

## **Development of a Leadership Model for Effective Reduction of Building Collapse in Nigeria**

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### **Abstract**

Cities all over the globe face tremendous challenges in the areas of urbanization and overpopulation. The rapid growths in population among industrial cities have over stretched the demands and provisions of buildings. To meet the high demands of buildings in major urban cities, clients and their professional advisers have abandoned their important leadership roles to quacks. As a result, more buildings collapse in our major urban centers making headline news. Currently there is little or no literature on leadership and building collapse in Nigeria. This study seeks to fill this gap by reviewing existing literature for leadership research in the context of 21<sup>st</sup> century building process. The aim of this study therefore is to examine the importance of leadership for effective building process and provision in the Nigerian construction environment. It has been proved that success of any organization is dependent upon the strength of leadership. This investigation was based on selective literature for leadership research with possible application in building collapse. The emerging findings show the importance of leadership with regard to building collapse. A conceptual model illustrating the relationship between leadership and improved building performance was developed.

**Keyword:** Building collapse, leadership, model, panacea, Nigeria,

### **1.0 Introduction**

Buildings collapses in the Nigerian major urban cities continues to engender an excessive number of fatalities, injuries and property damage. The recent building collapse of synagogue church of all nations' guest house at Ikotu in Lagos State made headline news in all the local newspapers. The death of over 117 people mainly of other nationals and 250 injured that came to seek the face of God should be a serious concern to the key project stakeholders, governments and individuals. Statistics show that in every one month 3-5 buildings collapsed in the metropolitan city of Lagos only. This is translated to 35-60 buildings in a year. These colossal economic losses associated with buildings collapses in terms of human lives, property damage and cost of medical care to national economy is unacceptable. It is disheartening to note that the causes of building collapse are often attributed to a single factor, but more often there is a combination of multiple factors. The

collective leadership roles of the key project participants give rise to building failures and disasters (Iyagba, 2009).

Leadership has been determined to be relevant in the 21<sup>st</sup> century building process as it has been proved that exceptional organisational performance could be achieved through leadership traits/behaviour. Poor leadership and unethical behaviour in terms of commitment, collusion, bribery, negligence, fraud, dishonesty, and unfair practices are prevalent in the Nigerian building industry (Iyagba, 2009). This state of affairs calls for concern by all the stakeholders, government, individuals and the general public with regard to achieving sustainable, livable, and viable cities for the teeming population.

Failure in buildings can occur during construction and during use (Dare, 2002). Any types of failure resulting from construction activities could be traceable to poor leadership and lack of commitment by the key participants. Studies conducted by the construction development board (CIDB, 2011) of South Africa to determine the causes of poor building quality: clients' perspective identify the following factors as contributing to poor building quality and performance, poor leadership and lack of commitment existing in clients organisations, inadequate provision of financial resources for the project; lack of certified skilled labour; poor equipment; inadequate enforcement of building regulations, and use of inferior materials. Similarly, Iyagba (2002) states that political decisions have negative impacts on building industry performance in Nigeria. There are instances where contracts are awarded to contractors who are not capable of undertaking the necessary work (Iyagba, 2002). The resultant effect is building failure or total collapse.

Building failure could probably be attributed largely to design or construction related factors and the roles of clients and their appointed agents in not ensuring quality (Spangenberg, 2009). It has been noted that absence of planning approval and improper soil investigation contribute to unsafe structure or failure (Iyagba, 2002). However, a critical review of the causes of building failure points to management ineptitude and clumsiness, which is a manifestation of poor leadership. Reducing the spate of buildings collapse in Nigerian major urban centers requires transparent leadership, commitment and attitudinal change among the key project leaders. As it has been proven over the years that leadership is a key component of successful organizations.

