

INVESTIGATING THE ROLE OF EFFECTIVE COMMUNICATION FOR CONSTRUCTION PROJECT SUCCESS IN NIGERIA

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ABSTRACT

Communication is always an indispensable necessity and demand of individual, collectivity, community and organization. In construction and for construction projects, especially for complex projects, such regard becomes more and more important. It plays a vital role for link of all resources to create a collective and common force for the well performance of the project, hence bring benefits for every involved individual and team/group, company, community and society. Building effective and powerful communication system for a construction project is not simple/easy work at all. It demand good background, expertise platform, life experience and brain storming as well as open soul and inspiration and of course subject to the specificity, particularity and sized of the desired construction project. All manners and measure are settle for the ultimate goal, the success of the project meant benefits brought to the client, contractors, suppliers, all parties involved, community and society. The success of construction project also mean success in every phase of the project. Therefore the communication skills, methods and instrument applied to the project should be deployed and mobilized effectively and productivity through every stage of construction projects.

INTRODUCTION

Construction industry embraces a wide range of loosely integrated organization that collectively constructs, alter and repair a wide range of different building and civil engineering structures. The industry has certain unique characteristics, steaming mainly from physical nature of the construction product and it demands (Seeley, 1984). The industries according to

Achuenu et, al (2000) produces and maintain infrastructures and facilities required for various social, economic and industrial functions such as buildings, highways, dams ports, industries and power stations. The infrastructures facilities required for transportation, housing, communication, water and power supply, manufacturing and waste disposals are basically construction end product.

These infrastructure produced by the construction industry are procure as a project. Kerzner, (2000) defines a project, as an endeavor that has a definable objective, consume resources and operate under time, cost and quality constraints. Some people contend that a project should also be defined as a multifunctional activity since the role of a project manager has become more of an integrator than a technical expert.

In all aspects of human professions, communication is seen as a vital central organ especially through the use of language. Humans have transferred culture, record, history and document occurrences to good deal with the use of language from one generation to another. The organ called communication has helped man to build societies and other social groups which have contribute immensely to the growth of man's life. Knipe (2000) acknowledged that, in construction, communication could also be achieved through letters, specifications, reports, manuals, schedules, calculations drawing, computers files, discs, printout, photographs, agenda's and minute of meetings and words through which members of an organization sends and receives information and also send information's to the public at large. Communication in the large sense of it use to express facts, ideas, opinion and emotions between two or more people and through

communication exchange of thought, information is also a goal tool for human relation.

STATEMENT OF THE PROBLEM

The construction industry is so hierarchical and fragmented in nature that some of the major participants do not considered themselves to be part of the same industry (Hindle, 2000). These require close coordination among a large number of specialized but interdependent organization and individuals to achieve the cost, time and quality goals of construction project (Toole, 2003). Hence, according to (Maqsoodet, al2004), a major construction process demands heavy exchange of data and information between project participants on a daily basis. However, errors, according to Bateman and Snell (1990) can occur in all stages of the communication process. In the encoding stage, words can be misused, decimal points typed in the wrong places, facts left out, or ambiguous phrases inserted. In the transmission stage, a memo gets lost on a cluster desk, the words on a head transparency are too small to read from the back of the room, or words are spoken with ambiguous inflections.

Construction organizations have to rely on information from various sources for their operations (Harris and McCaffer, 2005). Ferry, et al (2006) reported that, in carrying out real time cost control it is essential for quantity surveyor always to be fully

informed to what is happening and what is intended. Ensuring this may well be one of the more difficult parts of the operation.

OBJECTIVES OF THE STUDY

The aim of the study is to investigate the role of effective communication for project success in Nigeria construction industry. To the end, the specific objectives are:

1. To examine the various methods of information dissemination in the construction industry.
2. To identify the qualities of an effective communication in the construction industry.
3. To establish severity of qualities of an effective communication to project success in the construction industry.

RESEARCH HYPOTHESIS

The studies have the following hypothesis:

Ho: There is no significant relationship between effective communication and construction project success.

H1: There is a significant relationship between effective communication and construction project successes.

