



## Assessment of the Level of Compliance to Health and Safety Standards on Construction Sites in the FCT

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### ABSTRACT

Health and safety compliance is a critical aspect of the construction industry, directly impacting worker well-being, project efficiency, and regulatory adherence. This study assesses the level of compliance with health and safety standards in the construction sector of the Federal Capital Territory, examining key factors such as adherence to occupational safety regulations, hazard management practices, use of personal protective equipment (PPE), and safety training programs. Data was collected through a structured questionnaire administered site manager, construction supervisors and construction workers. Findings reveal varying levels of compliance, influenced by factors such as company policies, enforcement mechanisms, worker awareness, and resource availability. The study identifies common safety violations and challenges in implementing safety measures, providing insights into areas requiring improvement. Recommendations are proposed to enhance compliance through stricter enforcement, regular training, improved safety culture, and policy enhancements. Strengthening health and safety compliance in construction is essential to reducing accidents, ensuring legal adherence, and fostering a safer working environment.

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### INTRODUCTION

The construction industry plays a vital role in driving economic and social development globally. Although it contributed only about 1.98% to Nigeria's Gross Domestic Product (GDP) in 2009, its significance in national growth cannot be overstated (National Bureau of Statistics, 2010). Despite its importance, the construction industry is notorious for poor safety performance worldwide (Haslam *et al.*, 2012). According to the International Labour Organization (ILO), work-related accidents and illnesses account for 3.9% of all global deaths, with approximately 25% of the global workforce suffering from minor or major occupational injuries annually (ILO, 2017). The economic and human costs of these incidents are profound.

In developed nations such as the United States, the construction sector accounts for 22% of fatal workplace accidents (Che *et al.*, 2007),

while in Japan, Ireland, and the UK, construction-related incidents represent between 25% and 50% of all industrial accidents (Bomcountriesel, 2010). The situation is even more alarming in developing countries like Nigeria, where the lack of proper accident reporting systems, statutory health and safety enforcement, and awareness exacerbates the issue. High-profile tragedies, such as the 2005 building collapse in Port Harcourt that claimed over 20 lives, exemplify the grave risks (The Punch, 2005). Numerous workers continue to lose their lives or suffer permanent disabilities due to unsafe construction practices (NIOB, 2020).

Although efforts have been made globally to improve health and safety in construction, results have plateaued, with a resurgence in fatalities noted in recent years (HSE, 2012). In Nigeria, weak institutional regulations and poor adherence to standards are major setbacks. Studies by Idoro (2011) and

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Alfred *et al.* (2011) have shown that even among the more safety-conscious contractors, accident and injury rates remain high, and compliance to safety protocols is low. This poses significant economic and reputational risks, including project delays, loss of productivity, and financial liabilities due to compensations and insurance claims.

The need to instill a culture of safety goes beyond legislation; it requires a shift in attitudes among all stakeholders' contractors, workers, designers, and clients (Grants, 2002). In light of increasing construction activities in the Federal Capital Territory (FCT), Abuja, and persistent reports of unsafe practices, it becomes imperative to assess the safety culture and compliance levels among construction firms.

The aim of this study is to examine the extent to which construction firms adhere to health and safety standards on construction sites in the FCT, Abuja.

The specific objectives are to:

1. Identify common forms of accidents occurring on construction sites.
2. Examine factors that inhibit adherence to safety standards.
3. Investigate factors that motivate compliance with safety practices.
4. Assess the level of compliance to Health and Safety standards by construction firms in the study area.

## LITERATURE REVIEW

This reviews existing research on health and safety (H&S) standards in construction, particularly in the Federal Capital Territory (FCT), Abuja. It begins with a conceptual clarification of safety and regulations, defining them as enforceable legal instruments designed to protect worker health and welfare (Kalejaiye, 2013; Windapo, 2013).

### Health and Safety in the Construction Sector

Construction plays a critical role in national development, but it has a globally poor safety record. This is due to complex stakeholder environments, technological changes, and diverse site conditions (Chen *et al.*, 2020; Odeyinka *et al.*, 2006). Accidents result in increased costs, delays,

and reduced quality (Zhou *et al.*, 2013). Safety requires organized worksites, skilled labor, PPE, and routine inspections (OSHA, 2020; HSE, 2009).

