Journal of Construction in Developing Countries, 31(1), 199–222, 2026

Soft Skills as a Tool for Improving Building Artisans' Employability to Achieve Sustainable Development Goal (SDG) 8

Mohamad Shaharudin Samsurijan[1], *Andrew Ebekozien[1,2,3,4,5], Mohamed Ahmed Hafez[2,7], Nooramira Ghazali[5,6], Wellington Didibhuku Thwala[3] and Romeo Osayande Aigbe[8]

First submission: 22 Septenber 2025 | **Accepted:** 8 January 2026 | **Published:** 30 June 2026

To cite this article: Mohamad Shaharudin Samsurijan, Andrew Ebekozien, Mohamed Ahmed Hafez, Nooramira Ghazali, Wellington Didibhuku Thwala and Romeo Osayande Aigbe (2026). Soft skills as a tool for improving building artisans' employability to achieve Sustainable Development Goal (SDG) 8. *Journal of Construction in Developing Countries*, 31(1): 199–222. https://doi.org/10.21315/jcdc.2026.31.1.8

To link to this article: https://doi.org/10.21315/jcdc.2026.31.1.8

Abstract: In the construction industry, the role of building artisans is crucial. However, skills development can pose challenges to artisans' employability in countries with weak apprenticeship schemes. Studies have shown that soft skills can enhance employability, and by extension, improve decent work and economic growth (Sustainable Development Goal 8 [SDG 8]). Nevertheless, studies examining the role of soft skills in improving the employability of Nigerian building artisans in relation to SDG 8 remain scarce. This study assesses the role of soft skills in enhancing artisans' employability and proposes measures to improve skills development, thereby contributing to the achievement of SDG 8. Using a qualitative research design, the researchers engaged 36 participants in Lagos and Abuja, Nigeria, and achieved data saturation. The data were manually analysed under two themes, and the results are presented accordingly. The findings reveal that soft skills development can enhance the employability of building artisans and contribute to the achievement of SDG 8. The findings also categorise measures to improve soft skills development for building artisans' employability, and by extension, the achievement of SDG 8, directed at relevant government agencies, employers and employees. This research contributes to promoting the implementation of soft skills to enhance the employability of Nigerian building artisans and to, consequently, support the achievement of SDG 8.

Keywords: Apprenticeship, Building industry, Encumbrances, Nigeria, Soft skills, Sustainable Development Goal (SDG) 8

[1]School of Social Sciences, Universiti Sains Malaysia, 11800 USM, Pulau Pinang, MALAYSIA
[2]Faculty of Engineering and Quantity Surveying, INTI International University, 71800 Nilai, Negeri Sembilan, MALAYSIA
[3]Faculty of Engineering, Built Environment and Information Technology, Walter Sisulu University, East London 5200, SOUTH AFRICA
[4]Department of Quantity Surveying, School of Environmental Studies, Auchi Polytechnic, Auchi, Edo State, NIGERIA
[5]Faculty of General Studies and Advanced Education, Universiti Sultan Zainal Abidin, 21300 Kuala Nerus, Terengganu, MALAYSIA
[6]Islamic Social Finance Research Centre, Universiti Sultan Zainal Abidin, 21300 Kuala Nerus, Terengganu, MALAYSIA
[7]Faculty of Management, Shinawatra University, Sam Khok, Pathum Thani 12160, THAILAND
[8]Centre for Sustainable Procurement, Environmental Social Standards Enhancement, University of Benin, 300213 Benin City, NIGERIA
*Corresponding author: ebekoandy45@gmail.com

INTRODUCTION

The construction sector is one of the leading contributors to job creation in society. The industry comprises many stakeholders, one of whom is building artisans. Artisans play a key role in achieving this objective, particularly in developing countries. The skills acquired by this group are especially significant in light of the sector's transformation, including the rapid evolution of digital visualisation technologies, automation and other innovations. This transformation requires an interconnected environment that seamlessly integrates all parties, including building artisans, to enable streamlined project delivery (Shahruddin et al., 2025). Oviawe and Uwameiye (2020) observed that organisations are increasingly demanding skills from the global workforce to supplement existing expertise. Nigerian building artisans are no exception, given their pivotal role in the construction industry. Van Eck (2024) and Shahruddin et al. (2025) emphasised that the industry is undergoing substantial changes, prompting a re-evaluation of behaviours, attitudes and traits. Such changes have the potential to enhance the career prospects, work performance and interpersonal relationships of construction workers, including building artisans. These intangible attributes extend beyond technical skills. The Organisation for Economic Co-operation and Development (OECD, 2016) refers to them as soft skills, which are non-technical in nature. Also known as "people skills" or "interpersonal skills", soft skills are key to success in any task. They encompass qualities such as adaptability, relationship-building, collaboration, problem-solving, teamwork and effective communication (van Heerden et al., 2023; Shahruddin and Husain, 2024). Remedios (2012) described soft skills as traits, abilities and skills related to behaviour, attitudes and personality, rather than technical skills or formal knowledge.

In the construction industry, employers seek personnel who are adequately prepared with specific skills and abilities (Oviawe and Uwameiye, 2020). Such personnel can also assist companies in achieving higher levels of efficiency and productivity through personality traits and attributes that enhance workplace success. One way to achieve this is through soft skills development. Al Mallak, Tan and Laswad (2020) emphasised that these skills are personal qualities that enhance career prospects, workplace performance and social interactions. Building artisans are included among those whose career prospects can be enhanced through such skills. For this study, building artisans are defined as technically skilled tradesmen engaged under varying contractual arrangements. In building projects, they are involved in activities such as aluminium fixing, welding, blocklaying, bricklaying, carpentry, landscaping, steel fixing, painting, tiling, plumbing, electrical work, upholstery, joinery, concreting and roofing. This definition aligns with those adopted by Afolabi et al. (2019) and Ebekozien et al. (2023a), who examined the same trades in their studies. Musarat et al. (2023) affirmed that as the

global construction industry progresses towards digitalisation, there is a need to integrate harmonious collaboration between digital and human elements, including leadership styles and values among employees. Accordingly, this study assesses soft skills as a tool for enhancing the employability of building artisans to support the achievement of the United Nations' (UN) Sustainable Development Goal 8 (SDG 8) by fostering the integration and creation of personalised and individualised construction products and services. Decent work and economic growth (SDG 8) is one of the 17 UN SDGs (UN, 2018; 2022; Perks and McQuilken, 2020). This study focuses specifically on SDG 8 because when effectively embraced and developed, soft skills can enhance artisans' employability and productivity, and by extension, contribute to the achievement of this goal.

