

Factors Influencing the Employability of Built Environment Graduates in Nigeria's Construction Sector

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Abstract

Employers of labour in Nigeria's construction companies consider particular attributes and features in graduates before employing them. This study aims to identify the factors that affect graduates' employability in the built environment. It aims to achieve this by examining the types of graduates employed by contracting firms, determining the criteria that firms use to employ these graduates, and assessing the level of satisfaction among employers with the performance of the employed graduates. This project was completed by administering questionnaires to forty construction companies' top personnel (managing directors, CEOs, and project managers). The research revealed that technical knowledge has the highest level of significance. The other factors in decreasing order of significance are technical experience, intelligence/IQ, and confidence. The study found that willingness to learn has the highest level of significance among the attributes and skills that graduates should possess. Other performance and attributes in decreasing order of significance are: obedience to instructions. Team-working skills and creativity have the same level of significance. This means that graduate employees currently working with firms demonstrate a higher willingness to learn than any other attribute. This study provides valuable insight into the type of skills and attributes students of knowledge in the built environment should develop in preparation for the labour market, and the curriculum structure higher citadels of learning should adopt.

Keywords: Built Environment, Construction industry, Graduate Employability, Technical Competencies

Introduction

Graduate employability refers to the collection of skills and abilities that enable individuals to secure and sustain employment (Okay-Somerville and Scholarios, 2017). In today's graduate labour market, increasing tertiary enrollments and higher qualification requirements have intensified competition, so a degree alone is no longer enough (Finch et al., 2016; Gallagher, 2022). The World Economic Forum reports significant skill gaps in graduate readiness; for example, nearly 40% of employers worldwide struggle to find entry-level hires with the necessary skills.

In Nigeria, the rapid expansion of higher education has produced a surplus of graduates in the labour market. Yet youth unemployment remains high, a 2022 report showed that over 53% of Nigerian youths (including university graduates) were unemployed, highlighting a significant skills gap. Many graduates lack essential employability competencies, partly because curricula often emphasize theoretical knowledge over practical skills and market needs. In the construction sector, a crucial driver of Nigeria's economy, this gap is evident: employers acknowledge built environment graduates' strong academic knowledge and willingness to learn, but frequently observe deficiencies in practical experience, communication, teamwork, and problem-solving abilities. This mismatch places pressure on universities to revamp curricula and align them with industry needs.

The Fourth Industrial Revolution is reshaping construction practices and further raising the competency bar for graduates. Emerging technologies such as Building Information Modelling (BIM), artificial intelligence,

and sustainable construction approaches are increasingly adopted in the industry (Siddiqui et al., 2023). These innovations require interdisciplinary proficiencies to improve project efficiency and sustainability (Ginigaddara et al., 2024). However, higher education has been slow to adapt accordingly. Many graduates remain underprepared for a technology-driven workplace; for example, one report found 85% of Nigerian graduates lack basic digital skills like using common computer software. Bridging this gap by aligning education with emerging industry needs has become imperative (Akyazi et al., 2020; Low et al., 2021).

Previous research in construction education and management has identified various competencies as critical to graduate employability; for example, effective communication, adaptability, leadership, and emotional intelligence (Tyman, 2013; Jackson, 2017; Wen et al., 2020). However, much of this literature examines individual skill areas in isolation or is centered on developed economies, lacking a holistic perspective on the construction industry's needs in contexts like Nigeria. Comprehensive studies on employability factors tailored to Nigeria's construction sector remain scarce. Some emerging work has noted misalignments between Nigerian graduates' skill sets and employer expectations (Oviawe and Uwameiye, 2020) and highlighted the need for improved generic skills training in the built environment disciplines (Aliu and Aigbavboa, 2019). This underscores the need to investigate the full spectrum of factors, from technical training quality to soft skills and work experience, that influence the employability of Nigeria's built environment graduates.

