

Brexit and beyond: addressing the skills shortage in the UK construction industry

Article

Accepted Version

Merryweather Powell, J. and Shibeika, A. (2025) Brexit and beyond: addressing the skills shortage in the UK construction industry. Proceedings of the Institution of Civil Engineers - Management, Procurement and Law. ISSN 1751-4312 doi: 10.1680/jmapl.24.00051 Available at <https://centaur.reading.ac.uk/120533/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1680/jmapl.24.00051>

Publisher: ICE

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Accepted manuscript doi: 10.1680/jmapl.24.00051

Accepted manuscript

As a service to our authors and readers, we are putting peer-reviewed accepted manuscripts (AM) online, in the Ahead of Print section of each journal web page, shortly after acceptance.

Disclaimer

The AM is yet to be copyedited and formatted in journal house style but can still be read and referenced by quoting its unique reference number, the digital object identifier (DOI). Once the AM has been typeset, an ‘uncorrected proof’ PDF will replace the ‘accepted manuscript’ PDF. These formatted articles may still be corrected by the authors. During the Production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal relate to these versions also.

Version of record

The final edited article will be published in PDF and HTML and will contain all author corrections and is considered the version of record. Authors wishing to reference an article published Ahead of Print should quote its DOI. When an issue becomes available, queuing Ahead of Print articles will move to that issue’s Table of Contents. When the article is published in a journal issue, the full reference should be cited in addition to the DOI.

Accepted manuscript doi:
10.1680/jmapl.24.00051

Submitted: 12 July 2024

Published online in 'accepted manuscript' format: 30 January 2025

Manuscript title: Brexit and beyond: addressing skills shortage in the UK construction industry

Authors: Jayden Merryweather Powell¹ and Amna Shibeika²

Affiliations: ¹Turner & Townsend alinea, London, UK, ²School of Construction Management and Engineering, University of Reading, Reading, UK

Corresponding author: Amna Shibeika, School of Construction Management and Engineering, University of Reading, Reading, UK

E-mail: a.shibeika@reading.ac.uk

Abstract

This study investigates the causes of and responses to skill shortages in the UK construction industry, focusing on the impact of Brexit. This study employs a qualitative approach using semi-structured interviews with industry professionals, including quantity surveyors and commercial directors. The data were analysed thematically to identify key themes and insights. The study finds that skill shortages in the UK construction industry are exacerbated by both Brexit and long-standing issues such as negative industry perceptions, an aging workforce, technological shifts, and educational barriers. These shortages have far-reaching impacts on project timelines, costs, tendering processes, and shareholder returns. Current strategies, including government initiatives and educational reforms, have had limited success in addressing these issues. This study suggests several strategies to mitigate skill shortages, including enhancing apprenticeship programs, improving the industry's public perception, and adjusting immigration policies post-Brexit. This study provides a comprehensive understanding of the multifaceted nature of skill shortages in the UK construction industry, particularly in the post-Brexit context. This study offers practical recommendations for policymakers and industry stakeholders to develop a more resilient and sustainable workforce.

Keywords: built environment; construction management; education & training; workforce.

Introduction

The global construction industry is facing severe skill shortages driven by an aging workforce, rapid technological advancements, and shifting educational priorities (Adrian et al., 2022, Rotimi et al., 2023, Torku et al., 2021). Countries such as the United States, South Africa, and Australia face increasing difficulties in recruiting and retaining skilled workers, resulting in significant delays, cost escalations, and unmet infrastructure demands (Albalawi et al., 2024, Juricic et al., 2021). Against this backdrop, the United Kingdom mirrors these global challenges while grappling with unique domestic pressure.

Although the UK construction workforce grew to 2.6 million in 2022, persistent shortages affect 13.3% of firms, emphasizing the industry's struggle to attract sufficient skilled labour (CITB, 2023, ONS, 2023). Projections reveal a pressing need for an additional 224,900 workers by 2027 to meet industry demands (CITB, 2023). In addition to these pressures, Brexit—the United Kingdom's withdrawal from the European Union, finalized in January 2020—has compounded skill shortages by curtailing access to a previously reliable EU labour pool and increasing dependence on a shrinking domestic workforce. These challenges are particularly pronounced in regions like London, where EU migrants once accounted for half of the workforce of medium to large firms (Meardi et al., 2017).

