

# Building Failures/Collapses and their Reputational Effect on Building Industry in Nigeria

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**Abstract:** *Building failures and collapses in recent times have become front burner issue in the built environment. When the incidence becomes incessant, both the industry and stakeholders' reputation is at stake. For this reason, this article sought to determine the reputational effect of building failure/collapse on the values, integrity of industry's professionals. Findings show that incessant building failure and collapses demarket the values and integrity of industry professionals; portrays Nigerian building industry as corrupt due to sharp practices of some of its unscrupulous elements. Incessant building failure/collapse also devalues the marketability of industry professionals to foreign firms/clients. The study concludes that the totality of what goes on in the entire building industry, its operations, and the attitude or behavior of stakeholders cum industry professionals towards laid down procedures, codes, achievements and problems shape its image and reputation ratings. Thus, reputation is seen as a collective representation of a firm's past actions and results that discern its ability to deliver valued outcomes to multiple stakeholders.*

**Keywords:** Building industry, Building failures/ collapses, Corporate Reputation; Image, Stakeholders

## 1. Introduction

Building failure and collapses are not new phenomena in the construction/ building industry all over the world. But what is becoming worrisome is the alarming rate at which structures fail or collapse, particularly in the developing countries [1],[2],[3]. Observation has shown that the frequency of occurrence constitute a major source of concern not only to the government but to all well meaning Nigerians and most especially, the stakeholders in the building industry in the country. Human and material wastes associated with such building collapse and psychological wounds often inflicted on residents of such houses and their owners also constitute huge losses to the country [1]. Statutory building development practice all over the world, including Nigeria is guided by laws and regulations through approved procedures administered by requisite government agencies and construction professionals. However, these laws and procedures are often subverted, neglected or altered leading to sub-standard practices in building production [4]. Literature is rife with accusations and counter accusations of sharp practices of few industry stakeholders cum professionals, which studies have revealed to be a major contributor to building failures/collapses [5],[6],[3],[7],[8].

Each time a building collapses, accusing fingers point at major industry stakeholders that ought to hitherto play both statutory and supervisory role before, during and after erection of a structure. These stakeholders include structural and civil engineers, building contractors, and valuers, architects, town planners, quantity surveyors and lands/developers. Each of the categories of stakeholders and/or professionals shares a peculiar blame in any incidence of building collapse depending on the nomenclature or causes.

Whether the failure or causes of the collapse are cosmetic, structural and extraneous in nature, the entire building industry suffers reputational defect and/or problems. Fortunately, this reputational problem has a spillover effect

on the country. Taken a stakeholders approach, a reputation is an aggregate evaluation stakeholders make about how well an organization (building industry) is meeting stakeholder expectations based on its past behavior [9]. The stakeholders are any group that can affect or be affected by the behavior of an organization (e.g. building industry, Nigerian Institute of Builders). In this article, the stakeholders include among others the professionals earlier mentioned. Their evaluations of building industry visa-viz the incessant building failures and collapse speak volumes of their reputation as experts and the reputation of the entire industry.

As evaluations, reputations are favourable and/or unfavourable. And, in the case of building collapse, the building industry and its professionals' reputation is at stake. It is either the reputation is favourable or otherwise. Of importance, favourable reputation is widely recognized as a valuable, intangible asset that have clout to leverage building industry's organizational, institutional integrity, patronage and market share of the built environment or sector. More importantly, reputational assets can attract customers, generate investment interest, improve financial performance, attract top-employee talent, increase the return on assets' create a competitive advantage and garner positive comments from the larger society [10].

Arising from the facts above coupled with recent studies on building collapse, the building industry is plagued with reputation issues or problems. This problem is better evaluated through the perceptual mind of the industry stakeholders, particularly the professionals since they all share in the blame of building failures and collapses. It is a pity that incidences of building collapse are happening this period Nigerian state is grappling with corruption in its private and public sectors. Many are agitated and asking whether building collapses are indirectly or directly fuelled by the 'Nigerian Factor' in the public service? Invariably, this situation reveals a dint in the integrity, values, marketability of the industry professionals. The question

now is: What is the impact of building collapse on the reputation of building industry in Nigeria?

