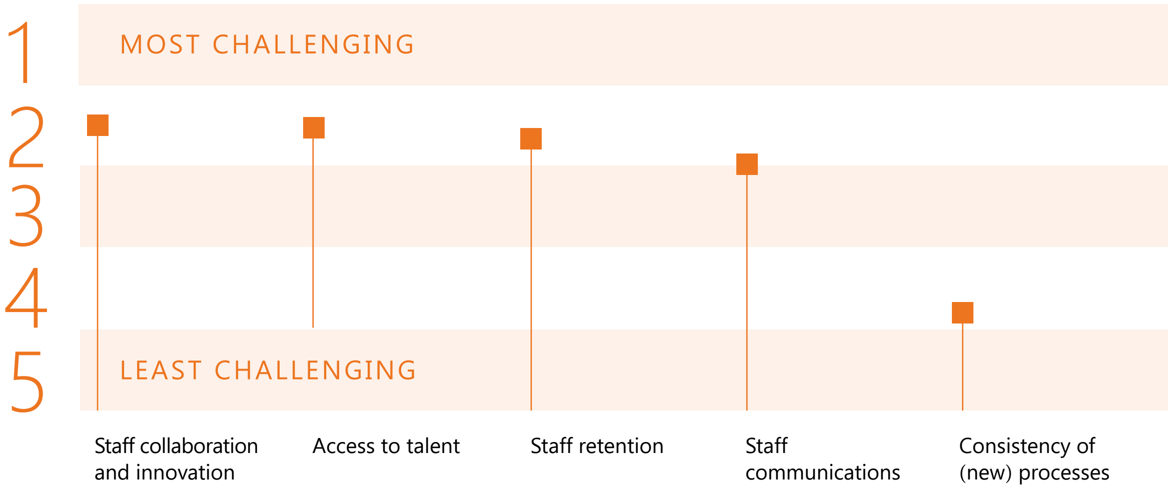
Three clear challenges cluster in relation to remote working - collaboration and innovation; access to talent; and retention. And all are likely to be interlinked. Facilitating support for collaboration is likely to attract the best talent who can see the potential for their input being valued. In turn an innovative and collaborative culture is likely to minimise staff churn.

Finding mechanisms to support collaboration both face-to-face and digitally therefore has the potential to be productive for the industry.

AVERAGE RANKING [B]

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



!

[A] 21% VS. 6%

Design risks for larger business – ranked most challenging **(21% vs. 6%) for smaller businesses).**

!

[B] 44% VS. 22%

Access to talent for larger businesses – ranked most challenging **(44% vs. 22% for smaller businesses);** Staff retention for smaller business – ranked most challenging **(31% vs. 13% for larger businesses).**

04

Present bias risks downplaying digital transformation

WHAT DO YOU UNDERSTAND BY THE TERM, 'DIGITAL TRANSFORMATION'?

Moving to a post COVID world by embracing technological advances.

SPECIALIST SUBCONTRACTOR, £50-£149M T/O

Transforming supply chain, project management and security onto a manageable, digital platform.

SPECIALIST SUBCONTRACTOR, £150-500M T/O

Transfer of high technology into architecture.

MAIN CONTRACTOR, £150-500M T/O

The process of creating new business processes and culture.

COMMERCIAL, £50-£149M T/O

The new construction mode with scientific and technological innovation as the core, and intelligent construction as the technical means, is quietly changing the whole industrial chain of the industry.

MAIN CONTRACTOR, £150M - £500M T/O

It means harnessing the power of digital technologies to make operations more efficient.

CIVIL ENGINEERING & UTILITIES, £150M - £500M T/O

Digital transformation is about changing the way companies create value for their customers by leveraging modern technology and communications.

CIVIL ENGINEERING & UTILITIES, £150M - £500M T/O

Digital transformation of construction industry is adaptation of new digital technology, like Internet of things (IOT) and cloud computing, to make your construction smarter.

MAIN CONTRACTOR, £150M - £500M T/O

Question(s):

D1 - What do you understand by the term, 'digital transformation' (of the construction industry)?

WHY SHOULD DIGITAL TRANSFORMATION BE EMBRACED / FEARED?

Helping to make the construction industry more scientific.

MAIN CONTRACTOR, £15-£49M T/O

Digital transformation uses new resources to harness the power of data to improve communication, efficiency and productivity, and security. Can solve the workforce challenge.