LITERATURE REVIEW

Communication

Communication is the process by which information and data are passing between individuals and or organization by means of previous agreed media and channels. Chappel and Read define communication as, process by which information is passed between two units (individual or organization) through appropriate channels. Communication can also be defined as means by which a thought is transferred from one person to another. (Payne et al 1999). According to Cleland and Kocaoglu (1981) communications is process by which information is exchanged between individuals through a common system of symbols, signs, or bahaviours. Wikforss et al (2007) reported that in many of the industrialize lean construction effort in construction effort in construction industry today collaborative communication and it supporting information communication technology have been reduce to secondary issues in favours of rationalizing the physical design and production process as if effective project communication practice and technology are taken for granted. Often when information communication technology base communication is discussed and managed in construction it often only comprises the technical aspect of information handling, such as modeling, classification and standardization. There are different communication instruments, such as contracts, specifications, reports, manuals, schedules, calculations, drawings

(Knipe 2002).

The Nature of Communication on the Construction Industry

The management of documentation and communication used in a project is used by a number of subcontractors, the storage and retrieval thereof for further use. These instruments describe a range of documents and also different versions of those documents as they pass through the lifecycle of the project at each phase. From a standard documents and communication structures, -flow and -planning can be modified as necessary to meet the requirements of each projects, (Bennett, 2003).

Communication planning pulls the project together. The project manager and project office are at the heart of the project's information and control system. It is the project manager's responsibility to develop not only the project organization structure, but also to develop the project's communication plan and lines of communication. The communication plan should outline:

- Who (lines of communication sender- and receiver-responsibility and authority).
- What (scope of communication and format).

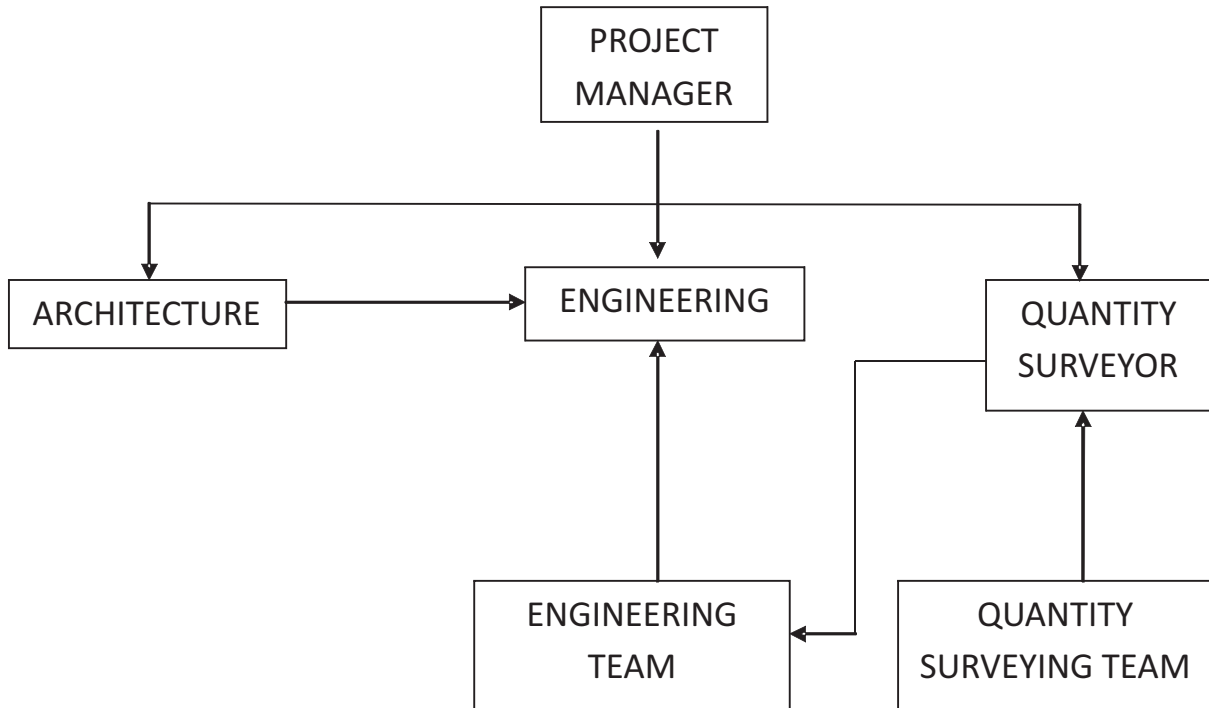
- How (e-mail, document, telephone, meeting, presentation).
- When (schedule).
- Feedback (confirms message received and understood-document control).
- Filing (retrieval, storing, disaster recovery) Burke, 2003). According Payne et al (1999) in the simple situation of communication between two individuals, there are four key elements: The person with the thought or information to communicate designated the transmitter; the person, to whom the means by which the thought or information is to be transferred, the medium and the method of connecting the two participants, the channels.