The extant literature focuses on identifying and assessing soft skills within the context of the construction industry (Adepoju et al., 2022; Chandramohan, Perera and Dewagoda, 2022; Ebekozien et al., 2023b; van Heerden et al., 2023; McGrath and Ramsarup, 2024; Ray, 2024; Siriwardhana and Moehler, 2024). Van Eck (2024) emphasised that the construction sector is evolving in many respects and that conventional approaches to preparing practitioners, including building artisans, to meet industry demands are no longer adequate. In addition to technical skills, the development of soft skills may improve productivity among artisans. Soft skills may also be critical to career success within the building artisans' profession. Oni and Aina (2020) asserted that soft skills are essential for achieving success in construction-related workplaces, while Succi and Canovi (2020) argued that soft skills in construction-related careers can improve employability. However, a notable gap remains in understanding how these soft skills enhance the employability of building artisans, and by extension, contribute to the achievement of SDG 8. Consequently, there is a pressing need to recognise the role of soft skills in improving artisans' employability, given the group's unique tasks within the industry and their potential influence on productivity. Failure to address this need may leave building artisans unemployable or underemployed in a rapidly advancing industry. Furthermore, there is a paucity of studies examining the role of soft skills in enhancing the employment prospects of building artisans, despite their pivotal role on construction sites. The unique position of building artisans necessitates a tailored investigation into how soft skills can enhance employability, and by extension, support the achievement of SDG 8. This issue is particularly timely because employability has become a critical concern: less than 20% of the Nigerian workforce has been reported to be employable (Oviawe and Uwameiye, 2020). This finding is corroborated by Aliu and Aigbavboa (2020), who reported that firm owners are continually seeking workers with the appropriate skills to perform effectively.

The benefits of soft skills in urbanisation are numerous. Ebekozien et al. (2023b), van Heerden et al. (2023) and Van Eck (2024) identified reduced coordination and supervision requirements, improved synergy, project success, increased profitability, enhanced collaboration among team members, improved teamwork and greater job flexibility as key benefits. Ngo (2024) also highlighted securing desirable employment, effective time management, fostering positive relationships and career advancement as outcomes of soft skills development. This study argues that to improve building artisans' employability and project productivity, embracing soft skills development through on-the-job apprenticeship training is essential. Technical skills alone may not be sufficient for employing building artisans, nor do they necessarily translate into success and increased profitability without the development of soft skills. This is because the contemporary construction workplace demands more than technical skills to perform effectively (Van Eck, 2024). Most extant studies have focused on developing green skills in the informal sector (Owusu-Agyeman and Aryeh-Adjei, 2024), apprenticeship in skills development (Ebekozien et al., 2024b), mentorship as a tool for improving artisans' skills (Ebekozien et al., 2024a), Malaysian architects' experiences with soft skills (Shahruddin et al., 2025), vocational training and skills development (McGrath and Ramsarup, 2024) and policy gaps and reviews for skills development in small-scale industries (Yadav et al., 2024). Other studies (Musonda and Okoro, 2021; Adepoju et al., 2022; van Heerden et al., 2023; Shahruddin et al., 2025) have shown that soft skills can enhance employability, and by extension, promote decent work and economic growth (SDG 8). Despite the scale and complexity of global challenges related to the employability of professional and skilled workers in the construction industry, studies examining the role of soft skills in improving the employability of Nigerian building artisans in relation to achieving SDG 8 remain scarce. Accordingly, this study assesses the role of soft skills in enhancing artisans' employability and proposes measures to strengthen skills development, thereby contributing to the achievement of SDG 8. The stated objectives are intended to address these gaps:

1. To assess the role of soft skills in enhancing the capabilities of building artisans in Nigeria.
2. To suggest measures to improve soft skills for building artisans' employability, and by extension, support the achievement of SDG 8.

LITERATURE REVIEW

Soft Skills in the Construction Industry

The term soft skills began to gain attention in the early 1990s (Remedios, 2012). Soft skills are also referred to as future work skills, non-technical skills,

generic skills, 21st-century skills, life skills, transferable skills, interpersonal skills and people skills, among others (Aliu and Aigbavboa, 2023; Ebekozien et al., 2023b). Previously, the relevance of soft skills in construction-related workplaces was considered secondary to technical skills (Van Eck, 2024). However, the evolving nature of the construction sector has brought soft skills to the foreground, highlighting them as critical to the sector's success. Robles (2012) asserted that soft skills can be developed through practical application in everyday work settings. The construction industry is one of the fastest-growing sectors, and the contribution of its stakeholders, including building artisans, has become increasingly significant in the 21st century. Trends in innovation and digitalisation across industries have expanded the roles of stakeholders, including personnel, beyond conventional practices to meet emerging demands (Aliu and Aigbavboa, 2020; Ebekozien et al., 2023b). Tay et al. (2017) argued that the industry requires personnel with broader expertise beyond traditional technical skills. Boateng and Ofori-Sarpong (2002) found that Ghanaian employers prefer prospective personnel who are equipped with both technical and generic skills. Similarly, the United Kingdom (UK) higher education sector and the Council for Industry reported that, for prospective personnel to perform effectively in the workplace, they should demonstrate attributes such as decision-making skills, problem-solving abilities, intellectual values and confidence (Archer and Davison, 2008). This reflects the industry's shift towards more integrated and enduring relationships, underscoring the importance of strong interpersonal skills and effective communication competencies in improving performance on construction sites. Building artisans are not exempt from these requirements (Azzouz and Papadonikolaki, 2020). Low, Gao and Ng (2021) identified evolving employer expectations regarding soft skills among future construction-related graduates, including visionary thinking, conviction, entrepreneurial mindset, adaptability, curiosity and resilience.

Studies have shown that training institutions have yet to adequately meet the need for soft skills development (Barak, 2013; Aluko et al., 2018; Musonda and Okoro, 2021; Ebekozien et al., 2023b; Bedoya-Guerrero et al., 2024). This shortfall presents a significant challenge and calls for urgent action, as it highlights a clear gap in current training practices. It also corroborates claims of a disparity between what is taught during apprenticeship training (the performance gap) and what is required on construction sites (the expectation gap), as illustrated in Figure 1.