MAIN CONTRACTOR, £15-49M T/O

Digital transformation is sustainable and will make running the business so much easier plus it's more cost effective and faster.

MAIN CONTRACTOR, £50M - £149M T/O

Automating business processes and defending against disruption.

CIVIL ENGINEERING & UTILITIES, £150M - £500M T/O

We need people not machines.

MAIN CONTRACTOR, £15M - £49M T/O

The introduction of technology into the hands of the operative should increase design communication, workmanship and logistics. The problem is the reluctance of those to tackle the technology and the pathetic education of IT in our education system. I'm totally self taught but those half my age have no idea!

MAIN CONTRACTOR, £15-£49M T/O

There is a need for digital empowerment but it is not a universal answer to all our issues.

MAIN CONTRACTOR, £15M - £49M T/O

I think that the overall infrastructure simply isn't there yet.

MAIN CONTRACTOR, £15M - £49M T/O

Question(s):

D3 - Why do you say digital transformation should be [feared] / [embraced]?

DIGITAL TRANSFORMATION

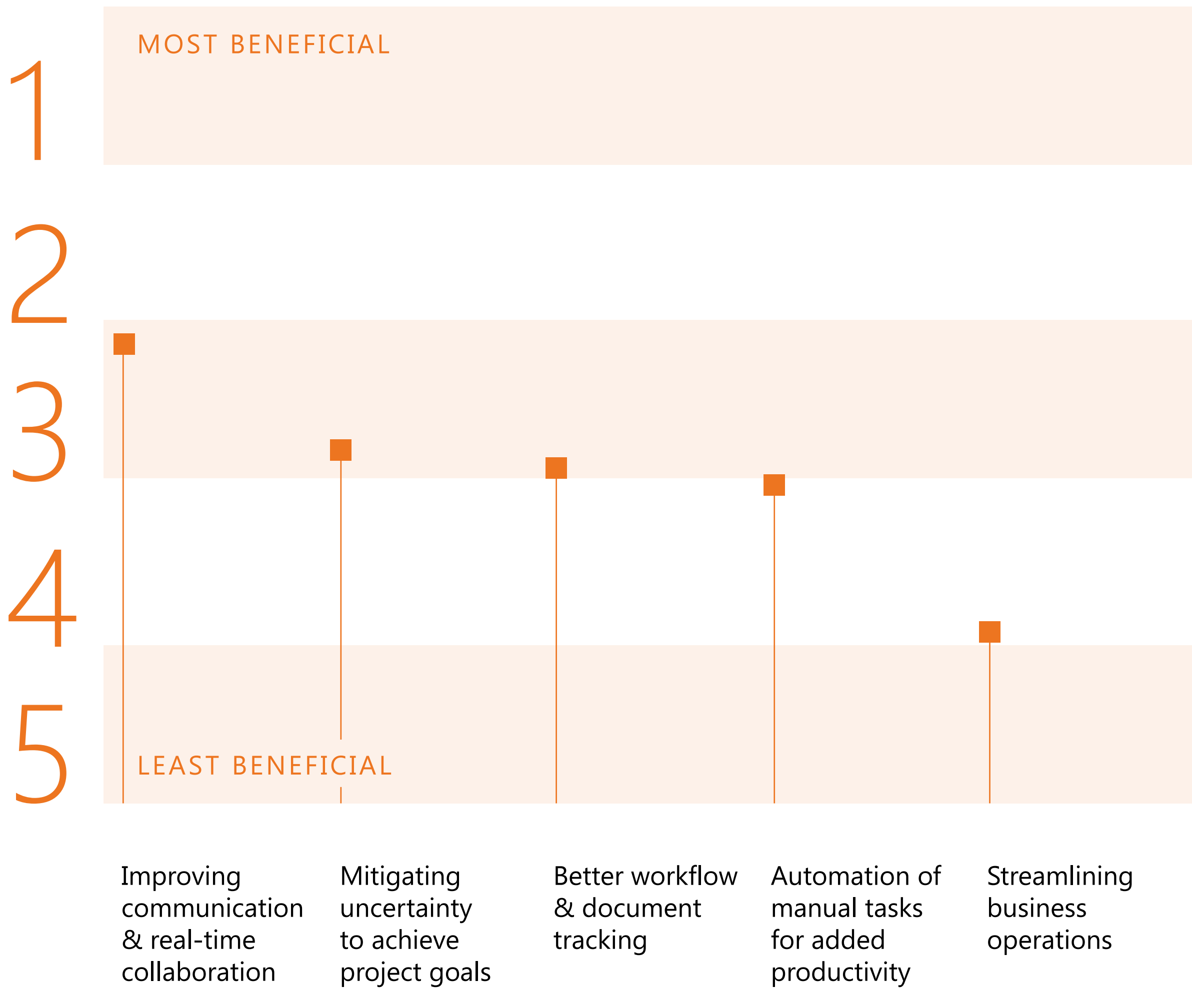
Improved collaboration and communication is seen as the most defining benefit of digital transformation. Indeed, from this other benefits of risk mitigation, better document tracking and added productivity can flow.