Thus, this study focuses on the factors influencing the employability of built environment graduates in Nigeria's construction sector. It aims to fill this gap by providing a comprehensive analysis of the key skills, attributes, and other determinants required for graduates to succeed in the industry. By offering an integrated perspective, it examines the types of graduates hired by contracting firms, the criteria firms use in their hiring decisions, and the level of satisfaction employers have regarding the performance of these graduates. In practical terms, the findings will guide stakeholders, including educators in updating curricula with more practical and industry-relevant training, employers in supporting early-career development, and policymakers in fostering initiatives like internships and university-industry partnerships, to bridge skills gaps and improve job readiness of Nigerian construction graduates.

Materials and Methods

The population under study includes construction firms with most of the professionals of the construction industry. (Builders, architects, quantity surveyors, land surveyors, and engineers) The sample comprised medium to large-scale construction companies, which had employed many graduates of construction industry professions in their construction firms. The sampling method used for the research work is a non-probability convenience sampling method. This involves collecting information from the members of the population, who are willing to provide the required information.

The collection of data used for this research work is through the administration of questionnaires. The questionnaires were administered to 40 construction companies, and personnel at the helm of affairs responded to them (managing directors, CEOs, and project managers). Out of these 40 questionnaires, 36 were retrieved and used for analysis, which represents a 90% response rate.

The data analysis of this study was carried out using the Statistical Package for Social Sciences (SPSS). Both descriptive and inferential statistics, like frequency distribution and correlation tests, were conducted. Relative Importance Index (RII) was computed using the formula below:

$$RII = \frac{\sum W/A \times N}{N} \quad (0 \leq RII \leq 1)$$

Where:

- W is the weight given to each factor by the respondents and ranges from 1 to 5 (where "1" is "strongly disagree" and "5" is "strongly agree");
- A is the highest weight (i.e., 5 in this case); and
- NN is the total number of respondents.

The questions on the questionnaire were drawn relative to the objectives of this study, and the results from the analysis will be used to achieve the objectives of the research. This study aims to explore the factors

influencing the employability of graduates within the construction industry, focusing on those employed by construction firms. Specifically, it examines the types of graduates hired by contracting firms, the criteria firms use in their hiring decisions, and the level of satisfaction employers have regarding the performance of these graduates.

Results and Discussion

Profile of Firms and Respondents

The firms surveyed were predominantly limited liability companies undertaking both building and civil engineering works. Most were established between 1981 and 1990, with a concentration in Lagos State. Respondents were mainly managing directors and project managers, with the majority holding B.Sc. or M.Sc. degrees in core construction disciplines, and over 15 years of experience. Firms handled 6–25 projects over the last five years and employed 10–30 permanent staff.

Graduate Types Employed by Firms

Table 1: Profession of Graduates Employed by Construction Firms

Profession of graduates	Frequency	Percentage (%)	Cumulative Percentage (%)
Builders	8	22.2	22.2
Architects	2	5.6	27.8
Quantity surveyors	1	2.8	30.6
Estate Managers	0	0	30.6
Civil Engineers	1	2.8	33.3
All	24	66.7	100
Total	36	100	

As shown in Table 1 above, the firms employ a mix of graduate professionals, with Builders and Architects being the most common.

Academic Qualifications of Employed Graduates

Table 2: Distribution of Employed Graduates by Academic Qualification

Qualification	Most Common Range of Graduates per Firm	Highest % in That Range
B.Sc.	1–4	42.90%
HND	1–4	17.20%
B.Tech	1–3	14.50%
OND	1–3	11.70%
Technical School Certificate	1–3	8.80%
O'level	1–3	4.90%

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As shown in Table 2, graduates with B.Sc. degrees are employed in the highest numbers across firms, followed by those with HND, B.Tech, Technical School Certificate, O'level, and OND, in descending order of frequency.