### Regulations and Frameworks

Globally, construction safety regulations have evolved from early codes like Hammurabi's laws to structured modern systems such as the UK's CDM Regulations (King, 1910). In Nigeria, existing frameworks are fragmented and largely borrowed from foreign laws such as the UK Factory Act and U.S. OSHA standards (Idoro, 2004). Researchers argue these foreign frameworks do not reflect Nigeria's unique environment, leading to weak enforcement and poor compliance (Okolie & Okoye, 2012; Ede, 2010).

### Determinants of Compliance

Several key factors influence adherence to Occupational Safety and Health (OSH) regulations:

1. **Enforcement & Corruption:** Inadequate inspections and corruption undermine enforcement in Nigeria (Idubor & Osiamoje, 2013; Onyeozili, 2005). Inspectors are often bribed to overlook violations.
2. **Funding and Cost:** Compliance is seen as expensive. Many firms cut corners due to financial constraints (Windapo, 2013; Diugwu *et al.*, 2012).
3. **Perception and Attitudes:** OSH is perceived as a cost rather than an investment, reducing prioritization by management (Windapo, 2013; Diugwu *et al.*, 2012).
4. **Management Commitment:** Absence of a safety culture at top levels leads to minimal investment in safety protocols (Adenuga *et al.*, 2007; Smallwood, 2002).
5. **Informal Construction Sector:** This sector constitutes over 70% of construction activity but is unregulated, exposing workers to hazardous

- conditions (Tanko & Anigbogu, 2012; Kalejaiye, 2013).
6. **Unemployment:** High unemployment means workers tolerate unsafe conditions for fear of losing their jobs (Idubor & Osiamoje, 2013; NBS, 2023).
  7. **Weak Legal Structures:** Inconsistent laws and soft penalties reduce the deterrent effect of regulations (Windapo & Oladapo, 2012; Idoro, 2008).
  8. **Client Influence:** Clients rarely enforce safety standards, especially in informal settings (Famakin & Fawehinmi, 2012).
  9. **Awareness and Communication:** There's a lack of effective dissemination of safety rules and responsibilities (Agwu, 2014; Adebisi *et al.*, 2019).
  10. **Lack of OSH Representatives:** Many firms do not have mandated safety officers, reducing oversight (Diugwu *et al.*, 2012).
  11. **Inadequate Local Regulations:** The main OSH laws, such as the Factory Act of 1990, do not effectively cover the construction sector (Idoro, 2008; Diugwu *et al.*, 2012).

### Causes of Accidents

Construction site accidents are caused by macro (societal), mezzo (project-specific), and micro (individual-level) factors (Brace *et al.*, 2009). Common causes include:

1. **Falls from height**, due to poor scaffolding and lack of guardrails.
2. **Electrocutions**, caused by faulty equipment and exposed wiring (NFPA, 2020).
3. **Struck-by hazards**, like falling objects or moving equipment.
4. **Caught-in hazards**, inadequate housekeeping, and poorly maintained worksites (OSHA, 2020).
5. **Design and planning flaws**, poor safety protocols, inadequate training, and extreme weather.
6. **Human error**, such as fatigue, distraction, or lack of PPE use.

### Health and Safety Standards

International H&S frameworks like the UK's CDM Regulations identify six themes:

1. **Planning and Management** e.g., appointing competent staff and training.
2. **Risk Control** e.g., providing PPE and reporting injuries.
3. **Safety Arrangements** e.g., fire protection, medical care, and site notifications.
4. **Welfare Facilities** e.g., access to clean water, restrooms, and accommodations for pregnant or disabled workers.
5. **Communication and Cooperation;** ensuring all parties collaborate and maintain transparency.
6. **Emergency Preparedness;** maintaining clear exit routes and managing explosives safely.

### Empirical Studies in Nigeria

Studies show that Nigeria's construction industry is the most accident-prone sector. Deaths, disabilities, and environmental risks are increasing due to frequent collapses and site accidents (Olatunji *et al.*, 2007; Orji, 2014). According to OSHA (2005), 60,000 fatalities occur globally each year, yet Nigeria lacks national records. Many construction workers are undocumented foreign laborers, which complicates accident tracking and regulatory oversight (Kadiri *et al.*, 2014).