Knowing this priority of benefits can help providers position their digital transformation offers accurately.

AVERAGE RANKING

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



Question(s):

D8 - Please rank the following in order of the BENEFIT presented to your business over the next five years?

DIGITAL TRANSFORMATION

Over two thirds of businesses believe digital transformation should be embraced.

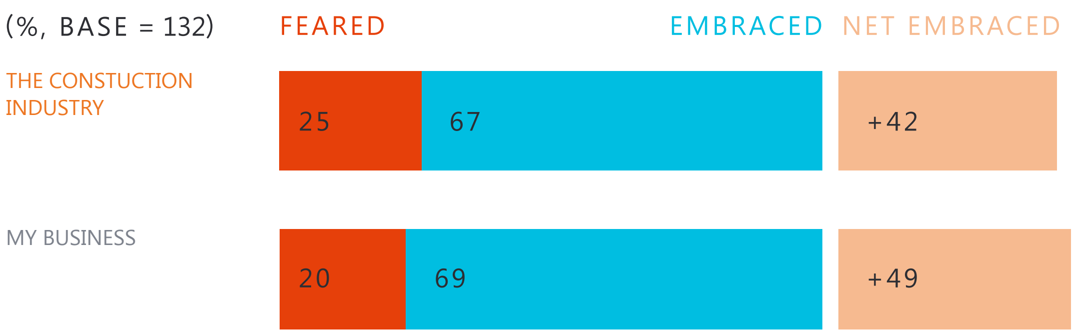
Individual business are slightly more positive about digital transformation as a whole with a business net positive score +49% (Fig. 9) compared to an industry net positive score of +42% (Fig. 8).

This again provides a slight hint around an **illusion of control** for businesses whereby they believe they can better exploit digital transformation than their peers. This may or not be the case - without knowing the precise set-ups of different businesses we cannot pass firm judgement here - but links to an illusion of control are apparent.

ON THE WHOLE DIGITAL TRANSFORMATION IS SEEN AS WELCOME STEP FORWARD

FIG. 8

FIG. 9



34% VS 15%

Smaller business significantly more likely to fear digital transformation for the industry **34% vs. 15% for larger businesses).**

52% VS 22%

Larger business significantly more likely to embrace transformation for the industry **52% vs. 22% for smaller businesses).**

56% VS 31%

and for their own business **56% vs. 31% for smaller businesses).**

Question(s):

D2a / b Digital transformation embraced vs. feared industry / business?

CURRENT IT SET-UP & LICENSING

The construction industry is known for its slow adoption of new technology. A ‘leading edge is bleeding edge’ fear prevails in the industry and this is reflected in our survey.

Whilst there clearly is adoption of modern IT set-ups (could based and SaaS on the left hand side of Fig. 10 and 11), just under half of the businesses in our survey still heavily incorporate local servers in their IT set-up (45% - Fig. 10) and over three quarters still use perpetual license models either exclusively, or in partnership with SaaS licenses (83% - Fig. 11).

There is then still clearly a job to do in convincing businesses to modernise their IT systems (assuming these IT formats are appropriate for the business).

THERE IS NOTABLE RESISTANCE TO ‘MODERN’ IT

FIG. 10

CURRENT IT SET-UP

Totally cloud based	Predominantly cloud based	50/50 cloud and local sever	Predominantly local server based	Totally local server based
21	34	39	05	01

(%, BASE = 132)

MORE MODERN — MORE TRADITIONAL

FIG. 11

CURRENT IT LICENSING

Predominantly Software as a Service (SaaS) model	Roughly equivalent between perpetual licence purchase and Software as a Service (SaaS) models	Predominantly perpetual licence model
17	49	34

!