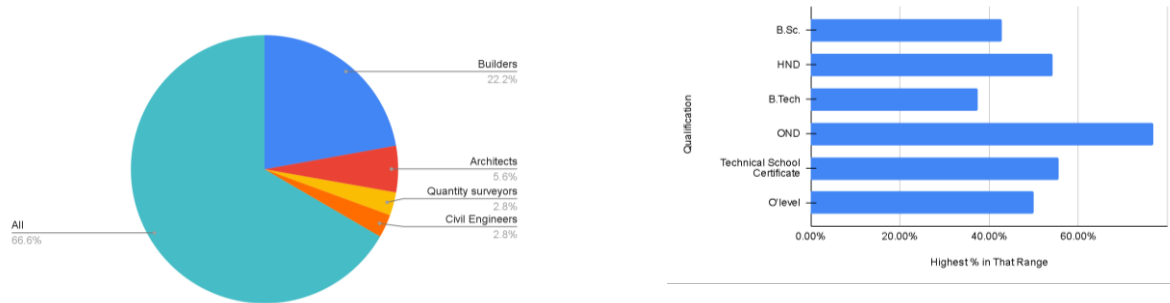


Figure 1: Profession of Graduates employed. **Figure 2: Graduates by Academic Qualification**

Mode of Recruitment

Table 3: How Graduates are Recruited

How do you recruit graduates?	Frequency	Percentage (%)	Cumulative Percentage (%)
Head office through a formal interview	35	97.2	97.2
On-site without any formal interview	1	2.8	100
Total	36	100	

Table 3 summarizes how graduates are recruited. 97.2% of the firms recruit graduates at the head office through formal interviews, while 2.8% recruit graduates on site without any formal interview. Thus, the majority of the firms recruit graduates at the head office through a formal interview.

Employment Criteria Considered by Firms

Figures 3 and 4 below summarize the results of the relative importance index of the factors that firms consider before employing graduates. The relative importance index ranges from 0.339 to 0.939. This means that all the factors are significant. Technical knowledge has the highest level of significance. The other factors in decreasing order of significance are technical experience, intelligence/IQ, confidence, certificate at hand, interpersonal attributes, and institutions attended. Age and physical appearance have the same level of significance. The list continues with connections, family influence, political influence, religion, and ethnicity, which ranked least. This means that the firms consider technical knowledge before any other factor, and ethnicity is the least considered factor.