Based on the above facts, the broad objectives of this article is to identify the reputational effect of building collapse on the building/ construction industry in Nigeria. The specific objectives include to:

- i. Identify if incessant building collapse de-market the values and integrity of the industry professionals (stakeholders).
- ii. Determine if incessant building collapses portrays Nigeria building industry as corrupt
- iii. Find out if incessant building collapse devalues the marketability of industry professionals to foreign firms/clients.

## 2. Literature Search

### 2.1 Conception Clarifications and Overview of Structural Design Failures

Two key concepts appear dominant in this review: building failure and building collapse. Each of the concepts is viewed differently but the former significantly leads to the latter in the opinions of built professionals. Failure is an unacceptable difference between expected and observed performance. A Failure occurs when a building component can no longer be relied upon to fulfill its principal functions [11]. Roddis[12] distinguishes between defect and failure. Limited deflection in a floor that causes a certain amount of crack/distortion in partitions could reasonably be seen as a defect but not a failure, whereas excessive deflection resulting in serious damage to partitions, ceilings and floor finishing could be classified as failure [12]. Failures in buildings are of two types: cosmetic failure and structural failure. The former occurs when something has been added to or subtracted from the building, thus affecting the structure's outlook. The latter, on the other hand affects the outlook and structural stability of building [13],[8]. In broad terms, structural failure in building comes in various forms and degrees of severity, the worst of which according to Oloyede, Omoogun and Akinjare[14] is a collapse. Further, deterioration or decay occurs especially of vigour or usefulness of a building can be described as a failure of some sort but a total loss of bearing strength resulting in a sudden breakdown, physical depletion and/or falling apart is a collapse.

Structural failure dates much longer than other types of building failures .History records that in the ancient world sanctions were promulgated for structural failures [13]. For example, the legal code introduced by Hamurabi, a Babylonian king (1750-1792 b c) stipulated among others that, if a builder has built a house for a man and his work is not strong, and if the house he has built falls in and kills the occupant then that builder shall be slain [13]. This expressly shows that "there were building collapses in very distant time past and the government then set code or laws first in history [11]. This code was a very harsh one dealing with social structure, industries, law, economic conditions and family life. However, the Romans attitude to building collapses was not harsh. In his investigation, Cowan [13] discovered that there was also a tendency to make sure important structures do not fail by using materials

generously, and that is a key reason why so many Roman architecture survived till date. From the sixteenth century onwards, scientific concepts began to play a role in structural design, but the sizing of buildings remained predominantly empirical until, and well into nineteenth century. Then, the main causes of structural failures were the inadequacies of these empirical rules. There were other causes as well such as mistakes, which are still major cause of failure even in modern times.

The empirical rules had their inaccuracies while poor construction has always been, and still is a cause of structural failure. Research has also revealed that a major cause of structural failure in developing countries is an adequate understanding of the structural consequences of a new building technology [8]. In the opinions of Taiwo & Afolami,[11] "this would have been regarded as a minor cause before the eighteenth century when building technology changed very slowly ,so that there was ample time to study the consequences of new methods and materials". Arising from the notion is the fact that, "there has been a very major change in the causes of structural failure". Some scholars believe that lack of adequate theories and inadequate factors of safety had been the main cause of failure before the eighteenth century.

### 2.2 Causes of Building Collapse in Nigeria: An Empirical Framework/Review

Building failure and collapse all over the world had been attributed to two phenomena: natural and man-made. The natural phenomenon aspect is triggered off by natural occurrences such as earthquakes, typhoons and tsunami, etc, and when occurred is regarded as natural disaster. The man-made aspect is borne out of man's negligence in areas of soil type test, building design and planning for extra loads and stress from strong wind and earthquakes for tall buildings, foundation works, quality of building materials, lack of inadequate monitoring of craftsmen and poor quality of workmanship [14],[1],[11].

Both scholars and industry professionals are consensual about the causes of building failures and collapses in Nigeria. Common causes of building failure have been traced to bad design ,faulty construction, foundation failure, extraordinary loads, use of unqualified contractors and poor project monitoring , lack of enforcement of building codes by the relevant authorities and /or industry professionals[15],[16],[17],[18],[4]. According to Oyewande [15], 50 percent of the causes are attributed to design fault, 40 percent to fault on construction site while 10 percent are attributed to product failure .Building failures could be as a result of defect under any or all of the stages in design approval of drawings and the supervision/ construction stages. Tragic incidents of building failures or collapse s recorded in major cities and towns in Nigeria have been blamed on either the developers for failure to comply with building regulations or professional builders, architects and engineers, as well as government agencies whose duty is to ensure compliance.