Communication Flow And Instrument Within The Construction Industry

Formal Communication

Communication flows in four directions: downwards, upwards, horizontally and laterally. These basic communication flows are shown in figure 2.1 below:

Figure 2.1: Communication flows



Source: Smit & Cronje (2002)

Downward Communication: starts at the top and flows down through the project levels to workers. The major purpose of downward communication is to provide subordinates with information on goals, strategies and policies. Downward communication is likely to be filtered, modified, or halted at each level as managers decide what should be passed down to employees. When employees send a message to their superiors, they are using upward communication. The main function of upward communication is to supply information to the upper levels about what is happening at the lower levels.

Horizontal Communication: Occurs between people on the same level of the hierarchy and is designed to ensure or improve co-ordination of the work effort. It is formal communication, but does not follow a chain of command. Effective horizontal communication should prevent tunnel vision in the organization.

Lateral Communication: Takes place between people at different levels of the hierarchy and is usually designed to provide information, co-ordination or assistance to either or both parties (Smit & Cronje, 2002).

Informal Communication

Informal communication, commonly called “the grapevine”, can begin with anyone in the organization and can flow in any direction. The grapevine's prime function is to disseminate information to employees (both managerial and non-managerial) that is relevant to their needs. Grapevine/rumors = information without a factual base. In the construction industry, the following are informal communication methods:

- Regular contact
- Mind reading
- Motivation to speak (Smit & Cronje, 2002: 373).

Construction Industry

Construction industry embraces a wide range of loosely integrated organization that collectively constructs, alter and repair a wide range of different building and civil engineering structures. The industry has certain unique characteristics, stemming mainly from physical nature of the construction product and it demands (Seeley, 1984). The industry according to Achuene et al (2002) produces and maintains infrastructures and facilities required for various social, economic and industrial functions such as building, highways, dams, ports, industries and power stations. The infrastructures facilities required for transportation, housing, communication, water and power supply,

manufacturing and water disposal are basically construction ends products. Furthermore, according to Douglas et al (1999). The building industry and the civil engineering industry together are often refers to as the construction industry and many firms (certainly most of the large ones) operate in both sectors, even though their staff and organizations will probably be separate.

Construction industry is essential a service industry whose responsibility is to convert plans and specification into finished product, it is exceeding, complex and highly individual in character (Peurifoy et al, 1985).

According to Bennett, (2003), construction industry can be broken down into two very broad categories generally building construction.

Building Construction:

Within this very broad category we find project that include residential, commercial, institution and industry buildings.

Engineering Construction:

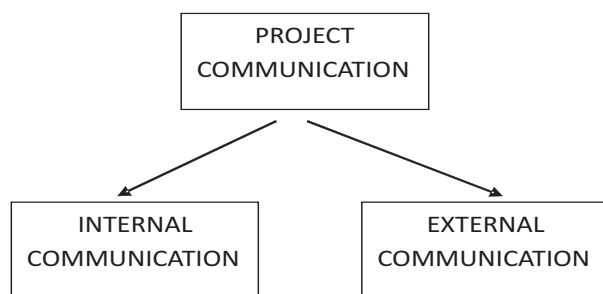
The broad category of construction, sometimes called engineering construction is characterize by design prepared by engineers rather than architects, the provision of facilities usually related to the public in structures and this by public sector entities and funded through bonds, rates or

taxes and a high degree of mechanization and the uses of much heavy equipment and plant in the construction processes. This projects usually emphasis functionality rather than aesthetics and involves substantial quantities of such field as timber, steel, piping, soil, concrete and asphalt. More so than other type of construction, engineering construction is often design by an owner in house staff. Two common subcategories of engineered construction are highway construction and heavy construction.