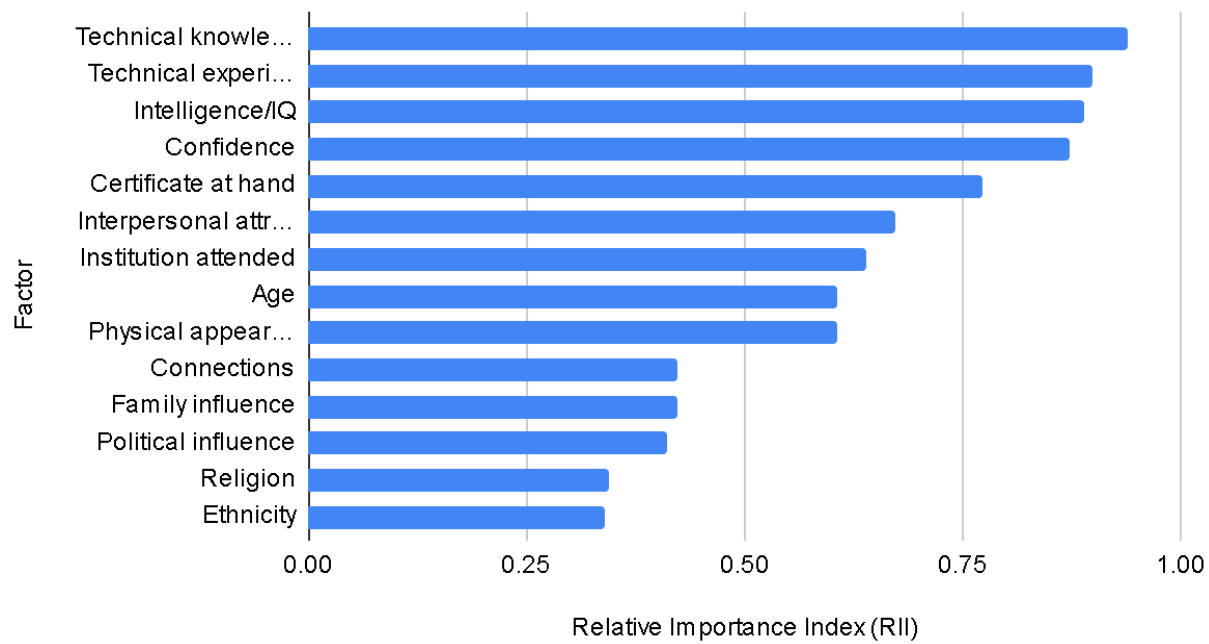


Figure 3: Relative Importance Index (RII) of Employment Factors.

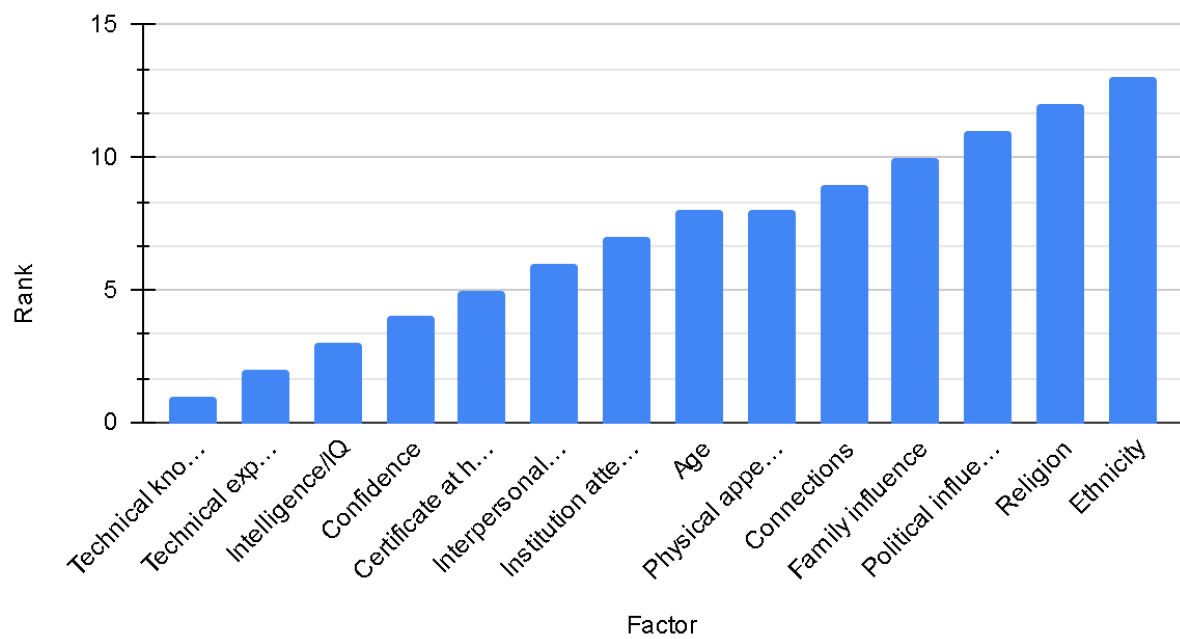


Figure 4: Ranking of Employment Factors.