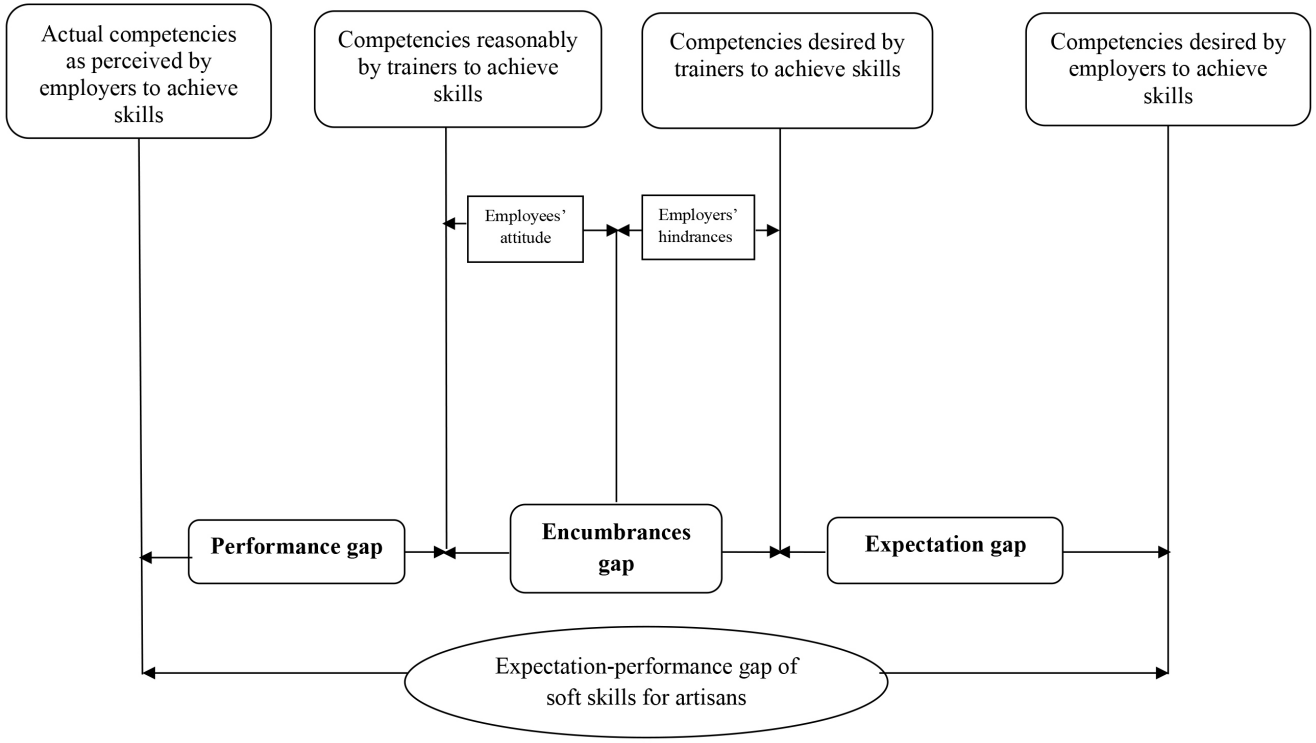

Figure 1. The expectation-performance gap of soft skills for building artisans

Source: Modified from Bui and Porter (2010) and Ebekozien et al. (2023b)

In this study, the performance gap refers to the difference between actual and expected performance, while the expectation gap denotes the difference between what employers expect and what is actually delivered. This study proposes measures to mitigate these constraints and address the identified gaps. Pitan (2017) identified 11 skills that were ranked highly, corroborating earlier findings by the National Universities Commission (2004) and Pitan (2012), who examined areas in which Nigerian organisations need to train new personnel. Building artisans are not exempt from the need to enhance productivity to achieve SDG 8. The identified skills include technical, self-directed learning, interpersonal, information technology, decision-making, communication, entrepreneurial, critical thinking, effective problem-solving and numeracy skills (Van Eck, 2024). These skills are considered critical and are applicable globally, including in the UK (Lowden et al., 2011), Malaysia (Cheong et al., 2018) and Nigeria (Ebekozien et al., 2023b). Pitan (2017) further observed that new graduates were largely unprepared for the job market, a finding that is also relevant to building artisans. Sources of soft skills development involve multiple stakeholders, including colleagues, peers in training or apprenticeship schemes, mentors and trainees, teachers and employers (Cimatti, 2016). Integrating soft skills into artisanship schemes is feasible through didactic approaches such as on-site project work, educational games, seminars and workshop-based training (Cimatti, 2016). Soft skills have been categorised from various perspectives. Bedoya-Guerrero et al. (2024) grouped them into methodological, social and personal skills based on shared attributes. Bernstein et al. (2014) similarly conceptualised soft skills within three fundamental domains: the ability to work in heterogeneous groups (collaboration and communication), digital interactivity (digital skills and ingenuity) and autonomous capability (critical thinking, research skills, autonomous learning and active learning). Table 1 summarises the key soft skills identified in the extant literature. However, it remains uncertain whether these soft skills can be directly adopted to improve the employability of building artisans. Addressing this uncertainty is one of the key gaps this study seeks to fill.

Table 1. Summary of identified soft skills through extant literature

Source	Summary	Identified Soft Skills
Karimi and Pina (2021)	Major soft skills for science, technology, engineering and mathematics (STEM) graduates	1. Communication 2. Collaboration 3. Leadership 4. Creativity 5. Critical thinking 6. Problem-solving 7. Empathy 8. Human connection 9. Emotional intelligence
Robles (2012)	Major soft skills for new staffers according to business executives	1. Communication 2. Teamwork 3. Integrity 4. Work ethic 5. Professionalism 6. Positive attitude 7. Flexibility 8. Responsibility 9. Interpersonal skills 10. Courtesy
Taylor (2016)	Top 10 soft skills	1. Communication 2. Teamwork 3. Leadership 4. Work ethic/integrity 5. Professionalism 6. Problem-solving 7. Flexibility 8. Responsibility/ reliability 9. Interpersonal relations 10. Conflict management
Doyle (2022)	Major soft skills that interest employers	1. Communication 2. Teamwork 3. Leadership 4. Work ethic 5. Critical thinking 6. Positive attitude

Source: Modified from Van Eck (2024)

The extant literature indicates that a soft skills gap exists within the construction industry (Mahasneh and Thabet, 2015; Van Eck, 2024). The challenges faced by artisans may have further exacerbated this gap as they attempt to develop soft skills. Oni and Aina (2020) corroborated that the gap between employers' expectations and the competencies of engaged personnel is widening. Several issues or encumbrances may be responsible for this trend and warrant concern. In this study, encumbrances are defined

as factors that widen the gap between employers' expectations and personnel output, as illustrated in Figure 1. This gap is further intensified by misalignment between employers' and employees' perceptions of soft skills, including their acquisition and development (Van Eck, 2024). Murti (2014) and Van Eck (2024) also identified a mismatch between employee demand and supply. Whether a similar mismatch exists between employers of building artisans and the supply of suitably skilled artisans remains uncertain. The findings of this research are expected to address this gap. Based on the existing literature and the identified research gap, this study aims to demonstrate how building artisans can deconstruct complex designs from plans into parametric elements, thereby showcasing the practical application of analytical and critical thinking on construction sites. The study also seeks to illustrate how building artisans can integrate both soft and technical skills to communicate effectively and foster healthy interpersonal relationships with team members, leading to improved performance. Furthermore, it will highlight how building artisans can demonstrate diverse leadership styles by leveraging developed soft skills to enhance collaboration and cultivate a positive growth mindset. These contributions collectively underpin the potential novelty of the study.

METHODOLOGY

This study employed an interpretive phenomenological approach, which enables an in-depth exploration of the subjective experiences and perceptions of knowledgeable participants (Aun and Bustami, 2025; Ebekozien, Aigbavboa and Thwala, 2025) in relation to soft skills development and its implications for building artisans' employability and the achievement of SDG 8 in Nigeria. This approach was adopted because it recognises multiple subjective realities and facilitates a nuanced understanding of the use of soft skills, the challenges encountered and measures for their improvement. The gap between theoretical knowledge and practical application further makes interpretive phenomenology suitable for investigating how participants demonstrate these skills, thereby generating insights relevant to policymakers, industry practitioners and academia. Participants were recruited from Lagos and Abuja, Nigeria, owing to the high level of construction activity in these cities (Ebekozien and Aigbavoba, 2021; Ebekozien et al., 2024b). The study participants included consultants with expertise in skills development, representatives of contracting construction firms, building artisans, building apprentices (trade trainees) and officials from relevant government agencies, such as the National Directorate of Employment and the National Productivity Centre. The trades represented included aluminium window and door installation, ironwork, tiling, building electrical work, plumbing, painting and decoration, carpentry, bricklaying and masonry and concreting. In total, 36 participants with knowledge of soft skills, artisans' employability, and SDG

8 were engaged. Table 2 provides details of firms' staff strength, years of experience, participants' rank and location.