While the UK's skill shortages reflect broader demographic and technological trends observed globally, Brexit introduces an additional layer of complexity (Smith et al., 2020). The withdrawal not only restricts labour mobility but also disrupts the construction sector's ability to respond to market demands. Recognizing these challenges, the UK government and industry

stakeholders have introduced several initiatives, including the Construction 2025 strategy and campaigns, such as Open Doors and Future Made. These initiatives aim to address long-term workforce challenges by promoting construction careers, improving training, and enhancing workplace inclusivity (CITB, 2018, CITB, 2020). However, as Adekunle and Jha (2024) note, while apprenticeships and financial incentives can help alleviate short-term labour shortages, education reforms are more effective in addressing long-term skills gaps. This highlights the need for a balanced approach that combines immediate solutions with strategies for sustained workforce development.

This study investigates the causes of and responses to skill shortages in the UK construction industry, focusing on the impact of Brexit. By understanding the multifaceted nature of this problem, this study aims to inform policies and initiatives that foster a resilient and sustainable workforce. The remainder of this paper is organized as follows. The next section reviews the relevant literature on skill shortages in the construction sector. The subsequent sections outline the methodology, present the findings, and discuss the implications for policy and practice. The final section concludes with recommendations and directions for future research.

1. Literature review

A skill shortage generally refers to recruitment difficulties arising from a mismatch between the supply of skills and employer demand (Green et al., 2020, Green and Ashton, 1992). While definitions vary, some emphasize cognitive and technical abilities, while others focus on behavioural attributes such as dependability and adaptability (Corradini et al., 2023, Oliver and Turton, 2009). The complexity of this term often leads to questions about whether shortages

reflect true scarcity or a deficiency relative to employer expectations, sometimes referred to as a ‘skills deficiency’ (Green and Ashton, 1992). In this study, skill shortages in the construction industry are defined as persistent gaps between the demand for specific technical and behavioural competencies and the availability of individuals with these skills. This definition encompasses both quantitative shortages (insufficient personnel) and qualitative deficiencies (a lack of expertise and aptitudes). In the UK, these challenges are exacerbated by Brexit, which has restricted access to EU labour and intensified pre-existing skills gaps (Deb and Li, 2024).

Globally, skill shortages in construction are driven by demographic, economic and educational factors. An aging workforce, declining interest among younger generations, and the industry’s economic volatility contribute to these challenges (Dainty et al., 2005, Torcu et al., 2021).

Moreover, poor public perceptions of the sector, combined with the under-representation of minorities (Heydari et al., 2024) and women (Worrall et al., 2008) deter potential entrants.

Structural issues, such as reliance on subcontracting and underinvestment in vocational training, further weaken skill development frameworks, increase turnover, and deter new talent (Kamardeen and Hasan, 2022). To address these global challenges, countries have implemented strategies such as dual-education systems (Kamardeen and Hasan, 2022), and targeted recruitment initiatives and investments in workforce development to bridge skill gaps and adapt to emerging technologies (Ginigaddara et al., 2024, Zhang et al., 2024).

In the UK, these global trends intersect with unique local factors, most notably Brexit. Before Brexit, EU workers played a critical role in meeting the sector's labour needs, particularly in urban centres, such as London, where EU migrants constituted a significant portion of the

workforce (Meardi et al., 2017). Post-Brexit immigration restrictions have sharply reduced access to this labour pool (Yatoo, 2022), exacerbating skill shortages and exposing the limitations of current initiatives, such as apprenticeships, T-levels, and public campaigns, to address both quantitative and qualitative gaps (Deb and Li, 2024, CITB, 2023). A systematic review by Daniel et al. (2020) highlighted significant challenges in apprenticeship programs, including mismatches between training content and industry needs, low completion rates, and limited employer engagement. These issues further explain the persistence of skill shortages, threatening productivity and the sector's capacity to meet infrastructure targets (Malik et al., 2019).

Brexit's impact not only worsened labour shortages but also highlighted the need for adaptive workforce strategies. Deb and Li (2024) emphasize that targeted upskilling and training initiatives are critical for mitigating these shortages and aligning workforce competencies with the sector's evolving demands. For example, the promotion of emerging technologies, such as Building Information Modelling (BIM) and prefabrication, offers opportunities to enhance productivity while addressing skill mismatches (Ding et al., 2023, Ginigaddara et al., 2024). However, this sector continues to face the economic, political, and legal uncertainties that exacerbate these challenges, necessitating a cohesive and sustainable workforce strategy.

2. Methodology

A qualitative approach was chosen to explore the complex issue of skill shortages in the UK's construction industry, particularly the impact of Brexit. Miles et al. (2020) emphasized that qualitative inquiry is crucial for examining complex, context-dependent phenomena that are not

easily quantifiable. This method effectively captures the nuanced perspectives and subjective experiences of industry professionals and aligns with the study's goal of generating detailed insights into skill shortages.