Previous research work focused on causes of building collapse in Nigeria such as: deterioration phenomena of buildings (Ikpo, 1990); building disaster and failure (Iyagba, 1991); an assessment of collapsed buildings in Nigeria (Dare, 2002), and the menace of sick buildings (Iyagba, 2009). Set against these previous studies, this gap may be connected to clients' poor leadership in terms of appointment of competent professionals, lack of commitment and unethical behaviour by designers, corruption and compromise among town planning officers, presence of sub-standard materials in our market (Fakolade, 1996), poor leadership relative to inadequate financial provision for building project in the bills of quantities (BoQs) (Olatunji, Sher and Gu, 2011) and contracting organisations' poor leadership at all levels of management (Howarth and Watson, 2009). Thus, identifying the critical leadership related behaviour of the key project leaders during project planning stages will reduce the spate of building collapse in Nigeria. As stated earlier in the abstract, this study seeks to fill the leadership gap in the building delivery process by reviewing existing

literature for leadership in the context of 21<sup>st</sup> century and highlight leadership roles of the key project leaders for effective building delivery in Nigerian construction industry.

## **2.0 Literature Review**

### **2.1 Leadership in the context of building collapse**

Building collapse does not occur without a reason. Buildings collapse due to failure of leadership and unethical behaviour or both (Fakolade, 1996, Iyagba, 2009). Failure of leadership manifests in many forms: clients' lack of commitment in the appointment of competent professionals (Okorie, 2014), lack of supervision by clients' agents (Behm, 2006), poor designs (Gibb and Bust, 2008), use of sub-standard materials (Ikpo, 1990), and absence of building plan approval (Iyagba, 2009), while unethical behaviour exist in form of bribery, fraud, unfair practices and corruption among public office holders (CIDB, 2011). Arguably, achieving sustainable environment, liveable, viable quality buildings, and better performance in the Nigerian building industry could be achieved through commitment and behavioural change of the key project leaders. Leadership has been determined as the single most important factor that determines success or failure of an organization (Krause, 2003; Hopkins, 2006).

There is a widespread agreement that personal and organisational effectiveness is proportional to the strength of leadership. The success and failure of any organization is dependent upon the strength of the leaders (Krause, 2003). However, leadership in the context of building industry are not common. A few of these studies according to Cooper (2010); Lees and Austin (2011) have focused on direct investigation of the roles of site managers as leaders of their team and the range of managerial styles they adopted in managing site operations. Leadership of site managers on its own cannot bring about reduction in building collapse (Krause, 2003). It is the leadership of the key project leaders according to Krause (2003), Cooper (2010) and Lees and Austin (2011) that can impact positively on the overall building quality and performance in the 21<sup>st</sup> century building industry. Oloke (2010) argues that there are fundamental differences between leadership in building process and contractor's site management and supervision. He further states that leadership in building process is a strategic function that involves the input of all the key project leaders during the project planning stages, while site management is an operational function of a contractor in terms of site management, supervision and materials coordination. Leadership with regard to the causes of building failure must start during the project planning stages including building design, plan approval, specification of materials and at the construction stage. This could be achieved through the application of the required leadership skills and behavioural change from the key project leaders.

Leadership is not synonymous with management; although they share some common characteristics. For example, they are both concerned with influence, working with people and meeting goals (Northouse, 2010). However, the functions of management and leadership are interrelated. Despite the similarities, leadership is concerned with: group processes, personality, compliance, particular behaviour, persuasion, power, inspiring trust, focus on people and correct performance (Luthans cited in Naoum, 2011). However, Lees and Austin (2011) argue that leadership is not panacea to all management problems and state that leaders have been found to often lose focus and become overwhelmed. Nonetheless, leaders have the

ability and personality to direct, influence and motivate groups or workers/employees to achieve organisational set goals. Notably, these leadership qualities are lacking among key project leaders, and the consequences have been poor building quality resulting in failure or total collapse. It can be argued that the building industry requires leaders who inspire trust, exercise power where necessary and demonstrate honesty and integrity in their behaviour. It is believed that with visible leadership and active commitment by the key project leaders would lead to sustainable, livable, and viable cities for the teeming population. Thus, a change in behaviour particularly among the key project leaders (clients, designers, project managers, Builders, quantity surveyors, town planners, material merchants and contractors) is highly desirable for optimal buildings performance.

