Data on factors influencing the cost, time performance of the Industrialized Building System

Ayodeji O. Ogunde\textsuperscript{a,*}, Rachael Ayodele\textsuperscript{a}, Opeyemi Joshua\textsuperscript{a}, David O. Nduka\textsuperscript{a}, Abisola Ogunde\textsuperscript{b}, Kunle E. Ogundipe\textsuperscript{a}, Babatunde F. Ogbunayo\textsuperscript{a}, Adekunle M. Ajao\textsuperscript{a}

\textsuperscript{a} Department of Building Technology, Covenant University, Ota, Ogun State, Nigeria
\textsuperscript{b} Department of Estate Management, Covenant University, Ota, Ogun State, Nigeria

\begin{abstract}

The data article provides the factors that influence the cost; time performance of the Industrialized Building System (IBS), its prospects and challenges. A survey technique was used for this research. Structured Questionnaires were administered to occupants of prefabricated buildings and interviews were conducted with the professionals in the building industry. Statistical Package for Social Sciences (SPSS version 20) was used to analyse the data obtained from the questionnaires. The variables were ranked based on Relative Importance Index (RII) calculation. The data indicated that IBS would be more economical if used for mass production.

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\end{abstract}

\begin{specifications}

Subject area: Building Construction
More specific subject area: Construction Management
Type of data: Table, Text file, figure

\end{specifications}
How data was acquired
Field survey

Data format
Raw, filtered, analyzed data

Experimental factors
Statistical Package for Social Sciences (SPSS version 20) was used for this research. Statistical tool such as descriptive tool was used to analyse the data obtained from questionnaires. Relative Importance Index (RII) was used to rank the variables.

Experimental features
Data was obtained from structured questionnaires administered to occupants of prefabricated buildings and interviews were conducted with the professionals in the building industry. Secondary data was also obtained from published journals, articles and thesis related to the subject of this research. The data was collated and analysed, using mean item score ranking, percentages and descriptive statistics.

Data source location
Lagos State, Nigeria.

Data accessibility
Data is available with this article

Related research article
Ogunde A.O; Seleker E. T; Joshua, O; Kukoyi, P. O; Omuh, I.O Prefabrication Method of Building Construction in Lagos State, Nigeria: Prospects and Challenges, International Journal of Engineering Technology and Computer Research (IJETCR), Volume 4; Issue 1; January-February-2016; Page No. 88–100, Available Online at www.ijetcr.org [1]

Value of the data
- This data provides a benchmark for further studies on the performance of the precast concrete system in the construction industry.
- This data shows the significance of using Industrial Building Systems (IBS), its impact and valuable benefits of incorporating it in the industry.
- This data shows cost- time effectiveness and perception of the implementation of the building system for policy making.
- This data can be used to compare findings from other countries where this type of construction method is prevalent.

1. Data

The data article provides the factors that influence the cost; time performance of the Industrialized Building System (IBS), its prospects and challenges.

2. Experimental design, materials and methods

2.1. Data collection

Data was obtained from building professionals involved in the construction of precast concrete structures and 60 questionnaires were distributed to occupants of already constructed precast buildings in Lagos state. Data was also collected from secondary sources which include information from published journals, articles and thesis [1–12].

2.2. Data analysis and presentation

Data collected from the questionnaires administered to respondents were analysed and presented as follows. Table 1 shows the response rate, Table 2 shows the gender of the occupants, Table 3 shows years of occupying the building, Table 4 shows status of ownership, Table 5 shows monthly income of
### Table 1
Response rate of occupants of prefabricated buildings.

| S/N | Questionnaires | Prefab building occupants |
|-----|----------------|---------------------------|
| 1   | Administered   | 85                        |
| 2   | Returned       | 60                        |
| 3   | Response rate  | 70%                       |

### Table 2
Gender of occupants of prefabricated buildings.

| S/N | Frequency | Percent |
|-----|-----------|---------|
| 1   | Male      | 45      | 75.0   |
| 2   | Female    | 15      | 25.0   |
|     | Total     | 60      | 100.0  |

### Table 3
Years of occupying the building by respondents.

| S/N | Years           | Frequency | Percent |
|-----|-----------------|-----------|---------|
| 1   | 1–5 years       | 18        | 30.0    |
| 2   | 6–10 years      | 20        | 33.3    |
| 3   | 11–15 years     | 15        | 25.0    |
| 4   | 16–20 years     | 4         | 6.7     |
|     | Total           | 57        | 95.0    |
|     | Missing System  | 3         | 5.0     |
|     | Total           | 60        | 100.0   |