2.1. Data Collection

Data were collected through semi-structured interviews with six key informants, including quantity surveyors, site managers, and commercial directors from both contractor and consultancy backgrounds. The details of the interviews are presented in Table 1. The semi-structured interview format was chosen because it allows for a guided yet flexible exploration of participants' views and experiences (Galletta and Cross, 2013). This method facilitated in-depth discussions, while enabling the interviewee to probe further into specific areas of interest. Ten open-ended questions were used to guide the interviews and encourage the participants to share detailed insights.

The sample size, though limited, is appropriate for an exploratory study of this nature, as the goal is to generate detailed insights rather than to achieve statistical generalizability. Judgment sampling was employed to ensure diversity of perspectives (Marshall, 1996), focusing on individuals with varied roles and experience levels within the industry. This approach allowed for a comprehensive exploration of the topic within the constraints of this study (Campbell, 2020, Marshall, 1996).

Informed consent was obtained from all participants before conducting the interviews to ensure that they were aware of the study's purpose and rights. The participants received sample questions to ensure that they were well prepared. Interviews were conducted online via Microsoft Teams, which minimized communication barriers and allowed for the observation of non-verbal cues, such as facial expressions and body language, thus enhancing the understanding of participants' responses. Transcripts were automatically created and checked for accuracy by listening to interview recordings several times. Data confidentiality is maintained through secure storage.

2.2. Data Analysis

Qualitative data collected from the interviews were analysed using thematic analysis guided by Braun and Clarke (2006). Thematic analysis was chosen for its ability to systematically identify, analyse, and report patterns within the data (Miles et al., 2020), making it suitable for exploring complex issues, such as skill shortages and the impact of Brexit.

This analysis involved several steps. First, interviews were transcribed verbatim to ensure data accuracy. Researchers familiarized themselves with the data by reading and re-reading the transcripts. Initial codes were generated to highlight significant data features, which were subsequently grouped into meaningful themes and sub-themes. These themes were reviewed and refined to ensure that they accurately represented data. Finally, themes were defined and named to clearly communicate the research findings. This approach allowed for a comprehensive understanding of participants' perspectives, with emerging themes and relative codes (Braun and Clarke, 2006).

3. Findings

The analysis identified four main themes: defining skill shortages, non-Brexit causes of these shortages, Brexit's impact on the UK construction industry, and strategies to address skill shortages post-Brexit. Each theme is examined in detail with direct quotes from interviewees to offer comprehensive insights into their views and experiences.

3.1. Defining skills shortages:

Responses to the question of what constitutes a skill shortage highlight several common themes and perspectives. Concerns were raised regarding the lack of people in the construction industry. This was highlighted by interviewee 1 in the following quote: “Lack of people coming into the industry. Lack of people wanting to take on the industry.” This includes both a shortage of young people interested in construction careers and general disinterest among potential entrants. This was attributed to the industry not being well advertised or promoted, especially to younger generations, as argued by the same interviewee: “The industry isn't advertised enough; the younger generation don't know about it.”

Furthermore, the interviewees perceived a skill shortage as the insufficient availability of suitable skilled labour to meet market demands. This includes not having enough individuals with the right knowledge, skills, and abilities at various levels, as interviewee 4 stated: “Not having the individuals with the right knowledge and abilities in the industry at the present time. I think that's across the board from labourers on site to QS and project managers and construction managers”.

Additionally, the shortage is not just about the number of workers but also about the quality of skills and experience available. Interviewee 3 defined skill shortage as: "A shortage of the correct people, skill set, and experience to impact and complete projects". This shortage affects the ability to complete projects efficiently and achieve high standards.

3.2. Non-Brexit Causes of the Skills Shortage

A common view among the interviewees was that skill shortages in the UK construction industry were influenced by many factors beyond Brexit's immediate impact. These factors, including technological shifts, public perception issues, an aging workforce, barriers to entry, workers moving abroad, and fluctuations in economic activity collectively shape the current landscape of skill shortage.

Participants noted a shift in societal priorities towards technology-driven opportunities, as highlighted by interviewee 1 who observed: "At school and after it's all iPads and screens but it's now quite apparent that it's easy to make money on your phone from home as opposed to being on a building site." This trend suggests that traditional construction roles may be perceived as less financially rewarding and appealing than technology-related roles are. The construction industry faces a significant challenge in public perception, with interviewee 2 noting the following: "Construction is also not appealing, that's a cultural thing, working in IT is something people aspire for, getting your hands dirty as a bricklayer in the freezing cold is not as appealing anymore." Similarly, interviewee 4 emphasized the need to improve industry attractiveness through better training and conditions, stating: "The construction industry is just not seen as

attractive. We need to make them attractive... better perks to the job. I think that needs to be driven home."