Table 2. Participants' background

ID	Company	Firm Code	Location	Number of Employees	Years of Experience	Participant Rank
P1	Construction firm (Large)	A	Abuja	350	26	Project manager
P2					21	Foreman
P3					3	Trainee (Masonry)
P4		B		400	19	Management staff
P5					23	Supervisor
P6					4	Senior trainee (carpentry)
P7	Construction firm (Medium)	C		65	26	Managing director
P8					19	Coordinator
P9					4	Senior trainee
P10		D		70	23	Site manager
P11					18	Headman
P12					3	Trainee (iron bending)
P13	Construction firm (Large)	E	Lagos	330	23	Management staff
P14					19	Supervisor
P15					4	Senior trainee (plumbing)
P16		F		300	21	Contract manager
P17					25	Supervisor
P18					3	Trainee (electrical)
P19	Construction firm (Medium)	G		60	30	Chief executive officer
P20					14	Headman
P21					4	Head trainee (masonry)
P22		H		55	34	Management staff
P23					14	Supervisor
P24					4	Senior trainee (masonry)

(*Continued on next page*)

Table 2. *Continued*

ID	Company	Firm Code	Location	Number of Employees	Years of Experience	Participant Rank
P25	Construction consultant		Lagos		35	Principal partner at quantity surveying firm
P26					29	Director of architectural firm
P27			Abuja		21	Senior engineer
P28					25	Partner at structural firm
P29	Construction skills consultant		Lagos		16	Head of training unit
P30					21	Operation manager
P31			Abuja		19	Skills coordinator
P32					23	Partner and skills manager
P33	Relevant government agencies		Abuja		12	Senior staff
P34					15	
P35			Lagos		20	
P36					17	

The rationale for engaging 36 participants, a relatively small sample, was based on four key considerations. First, this research prioritises an in-depth exploration of participants' experiences through an interpretive phenomenological approach, which seeks to generate rich insights into how soft skills influence artisans' employability and the achievement of SDG 8, rather than to capture the breadth of the phenomenon, as in descriptive phenomenology (Lopez and Willis, 2004). Second, phenomenological research commonly involves samples ranging from 3 to 25 participants to achieve redundancy saturation (Larsen and Adu, 2021). Third, Guest, Namey and Chen et al (2020) suggested that, to reach data saturation, a criterion-based sample of six to seven interviewees may be sufficient to capture the generality of themes and achieve an 80% saturation point. On this basis, the researchers considered a sample of 36 participants to be adequate, as no additional recurring categories or themes emerged during the analysis. Finally, beyond ensuring comprehensive coverage, the researchers conducted three rounds of in-depth interviews, maintained rigorous engagement with participants, and employed diverse data collection approaches to achieve thematic saturation. Interviewees were drawn from eight firms, in line with Ebekozien et al. (2024b), as presented in Table 2. In addition, building soft skills experts were engaged to support balanced judgement and to triangulate the analysed data. Saturation was reached by the 31st interview, at which point no new insights were forthcoming. As noted by Braun and Clarke (2019), saturation is achieved when no new constructs or insights emerge from the data.

This study concealed the identities of individuals and organisations in accordance with ethical research policies. The interviewees' designations indicate that they possess relevant knowledge of soft skills, building artisans' employability and SDG 8 issues in Nigeria. In line with best ethical research practice, the semi-structured interview questions were reviewed by senior associates prior to final data collection. The semi-structured interview questions include:

1. What is your firm's name and location?
2. What is your designation?
3. Years of work experience, if any.
4. Are you acquainted with soft skills?
5. What is the role of soft skills in improving an artisan's employability?
6. What are the perceived encumbrances facing construction artisans' soft skills development?
7. Can soft skills improve the employability of building artisans and support the achievement of SDG 8?
8. If yes to Question 7, how?
9. If no to Question 7, why?
10. Is there any relationship between soft skills and building artisans' employability?
11. If yes to Question 10, what is the relationship?
12. If no to Question 10, why do you think so?
13. Can you suggest measures to improve soft skills for building artisans' employability, and by extension, improve the achievement of Goal 8 in Nigeria?

This research conducted a pilot study with six interviewees prior to the main data collection, which took place between September 2024 and March 2025. Each interview lasted an average of 55 minutes. The data were analysed manually, and the results were presented thematically (Ebekozien et al., 2025). The researchers ensured that the semi-structured interview questions were guided by organised interview themes and employed theming, emotion, in vivo and attribute coding strategies (Saldaña, 2015). Quality evaluation techniques were applied to strengthen data reliability, as presented in Table 3. These measures enhanced the study's credibility, reliability, validity and dependability (Ebekozien, Thwala and Ahmed, 2026). The inter-rater reliability was calculated at 75% and was conducted manually across the dataset. This approach was adopted to minimise potential bias associated with qualitative data collection

involving more than one researcher. This aligns with Burns (2014), who affirmed that inter-rater reliability should be reported when two or more researchers are involved in data collection and coding. A total of 110 codes were generated and subsequently regrouped into 15 subthemes based on their occurrence, frequency and relevance. From these 15 categories, two main themes emerged. The identified codes included good communication, time management, lifetime employment, teamwork, leadership, work ethic, integrity, resilience, professionalism, problem-solving and flexibility. Other codes comprised self-motivation, responsibility and reliability, entrepreneurship, interpersonal relations, conflict management, positive attitude, courtesy, creativity, empathy, self-discipline and decision-making skills.

Table 3. Quality assessment strategies used in the study

Method	Assessment Strategy	Phase of Research
Reliability	Well-guided interview (consistent)	Data collection
Validity	The adoption of a recognised method (semi-structured interview questions)	Data collection
Generalisability	Recognition of limitations due to sample size, potential interviewer bias	Data analysis
Transferability	Compare the study's implications against the reviewed literature	Post data analysis
Credibility	A thematic approach to establish a pattern from the data	Data analysis
Dependability	Developing semi-structured interview guidelines	Research design

Source: Modified from Yin (2014)

RESULTS

Theme One: Relevance of Soft Skills to the Building Artisans' Employability

The construction industry is increasingly driven by technological innovation. The findings indicate that the growing complexity of these technologies, including their application, cannot be managed solely through technical skills. Consequently, the development of both technical and soft skills among building artisans in the 21st century is essential in today's workplace, providing a competitive advantage and enhancing employability (P2, P7, P10, P12, P17, P20, P26, P30, P32, P34 and P36). Participant P32 noted:

> We know that technologies such as artificial intelligence and automation are key to building artisans' employability. However, soft skills such as integrity, critical thinking, flexibility, teamwork, good communication and leadership are crucial for employability, as they are difficult for technologies to replicate. They enable humans to excel in uniquely human tasks and adapt to changing employment landscapes.