In the same vein,[19],[20] noted that forty-two (42) cases of poor construction supervision related building failures

occurring between the mid and close of 20<sup>th</sup> century. Makinde reports also that fifty-four (54) cases occurred in the early part of 21<sup>st</sup> century. The failures/ collapses occur in both private and public building with the poor construction supervision related failures occurring 76% and 12% of private and public building respectively [21]. Another factor which has manifested in varying dimensions as cause of building collapse is the 'Nigerian factor' [22]. The Nigerian factor rare its ugly head in form of corruption. Clients' penchant to cut corner, use of substandard materials, inefficient and fraudulent labour input and building without approved building drawing amongst other abnormalities are examples of corruption in the built environment. In Nigeria, some clients have penchant for cutting corner by not employing qualified personnel to produce the contract documents and supervise the building construction ,as they want to spend minimum (not optimum) amount of money on the construction [23]. Even where qualified professionals are the final say on what goes on in the site to the detriment of proper execution of the contract" Related to the above scenario is the compromising attitude of some workers of the town planning authority; and lack of sanctions against erring professionals and landlords.

Substandard materials especially reinforcement rods and cement can contribute greatly to failure of building. Recent studies have validated this assertion, "low quality materials is one of the causes of structural failure" [7];[24];[4]. In efficient and fraudulent labour input contributes to failure of building [7]. When a contractor cannot read drawings or refuses to listen to the instruction of consultants, anything can happen. Oyewande reports that faults on construction sites accounts for 40% of structural failure [15].

Other corrupt practices in the built environment/building industry that are direct consequences of building failures and collapse include illegal alteration of existing buildings; approval of technical deficient drawings, building without building drawings ,deficient structural drawing and alteration of approved drawings. Buildings fail when structural drawings are based on false assumptions of soil strength or as a result of faulty structural details. Design defaults accounts for 50% of building failure in Nigeria [15],[5]. Nigeria Construction/Building Industry and Its Image and Reputation Debaacle

As identified in the literature, reputation and image discussions are domiciled in public relations practice[25].This is true because modern public relations emphasizes solid image and reputation building and sustenance based on truth, solid performance or actions that are well communicated. Like any other visible entity, the construction/ built industry have reputation to create, protect, sustain and manage if it must survive in the long run. Building and sustaining 'corporate reputation capital' has been recognized in the contemporary world as key to organizational success. The issue of corporate reputation management has been brought to the front burner of priorities of many organizations. What then is image and (Corporate) reputation? How have building failure and collapse affected the construction/built industry? What are the consequences/ implications of bad reputation or dis-reputation to built industry professionals? Answers to these

posers will be provided one after the other, but not until we explain what image and reputation mean.

Literature on image and reputation groups scholars' conceptualization into two definitional paradigms- the marketing-orientation and public relations vantage-point definitions [27],[28].The Marketing-orientation definitional paradigms consists of reputation and image explanations that develop through the information stakeholders receive about the organization or the entire construction / built industry. This approach also sees reputation as a valuable asset that attracts positive comments and generates investment interest. Charles Fombrun one of the exponents of marketing –oriented definitional approach defined reputation as a collective representation of a firm's past action and results that discern of a firm's or built industry's ability to deliver valued outcomes to multiple stakeholders[29]. Similarly, Bromley defined reputation as cognitive representation of organizations that may include evaluation. As evaluations, reputations may be favourable and/or unfavourable [30].

Based on this, reputation is based more on performance which indicates that "what an organization does (more than what it says) has a strong influence on what people think or say about it/its reputation and the relationship they have with the organization. Smaizien [31], states that an organization has most potential to impact public opinion and reputation through its identity and performance standards and promoting action. Within the context of the public –relations vintage- point definitional approach, reputation is perceptual .Here, image refers to the totality of all the impression, formed about an industry (Built industry) organization, etc. based on the influence impacted upon it by ifs corporate identity.