Despite opportunities for traditional nine-to-five office work on the consultancy side, a large percentage of the industry's work remains outdoor because of the nature of construction. This, coupled with the lack of positive promotion to the younger generation, who increasingly seek more comfortable working conditions, such as work-from-home schemes, leads to poor industry perception and, consequently, fewer entrants, aggravating skill shortage. This is supported by the following quotes from Interviewee 2: "Construction is also not appealing, that's a cultural thing, working in IT is something people aspire for, getting your hands dirty as a bricklayer in the freezing cold isn't as appealing anymore", and Interviewee 6: "I think the industry over the years still has a poor image. I think people look at that and they don't want to go and work in a porta cabin on a horrible wet day. That may be a generalisation as there are people on the consultancy side who work in nice offices in London, but nevertheless, I think we can improve the image of the industry and hence we can attract people such as school leavers".

The industry's workforce demographics reflect an ageing population, as described by interviewee 1 who observed, "I was talking to a friend about the lack of young forklift drivers, these guys are getting old in their 60s... nobody wants to do it." Interviewee 3 highlighted the impending knowledge gap due to retiring workers, stating: "You're not recruiting people to backfill those skill sets and the knowledge that will be leaving." Interviewee 5, however, highlighted that this issue is not universal across all firms, particularly contractors who still see a considerable influx of younger workers: "I still see lots of youngsters coming through. I think as a practice we're

quite well spread; we have lots of different ages. The contractors I work with seem to have quite a wide range. So probably not, I see people of all ages, I think on a professional side it's still anything from 16-65 really.”

Another important issue is that economic opportunities abroad attract skilled workers from the domestic construction sector, as noted by Interviewee 3: "How many good people are going to Saudi Arabia...a lot. Why? Because of the money." This trend complicates efforts to retain talent within the industry. Furthermore, economic barriers such as high tuition fees hinder entry into construction careers, particularly for those from lower socioeconomic backgrounds. Interviewee 5 pointed out: "University courses are expensive, that's a barrier to entry for some people. If you're from a lower socioeconomic background you'll struggle to pay the tuition fees so you probably won't become a surveyor."

Interviewee 1 emphasized that the skills shortage is not a Brexit issue but rather a consequence of insufficient education and training for the younger generation: “It's our attitude and how we teach our kids in school from an early age that is the key point to the skills shortage here. It's not really a Brexit thing we just don't promote it enough. It's not an attractive industry...we don't educate kids as to what it can do for them...we don't offer education from an early age and even then, training isn't always up to standard in some cases.”

Additionally, fluctuations in construction output and economic conditions contribute to a volatile industrial job market. According to Interviewee 5, "Construction output dropped... there's been less construction starts." Economic instability affects workforce planning and recruitment.

3.3. Brexit and the UK Construction Industry

The impact of Brexit on the UK construction industry has been profound, particularly regarding its reliance on EU labour and the sourcing of materials. Interviews with industry professionals have revealed significant benefits the sector previously enjoyed from the free movement of people and resources and the subsequent challenges faced post-Brexit.

3.3.1. Extent of Reliance on EU-Skilled Labor and Benefits of Free Movement of People and Resources

The reliance on EU-skilled labour was noted to be substantial, particularly in metropolitan areas such as London. Interviewee 1 observed, "Probably more than 50% of the workforce on the ground would've been Europeans," emphasizing the significant dependency on this labour pool. This large labour pool ensured that contractors needed a workforce to meet project demands. Interviewee 1 further highlighted, "You could choose right across the UK to eg. Romania because they all wanted to come to the UK as it was paying the money."

The consensus among the interviewees was that the free movement of people and resources prior to Brexit significantly benefited the UK's construction industry. Interviewee 1 emphatically stated: "Absolutely, 100%. Having a vast pool of labour to pick from is a great advantage.

Limiting the amount of potential workforce, you understand that the percentages do not work out

for you." Interviewee 2 reinforced this by noting the diversity and dedication of the labour force, saying, "Walking around building sites pre-Brexit and hearing the number of languages spoken by tradesmen speaks volumes – particularly in the South East."

Prior to Brexit, construction projects benefited from the seamless access to resources and materials. Interviewee 1 noted, "Pre-Brexit it was never a doubt or a question as to when my next load of bricks are gonna be delivered because it was always going to be there." This reliability of the material supply ensured that the project timelines were maintained.

Most interviewees expressed concerns about the UK's attractiveness to EU workers post-Brexit. Interviewee 1 explained, "The money was in the UK construction as we have been building like crazy... Now it has evened out a lot because the eastern block countries have joined Europe."