The findings further reveal that the appropriate development of soft skills can enhance the employability of building artisans and increase profitability, as acknowledged by the majority of participants. The results identified a range of soft skills perceived as important by the engaged stakeholders, including good communication, time management, lifetime employment, teamwork, leadership, work ethic, integrity, resilience, professionalism, problem-solving and flexibility. Other identified skills include self-motivation, responsibility and reliability, entrepreneurship, interpersonal relations, conflict management, a positive attitude, courtesy, creativity, empathy, self-discipline and decision-making skills. Overall, the findings demonstrate that the relevance of soft skills to building artisans' project performance, host contracting firms and the construction sector at large cannot be overstated. Soft skills such as empathy and effective communication enable artisans to function smoothly and efficiently (P3, P13, P24, P28, P33 and P36), thereby leading to improved construction project outcomes, as indicated by the majority of participants. P1 noted:

> Personnel that develops both skills is more versatile and retained in their jobs…it is impossible to expect the same output from a critical thinking artisan from a conventional artisan with technical skills. The latter will always wait for instruction with less personal innovation and improvement on the job.

Technical or technology-driven skills are valuable and can enhance the employability of building artisans. However, soft skills are more critical in relation to interpersonal interactions, critical thinking and the expression of human emotions, which are difficult to replicate technologically (P3, P13, P26 and P35). These findings align with Van Eck (2024), who affirmed that the acquisition of soft skills enables individuals pursuing construction-related careers to navigate the complexities and challenges of the sector more effectively. Participant P29 expressed:

> The relevance of soft skills in enhancing the performance of building artisans cannot be overemphasised. The skills provide insights into

> the unique challenges and experiences of artisans. This includes managing stress through emotional intelligence and fostering collaboration to enhance project delivery performance.

Findings indicate that the building artisanship profession must continually engage in upskilling and retraining to remain relevant and productive within the industry (majority). This is essential, as their role is pivotal to the successful delivery of construction projects. Participant P30 stated:

> Besides enhancing employability, productivity and profitability, the right set of soft skills will equip building artisans to lead in the world, undergoing political, economic and technological disruption and advances. The outcome is a success. This is critical because building artisanship as a career is not in isolation.

Theme Two: Feasible Measures

Theme two presents participants' perspectives on feasible measures to enhance soft skills among building artisans, thereby improving their employability, and by extension, supporting the achievement of SDG 8 in Nigeria. Findings reveal that despite clear evidence of the benefits of soft skills for employability, several barriers hinder their effective development and application. These barriers include lax apprenticeship programmes, limited time for training, funding constraints for building contracting firms, inadequate operational capacity, weak regulatory frameworks and agencies, companies' reluctance to invest in apprenticeships, a focus on rapid wealth accumulation, limited job prospects, challenging working environments and job insecurity (majority = 75% and above agreement by the participants). The results further indicate that comprehensive measures can strengthen soft skills development for building artisans, contributing to the achievement of SDG 8. Such measures can also help artisans build more resilient careers, enabling them to compete globally with their peers (P6, P13, P20, P22, P31, P33, P34 and P36). The majority of participants agreed that both formal and informal apprenticeship schemes should be overhauled to incorporate fundamental soft skills training during and after the apprenticeship. Key skills identified include emotional intelligence, intellectual intelligence, teamwork, curiosity, adaptability, social interaction, self-awareness, empathy, critical thinking, effective communication and resilience. Participant P31 noted, "the world is constantly evolving, and the building artisans, who rely solely on technical skills without continuous learning risk may become obsolete and a threat to employability and SDG 8 if not addressed".

The findings cluster the proposed measures into three categories: employees, employers and relevant government agencies. The results indicate that both employers and government agencies share responsibility for encouraging

building artisans to develop soft skills, as this not only enhances employability but also contributes to the achievement of SDG 8. For relevant government agencies, recommended measures include developing an institutional framework, integrating soft skills into apprenticeship schemes, providing funding for apprenticeship institutions, ensuring accessibility to training sites, offering incentives for trainees and trainers, and implementing basic infrastructure improvements. Employer-focused measures involve supporting government initiatives such as funding apprenticeship institutions and improving training site accessibility, encouraging the development of good communication and resilience, providing incentive-based reward systems for trainees, promoting soft skills through the company's mission statement, supplying basic equipment and tools for training, creating an enabling environment, reviewing apprenticeship schemes to align with global best practices, and integrating soft skills into both training programmes and on-the-job activities. Employee-oriented measures focus on cultivating a mindset that values structured systems and actively embracing initiatives for soft skills development. In particular, the findings suggest that government intervention in funding apprenticeship institutions, ensuring accessible training sites and providing incentives is crucial. Overhauling these systems would mitigate barriers that currently limit Nigerian artisans' access to global opportunities due to deficiencies in soft skills. Participant P27 stated:

> Unit or department in the Federal Ministry of Labour and Employment and the National Agency for Science and Engineering Infrastructure (NASENI) should be overhauled to address the issues of inadequate awareness of the benefits of soft skills in apprenticeship schemes, including soft skills acquisition. This is pertinent and missing presently.

DISCUSSION

In Nigeria, the demand for both soft and technical skills is increasing owing to national efforts to boost the economy, with President Tinubu's government prioritising job creation and sustainable growth. This research focuses on soft skills, such as communication, adaptability, leadership, integrity, commitment and discipline, and their influence on building artisans' employability and the achievement of SDG 8. Findings reveal that possessing the right soft skills can enhance building artisans' employability and increase profitability. These results align with Bedoya-Guerrero et al. (2024), who found a positive correlation between students' perceptions of their soft skills and employability opportunities, highlighting the crucial role of soft skills in shaping the broader socioeconomic landscape. Similarly, the findings support Ebekozien et al. (2023b), who reported that most of the identified soft skills are highly valued by employers, including those in the construction

industry, during recruitment. Ebekozien et al. (2023b) further emphasised that construction practitioners should be encouraged to develop these skills to enhance their professional contributions within the sector. The study also confirms the positive influence of soft skills on employability, productivity, creativity, collaboration, teamwork, time management, lifetime employment and workplace synergy. These findings correspond with Bancino and Zevalkink (2007) and Van Eck (2024), who emphasised that employees, including building artisans, must develop soft skills to remain relevant in a fast-paced global marketplace. Pieterse and van Eekelen (2016) noted that while technical skills secure employment, soft skills are essential for sustaining it. Similarly, Remedios (2012) and Van Eck (2024) argued that adaptability, problem-solving, flexibility and a positive attitude, supported by regular upskilling and training, equip employees for long-term employability. The relevance of soft skills to workplace success is further supported by Tulgan (2015) and Ebekozien et al. (2023b), who affirmed that soft skills development is critical to individual performance, and by extension, organisational goals. In terms of long-term career success, the findings are consistent with Vasanthakumari (2019) who reported that approximately 85% of sustained workplace success can be attributed to soft skills.