Expected Graduate Attributes/Skills

Figure 5 below summarizes the relative importance index and rank of attributes and skills that graduate employees should possess. The relative importance index ranges from 0.822 to 0.933. Teamwork skills have the highest level of significance. The other attributes and skills in decreasing order of significance are: time management, self-confidence, management, and commitment have the same level of significance. Willingness to learn and obedience to instructions have the same level of significance; creativity and good human relations have the same level of significance. The list continues with taking responsibility, adaptability, communication skills, computer literacy, critical analysis, independence, stress tolerance, and lateral thinking, which has the lowest level of significance. This means that the graduate employee should possess teamwork skills, above all else.

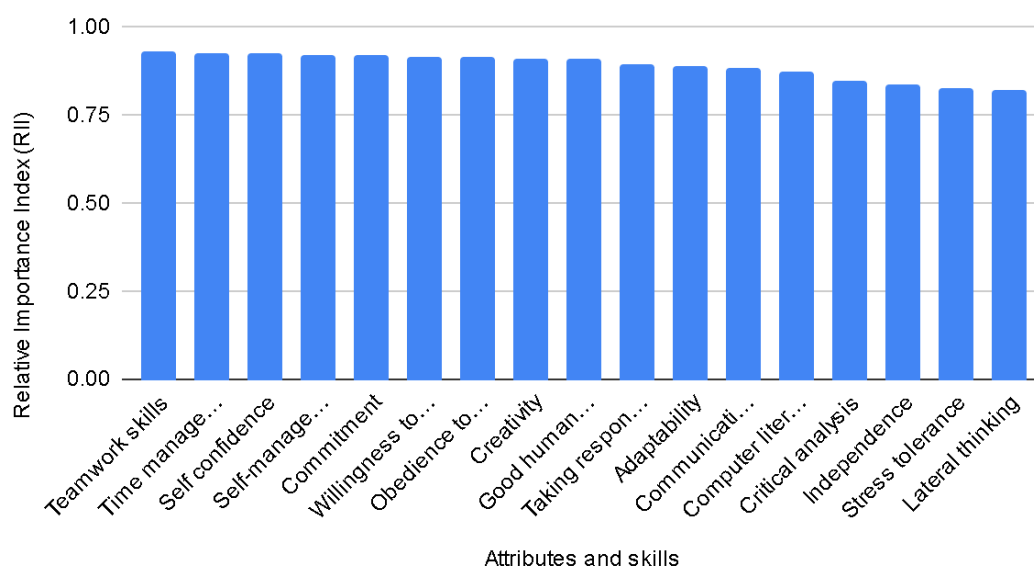


Figure 5: Graduate Attributes and Skills.

Satisfaction with Graduate Performance and Attributes

Table 4: Satisfaction of Firms with the technical performances and personal attributes of the employed graduates in your firm

Is your firm satisfied	Frequency	Percentage (%)	Cumulative Percentage (%)
Yes	36	100	100
No	0	0	0
Total	36	100	100

The satisfaction of firms with the technical performance and personal attributes of the employed graduates is shown in *Table 4* above. All the respondents indicated that they are satisfied with the technical performance and personal attributes of employed graduates in their firms. *Figure 6* below shows the level of satisfaction of firms with employed graduates. 75.0% of the firms are very highly satisfied with Builders,

16.7% are highly satisfied, while 8.3% are moderately satisfied. Thus, the majority of the firms are very highly satisfied with builders. 30.6% of the firms are very highly satisfied with Quantity Surveyors, 50.0% are highly satisfied, while 19.4% are moderately satisfied. This means that the majority of the firms are highly satisfied with Quantity Surveyors. 55.6% of the firms are very highly satisfied with Architects, 27.8% are highly satisfied, while 16.7% are moderately satisfied. Thus, the majority of the respondents are very highly satisfied with Architects. 58.3% of the firms have very high satisfaction with Civil Engineers, 27.8% have high satisfaction, and 11.1% have medium satisfaction, while 2.8% have low satisfaction. This means that the majority of the firms are highly satisfied with Civil Engineers. 13.9% of the respondents have very high satisfaction with Estate Managers, 13.9% have high satisfaction, 61.1% have medium satisfaction, and 5.6% have low satisfaction, while 5.6% have very low satisfaction. Thus, the majority of the respondents are moderately satisfied with Estate Managers.