PROJECT COMMUNICATION INSTRUMENT

Project communication, as shown in Figure 2.2, is internal and external communication between members of an organization at all levels in order to achieve a mutual goal or goals.

Figure 2.2 Project Communications.



Source: Le Roux (1999) in smith and cronge (200)

To achieve goals, it is necessary to communicate or interact at various levels of the organization – this is known as internal communication. Members also have to communicate with individuals or groups who are not members of the project. This is referred to as external communication.

Project Operation Phase

In presenting the contractor's activities on the construction site, we will suggest, perhaps too simply, that the responsibilities involved three basic areas: monitoring and control, resource management and documentation and communication. Five aspects of monitoring and controlling the work are important. Actual schedule progress must be compared against the project program me to determine whether the project is on schedule; if it is not, actions must be undertaken try to bring the programme back into conference compares with the budget. An equally important part of monitoring and control is quality management, to assure that the work complies with the technical requirements set forth in the contract documents. In addition, the contractor has an important role to play in managing the work safely and in a way that minimizes adverse environmental impacts. In managing the project's resources, the contractor will, first, be

concerned with assigning and supervising personnel and assuring that the labour effort is sufficiently productive to meet schedule, cost and quality goals. In addition, materials and plant must be managed so that these same goals are met. Because construction projects require large amounts of paperwork, a special effort is required to manage the documentation effectively. Examples include the various special drawings and samples that must be submitted to the owner or design professional for approval prior to installation, the frequent need to respond to requests for changes in the project after the on-site work has begun and the all-important process for periodically assessing the value of work completed and requesting payment for this work. Various on-line and other electronic means are available to assist contractors with document management and project communications (Bennett, 2003).

The on-site management of a construction project involves great amounts of paperwork, even for relatively small projects. The purpose, of course, is to communicate directions, questions, answers, approvals, general information and other material to appropriate members of the project team, so that the project can proceed in a timely, cost-effective and quality manner. We discuss in this section some of the documents necessary for the execution of the contract, primarily from the

contractor's point of view. Included are considerations of shop drawings and other submittals, variations or change orders, the documents required for the contractor to receive payment and, once again briefly, the value engineering process. Many pieces of 'paperwork' are in electronic form and thus we include a description of many types of such documents, as well as computer-based approaches to the organization and management of all project documents. Finally, we consider the use of collaborative web-based means for facilitating communication of all relevant information among the project team. The following are project operation phase communication instruments:

- Drawing
- Bill of quantities
- Specification
- Certificate of payment
- Interim certificate
- Interim valuation

Drawings: The purpose of the drawing is to illustrate the employer's requirements at each stage of the procurement process. Thus they will serve to refine the employer brief; they will allow the quantity surveyor to prepare cost estimates and eventually a cost plan; they will be submitted to obtain statutory consents used to obtain tenders and

finally they will be use to instruct the contractor what to build (Aqua et al, 1999).

Bill of Quantities: Is designated primarily as a tender document but it also provides a valuable aid to the pricing of valuation and computation of valuations for interim certificates. It provides a good basis for cost planning and if prepared in annotated form will help in the location identification of the work (Seleey 1984).

Specification: Document with technical requirements of materials and standard of workmanship require on the project (Smith and Jaggar 2007).

Interim Valuation: Is made by the quantity surveyor when ever architect considers them to be necessary for the purpose of ascertaining the amount to be stated as due in an interim certificate (Ashworth and Hogg, 2002).

Interim Certificate: The contractual basis of the certificate is the valuation of the work properly executed and the architect must satisfy himself as to the acceptable quality of the work before certifying payment by the employment (Seeley, 1984).

RESEARCH METHODOLOGY

The study used qualitative paradigm were views were sought existing literature, textbooks, journals, magazines, newspapers and the used of survey questionnaire,

administered to construction professionals through semi structured interview.

DATA ANALYSIS

1. Does effective communication skill practice lead to higher project performance?

Table 4.1 Percentage range agreement on the practice of effective communication skill lead to higher project performance.