Regarding the integration of soft skills into formal and informal apprenticeships, the findings indicate a need to revise the Nigerian Skills Qualifications Framework (NSQF) to address challenges related to soft skills development during apprenticeship and to enhance the employability of building artisans for inclusive, high-quality projects and sustainable economic growth. These findings align with the National Board for Technical Education (2024), a government regulatory agency overseeing technical programmes, which describes the NSQF as a system for developing, categorising and recognising skills and proficiencies acquired by individuals, regardless of where or how the skills or training were obtained. Consequently, establishing a framework that integrates soft skills is essential to enhance artisans' global employability, and by extension, contribute to the achievement of SDG 8. The results also align with the Federal Ministry of Labour and Employment (2021), which notes that the relevant policies and website were last revised in 2021, indicating a need for updated guidance. The benefits of soft skills, including moral values, emotional intelligence, teamwork and enhanced job opportunities, are measurable; therefore, soft skills should be systematically incorporated into technical skills training programmes, such as the Mandatory Skills Qualification (MSQ) goals (P2, P8, P17, P23 and P35). These findings support Sobowale (2024), who affirmed that the MSQ aims to expand job opportunities and improve the versatility of skills acquired through training. Overall, the results suggest a positive relationship between soft skills development and building artisans' employability, which can, in turn, enhance the achievement of SDG 8, particularly Target 8.5 (Full and Productive Employment) and Target 8.6

(Reducing the Proportion of Youth not in Employment, Education or Training). By targeting young adults in soft skills training, artisans' employability can be significantly improved.

CONCLUSION, IMPLICATIONS AND LIMITATIONS

This study investigated the role of soft skills in enhancing building artisans' employability and achieving SDG 8 by employing a qualitative research design that has been mostly unexplored in this context. The research highlights the critical importance of soft skills in enhancing employability for building artisans in Nigeria. Despite clear evidence of their benefits, artisans face several obstacles in applying soft skills effectively. These barriers include lax apprenticeship programmes, insufficient time allocated for training, funding constraints for contracting firms, limited operational capacity, weak regulatory frameworks and agencies, companies' reluctance to invest in apprenticeship, a focus on rapid wealth accumulation, inadequate job prospects, poor working conditions and job insecurity. The study concludes that relevant government agencies and construction contracting organisations play a pivotal role in promoting soft skills, thereby improving artisans' employability and contributing to the achievement of SDG 8. Feasible measures were categorised according to employees, employers and government agencies, underscoring the need for a coordinated, all-inclusive approach. Overall, the findings emphasise that fostering soft skills development is essential for enhancing building artisans' employability globally. Improved employability, in turn, is closely linked to achieving decent work and economic growth, thereby supporting the broader objectives of SDG 8.

Emerging implications arise from the role of soft skills as a tool for improving the employability of building artisans and advancing SDG 8 in Nigeria. From a theoretical perspective, understanding how soft skills enhance artisans' employability helps researchers frame their view of the construction sector, academia and government regulation, thereby addressing existing gaps in the literature on the Nigerian construction industry. The study identifies a broad range of soft skills that contribute to employability, and by extension, the achievement of SDG 8. These include good communication, time management, teamwork, leadership, work ethic, integrity, resilience, professionalism, problem-solving and flexibility, as well as self-motivation, responsibility and reliability, entrepreneurial skills, interpersonal relations, conflict management, a positive attitude, courtesy, creativity, empathy, self-discipline and decision-making. When combined with technical skills, the development of these competencies from apprenticeship through on-the-job learning can enhance Nigerian artisans' ability to engage globally. The findings also indicate that relevant government agencies and construction contracting firms can play a significant role in promoting soft skills development. By

committing to structured initiatives, they can improve artisans' employability and contribute to achieving SDG 8. Specifically, the proposed measures support the attainment of Targets 8.5 and 8.6. Target 8.5 focuses on achieving full and productive employment and decent work for all, including young adults and persons with disabilities, and ensuring equal pay for work of equal value, thereby promoting inclusive economic growth. Target 8.6 seeks a substantial reduction in the proportion of youth not in employment, education or training by 2030. The implementation of soft skills measures would directly contribute to achieving these targets. In terms of practical implications, the study provides insights into how soft skills can enhance global employability for construction practitioners in developing countries. Relevant government agencies and contracting firms are encouraged to promote the development of soft skills by creating an enabling environment and offering support mechanisms such as a sustainable institutional framework and dedicated apprenticeship training funds.

This study has several limitations. It focused on assessing the role of soft skills in enhancing the employability of building artisans and achieving SDG 8, specifically within Lagos and Abuja, Nigeria. The research employed a qualitative design, engaging 36 participants, including experts who volunteered and were subsequently interviewed. To mitigate potential limitations and strengthen the credibility and reliability of the findings, the researchers employed a recognised method for conducting and analysing semi-structured interviews. The study also identified several avenues for future research. First, future studies could benefit from larger sample sizes to provide more comprehensive interpretations of the role of soft skills in enhancing artisans' employability in developing countries, particularly in Nigeria. Second, in addition to the categorised measures identified in this study, future research should explore additional strategies, clustering them according to social, economic, environmental and cultural factors relevant to developing country contexts.

ACKNOWLEDGEMENTS

Special thanks are extended to the participants for their knowledgeable contributions, which significantly enriched the findings of this study. The authors also appreciate the valuable comments, suggestions and recommendations provided by the anonymous reviewers, which collectively helped refine and strengthen the quality of this manuscript during the blind peer-review process. The article processing fee is funded by the School of Social Sciences, Universiti Sains Malaysia.

REFERENCES

Adepoju, O., Aigbavboa, C., Nwulu, N. and Onyia, M. (2022). *Re-skilling Human Resources for Construction 4.0: Implications for Industry, Academia and Government*. 1st Ed. Cham: Springer. https://doi.org/10.1007/978-3-030-85973-2

Afolabi, A., Oyeyipo, O., Ojelabi, R. and Patience, T.-O. (2019). Balancing the female identity in the construction industry. *Journal of Construction in Developing Countries*, 24(2): 83–104. https://doi.org/10.21315/jcdc2019.24.2.4

Al Mallak, M.A., Tan, L.M. and Laswad, F. (2020). Generic skills in accounting education in Saudi Arabia: Students' perceptions. *Asian Review of Accounting*, 28(3): 395–421. https://doi.org/10.1108/ARA-02-2019-0044

Aliu, J. and Aigbavboa, C. (2023). Key generic skills for employability of built environment graduates. *International Journal of Construction Management*, 23(3): 542–552. https://doi.org/10.1080/15623599.2021.1894633

Aliu, J. and Aigbavboa, C. (2020). Employers' perception of employability skills among built-environment graduates. *Journal of Engineering, Design and Technology*, 18(4): 847–864. https://doi.org/10.1108/JEDT-06-2019-0162

Aluko, R.O., Daniel, E.I., Oshodi, O.S., Aigbavboa, C.O. and Abisuga, A.O. (2018). Towards reliable prediction of academic performance of architecture students using data mining techniques. *Journal of Engineering, Design and Technology*, 16(3): 385–397. https://doi.org/10.1108/JEDT-08-2017-0081

Archer, W. and Davison, J. (2008). *Graduate Employability. What Do Employers Think and Want*? London: The Council for Industry and Higher Education.

Aun, T.W. and Bustami, M.R. (2025). *Rantau* and *rindu*: Insights into the lived experiences of Penang people. *Malaysian Journal of Qualitative Research*, 11(1): 19–30. https://doi.org/10.61211/mjqr110102

Azzouz, A. and Papadonikolaki, E. (2020). Boundary-spanning for managing digital innovation in the AEC sector. *Architectural Engineering and Design Management*, 16(5): 356–373. https://doi.org/10.1080/17452007.2020.1735293

Bancino, R. and Zevalkink, C. (2007). Soft skills: The new curriculum for hard-core technical professionals. *Techniques: Connecting Education and Careers*, 82(5): 20–22.