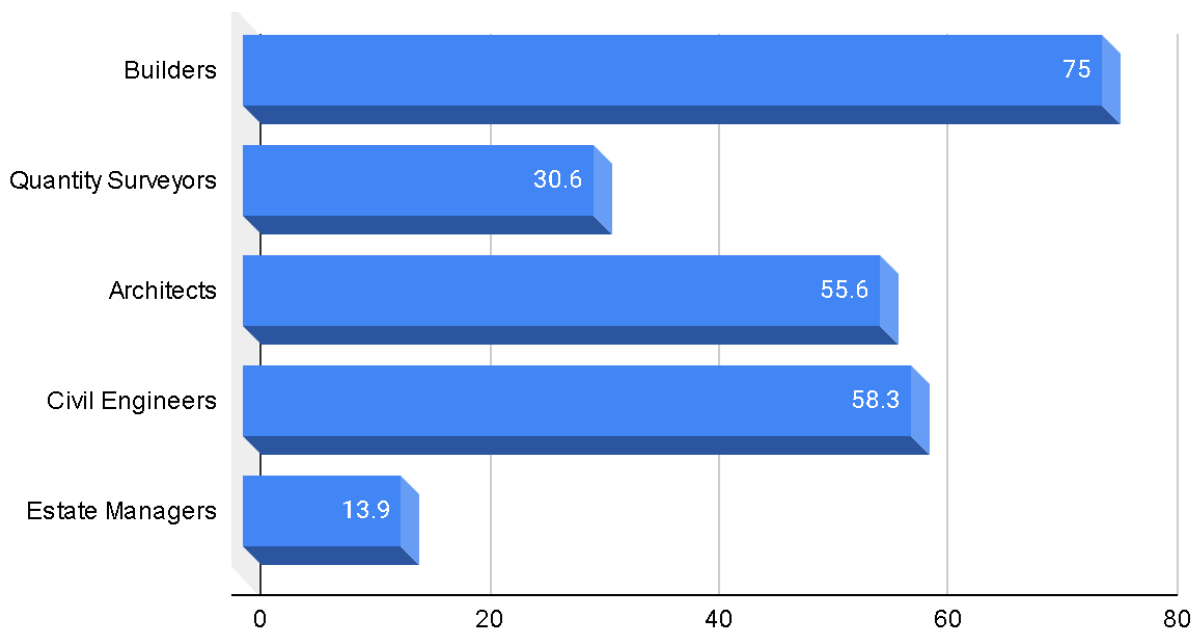


Figure 6: Level of satisfaction with each profession.

Table 5: Ranking of the level of satisfaction of firms with attributes of employed graduates

S/N	Performance and attributes	Relative Importance Index (RII)	Rank
1	Willingness to learn	0.894	1
2	Obedience to instructions	0.889	2
3	Teamwork skills	0.878	3
4	Creativity	0.878	3
5	Time management	0.867	4
6	Commitment	0.861	5

7	Adaptability	0.856	6
8	Self confidence	0.856	6
9	Communication skills	0.85	7
10	Taking responsibilities	0.85	7
11	Computer literacy	0.844	8
12	Self-management	0.839	9
13	Use of discretion	0.833	10
14	Critical analysis	0.817	11
15	Lateral thinking	0.8	12
16	Stress tolerance	0.789	13
17	Independence	0.772	14

Table 5 above summarises the rank of the satisfaction of firms with employed graduates' attributes based on their level of significance. The relative importance index ranges from 0.772 to 0.894. It thus means that all the performance and attributes considered were significant. Willingness to learn has the highest level of significance. Other performance and attributes in decreasing order of significance are: obedience to instructions. Team-working skills and creativity have the same level of significance. The list continues with time management, commitment. Adaptability and self-confidence have the same level of significance. The list continues with communication skills, taking responsibilities, computer literacy, self-management, use of discretion, critical analysis, lateral thinking, stress tolerance, and independence, which have the least level of significance. This means that graduate employees currently working with firms demonstrate a higher willingness to learn than any other attribute.