Construction-related injuries not only cause human suffering but also lead to equipment loss, project delays, and diminished morale. Addressing safety challenges requires stakeholder collaboration, better training, stronger enforcement, and increased investment in safety infrastructure.

### METHODOLOGY

This study adopts a quantitative research methodology aimed at collecting and analyzing numerical data to answer research questions related to health and safety compliance on construction sites. The quantitative approach facilitates theory testing, outcome prediction, and decision-making through data-driven insights.

Data were gathered using a structured questionnaire designed via Google Forms. The questionnaire consists of both close-ended and open-ended items, divided into seven sections: Section A focuses on respondent demographics, Sections B to F cover aspects such as safety management, personal protective equipment (PPE), site conditions, equipment and tools, and workers' compliance. Section G offers space for additional comments and observations from respondents on health and safety practices.

The target population includes contractors, consultants, site managers, and site workers within the Abuja Municipal Area Council of the Federal Capital Territory (FCT). A convenience sampling technique was used to select participants due to accessibility and time constraints. The questionnaire technique is chosen over other methods like interviews or observations because it allows for broader reach and consistent data collection. The face-to-face administration method was employed to ensure higher response rates, with some support from colleagues to distribute and retrieve the forms. A total of 200 questionnaires were distributed to the selected respondents.

Upon completion of data collection, the responses were analyzed statistically using descriptive tools such as bar charts, pie charts, tables, and percentages. The data were interpreted using a four-point Likert scale, which

helps quantify respondents' perceptions and compliance levels regarding health and safety standards on construction sites. This methodological approach is expected to yield reliable data that reflects the current state of safety practices in the study area.

## RESULTS AND DISCUSSIONS

According to the research, 200 questionnaires were administered to the respondent in the study and all questionnaires were received. Table 4.1 below presents demographic information about respondents who are construction staff, detailing their roles on construction sites and their experience in the industry. It categorizes respondents into four primary roles: Contractor, consultants, Site supervisor and site workers. The results indicate that out of a total of 200 respondents, 18 (9%) are from contractor, 40 (20%) are from consultant, 53(26.5%) are site supervisors, and 91 (45.5%), are classified as sites workers. Regarding the experience of the respondents on construction sites, the data reveals that 31 individuals (15.5%) have been working in the industry for less than one year, while 44 (22%) have 1 to 5 years of experience. Additionally, 79 respondents (39.5%) have between 6 to 10 years of experience, and 46 respondents (23%), have over 10 years of experience.

**Table 4.1a: Social-demographic Characteristic of Respondent**

S/n	Status	Participants	Percentage%
1	Contractors	18	9
2	consultants	40	20
3	Site manager	53	26.5
4	Site workers	89	44.5

**Table 4.1b: Working experience**

S/n	Experiences	Participants	Percentage%
1	Below 1 year	31	15.5
2	1-5 years	44	22
3	6-10 years	79	39.5
4	Above 10 years	46	23

## Responses on respondent been involved in accident

Figure 4.1 presents data regarding respondents' experiences with accidents on

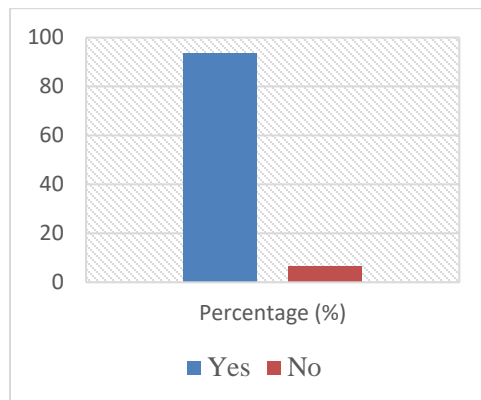
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construction sites, specifically assessing whether they have been involved in an accident. Out of a total of 200 respondents, a striking 187 individuals, or 93.5%, reported that they have been involved in an accident at some point during their work on construction sites. In contrast, only 13 respondents, representing 6.5%, indicated that they had not experienced an accident. Based on the responses gotten and analyzed it shows that more person have been involved in accidents at the construction site.