Reputation refers to a good image, character, identity; a good name, respectability; honour; superiority, majesty and grandeur. Judging from this perspective, can industry watchers and external stakeholders say the building industry has a name to protect? If industry professionals compromise standards, does it speak well of them/entire building industry? No, it does not; rather it creates a negative image which de-markets the entire professional values and worth. Thus, an organization of repute has worth, greatness; is trustworthy and renowned.

Given the descriptions above, corporate reputation can further be described as the totality of meanings, representations, worth, actions and inactions which an organization is and also conjures in the perception of its internal and external and external publics; both emotionally, physically, socially, economically and even politically ,which impacts on and dictates their reactions to and relationship with that organization[22].Again, the totality of what an organization does ,how it does that, its communication, the attitude or behavior of its personnel and their professional acumen are all part her corporate image and reputation.

The denominator in the explanations above is the perceptual and evaluative nature of reputation and image. The built environment subsector of the Nigerian economy has suffered a huge reputation and corporate image deficit due to

preventable building collapses recorded in recent time. Though, one cannot say that the industry professionals are culpable, yet the entire industry suffers. Total abandonment of regulatory and building codes by some contractors, estate developers amounts to corruption. Such contractors and their firms suffer credibility problem. A building firm is understood to behave legitimately when its actions are congruent with society's expectation. Those expectations are determined by institutional norms, values, beliefs and social definitions [32].

When a building/construction related firm is a good social performer, adapting to established institutional norms, and laws over time, it consolidates its corporate reputation stock. When a building fails/ collapses, it brings the integrity of the person or contracting firm that handles it to question. This is because some measure, safety precautions and regulatory requirements must have been neglected or compromised. When the incidences of building failure or collapse become incessant, stakeholders' expectations about the future behavior of the built industry becomes doubtful. The built industry today has an identity of corrupt practices given that over 50% of building failure and collapse are attributable to industry professionals' poor supervisory roles and non adherence to standards. Building industry's corporate reputation is seriously affected given the past behavior of elements (people) that drags its name to mud. Corporate reputation is a stock variable, because its value at a given moment of time is not independent of its value in the past. Indeed, corporate reputation depends on the firm's/industry's performance in the past and in the present [33].

Approached from quantitative research design, survey research was used in the execution of the study. The population of study comprises building professionals who are members of Nigerian Institute of Builders (builders, architects, estate surveyors and valuers, civil engineers, and town planners, etc.) drawn from three town in the south-east Nigeria. Because the actual population figures for these groups of professionals were not readily available, therefore Freund and Williams (1983) non-parametric formula for unknown population was used to determine the sample size of 180 as shown in table 1.1. Both primary and secondary were used in the study. The secondary data were sourced from various publications such as books, journals .etc. The extracts from these sources formed the bulk of literature reviewed and used as basis for drawing conclusions either in support of the study's findings or in refuting existing arguments. Primary data were collected with the aid of structured questionnaire administered to the industry professionals listed earlier. Ten members of each of the professional groupings in each of the three selected cities (Aba, Enugu and Awka) were randomly selected and given questionnaires which they completed and returned. The questionnaire was designed in line with 5-point Likert type scale. Data collated were analyzed using descriptive statistics such as percentage, frequency tables and mean. The mean is basically used as decision making tool. Each of the options in the five-point scale was assigned weighting ranging from strongly agreed (5) to disagree (1). A cut of point of 3.05 significance level was used a decision ceiling (or accepted) while values below the cut of point was regarded as not accepted or rejected.

### 3. Materials and Methods

**Table 1.1:** Sample size Determination

Towns/Cities	Builders	Architects	Estate surveyors	Civil engineers	Structural engineers	Town planners	Overall Total
Aba	10	10	10	10	10	10	60
Enugu	10	10	10	10	10	10	60
Awka	10	10	10	10	10	10	60
Total	30	30	30	30	30	30	180

### 4. Data Analysis and Discussion

A total of 180 questionnaires were administered to the industry professionals of the built environment /industry in the three selected cities of Aba , Awka and Enugu. Of this

figure, only 168 (93%) were duly completed and returned to the researcher while 12 (6.6%) were not returned. Given this analysis, 168 become the new sample size and used in further analysis.