Interviewee 4 highlighted the bureaucratic hurdles, stating, "They can only come here for a defined period and need to apply for visas, which costs money." This sentiment was echoed by Interviewee 6, who noted stricter immigration laws and their deterrent effects. However, Interviewee 3 remained optimistic, suggesting that the UK's advanced construction industry and the role of labour recruiters might still attract EU workers despite the new restrictions.

3.3.2. Brexit impact on labour shortage

The following findings illustrate that Brexit has intensified preexisting challenges and introduced new uncertainties, further straining the construction sector.

While some interviewees argued that the skill shortage predated Brexit, citing longstanding issues such as inadequate education and the 2008 recession, Interviewee 5 suggested that the UK

had already experienced a decline in skilled labour availability before Brexit, indicating deeper systemic problems: "Some not all. I think we were already in the position with the recession where there were less people entering the construction industry at both levels being construction operatives and construction professionals on the management side."

Despite these pre-existing issues, the interviewees consistently identified Brexit as a major contributor to skill shortages and their subsequent impact on the UK's construction industry. For example, Interviewee 4 noted: "I don't think it has helped but it has probably exposed the reliance we had on European labourers and other workers coming over and doing those jobs."

Brexit has led to a noticeable exodus of workers from the UK, particularly those from Eastern Europe. Interviewee 1 said: "Our streets used to be full of Polish families, since Brexit they have all gone back home." This reduction in the labour force has resulted in difficulties in finding workers for various tasks, including the transportation of goods across the UK. The increased difficulty in obtaining essential construction materials has led to delays and uncertainties in project timelines, as echoed by Interviewee 4: "It is taking contractors longer to build, and they are also reporting problems obtaining more than they have done."

Cost-push inflation also has a significant impact. Brexit has limited the availability of labour, leading subcontractors and contractors to increase their prices, which in turn raises tender prices for clients. This escalation increased the overall construction costs across the UK, as demonstrated by Interviewee 6: "It pushed up prices from subcontractors due to increased labour cost, and then consequently when we price a job it pushed our tender prices up to clients. So,

we're not competitive and that's a major post-Brexit impact that has affected me." The predictability of pricing in construction projects is affected by the post-Brexit pricing.

Interviewee 3 highlighted the uncertainty faced by the contractors: "Before there was a bit more fixity around what the contractor would provide you. Now people aren't sure where they're getting their labour from." This lack of certainty has led to increased costs for subcontractors who pass on these costs to their clients.

Furthermore, skill shortages have had a profound impact on project timelines and progress in the UK's construction industry. According to site managers, such as Interviewee 1: "As a site manager I have come across problems with programme and progress and wanting to hit certain targets." Brexit-related uncertainties further exacerbated these issues, as noted by Interviewee 3: "Around Brexit you might have been planning you'd have all this resource to deal with and then post Brexit there was a mass change." These challenges have resulted in delays and hindered project completions, highlighting the critical role of skilled labour in meeting construction timelines. Furthermore, shortages affect not only project timelines, but also shareholder returns. Interviewee 1 explains: "Pre-Brexit targets and projections would always increase with an increase in production. Now we are not able to add onto the programmes. Therefore, the impact would be return to the shareholders... not as big as previously." This inability to scale operations due to skill shortages has led to reduced profitability and shareholder returns compared with pre-Brexit expectations, highlighting the financial implications of the shortage.

Another issue is that securing tenders has become increasingly challenging because of difficulties in meeting project commitments and deadlines caused by skill shortages. Interviewee

2 notes: "We are finding difficulties in getting main contractors to tender for schemes because they cannot meet their current commitments... because they do not have skilled labour."

Moreover, competition for skilled subcontractors, particularly in trades such as MEP, has intensified, impacting project feasibility and tendering processes, as highlighted by Interviewee 3: "If the contractor can't get the resource because the contractor who is paying more down the road... you end up with a shortage on site which naturally impacts the programme and tendering."

Skill shortages have significantly increased project costs in the UK construction industry. Interviewee 4 explains: "The project costs more because contractors are placing orders to subcontractors who are paying more for labour... at one point these guys (bricklayers) were getting paid way more than we realized just because they were in short supply." And this increase in supply chain costs, particularly in critical areas such as brickwork and MEP, inflated tender prices and overall project delivery costs, as emphasized by Interviewee 5: "We're seeing less skilled labour on sites which has helped fuel rises in supply chain costs... generally the key packages so brickwork and MEP."

3.4. Strategies to Combat Skill Shortages in the Post-Brexit UK Construction Industry

Interviewees identified several strategies to address skill shortages: focusing on early education, engaging the younger generation, apprenticeships and training, accessible education, improving public perception, reassessing immigration policies, and leveraging technological advancement.

Accepted manuscript doi: 10.1680/jmapl.24.00051

Embedding positive perceptions of construction careers at an early age is emphasized.