RESPONSES	FREQUENCY	PERCENTAGE
Yes	45	88.24
No	6	11.76
Total	51	100

Table 4.1 indicates the responses rate of respondents as to the level of effective communication skill practice leading to higher project performance. According to this study six 96) out of total number of respondents which is about 11.76% are against the practicing of communication skills though most of respondents do not actually implement it.

1. Does effective communication instrument and method increase the level of construction productivity?

Table 4.2 Percentage range agreement on the use of effective communication instrument and methods increase the level of construction productivities.

RESPONSES	FREQUENCY	PERCENTAGE
Yes	46	92.16
No	65	7.84
Total	51	100

Table 4.2 indicates the responses rate of respondents as to the level of usage of effective communication instruments and methods increases the level of construction productivity. According to this study four (4) out of total number respondents which is about 7.84% are against the use of this communication instrument and method for project success in Nigeria construction industries.

Table 4.3 Table of observed values for all rank agreements on effectiveness of communication skills among the construction professionals.

PROFESSIONALS	VERBAL COMM.			TTL	WRITTEN COMM.			TTL	CONTRACTUAL COMM.			TTL
	1	3	5		1	3	5		1	3	5	
Architects	9	19	23	51	0	9	42	51	7	18	26	51
Project Managers	1	16	34	51	4	10	37	51	0	11	40	51
Quantity Surveyors	4	16	31	51	2	10	39	51	2	11	28	51
Service Engineers	9	14	28	51	2	15	34	51	11	11	29	51
Builders	4	18	29	51	3	22	26	51	4	17	30	51
Contractors	0	15	36	51	4	16	31	51	0	16	35	51
Total	27	98	181	308	15	82	209	306	24	84	199	306

Table 4.3 Table if expected values for all the rank agreements on effectiveness of communication skills among the construction professionals.

PROFESSIONALS	VERBAL COMM.			TTL	WRITTEN COMM.			TTL	CONTRACTUAL COMM.			TTL
	1	3	5		1	3	5		1	3	5	
Architects	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Project Managers	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Quantity Surveyors	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Service Engineers	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Builders	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Contractors	4.5	16.33	30.17	51	2.5	13.67	34.83	51	4.00	14.00	33.60	51
Total	27	98	181	306	15	82	209	306	24	84	198	306

Table 4.3 above shows the observed frequencies in respect of the responses of effective communication skill lead to project success.

It is therefore means that based on the frequencies, the null hypothesis that state that “there is a significant relationship between effective's communication and construction project is to be accepted, while the other hypothesis as earlier stated is to be rejected.

Table 4.4 Respondents' response on verbal communication as a part of effective communication skill that leads to project success in Nigeria construction industries.

<i>PROFESSIONALS</i>	<i>(3)</i>	<i>INTERMEDIATE (3)</i>	<i>HUGH (5)</i>	<i>TOTAL</i>	<i>RANK SUM</i>	<i>(R)2</i>	<i>(R)2/T</i>	<i>RANKING</i>	<i>IMPORTANCE</i>	<i>R/T</i>
Architects	9	19	23	51	181	32761	635.29	6	1.18	3.53
Project Managers	1	16	34	51	219	47961	940.41	2	1.43	4.29
Quantity Surveyors	4	16	31	51	207	42849	840.18	3	1.35	4.06
Service Engineers	9	14	28	51	191	36481	715.31	5	1.25	3.75
Builders	4	18	29	51	203	41209	808.02	4	1.33	3.98
Contractors	0	15	36	51	225	50625	992.65	1	1.47	4.41
Total	27	98	181	306			4931.86			

Table 4.5 Respondents' response on written communication as a part of effective communication skill that leads to project success in Nigeria construction industries.

<i>PROFESSIONALS</i>	<i>(1)</i>	<i>(3)</i>	<i>(5)</i>	<i>TOTAL</i>	<i>RANK SUM</i>	<i>(R)2</i>	<i>(R)2/T</i>	<i>RANKING</i>	<i>IMPORTANCE INDEX</i>	<i>R/T</i>
Architects	0	9	42	51	237	56169	1101.35	1	1.55	4.65
Project Managers	4	10	37	51	219	47961	940.41	3	1.43	4.29
Quantity Surveyors	2	10	39	51	227	51529	1010.37	2	1.48	4.45
Service Engineers	2	15	34	51	217	47089	923.31	4	1.42	4.25
Builders	3	22	26	51	199	39601	776.49	6	1.30	3.90
Contractors	4	16	31	51	207	42849	840.18	5	1.35	4.06
Total	15	82	208	306			559212			

Table 4.6 Respondents' response on Contractual communication as a part of effective communication skill that leads to project success in Nigeria construction industries.