Barak, M. (2013). Teaching engineering and technology: Cognitive, knowledge and problem-solving taxonomies. *Journal of Engineering, Design and Technology*, 11(3): 316–333. https://doi.org/10.1108/JEDT-04-2012-0020

Bedoya-Guerrero, A., Basantes-Andrade, A., Rosales, F.O., Naranjo-Toro, M. and León-Carlosama, R. (2024). Soft skills and employability of online graduate students. *Education Sciences*, 14(8): 864. https://doi.org/10.3390/educsci14080864

Bernstein, B.L., Evans, B., Fyffe, J., Halai, N., Hall, F.L., Jensen, H.S., Marsh, H. and Ortega, S. (2014). The continuing evolution of the research doctorate. In *Globalization and Its Impacts on the Quality of PhD Education. Global Perspectives on Higher Education*. Rotterdam: SensePublishers, 5–30. https://doi.org/10.1007/978-94-6209-569-4_2

Boateng, K. and Ofori-Sarpong, E. (2002). *An Analytical Study of the Labour Market for Tertiary Graduates in Ghana*. Accra, Ghana: National Council for Tertiary Education, Ministry of Education.

Braun, V. and Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4): 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Bui, B. and Porter, B. (2010). The expectation-performance gap in accounting education: An exploratory study. *Accounting Education*, 19(1–2): 23–50. https://doi.org/10.1080/09639280902875556

Burns, M.K. (2014). How to establish interrater reliability. *Nursing*, 44(10): 56–58. https://doi.org/10.1097/01.NURSE.0000453705.41413.c6

Chandramohan, A., Perera, B.A.K.S. and Dewagoda, K.G. (2022). Diversification of professional quantity surveyors' roles in the construction industry: The skills and competencies required. *International Journal of Construction Management*, 22(7): 1374–1381. https://doi.org/10.1080/15623599.2020.1720058

Cheong, K.-C., Hill, C., Leong, Y.-C. and Zhang, C. (2018). Employment as a journey or a destination? Interpreting graduates' and employers' perceptions: A Malaysia case study. *Studies in Higher Education*, 43(4): 702–718. https://doi.org/10.1080/03075079.2016.1196351

Cimatti, B. (2016). Definition, development, assessment of soft skills and their role for the quality of organisations and enterprises. *International Journal for Quality Research*, 10(1): 97–130.

Doyle, A. (2022). What are soft skills? Available at: https://www.thebalancecareers.com/what-are-soft-skills-2060852 [Accessed on 8 September 2022].

Ebekozien, A. and Aigbavboa, C. (2021). COVID-19 recovery for the Nigerian construction sites: The role of the fourth industrial revolution technologies. *Sustainable Cities and Society*, 69: 102803. https://doi.org/10.1016/j.scs.2021.102803

Ebekozien, A., Aigbavboa, C., Ahmed, M.A.H., Samsurijan, M.S., Aliu, J.O., Ikuabe, M. and Nwaole, A.N.C. (2025). Appraising young adult-built environment researchers training needs in a developing economy: A perspective from stakeholders. *Higher Education, Skills and Work-Based Learning*, 15(7): 110–126. https://doi.org/10.1108/HESWBL-07-2024-0209

Ebekozien, A., Aigbavboa, C., Ikuabe, M. and Thwala, D.W. (2023a). The built environment craftmanship in higher education institutions: Issues and prospects from stakeholders' perception. *Education + Training*, 65(3): 492–509. https://doi.org/10.1108/ET-03-2022-0086

Ebekozien, A., Aigbavboa, C.O. and Thwala, W.D. (2025). A practical research process for developing a sustainable built environment in emerging economies. London: Routledge. https://doi.org/10.1201/9781003562207

Ebekozien, A., Aigbavboa, C.O., Samsurijan, M.S., Aliu, J. and Nwaole, A.N.C. (2024a). Mentorship as a tool for improving construction artisan's skills to achieve Sustainable Development Goal 8 via qualitative approach. *Engineering, Construction and Architectural Management*, 31(13): 303–322. https://doi.org/10.1108/ECAM-07-2023-0655

Ebekozien, A., Aigbavboa, C.O., Samsurijan, M.S., Thwala, W.D. and Ahmed, M.A.H. (2024b). The role of apprenticeship in skills development of construction artisans to achieving Sustainable Development Goal 8: Stakeholders' unexplored approach. *Engineering, Construction and Architectural Management*, 31(13): 411–429. https://doi.org/10.1108/ECAM-06-2024-0714

Ebekozien, A., Aigbavboa, C.O., Thwala, W.D., Aigbedion, M.I. and Ogbaini, I.F. (2023b). An appraisal of generic skills for Nigerian built environment professionals in workplace: The unexplored approach. *Journal of Engineering, Design and Technology*, 21(6): 1841–1856. https://doi.org/10.1108/JEDT-09-2021-0453

Ebekozien, A., Thwala, D.W. and Ahmed, M.A.H. (2026). Leveraging social media for trade construction contractors' success: Issues and measures from a qualitative perspective. *International Journal of Building Pathology and Adaptation*, 44(2): 483–498. https://doi.org/10.1108/IJBPA-09-2024-0186

Federal Ministry of Labour and Employment (2021). National Directorate of Employment. Available at: https://labour.gov.ng/national-directorate-of-employment/ [Accessed on 20 March 2022].

Guest, G., Namey, E. and Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLoS ONE*, 15(5): e0232076. https://doi.org/10.1371/journal.pone.0232076

Karimi, H. and Pina, A. (2021). Strategically addressing the soft skills gap among STEM undergraduates. *Journal of Research in STEM Education*, 7(1): 21–46. https://doi.org/10.51355/jstem.2021.99

Larsen, H.G. and Adu, P. (2021). *The Theoretical Framework in Phenomenological Research. Development and Application.* London: Routledge. https://doi.org/10.4324/9781003084259

Lopez, K.A. and Willis, D.G. (2004). Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. *Qualitative Health Research*, 14(5): 726–735. https://doi.org/10.1177/1049732304263638

Low, S.P., Gao, S. and Ng, E.W.L. (2021). Future-ready project and facility management graduates in Singapore for industry 4.0: Transforming mindsets and competencies. *Engineering, Construction and Architectural Management*, 28(1): 270–290. https://doi.org/10.1108/ECAM-08-2018-0322

Lowden, K., Hall, S., Elliot, D. and Lewin, J. (2011). *Employers' Perceptions of the Employability Skills of New Graduates*. London: Edge Foundation.

Mahasneh, J.K. and Thabet, W. (2015). Rethinking construction curriculum: A descriptive cause analysis for the soft skills gap among construction graduates. In T. Sulbaran (ed.), *51st ASC Annual International Conference Proceedings*. Loveland, CO: Associated Schools of Construction.

McGrath, S. and Ramsarup, P. (2024). Towards vocational education and training and skills development for sustainable futures. *Journal of Vocational Education and Training*, 76(2): 247–258. https://doi.org/10.1080/13636820.2024.2317574

Murti, A.B. (2014). Why soft skills matter. *IUP Journal of Soft Skills*, 8(3): 32–36.