Interviewee 1 highlighted the significance of educational initiatives: "Education, always education right from the start. It's perception; if you're promoting construction as a good career option in schools, it generally starts to resonate." Interviewee 3 stressed the need for career fairs and early promotion: "They need to go back to schools, having career fairs, and promoting career opportunities and apprenticeships at a far earlier stage." Engaging students in hands-on construction activities was also deemed essential. Interviewee 4 shared: "A week before Covid in 2020 at a school... I talked to year 10/11 students about the roles required to deliver a project, encouraging them to explore it further if interested."

Expanding apprenticeship programs and training initiatives is crucial. Interviewee 4 noted: "The natural one is more apprenticeships... we've seen the benefit of those at the company."

Additionally, providing funded degree courses can attract individuals deterred by the costs of higher education. Interviewee 5 suggested: "Providing degree courses for people who cannot afford them, maybe sponsored or paid for by an employer." Government funding can further reduce entry barriers, as Interviewee 5 emphasized: "The best thing the government can provide is funding, reducing barriers to entry for more people to take a shorter route."

Enhancing public perception of the construction industry is necessary to attract quality workers. Interviewee 1 stated: "Increase public perception at the start to attract the right calibre of people who are genuinely interested." Interviewee 6 added: "Improving the image of the industry... it needs to become an industry held at the same standard as bankers and lawyers." Addressing the

stigma associated with construction jobs can also attract more workers, as Interviewee 3 noted: "Europeans take pride in their jobs... we should adopt a similar attitude."

Relaxing post-Brexit immigration policies can help remove barriers for skilled workers.

Interviewee 3 argued: "Why would we handicap ourselves because of a points system?"

Interviewee 6 suggested making it easier for skilled construction workers to enter the UK: "Post-Brexit we made it more difficult for people to work here; we should look at relaxing those legalities."

Finally, leveraging technology was seen as making the construction industry more efficient and appealing. Interviewee 1 highlighted: "Using technology to lessen the workload is a matter of time... with tech, it's easier to manage responsibilities."

4. Discussion and recommendations

This study highlights the complex nature of skill shortages in the UK's construction industry, particularly in the post-Brexit context. The findings confirm that these shortages involve both quantitative deficits, such as a lack of new entrants, especially among younger individuals, and qualitative deficiencies, in which skilled labour is unavailable to meet specific demands (Albattah et al., 2022, Green and Ashton, 1992). While Brexit has intensified these shortages, it is also a contributing factor. Other influences, such as technological advancements, negative perceptions of the industry, an aging workforce, and economic fluctuations, also significantly impact the construction labour market. These insights align with existing research that identifies

multiple interrelated causes of labour shortages in the construction industry (Elbashbishy and El-Adaway, 2024).

Beyond Brexit, this study identifies several long-standing systemic issues. The aging workforce and industry's struggle to attract younger workers due to negative perceptions are particularly concerning. The construction sector's reputation as physically demanding and slow to embrace modern technologies has deterred young people from entering the field despite the growing need for technologically adept workers. Furthermore, technological shifts, such as digital construction and prefabrication, have created a demand for specialized skills that the current workforce often lacks. This gap between the industry's needs and the available skillsets highlights the importance of repositioning construction as a viable and attractive career path, particularly in the role of technology (Albalawi et al., 2024, Ginigaddara et al., 2024, Zhang et al., 2024).

The broader implications of these shortages are significant and affect project timelines, costs, tendering processes, and shareholder return. This aligns with Adrian et al. (2022), who argue that labour shortages can result in escalated costs and delays, underscoring the need for an integrated approach to workforce development.

Brexit has restricted access to EU labour and disrupted supply chains, exacerbating existing issues with labour availability and project costs. Findings from the interviews reinforce Mohamed et al. (2017) assertion that Brexit has significantly impacted the construction workforce, particularly in urban centres reliant on EU workers. Although Brexit has heightened the severity of labour shortages, many of the underlying challenges predate it, indicating a need

for comprehensive, long-term solutions that extend beyond immediate immigration policy adjustments.

Drawing from the interviewees' perspectives and aligned with these findings, this study proposes the following strategic measures to address skill shortages in the UK's construction industry:

- **Education and Apprenticeships:** Expanding and aligning apprenticeship programs with industry needs are essential. This can be achieved through collaboration with educational institutions to design relevant curricula, and by providing government incentives to employers. Challenges include ensuring employer participation and adapting to evolving industry requirements. Effectiveness can be evaluated by tracking apprentice employment rates and skill development.
- **Public Perception:** Improving the industry's image through targeted campaigns that showcase diverse and rewarding career paths, particularly in technology-driven roles. Nationwide efforts, including social media campaigns and school outreach, can shift perceptions; however, overcoming long-standing stereotypes remains challenging. Effectiveness can be measured by increased interest in construction-related careers and demographic shifts in the workforce.
- **Immigration Policies:** Revisiting immigration policies to introduce sector-specific visas and streamline application processes is crucial for addressing labour shortages. Simplifying visa procedures could attract skilled workers; however, political resistance and competition with other sectors could pose challenges. Success can be evaluated by

monitoring labour inflows, reducing skill shortages, and improving the project delivery metrics.