35% VS 6%

Larger companies significantly more likely to be totally cloud based than smaller companies **(35% vs. 6%)**

Question(s):

D2a / b Digital transformation embraced vs. feared industry / business?

CHANGING IT SERVER / LICENSE MODEL

Potentially in line with a reticence to adopt modern models of IT, nearly all respondents flag IT transformation a likely to change in the future (Fig. 12 & 13). This of course may reflect either a shift from traditional to modern or from one modern provider to another but – with a reminder that digital transformation is ranked as the (relatively) least pressing of challenges - again possibly suggests a **present bias to business thinking** - where more difficult decisions / changes are planned for down the road and have not been handled to date.

As and when these decisions are made providers may look to leverage the primary drivers for the choice of current IT systems / licenses.

HIGH EXPECTATION OF FUTURE IT CHURN

FIG. 12

LIKELIHOOD TO CHANGE IT SET-UP

(%, BASE = 132)

LIKELY (NET) UNSURE NOT LIKELY (NET)

Primary driver for CLOUD BASED set-up
Up to date documentation / version control
Ranked 1st – 41%

Primary driver for LOCAL SERVER set-up
Full control over data and security policies
Ranked 1st – 34%

FIG. 13

LIKELIHOOD TO CHANGE IT LICENSE MODEL

(%, BASE = 132)

LIKELY (NET) UNSURE NOT LIKELY (NET)

Primary driver for SAAS MODEL
Ability to easily add and remove licences
Ranked 1st – 38%

Primary driver for PERPETUAL LICENCE MODEL
Longer term cost savings
Ranked 1st – 33%

Question(s):

E4 / 8 - Likelihood to change IT set-up / license model in next 5 years?

E2 / 3 - Please rank the following in order of the BENEFIT to your business (IT set-up)?

E6/ 7- Please rank the following in order of the BENEFIT to your business (license model)?

!

47% vs 24%

E2 - Larger companies significantly more likely than smaller companies to see data usage as the most compelling benefit of a cloud approach **(47% vs. 24%).**

!

56% vs 22%

E8 - Larger companies significantly more likely to be very likely to change IT license model compared to smaller companies.

READINESS FOR DIGITAL TRANSFORMATION

Whilst most business claim a five year plan to alter their IT set-ups, the majority of these still have some way to go before they are completely prepared for digital transformation – again hinting at a **present bias** (a focus on the present at the expense of the future).

Fewer than half of business believe that they are completely prepared for digital transformation. Taking into account the (relative) under-estimation of the digital transformation challenge identified earlier this begs the questions of whether (at least some) of these businesses are operating under a misapprehension about the scale of the challenge.

Suppliers could usefully help 'sense check' preparations for businesses and offer appropriate support.

STILL A WAY TO GO FOR THE MAJORITY OF BUSINESSES AHEAD OF DIGITAL TRANSFORMATION

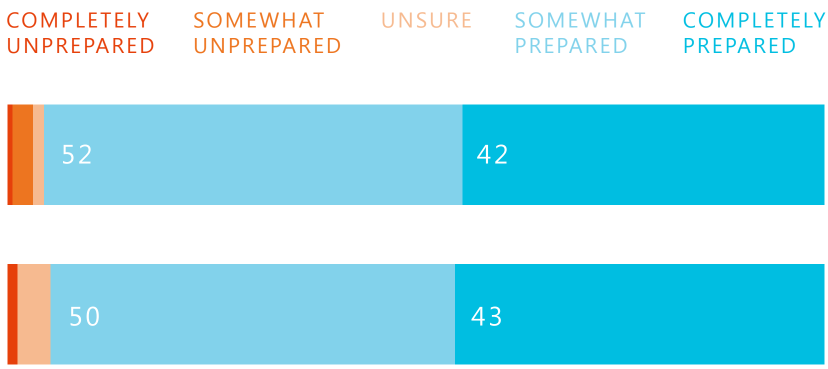
(%, BASE = 132)

FIG. 14

THE CONSTUCTION INDUSTRY

FIG. 15

MY BUSINESS



Question(s):

D5 / 6 - Digital transformation prepared vs. unprepared industry / business?