**Figure 4.1** Bar-chart presenting data on whether respondents have been involved in an accident in the construction site.

### Common forms of accidents occurring on construction sites in the FCT

200 questionnaires were sent out to the respondent and 200 responses was received, based on the responses received from the respondent, this analysis was conducted. Table 4.2 includes a detailing the common forms of accidents occurring on construction sites in the Federal Capital Territory Abuja. According to the responses gathered from a total of 200 participants, the most frequently reported type of accident was slips, trips, or falls, which accounted for 57 incidents, representing 28.5% of the total responses. This was followed by crushing or being struck by an object, with 54 reported incidents, making up 27% of the total. Electrical shocks were noted by 35 respondents, corresponding to 17.5%, while cutting or piercing accidents were reported by 45 individuals, which is 22.5% of the total. Lastly, falls from heights were reported by 9 respondents, representing 4.5%. Based on the responses gotten and analyzed, it shows that Slips, trips, or falls is the most common kind of accident in the construction site.

**Table 4.2:** Common forms of accidents by respondents.

Common forms of accidents by respondents.	Responses	Percentage%
Fall from height	9	4.5
Slips, trips, or falls	57	28.5
Electrical shock	35	17.5
Crushing or struck by object	54	27
Cutting or piercing	45	22.5
<b>Total</b>	<b>200</b>	<b>100</b>

### Factors that inhibit adherence to safety standards

Figure 4.2 identifies various factors that inhibit adherence to safety standards among respondents. The most significant barrier, cited by 44% of respondents, is a lack of training, indicating that insufficient knowledge and skills may prevent workers from following safety protocols effectively. Additionally, 28.5% of respondents reported a lack of personal protective

equipment (PPE) as a hindrance, highlighting the importance of having appropriate safety gear readily available. Peer pressure also emerged as a concern, with 17% of respondents acknowledging it as a factor that can negatively influence safety practices. Finally, 10.5% of respondents pointed to time constraints as an obstacle, suggesting that the demands of the job may limit their ability to prioritize safety.

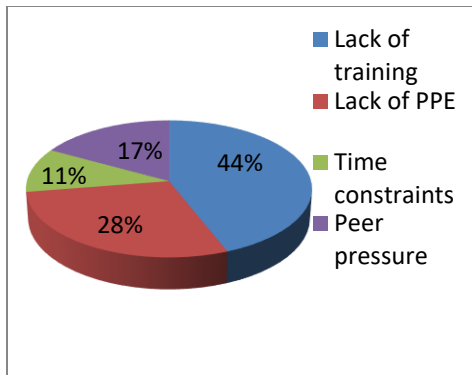
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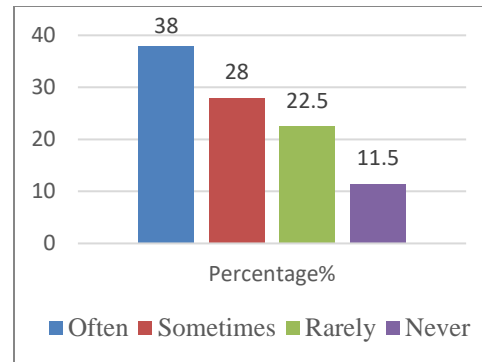