**Table1:** Respondents' opinion whether Building Collapses/ Failures are the Fault of their Colleagues or Quacks

Responses/options	Quacks	Professional colleagues
Yes	103 (61.3%)	31 (18%)
No	--	17 (10.1)
Cant' say	--	17 (10.1)
<b>Total</b>	103 (61.3%)	96(28.2)

Source: Field, 2015

Table 1 reflects the opinion of respondents on whether quacks or respondents' colleague's activities cause building collapse /failure. Of the 168 respondents sampled, 103 or 61.3 percent answered in the affirmative than quacks are the chief culprits of building failure while 31 (18%) attributes building failure /collapse to be faults of the building industry

professionals.17 (10.1%) answered in the negative that industry professionals are not the cause of building failure /collapse while another 17(10.1%) where neither here nor there.

**Table 2:** Respondents' Opinion on the Reasons of Building Collapse as Attributed to their Colleagues

Reasons	Frequency	Percentage
Compromising standards	32	19
Poor construction supervision	30	17.8
Corruption	30	17.8
Non-adherent to building codes	26	15.4
All of the above options	50	29.7
Total	168	100%

Source: Field survey, 2015

Table 2 shows respondents' opinions on the reasons why building failure/collapse is attributable to the industry professionals. A total of 50 respondents accounting for 30% are of the opinion that when industry professionals compromise standards, poorly supervise construction works, involve in other corrupt practices, and fail to adhere to safety precautions /building codes building are bound to fail or even collapse. 32(19%) only ticked compromising standards, while 30 (17.8) each ticked poor construction supervision work ,involve in other corrupt practices and fail to adhere to safety precautions/building codes buildings are bound to fail or collapse. 32 (19%) only ticked compromising standards, while 30 (17.8%) each ticked poor construction supervision and corruption respectively as reasons why building failures/collapse are attributable to industry professionals. Only 26(15.4%) say building failures/collapses are

attributable to industry professionals who do not adhere to building codes.

**Table 3:** Incessant Building Failure/Collapse put Integrity and Values of Industry Professionals to Test

Options	Frequency	Percentage
Yes	99	59
No	35	20.8
Can't say	33	20.2
<b>Total</b>	168	100

**Source:** Field survey, 2015

Table 3 gives the information that 99(59%) of the respondents answered in the affirmative that incessant building failure has put the integrity and values of industry professional to test. 35 or 20.8 percent disagreed while 34 or 22.2 percent had no opinion of theirs.

**Table 4:** Descriptive Statistics on Reputational Effect of Incessant Building Failures /Collapses on the Building/Professionals

Questions	SA	A	UD	D	SD Mean
Do you agree or not that incessant building collapses have de-market the values integrity of industry professionals?	97(57.7%)	28(16.6%)	21(2.5%)	3(1.7)	19 (11.3%)N=168, M=4.07
Do you agree or not that incessant building failure/collapse portrays Nigeria building industry as corrupt?	84(50%)	23(13%)	31(18.4%)	6(3.5%)	24(14.2%)N=168 M=3.81

Has the marketability of industry professionals to foreign firms/clients devalued	SA	A	UD	D	SD Mean
	64(41%)	21(12.5%)	48(28.5%)	8(4.7%)	22(13%) N=168 M=3.48

**Source:** SPSS Computation of Field Survey Data, 2015

Note: mean scores are based on responses to five Point Likert-type scales. Where: SA= strongly agreed, A=Agree, UD=Undecided= Disagree, Strongly disagree =SD%

Table 4 above reveals the reputational effect of incessant building failures /collapses on the building industry/professionals. As shown in the table, 97 or 57.7 percent strongly agreed, 28(6.6%) merely agreed that incessant building failure/collapse has de-marketed the values and integrity of industrial professionals. In all, 125 or 74.4 percent agreed, this is equally supported by a mean score of 4.07 which is greater than cut off point of 3.05 significance level. 107 or 63.6 percent believe that incessant building collapse /failure portrays the industry as corrupt. Further analysis of data gives a mean score of 3.92. The marketability of industry professional is devalued as a result incessant building failure /collapse. Analysis of data supporting the finding show that 90(53.5%) i.e. (69+21) or 41% + 12.5%) answered in the affirmative. Further analysis of data show that it pooled, the integrity and professional values of those who are industry professionals are at risk. This is because he who has integrity has worth and reputation. This line of argument is supported in the literature. According to Egwu reputation is a good name, respectability; honour, superiority majesty and grandeur [34]. When the integrity of industry professionals is questionable it then suggests they are suffering from image and reputational problem.