58% VS 19%

Larger businesses significantly more likely to claim complete preparedness for their business **(58% vs. 19% for smaller businesses).**

72% VS 38%

Smaller businesses significantly more likely to claim partial preparedness for their business **(72% vs. 38% for larger businesses).**

05

Pinpointing industry support needed for digital transformation

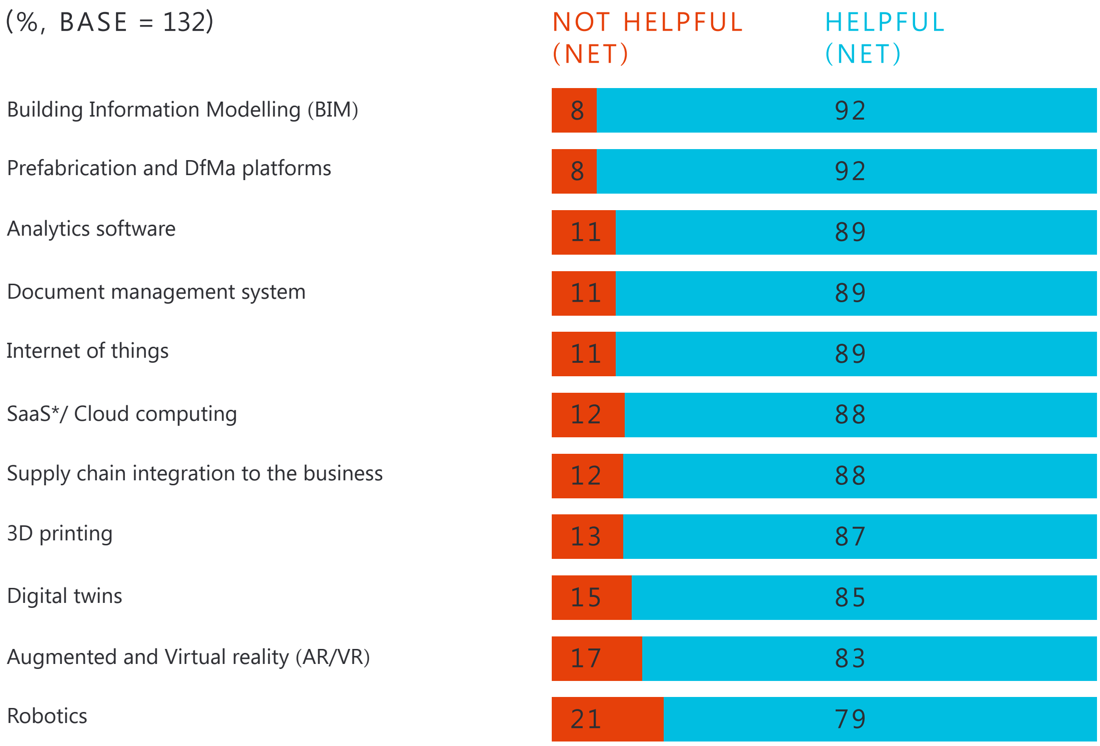
TYPES OF DIGITAL TRANSFORMATION

The perceived utility of different forms of digital transformation is generally high. Lower scores are generated by those forms of transformation at the extreme of the premise: AR / VR; robotics; and, digital twins. Higher scores are typically generated by those forms of transformation that are more 'familiar', e.g. BIM; Saas / cloud; document management systems.

Focussing on these more familiar areas to begin with may prove an easier / more fruitful task for suppliers.

HIGH CLAIMED AWARENESS OF UTILITY – FINAL PUSH NEEDED?

FIG. 16



Question(s):

D9 - Types of digital transformation helpful vs not helpful?

!

Larger companies significantly more likely than smaller businesses to find utility in all types of digital transformation except BIM **(no significant difference here, ie. all find this equally useful).**

ROI METRICS FOR DIGITAL TRANSFORMATION

Perhaps reflecting a lack of deep knowledge of the benefits of digital transformation, little differentiation is made between possible RoI metrics for digital transformation.

This potentially suggests that championing a specific outcome may prove fruitful in crystallising the ultimate benefit of digital transformation to a business.