**Figure 4.2:** Pie-chart presenting data Factors that inhibits adherence to safety standards

#### How often respondents feel rushed or under pressure to complete tasks quickly, potentially compromising safety.

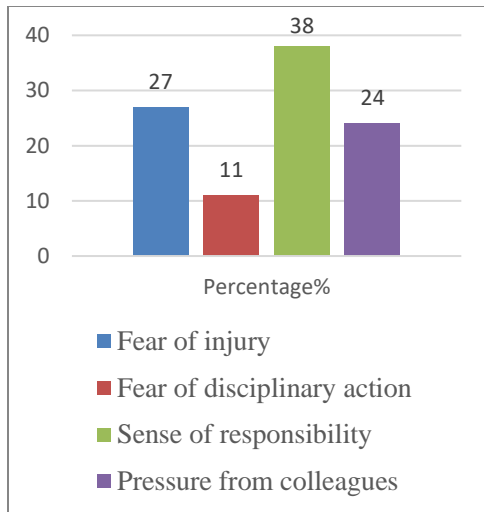
Based on the data analyzed, Figure 4.3 presents' data on how often respondents feel rushed or under pressure to complete tasks quickly, which may compromise safety in their work environment. Out of 200 surveyed individuals, a notable 38%, or 76 respondents, reported that they often feel rushed. This indicates that a significant portion of the workforce consistently experiences pressure to expedite their work. Additionally, 28% of respondents, equating to 56 individuals, stated that they sometimes feel this way, suggesting that while the pressure is common, it is not as overwhelming as in the first group. Conversely, 22.5%, or 45 respondents, indicated that they rarely feel rushed, implying that they experience less frequent pressure in their tasks. Lastly, a small minority of 11.5%, or 23 individuals, reported that they never feel rushed at all, indicating that they may have more manageable workloads. Overall, the data reveals a concerning trend where a substantial number of workers are under pressure to complete tasks quickly, which could lead to unsafe practices and highlights the need for improved workload management to ensure safety on construction sites.



**Figure 4.3:** Bar-chart presenting data of how often respondents feel rushed or under pressure to complete tasks quickly, potentially compromising safety.

#### Factors that motivate adherence to safety standards

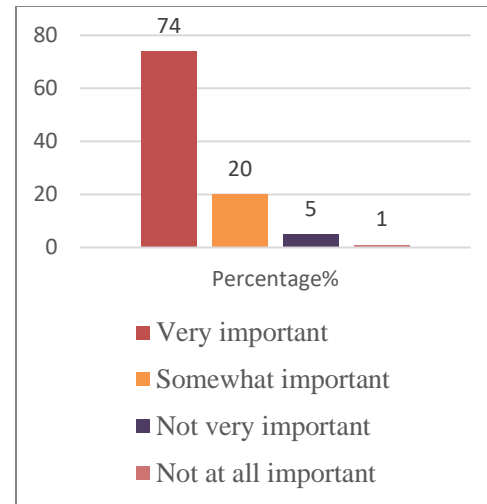
Figure 4.5 outlines the motivations behind why respondents adhere to safety standards on site. The most significant motivator, cited by 38% of respondents, is a sense of responsibility, suggesting that many individuals feel a personal obligation to ensure their own safety and that of their colleagues. Following this, 27% of respondents indicated that their primary motivation is the fear of injury, highlighting a strong awareness of the risks associated with their work environment. Additionally, 24% of respondents mentioned pressure from colleagues as a motivating factor, which underscores the influence of workplace culture on safety practices. Lastly, 11% of respondents are motivated by the fear of disciplinary action, indicating that organizational policies also play a role in encouraging compliance with safety standards. Overall, the findings reveal a complex interplay of personal responsibility, fear, and social dynamics that drive respondents to adhere to safety protocols on site. Based on the data analyzed it shows that a high number of people follow safety standard because of a sense of responsibility.



**Figure 4.4:** Bar-chart presenting data on What motivates respondents to follow safety standards

#### How important safety training are to respondents

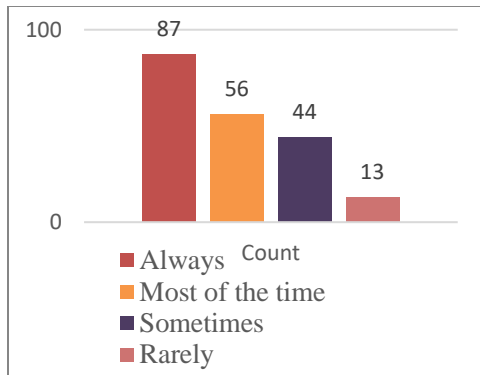
Figure 4.5 assesses the perceived importance of safety training among respondents, revealing a strong consensus on its value. A substantial 74% of respondents indicated that safety training is "very important," reflecting a widespread acknowledgment of the critical role that such training plays in maintaining a safe work environment. Additionally, 20% of respondents deemed safety training "somewhat important," suggesting that while they recognize its value, they may not view it as essential. In contrast, only 5% of respondents considered safety training "not very important," and a mere 1% felt it was "not at all important." This data illustrates that the vast majority of respondents prioritize safety training, which is crucial for fostering a culture of safety and ensuring that all employees are equipped with the necessary knowledge and skills to mitigate risks on site. Overall, the findings highlight the importance placed on safety training, indicating a collective commitment to enhancing workplace safety.