### **2.3 Clients' leadership roles**

Client commitment in the appointment of competent professionals is the first step for realization of the quality building and performance (McAleenan, 2010). Client is required under the law to appoint competent professionals (architects, engineers, quantity surveyors, construction/project managers) that will bring in their technical expertise into use that will lead to the appointment of a competent contractor who carries out the intended building project in a safe manner. Client is also required to provide them with all necessary information regarding the site in advance. This is very important at the project conception/initiation stage as lack thereof will lead to building failure or total collapse during construction or after (Hinze, 2006, Spangenberg, 2009). Fadamiro and Ogunsemi (1996) maintain that clients' professional advisers have significant impact on building failure. Fakolade (1996) asserts that on building projects where competent professionals are not appointed at the early stage, such buildings have higher probability of failure or total collapse.

Building failure has been linked to clients' poor leadership and lack of commitment both at the planning and construction phases (Howarth and Watson, 2009; Spangenberg, 2009; Musonda and Smallwood, 2008). According to Akindoyeni (2002) the desirability of client commitment and involvement stems from the incessant building collapse in our major urban centers associated with loss of lives, property damage and protracted litigation. Clients' visible leadership and commitment to building project is of utmost importance. Emphasizing the important roles of clients with regard to building failures, Fadamiro and Ogunsemi (1996) assert that failure or total collapse of buildings are caused by inappropriate response by clients to certain constraints and the environment. Clients' failures to act positively to the constraints such as early appointment of competent professionals, robust procurement methods, project budgeting, prequalification criteria are manifestations of poor leadership. The consequences are building failures or total collapses.

### **2.4 Designers' leadership roles**

Haupt (2011) argues that the thrust of designing for quality lead to a reduction of risk of failure or total collapse. Oloke (2011) states that designer (architects/engineers) has duty and responsibility to design-in quality into buildings during design process. He further states that designers can use their knowledge and influence to design-in safety features that will improve the actual construction of the building itself, as well as its maintenance after completion. However, it has been found that designers lack in integrity and commitment in their designs

decisions and the consequences have been building failures (Behm, 2006). Gibb and Bust (2008) cite inadequate and faulty design and Suraji, Duff and Peckitt. (2004) identify specification of substandard materials during design phases as factors contributing to building failures. Designers should recognize their important roles concerning human lives as demanded by their professional codes of conduct by exercising diligence and due care when designing. The ILO (2005) emphasizes that those involved with the design and planning of building should demonstrate visible leadership and commitment from the inception stage to construction and maintenance stages.

Research conducted in both the developed and developing countries show that design-related aspects have direct and indirect impact on building failure (Behm, 2006). Gambatese *et al.* (2008) concur with the aforementioned and state that design of building is a function of skill, talent, knowledge and leadership ability. Despite the influences of designers relative to quality of building and performance, there are also legislative supports that exist in almost all countries that designers have duty and responsibility to integrate quality in their design decisions. However, designers tend to perceive building quality and performance as the responsibility of the contractor (Guldenmud, 2007). This myth is a serious challenge in the area of building failures or total collapse common in our major urban centers. Regardless of this long lived myth, designers should demonstrate visible leadership and commitment to their professional duties and design-in quality and maintainability into building projects to bring about a reduction in the spate of building collapse in our urban centers.

## **2.5 Construction/ Project managers' leadership**

Project managers, in terms of their contractual relationship with clients have important leadership role to play in ensuring that buildings achieve the desired quality from inception stage to completion (Lutchman, Maharaj and Ghanem, 2012). The United Kingdom (UK) Construction (design and management) Regulations (2009) detail range of duties and responsibilities for project managers. In contrast, Nigeria has no such regulations that define the duties and responsibilities of the parties concerned with health, safety, welfare of the workforce and quality of the structure. Research conducted by Smallwood and Venter (2002) among member practices of the Association of Construction Managers in South Africa show that construction project managers can influence building quality and performance. Project managers as project leaders can influence building quality during the upstream phases of project design (CIDB 2009). It has been noted that on building projects where project managers were not involved during the upstream decisions, these projects encountered problems such as poor quality of work, cost overrun, delay, poor workers' H&S performance and sometimes complete abandonment (Mbachu and Nkado, 2006).