NO CLEAR ROI METRIC FOR DIGITAL TRANSFORMATION

POINTS ALLOCATED OUT OF 100 (BASE = 132)

26 Reduced expenditure

25 More bids / contracts won

25 Optimised labour

24 Improved efficiency

!

25PTS VS 22PTS

Larger companies significantly more likely to allocate more importance to optimised labour **(25pts vs. 22pts for smaller companies).**

Question(s):

D11 – Allocate 100 points across RoI metrics.

DIGITAL TRANSFORMATION

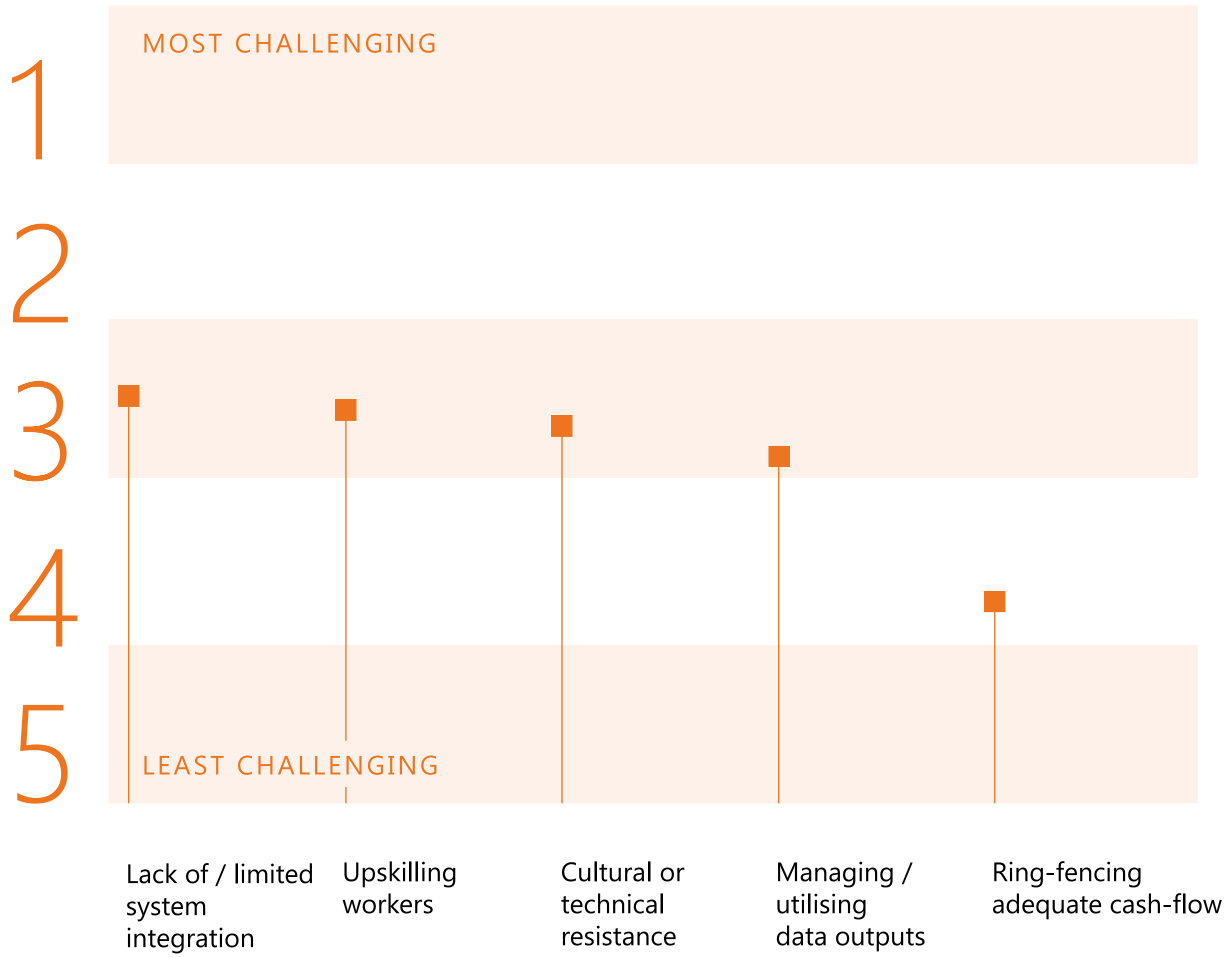
Two major themes emerge from the primary challenges perceived around digital transformation.