Musarat, M.A., Irfan, M., Alaloul, W.S., Maqsoom, A. and Ghufran, M. (2023). A review on the way forward in construction through Industrial Revolution 5.0. *Sustainability*, 15(18): 13862. https://doi.org/10.3390/su151813862

Musonda, I. and Okoro, C. (2021). Assessment of current and future critical skills in the South African construction industry. *Higher Education, Skills and Work-Based Learning*, 11(5): 1055–1067. https://doi.org/10.1108/HESWBL-08-2020-0177

National Board for Technical Education (2024). Nigerian Skills Qualifications Framework (NSQF). Available at: http://web.nbte.gov.ng/nsqf [Accessed on 20 December 2024].

National Universities Commission (NUC). (2004). *Labour Market Expectations of Nigerian Graduates. Report of National Needs Assessment Surveys*. Abuja: NUC.

Ngo, T.T.A. (2024). The importance of soft skills for academic performance and career development: From the perspective of university students. *International Journal of Engineering Pedagogy*, 14(3): 53–68. https://doi.org/10.3991/ijep.v14i3.45425

Oni, O.J. and Aina, Y.J. (2020). Employers' perspectives on critical quantity surveying soft skills. *International Journal of Innovative Research and Advanced Studies*, 7(8): 139–144.

Organisation for Economic Co-operation and Development (OECD) (2016). *The Survey of Adult Skills: Reader's Companion*. 2nd Ed. Paris: OECD Publishing. https://doi.org/10.1787/9789264258075-en

Oviawe, J.I. and Uwameiye, R. (2020). Approaches for developing generic skills in building technology graduates for global competitiveness. *Journal of Vocational Education Studies*, 3(1): 25–38. https://doi.org/10.12928/joves.v3i1.1754

Owusu-Agyeman, Y. and Aryeh-Adjei, A.A. (2024). The development of green skills for the informal sector of Ghana: Towards sustainable futures. *Journal of Vocational Education and Training*, 76(2): 406–429. https://doi.org/10.1080/13636820.2023.2238270

Perks, R. and McQuilken, J. (2020). Introduction: Artisanal and small-scale mining and Sustainable Development Goal 8 (SDG8). Available at: https://www.delvedatabase.org/uploads/resources/2020-SoS_Overview-SDG-8_ASM.pdf [Accessed on 12 February 2024].

Pieterse, V. and van Eekelen, M. (2016). Which are harder? Soft skills or hard skills? In S. Gruner (ed.), *ICT Education. 45th Annual Conference of the Southern African Computer Lecturers' Association, SACLA 2016*. Cham: Springer, 160–167. https://doi.org/10.1007/978-3-319-47680-3_15

Pitan, O.S. (2017). Graduate employees' generic skills and training needs. *Higher Education, Skills and Work-based Learning*, 7(3): 290–303. https://doi.org/10.1108/HESWBL-04-2017-0026

Pitan, O.S. (2012). Analysis of internal efficiency in the utilization of human resources in selected secondary schools of Oyo State, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(5): 748–752.

Ray, A. (2024). Professionalism as a soft skill: The social construction of worker identity in India's new services economy. *Third World Quarterly*, 45(4): 790–809. https://doi.org/10.1080/01436597.2023.2223133

Remedios, R. (2012). The role of soft skills in employability. *International Journal of Management Research and Reviews*, 2(7): 1285–1292.

Robles, M.M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75(4): 453–465. https://doi.org/10.1177/1080569912460400

Saldaña, J. (2015). *The Coding Manual for Qualitative Researchers*. 3rd Ed. London: SAGE Publications.

Shahruddin, S. and Husain, S.H. (2024). Navigating paradoxes of identity and leadership in the age of digital transformation of construction industry: architects' experiences and perceptions. *Construction Management and Economics*, 42(7): 591–609. https://doi.org/10.1080/01446193.2023.2293901

Shahruddin, S., Sonet, U.N., Azmi, A. and Zainordin, N. (2025). Traversing the complexity of digital construction and beyond through soft skills: Experiences of Malaysian architects. *Engineering, Construction and Architectural Management*, 32(11): 7373–7398. https://doi.org/10.1108/ECAM-01-2024-0147

Siriwardhana, S. and Moehler, R. (2024). Mastering the skills of Construction 4.0: A review of the literature using science mapping. *Smart and Sustainable Built Environment*, 13(4): 989–1014. https://doi.org/10.1108/SASBE-03-2023-0045

Sobowale, A. (2024). NBTE begins compulsory skill qualification for poly students. *Punch*, 10 June. Available at: https://punchng.com/nbte-introduces-mandatory-skills-qualification-for-polytechnic-students/ [Accessed on 20 December 2024].

Succi, C. and Canovi, M. (2020). Soft skills to enhance graduate employability: comparing students and employers' perceptions. *Studies in Higher Education*, 45(9): 1834–1847. https://doi.org/10.1080/03075079.2019.1585420

Tay, Y.W.D., Panda, B., Paul, S.C., Noor Mohamed, N.A., Tan, M.J. and Leong, K.F. (2017). 3D printing trends in the building and construction industry: A review. *Virtual and Physical Prototyping*, 12(3): 261–276. https://doi.org/10.1080/17452759.2017.1326724

Taylor, E. (2016). Investigating the perception of stakeholders on soft skills development of students: Evidence from South Africa. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 12(1): 001–018. https://doi.org/10.28945/3412

Tulgan, B. (2015). *Bridging the Soft Skills Gap: How to Teach the Missing Basics to Today's Young Talent*. Hoboken, NJ: John Wiley & Sons. https://doi.org/10.1002/9781119171409

United Nations (UN) (2022). Economic and social council. Available at: https://sustainabledevelopment.un.org/content/documents/29858SG_SDG_Progress_Report_2022.pdf [Accessed on 1 May 2024].

UN. (2018). Decent work and economic growth: Why it matters. Available at: https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-8.pdf [Accessed on 19 September 2024].

Van Eck, E. (2024). Early career development of candidate quantity surveyors: A focus on soft skills development. PhD diss. University of Pretoria.

Van Heerden, A., Jelodar, M.B., Chawynski, G. and Ellison, S. (2023). A study of the soft skills possessed and required in the construction sector. *Buildings*, 13(2): 522. https://doi.org/10.3390/buildings13020522

Vasanthakumari, S. (2019). Soft skills and its application in work place. *World Journal of Advanced Research and Reviews*, 3(2): 066–072. https://doi.org/10.30574/wjarr.2019.3.2.0057

Yadav, U.S., Aggarwal, R., Tripathi, R. and Kumar, A. (2024). Bridging the skill gap of Indian handicraft industry workers: An analysis of the problems and remedies for handicraft artisans. In A.M. Thake, K. Sood, E. Özen and S. Grima (eds.), *Contemporary Challenges in Social Science Management: Skills Gaps and Shortages in the Labour Market. Contemporary Studies in Economic and Financial Analysis*. Vol. 112A. Leeds: Emerald Publishing Limited, 183–202. https://doi.org/10.1108/S1569-37592024000112A024

Yin, R.K. (2014). *Case Study Research: Design and Methods*. 5th Ed. Thousand Oaks, CA: SAGE Publications.