The Project management body of knowledge (PMBOK) identifies project managers' activities that can influence building quality and performance as: review of concept design; design coordination; site inspection and meetings; design reviews, including details and schedules; facilitation of financial provision for project during planning phase and tendering stage; pre-qualification of contractors, and advice regarding choice of procurement system. The scope of work, place important leadership roles on the shoulders of project managers. However, the CIDB (2009) report notes that project managers' leadership role is more visible on project sites where they monitor contractors' quality plans, conduct site meetings and inspections and ensure that quality standards are maintained. It can be argued that poor

leadership and lack of commitment by project managers relative to inadequate monitoring of building quality plans, and irregular site inspection and meetings are manifestations of poor leadership resulting in building failures or collapse.

## **2.6 Quantity surveyors' leadership roles**

Paucity of funds is one of the major factors contributing to contractors' poor quality of work on site. Inadequate allocation of financial resources to building projects during the early project planning or at the tendering stage is one of the major factors hindering contractors' quality interventions on site (Brauer, 2006). Arguably, when a contractor compromises materials' quality due to lack of funds, the resultant effect will be building failure or total collapse. Adequate financial provision to building project can be realised through the provision of provisional sum in the bills of quantities (BoQs) by quantity surveyors as it can alleviate most of the materials quality related problems encountered on site (Olatunji, Sher and Gu, 2011).

Inadequate financial provision for building projects at the tender stage or during negotiation by quantity surveyors points to poor leadership and lack of commitment to professional ethics. This will directly impacts on quality that leads to building failure or total collapse. Lack of commitment in preparation of interim valuation certificates on monthly basis has a direct link with the quality of work on site. Almost all building projects are normally paid for as the work proceeds, so interim valuation at monthly intervals during the progress of the work is very important to contractors. Quantity surveyor as the building financial expert is required to prepare interim valuation of the works carried out by the contractor (Olatunji *et al.*, 2011). This monthly valuation helps contractors to have a steady cash-flow. It has been noted that lack of funds has negative impact on contractors' site management and in particular achieving quality standard on site. Thus, it is undisputed fact that quantity surveyors have important leadership roles in terms of building project financial management. Prudent management of financial resources on site is linked to quality of work that will invariably/ultimately reduce building failures or collapse.

## **2.7 Town planners' leadership roles**

The Town and Country Planning Laws of each state of the Federation set out a development and planning control in place. The precept of the law is aimed at controlling development to safeguard the public health with particular reference to buildings and other developments. Legislation according to Bassey (1994) is always necessary to ensure that certain national, social and health needs are maintained. The non-compliance of the regulations by the officers of Town Planning Authority in some states of the Federation is worrisome. There are instances where the officers collude with the client or his agent to commence work on the site without the development permit as prescribed by the law. The contraventions of these regulations have continued unabated as reported in many parts of the country thereby resulting in building failures and disasters (Fadamiro, 2002). It is not far-fetched that corruption and political interference are becoming increasingly more of Nigerian culture. Therefore, it can be argued that majority of cases where buildings collapsed could be probably attributed to poor leadership and lack of commitment among Town Planning officers who collude with clients or their agents to issue permit without meeting the required criteria.

## **2.8 Building materials manufacturers and suppliers' leadership roles**

There is a link between the quality of materials used on construction sites and building collapse. Fakolade (1996) contends that the use of substandard or inferior materials on construction site is linked to high incidence of building collapse in our urban centers. Similarly, study conducted by Dare (2002) in Lagos State to determine the causes of building collapse identified the use of substandard materials as one of the major causes. Lu and Yang (2010) state that behaviour of materials manufacturers and suppliers have been overlooked in most studies with emphasis placed on contractors poor site management systems. In addition to the above observation, Hinze (2006) states that achieving quality on construction site has been conventionally regarded as contractors' responsibilities. However, building manufacturers and suppliers' leadership qualities and behaviour can positively impact on materials qualities which will lead to safe buildings.

Honesty is the soul of business. This long lived English adage/maxim is not applicable in the Nigerian business environment. For instance, it has been discovered in Nigeria that manufacturers of steel rod which is one of the common materials used in building construction have reduced the material from 12mm diameter to 11mm diameter in order to make profit (Dare, 2002). This love for money over love for life is unethical and dishonesty. This unscrupulous act is not peculiar to steel rod manufactures alone; it cuts across other building materials in Nigeria (Dare, 2002). However, the Standard Organisation of Nigeria (SON) has recently stepped up activities/efforts to eradicate such practices among manufacturers in Nigeria.