**Figure 4.5:** Bar-chart presenting data on How important safety training are to respondents  
Source: Author's Analysis, 2025.

#### The extent of compliance to Health and Safety standards by the construction sites in the study area.

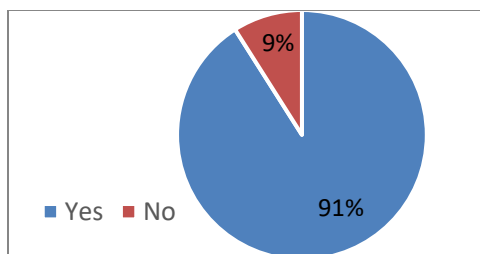
Based on the responses received from the respondent, this analysis was conducted. Figure 4.6 illustrates the frequency with which respondents wear personal protective equipment (PPE) on site. Out of a total of 200 respondents, 43.5% reported that they always wear PPE, indicating a strong adherence to safety protocols. Additionally, 28% of respondents indicated that they wear PPE most of the time, which suggests a generally positive attitude towards safety, although not as consistent as the "always" category. Meanwhile, 22% of respondents stated that they sometimes wear PPE, highlighting a gap in compliance that could pose risks. Lastly, 6.5% of respondents reported that they rarely wear PPE, which raises concerns about safety practices among this group. Overall, while a majority of respondents prioritize wearing PPE, there remains a significant portion that does not consistently do so, warranting further attention to improve safety measures on site. Based on the result gotten and analyzed it shows that respondents wear personal protective equipment always more because it has the highest count.



**Figure 4.6:** Bar-chart presenting data on how often respondents wear personal protective equipment (PPE) on site

#### Responses on whether safety meetings were held regularly on site

Figure 4.4 provides insight into the frequency of safety meetings held on site, revealing that 182 out of 200 respondents, or 91%, confirmed that safety meetings are held regularly. This indicates a strong commitment to maintaining safety protocols and ensuring that all personnel are informed about safety practices. Conversely, only 18 respondents, which accounts for 9%, reported that safety meetings are not held regularly. This disparity suggests that while the majority of the workforce is engaged in regular safety discussions, there is a small minority that may not be adequately informed about safety procedures. Overall, the data highlights a positive trend in safety communication, although there is still room for improvement to ensure that all employees benefit from consistent safety training and updates.



**Figure 4.8:** Pie-chart presenting data on Responses on whether safety meetings were held regularly on site

#### CONCLUSION AND RECOMMENDATIONS

The study on safety practices within the construction sector in the Federal Capital Territory (FCT), Abuja, reveals a troubling prevalence of workplace accidents, with over 93% of respondents admitting to having experienced at least one accident in their careers. The most frequently reported incidents include slips, trips, falls, and being struck by objects. While the data shows some encouraging signs such as 91% of respondents participating in regular safety meetings and 43.5% consistently using personal protective equipment (PPE) compliance with safety standards is significantly hindered by a lack of training and inadequate access to PPE. These gaps highlight a pressing need for systemic improvements in health and safety management across construction sites.

To address these challenges, the study recommends the implementation of comprehensive and continuous training programs tailored to hazard identification and risk mitigation. Ensuring the availability of proper PPE to all workers free of charge where necessary is essential to closing the compliance gap. Regular safety meetings should be sustained and enhanced, offering platforms for discussing incidents, reviewing protocols, and encouraging worker feedback.

Furthermore, cultivating a strong safety culture is paramount. Management must lead by example, creating an environment where safety is seen as a shared responsibility. Establishing peer mentoring systems can support new workers in adopting safe practices, while structured monitoring and evaluation mechanisms will help track progress and identify areas needing attention. Time constraints must also be reviewed to prevent rushed jobs that compromise safety. Introducing anonymous feedback channels will empower workers to report hazards without fear, and collaboration with regulatory bodies through audits and inspections will ensure compliance with national standards. Finally, workplace safety awareness campaigns should be launched to shift perceptions and promote long-term behavioral change. These collective measures can





substantially reduce accident rates and foster a safer, more productive construction environment.

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