<i>PROFESSIONALS</i>	<i>(1)</i>	<i>(3)</i>	<i>(5)</i>	<i>TOTAL</i>	<i>RANK SUM</i>	<i>(R)2</i>	<i>(R)2/T</i>	<i>RANKING</i>	<i>IMPORTANCE INDEX</i>	<i>R/T</i>
Architects	7	18	26	51	191	36481	715.31	4	1.25	3.75
Project Managers	0	11	40	51	233	54289	1064.49	1	1.52	4.57
Quantity Surveyors	2	11	28	51	175	30625	600.49	6	1.14	3.43
Service Engineers	11	11	29	51	189	35721	700.41	5	1.24	3.71
Builders	4	17	30	51	205	4202	824.02	3	1.34	4.02
Contractors	0	16	35	51	223	49729	975.08	2	1.46	4.37
Total	24	84	19	306			4879.80			

Table 4.7: Table of observed values for all rank agreement on effectiveness of communication skills among the construction professional

Instrument/ Method of Communication	ER	R	MR	LR	IR	Total	Severity Index		
							F	F/N	Ranking
Programmed and Scheduling	21	13	15	2	0	51	36	0.7059	8
Tender Documents	37	13	1	0	0	51	50	0.9804	1
Schedule	29	9	9	4	0	51	38	0.7451	7
Bonds	9	11	16	10	5	51	27	0.5294	11
Permits	7	9	13	15	7	51	28	0.5491	10
Drawing	30	14	5	2	0	51	44	0.8628	4
Specification	44	5	2	0	0	51	49	0.9608	2
Valuations	21	12	15	3	0	51	36	0.7059	8
Certificates	17	19	14	1	0	51	36	0.7059	8
Cost Report	16	12	16	7	0	51	32	0.6275	9
Final Accounting	32	14	4	0	0	51	46	0.9020	3
Variations	21	20	10	0	0	51	41	0.8039	5
Cost of Planning	22	17	12	0	0	51	39	0.7647	6
Meetings	23	18	10	0	0	51	41	0.8039	5
Payment Advice	12	13	15	10	2	51	28	0.5490	10
	341	199	156	55	14	765			

Ranking: 1=Most Important, 2=More Important, 3=Important, 4=Less Important, 5=Not Important

CONCLUSION AND RECOMMENDATIONS

Conclusion

It is revealed that base of analyzes of effective communication skill, instrument/method and their importance, as indicated by the respondents, a proposal may be made to improve the effectiveness of effective communication and their links between the various communication instrument. For each project, it is important that the project related information is fully documented to ensure that all the people involved understand what has and is happening. Each project has a great deal of communication and documentation. With many project using the same instruments over and over again, the running of the project will be easier and more understandable if communication skills, instrument/method are a standard process. Effectiveness will provide a system for effective management that is not too complex and may contribute towards the effective execution and completion of a project.

Recommendation

The written communication skill should be the core skill for communication, for project success in the Nigeria construction industries.

The research has also reveal that use of Tender Documents, Specification, Final Account, Drawings, Variation and Meeting should be the core communication

instrument/ method for project in the Nigeria construction industry.

Towards the achievement of effectiveness in communication skill, instrument/ method the following skills and instrument mentioned above must have the following character so as to achieve the maximum output of a project:

- Simple and precise
- Prompt and instant
- Clear and accurate
- Internal and external
- Suitable and proper for any circumstance
- Effective and productive
- Timely and synchronous
- Friendly and appropriate

Communication in construction projects is the art of control, monitoring, verification, recording and documentation. Obviously a lot of factors affect to the process; positively and negatively as well. This requires the project managers to be smart to filter and identify what are the helpful and active things the advantages and convenience to the project implementations.

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