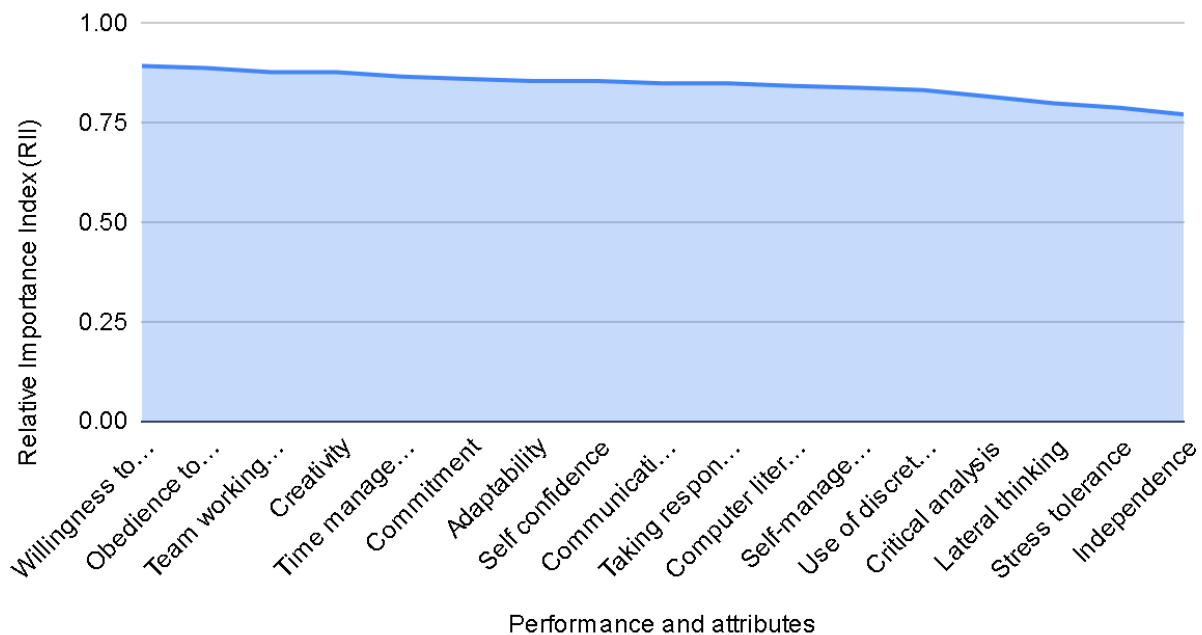


Figure 7: Level of satisfaction with graduates' attributes.

Conclusion

Based on the findings of this study, it can be concluded that the willingness to learn is the most significant factor influencing the employability of graduates in the built environment, with teamwork skills ranking highest among the essential skills and attributes. Employers are generally satisfied with both the technical performance and personal attributes of graduates. When hiring, construction firms prioritize technical knowledge, followed by technical experience, intelligence, confidence, certification, interpersonal attributes, and the institutions attended. Graduates with a B.Sc. are most frequently employed, followed by those with HND, B.Tech, technical school certificates, O'level, and OND.

While 69.4% of respondents felt that graduates possess the necessary attributes, 94.4% recommended enhancing academic curricula with more practical components. Furthermore, 61.1% supported the idea of reviewing curricula to better align with real-world expectations, and 72.2% acknowledged the connection between institutional theories and on-site practical work. Finally, while firms hire graduates from a range of built environment disciplines, builders are employed more frequently than graduates from other fields, including architecture, quantity surveying, estate management, and civil engineering.

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