The building industry is seen as corrupt due to activities of few unscrupulous elements that are naked- deep into cutting corner or compromising industry standards.

This singular act which has been on continually puts the entire building industry into disrepute. Hence, an organization has a name to protect and publics or stakeholders are proud to associate and identify with such an organization[34],[32].

In sum, reputation is treated as the feedback from others concerning the credibility of an industry's (Nigeria Institute of Building) self definition. The marketability of industry professionals to foreign clients seem to have been devalued. This devaluation is the external perception of industry watchers and external stakeholders. It is what they see or observed happen in the industry that informs their opinion about it. Hence, it is industry professionals who take building and related contracts and should share the blame for any incidence of failure/collapse .This line of argument is somewhat supported by a definition of reputation, which holds that it is "essentially the external assessment of an organization(industry) held by external stakeholders" [35].

This goes to show that the dimensions of reputation include an organization's perceived capacity to meet stakeholders' expectation, the rational attachment that stakeholders form with the organization and the overall net image that stakeholders have of the organization [35].

From the analysis and discussion, the following is summarized as findings:

1. Incessant building failure /collapse has de-market the values and integrity of industry professionals
2. Incessant building failure /collapse have portrayed Nigeria building industry as corrupt.

3. Also, industry professionals' marketability to foreign firms/clients has been devalued as a result of incessant building failure /collapse.
4. Some industry professionals are culpable given their negligence prior to incidence of building collapse; few of them compromise standards, and naked-deep into other sharp practices.

## 5. Conclusion

An industry's corporate/national image is a strategic asset that creates competitive advantages and favourable climate for her survival and development [36]. It can be observed from the presentation, analysis of data and discussion of results that a lot of factors are responsible for building industry's national and global image debacle or profile. Thus the totality of what an organization does, what happens in its operations, the behavior of its personnel/professionals and their attitudes towards laid down procedures, codes and industry best practices, achievement or non achievement defines her image and reputation ratings in the perception of external stakeholders. This perspective of an organization's reputational dimensions is similar to Fombrun's [29] and Bromley's [30] descriptions. Foreman and Whetten's [35] ription of reputation is seen as "a collective representation of a firm's past action and results discern a firm's ability to deliver valued outcomes to multiple stakeholders. The question stakeholders and industry watchers must ask is: has the industry delivered valued outcomes?

From the respondents' views, reputation is seen as cognitive representations of the building industry that may include evaluation. Thus, from the respondents' evaluations, the building industry/built environment and its professionals are grappling with image and reputation problem. The key variables/factors that cause building failure or collapse apart from the natural causes are attributable to man. Therefore, man takes the greater blame, particularly in Nigeria where laid down procedures, laws and building codes are brazenly disregarded. In sum, whether quacks contribute more to building failures/collapses or not, the entire building industry suffers the negative image or reputation.

## 6. Recommendation

Based on the findings of the study, the following is recommended:

1. The Nigerian Institute of Builders must arise to its responsibility and begin to conduct building code enforcement exercise in the built environment. This will help in checking the field day quacks and charlatans are having in the building/construction industry
2. The Institute must organize regular sensitization and capacity building training programmes for its members and allied professionals. This will also help to check activities of quacks and unscrupulous members who engage in sharp practices.
3. It must liaison with relevant authorities to enforce town planning and building codes in the country.
4. Stiffer penalty should be melted out to members found culpable to serve as a deterrent to its members who engage in unwholesome practices.

5. The Nigeria Institute of Builders should enlist the services of Nigerian Institute of Public Relations to mount image/reputation publicity campaigns/programmes for the Building Industry. This will help to enlighten members of the public particularly landlords and estate developers on the image problem, sharp practices brings to the building industry and that of Nigeria in general.

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