Interestingly, organisational effectiveness including quality has been linked to leadership. Leadership epitomises honesty, trust, empathy, and care. Therefore, when materials are manufactured in accordance with standards and supplied to construction sites for use, there is high probability in the reduction of failure.

## **2.9 Contracting organizations' leadership roles**

Contractors have duties and responsibilities under the law to carry out building construction activities without causing harm to workers and the general public. These are achieved through planning, organising, controlling and monitoring of the construction phases and coordinating activities of other contractors on site (Hawarth and Watson, 2009). It is the leadership at all levels of management in the contracting organisations that determines how building process will be planned, organised, controlled, and monitored to ensure that quality is achieved. Leadership have been noted as the critical factor that drives organisational quality performance. Hopkins (2008) and Markiewichz (2009) maintain that achieving desired quality in building requires leadership skills and not only management skills. Similarly, Lutchman *et al.* (2012) argue that implementation of high quality building during construction is largely dependent upon leadership commitment at all levels of management in an organisation.

Top management leadership is crucial to contracting organisation effectiveness (Krause, 2003). It is the responsibility of the top leaders to develop standards and quality assurance of each element of the building process and share it among the departments.

For instance, quality required for foundation shoring, quality to be achieved in concrete mixing, quality in formwork, and standard of materials to be incorporated into work. Krause (2003) and John (2009) state that positive behaviour of top leaders send messages to workers on the value management place on quality. As stated by the chief executive of BP American oil, that ‘workers hear what we say, but what they do reflect on what we do’ (Lutchman *et al.*, 2012). This statement vividly explains the importance of top leaders’ behaviour and commitment relative to quality. Thus, leadership entails transparency, honesty, and trustworthiness. These leadership qualities are lacking among top leaders in Nigerian contracting organisations particularly among small size organisations. Sunindijo and Zou (2012) assert that true visible leadership starts from the top and permeate to all the levels of management.