5. Conclusions

This study investigates the causes of and responses to skill shortages in the UK construction industry, focusing on the impact of Brexit. The study concludes that skill shortages in the UK construction industry, intensified by Brexit, are rooted in broader systemic issues such as an aging workforce, technological changes, and negative industry perceptions. These challenges highlight the need for integrated policy responses that address both immediate labour constraints and long-term workforce sustainability. By focusing on enhancing apprenticeships, improving public perception, and adapting immigration policies, the construction sector can develop a more resilient and adaptable labour force.

The implications of these findings suggest that policymakers and industry leaders must collaborate on strategic initiatives to attract and retain their talent. Future research could explore the potential of automation and digital technologies to mitigate skill shortages and further investigate regional variations in labour needs across the UK. Expanding this study to include a larger sample size would also enhance the generalizability of the results and provide deeper insights into effective workforce strategies in the post-Brexit era.

References

- ADEKUNLE, O. & JHA, M. K. 2024. An Optimization Model to Address the Skilled Labor Shortage in the Construction Industry. *International Journal of Civil Engineering*, 22, 981-993.
- ADRIAN, G., EMMANUEL, A.-N. & SAMUEL, M. 2022. The effects of skills shortages on construction costs in the UK. *Proceedings of the Institution of Civil Engineers - Management, Procurement and Law*, 175, 78-86.
- ALBALAWI, R., GOODRUM, P. M. & ALBATTAH, M. A. 2024. Evolution of Multiskilled Craft Professionals and Their Level of Certification in the US Industrial Construction Sector. *Journal of Management in Engineering*, 40.
- ALBATTAH, M., SHIBEIKA, A. & SAMI UR REHMAN, M. 2022. Understanding the Hiring Issues of the Craft Workers in the UAE's Construction Labor Market: Project Managers Perspective. *Buildings*, 12.
- BRAUN, V. & CLARKE, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- CAMPBELL, S. 2020. Purposive sampling: complex or simple? Research case examples. *Journal of research in nursing*, 25, 652-661.
- CITB 2018. Fuller Working Lives in Construction www.citb.co.uk: Construction Industry Training Board.
- CITB. 2020. New campaign to change young people's minds about construction.
- CITB 2023. The skills construction needs United Kingdom; United Kingdom Five Year Outlook 2023-2027. <https://www.citb.co.uk/>.
- CORRADINI, C., MORRIS, D. & VANINO, E. 2023. Towards a regional approach for skills policy. *Regional Studies*, 57, 1043-1054.
- DAINTY, A., ISON, S. & BRISCOE, G. 2005. The construction labour market skills crisis: The perspective of small-medium-sized firms. *Construction Management & Economics*, 23, 387-398.
- DANIEL, E. I., OSHODI, O. S., GYOH, L. & CHINYIO, E. 2020. Apprenticeship for craftspeople in the construction industry: a state-of-the-art review. *Education + Training*, 62, 159-183.
- DEB, P. & LI, G. 2024. Upskilling the UK Workforce. *International Monetary Fund, Selected Issues Paper*, 30.
- DING, M. J., JIE, F., SISOMBAT, S. & BANDLAMUDI, B. S. 2023. Impact of the Skill Shortage on the Construction Supply Chain Performance in Australia. *Civil Engineering Journal (Iran)*, 9, 356-371.