### Table 4
Status of ownership of prefabricated buildings.

| S/N | Ownership | Frequency | Percent |
|-----|-----------|-----------|---------|
| 1   | Owned     | 31        | 51.7    |
| 2   | Rented    | 29        | 48.3    |
|     | Total     | 60        | 100.0   |

### Table 5
Monthly incomes of occupants of IBS buildings.

| S/N | Income range          | Frequency | Percent |
|-----|-----------------------|-----------|---------|
| 1   | Below 500,000         | 24        | 40.0    |
| 2   | 500,000–700,000       | 10        | 16.7    |
| 3   | 700,000–900,000       | 17        | 28.3    |
| 4   | above 900,000         | 3         | 5.0     |
|     | Total                 | 54        | 90.0    |
|     | Missing System        | 6         | 10.0    |
|     | Total                 | 60        | 100.0   |
Table 6
Awareness of method of construction of IBS.

| S/N | Awareness | Frequency | Percent |
|-----|-----------|-----------|---------|
| 1   | Yes       | 40        | 66.7    |
| 2   | No        | 20        | 33.3    |
|     | Total     | 60        | 100.0   |

Table 7
Sources of information on IBS.

| S/N | Sources                | Frequency | Percent |
|-----|------------------------|-----------|---------|
| 1   | Formal education       | 22        | 36.7    |
| 2   | Personal study         | 4         | 6.7     |
| 3   | Construction personnel | 7         | 11.7    |
| 4   | Others                 | 7         | 11.7    |
|     | Total                  | 40        | 66.7    |
|     | Missing System         | 20        | 33.3    |
|     | Total                  | 60        | 100.0   |

Table 8
Perception of occupants on cost performance of IBS.

| S/N | Cost perception     | Frequency | Percent |
|-----|---------------------|-----------|---------|
| 1   | Less expensive      | 8         | 13.3    |
| 2   | Expensive           | 23        | 38.3    |
| 3   | Moderately expensive| 18        | 30.0    |
| 4   | Highly expensive    | 11        | 18.3    |
|     | Total               | 60        | 100.0   |

Table 9
Susceptibility of building type to collapse and defects.

| S/N | Frequency | Percent |
|-----|-----------|---------|
| 1   | 5         | 8.3     |
| 2   | 55        | 91.7    |
|     | Total     | 60      | 100.0   |

Table 10
Satisfaction of occupants of prefabricated buildings.

| S/N | Satisfaction   | Frequency | Percent |
|-----|----------------|-----------|---------|
| 1   | Not satisfied  | 4         | 6.7     |
| 2   | Satisfied      | 16        | 26.7    |
| 3   | Moderately satisfied | 29  | 48.3    |
| 4   | Highly satisfied| 9         | 15.0    |
| 5   | Neutral        | 2         | 3.3     |
|     | Total          | 60        | 100.0   |
occupants. Table 6 is on awareness of method of construction, Table 7 shows sources of information, Table 8 is on perception of occupants on cost performance, Table 9 is on susceptibility of building type to collapse and defects, while Table 10 shows the satisfaction of occupant, finally, Table 11 shows the challenges encountered by building occupants. Other relevant literature are can be found in [13–24].

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Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2018.04.036.

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Table 11

Challenges encountered by building occupants of IBS buildings.

| S/N | Challenges encountered in the use of this method                                      | Mean | RII  | Ranking |
|-----|--------------------------------------------------------------------------------------|------|------|---------|
| 1   | Inability to make changes to building after it has been installed                    | 3.97 | 0.794| 1       |
| 2   | Leaks from joints of building element                                                | 3.95 | 0.79 | 2       |
| 3   | Initial high cost of financing projects using this method                            | 3.48 | 0.696| 3       |
| 4   | Services e.g. electrical and plumbing challenges                                     | 3.27 | 0.654| 4       |
| 5   | Inadequate ventilation system                                                        | 3.23 | 0.646| 5       |
| 6   | Limited availability of personnel to repair damages                                  | 3    | 0.6  | 6       |
| 7   | Expensive to maintain or repair                                                       | 2.92 | 0.584| 7       |
| 8   | Problem of cracks and dampness on wall                                               | 2.68 | 0.536| 8       |
| 9   | Poor sound control                                                                   | 2.47 | 0.494| 9       |
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