- Technical (i.e. system integration and utility of outputs)
- People (i.e. internal upskilling and culture)

AVERAGE RANKING

(out of 5, where 1 is most challenging and 5 least)

(%, BASE = 132)



Question(s):

D4- Please rank the following in order of the CHALLENGE presented to your business over the next five years?

!

29% VS 9%

Larger companies more likely to rank cultural resistance as primary challenge **(29% vs. 9% for smaller companies).**

BUSINESS READINESS FOR DIGITAL TRANSFORMATION

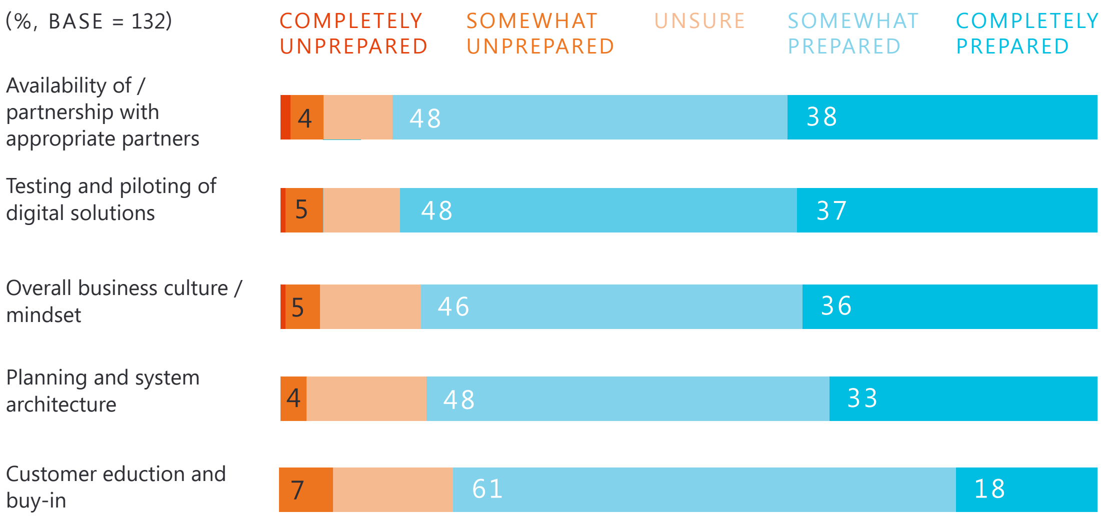
A people theme is also reflected in self-reported readiness for digital transformation with only one in five businesses claiming they are prepared with the tools to support customer education and buy-in.

Existing suppliers in this space are likely to be well placed to offer help here with their existing resources and knowledge to help develop bespoke resources.

Furthermore our report suggests that the majority of business do not yet have a partner supplier in place (who can also help with piloting and testing digital solutions). Finding a suitable partner is thus critical for businesses.

CUSTOMER EDUCATION AND BUY-IN LAGGING IN PARTICULAR

FIG. 17



!

Larger businesses significantly more likely than smaller businesses to claim complete preparedness than smaller business, for all domains except planning and system architecture **(directionally more prepared).**

Question(s):

D7 - Digital transformation, how prepared would you say your business is in each of the following domains?

Final thoughts

FINAL THOUGHTS

Drawing the ideas together in this report presents us with an intriguing picture of the construction industry. On the one hand resilient and with a ‘can do’ attitude, whilst on the other, potential tech laggards susceptible to fixating on the present and overestimating capabilities.

No doubt the truth lies somewhere in between and will vary by business, but these characteristics do provide an opening for digital suppliers to start dialogues with businesses to understand where on the continuum each business sits.

And whilst each business will require a tailored approach it would seem that at a topline level the industry is in need of:

- Raised confidence in ‘modern’ IT systems
- A crystallisation of the importance of digital transformation for the industry, including specific RoI to be expected
- Information and resources to change (employee and customer) skills, culture and mindsets around digital transformation
- Technical support for digital transformation itself

Digital suppliers providing these can help construction business draw themselves clear of potentially burdensome decision making influences and strive confidently into a digital future.

BUILDING FOR THE FUTURE

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