- ELBASHBISHY, T. & EL-ADAWAY, I. H. System Dynamics Modeling for Investigating the Retention of Skilled Labor in the Construction Market. *Computing in Civil Engineering 2023: Resilience, Safety, and Sustainability - Selected Papers from the ASCE International Conference on Computing in Civil Engineering 2023, 2024*. 564-572.
- GALLETTA, A. & CROSS, W. E. 2013. *Mastering the Semi-Structured Interview and Beyond; From Research Design to Analysis and Publication*, NYU Press.
- GINIGADDARA, B., PERERA, S., FENG, Y., RAHNAMAYIEZEKAVAT, P. & KAGIOGLOU, M. 2024. Industry 4.0 driven emerging skills of offsite construction: a multi-case study-based analysis. *Construction Innovation*, 24, 747-769.
- GREEN, A., OWEN, D., ATFIELD, G., BALDAUF, B., BRAMLEY, G. & KISPETER, E. 2020. Employer decision-making around skill shortages, employee shortages and migration: literature review. Birmingham and Coventry: University of Birmingham and Warwick Institute for Employment Research.
- GREEN, F. & ASHTON, D. 1992. Skill Shortage and Skill Deficiency: A Critique. *Work, Employment & Society*, 6, 287-301.
- HEYDARI, M. H., SHOJAEI, A., NADERI, H. & IORIO, J. 2024. Paving the Way for Progress: A Systematic Literature Review on Diversity, Equity, and Inclusion in the AEC Industry. *Journal of Management in Engineering*, 40.
- JURICIC, B. B., GALIC, M. & MARENJAK, S. 2021. Review of the construction labour demand and shortages in the EU. *Buildings*, 11, 1-17.
- KAMARDEEN, I. & HASAN, A. 2022. Occupational Health and Safety Challenges for Sustaining Construction Apprentice Programs. *Journal of Management in Engineering*, 38.
- MALIK, A., HAKEEM, A., JIMOH, I. & ADEKOYA, O. 2019. Investigating the Potential Economic Impact of Brexit Decisions on Business Performance in the United Kingdom: A Case Study of the UK Construction Industry. *International Journal of Management, Accounting and Economics*, 6.
- MARSHALL, M. N. 1996. Sampling for qualitative research. *Family Practice*, 13, 522-526.
- MEARDI, G., GREEN, A. E. & KISPETER, E. 2017. Regulating EU migrant labour: lessons from the construction industry.
- MILES, M. B., HUBERMAN, A. M. & SALDAÑA, J. 2020. *Qualitative data analysis : a methods sourcebook*, Los Angeles, SAGE Los Angeles.
- MOHAMED, M., PÄRN, E. & EDWARDS, D. 2017. Brexit: measuring the impact upon skilled labour in the UK construction industry. *International Journal of Building Pathology and Adaptation*, 35, 264-279.
- OLIVER, J. & TURTON, J. 2009. Is There a Shortage of Skilled Labour. *British Journal of Industrial Relations*, 20, 195-200.

Accepted manuscript doi:
10.1680/jmapl.24.00051

- ONS 2023. Construction statistics, Great Britain: 2022. *In: STATISTICS*, O. F. N. (ed.).
www.ons.gov.uk: Office for National Statistics.
- ROTIMI, J. O. B., RAMANAYAKA, C. D. E., OLATUNJI, O. A. & ROTIMI, F. E. 2023.
Migrant construction workers' demography and job satisfaction: a New Zealand study.
Engineering, Construction and Architectural Management, 30, 1122-1145.
- SMITH, D., AHMED, V. & SABOOR, S. BREXIT: Assessing the impact on the UK
construction industry & mitigating identified risks. Proceedings of the International
Conference on Industrial Engineering and Operations Management, 2020. 515-523.
- TORKU, A., BAYRAK, T., OGUNLANA, S. O., CHAN, A. P. C. & OWUSU-MANU, D. G.
2021. Are the Ageing Workforce Satisfied with the Construction Work Environment?
Advances in Science, Technology and Innovation.
- WORRALL, L., HARRIS, K. E., THOMAS, A. D., STEWART, R., JESSOP, S.,
MCDERMOTT, P. & PLATTEN, A. 2008. Organisational cultures: Progression and
retention barriers to women in the UK construction industry. *The International Journal of
Diversity in Organizations, Communities, and Nations: Annual Review*, 8, 31-40.
- YATOO, J. 2022. Impact of BREXIT on United Kingdom and European Union. *International
Journal of Advanced Research in Science, Communication and Technology*, 311-314.
- ZHANG, W., DING, N., XUE, R., HAN, Y. & LIU, C. 2024. Building success: the impact of
talent recruitment on the growth of the construction industry. *Engineering, Construction
and Architectural Management*.

Tables

Table 1: The interviews details - (Source: Table created by authors)

| | Occupational location | Type of firm | Job role | Years of experience | Interview duration (Minutes) |
|---------------|-----------------------|--------------|--------------------|---------------------|------------------------------|
| Interviewee 1 | East Midlands | Contractor | Site Manager | 28 | 32:24 |
| Interviewee 2 | Herefordshire | Consultant | Quantity Surveyor | 37 | 28:51 |
| Interviewee 3 | London | Consultant | Associate Director | 12 | 29:04 |
| Interviewee 4 | London | Consultant | Associate Director | 11 | 17:58 |
| Interviewee 5 | London | Consultant | Director | 22 | 30:00 |
| Interviewee 6 | London | Contractor | Commercial Manager | 42 | 18:18 |