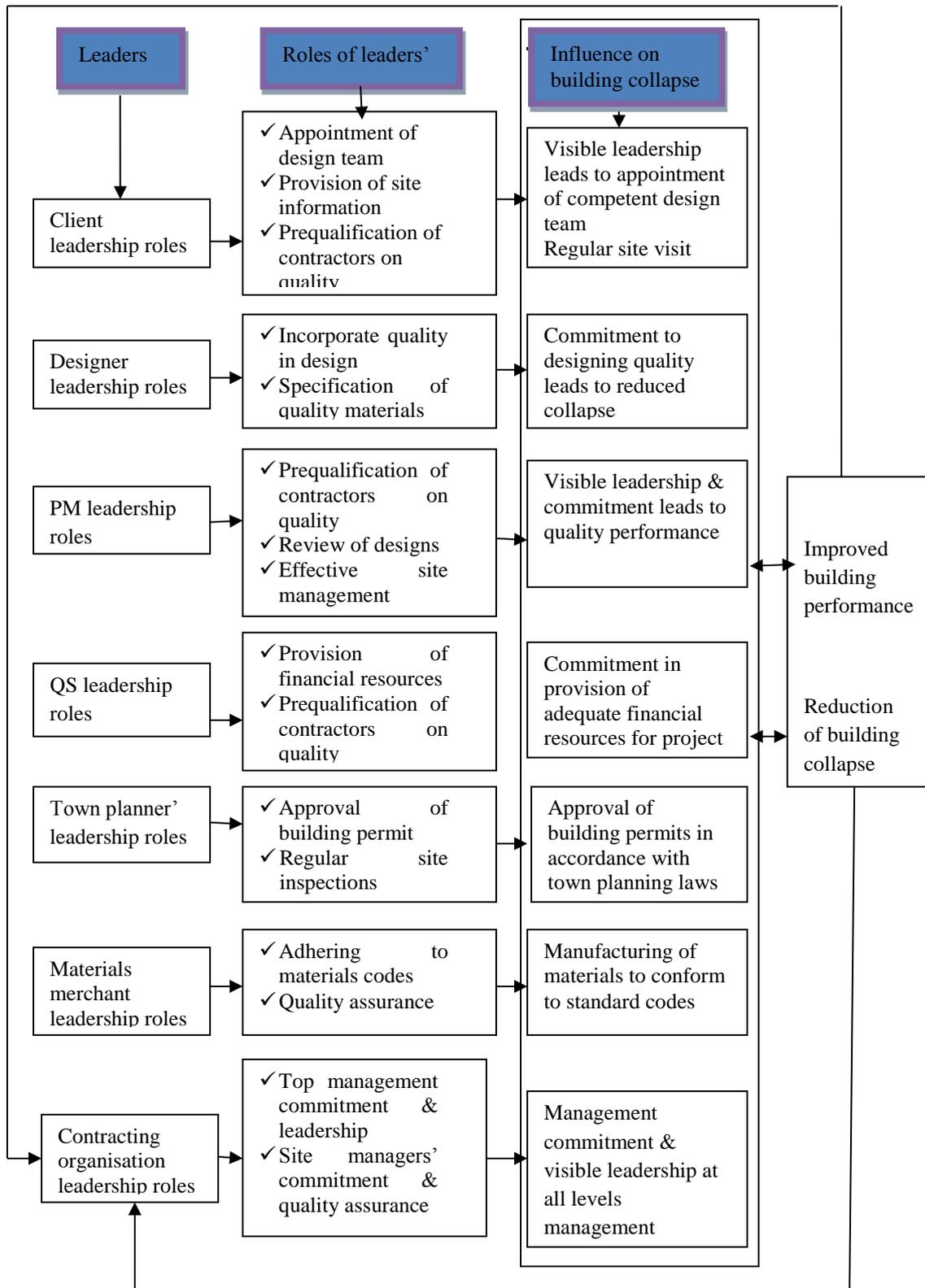
Howarth and Watson (2009) argue that managers play a crucial role in promoting building quality on site, which reduce failure. Studies comparing low and high failure incidence on construction sites have shown that on sites where managers demonstrate good quality leadership in plans, organisation and good role model to others, such sites have excellent performance in both workers’ safety and quality of work (Hinze, 2006). Sunindijo and Zou (2012) point out that lack of intelligence and interpersonal skills have been found to negatively impact on quality of work on site. These leadership qualities are lacking among site manager in Nigeria, and they impose serious challenge to the improvement of building failures. Hinze (2006) states that on a building site characterised by poor quality work, is one with an autocratic leader who is dogmatic and lacks human relations. Hinze (2006) argues further that when these attributes are lacking among site managers there is less optimal performance. However, Kheni (2008) asserts that site managers play an important role in shaping workers understanding by communicating to them the company’s work ethics. Commitment to quality demonstrated both at the top management level and line managers level by contracting organisations have direct and indirect impact on building collapse.

### **3.0 Model of leadership on improving building collapse**

One of the objectives of this paper is to develop a leadership model that can enact building collapse improvement in the Nigerian building industry. The developed model is a pictorial overview of the collective leadership roles of the identified key project leaders’ contributions that could bring about significant improvement in building collapse in Nigerian construction industry.

All building collapse emanating from construction activities are preventable. Researchers and scholars such as Fadamiro and Ogunsemi (1996), Fakolade (1996), Hinze (2006), Iyagba (2009), Lees and Austin (2011) and Wu and Fang (2012) argue that if the causes of building collapse emanating from construction activities are traced back to clients, designers, project managers, quantity surveyors, town planning officers, materials merchants, and contractors management practices at all levels of management, building collapse can be prevented. The literature scan on this subject indicate that the root causes of building failure or total collapse emanate from the decisions of the upstream factors (the above named project leaders) that are responsible for quality work and safety culture in the work environment. Hopkins (2008) simply summed it up in this manner on his contribution to the importance of behaviour-based health and safety; that attention should be directed to the critical related behaviour of the upstream factors (clients, designers, project managers, quantity surveyors, town planning

officers, building materials merchants, and contractors) as the creator of the work environment. Thus, understanding leadership and behaviour of the key project participants will lead to a positive workplace culture. Figure 1 shows a leadership and leaders' behaviour model for effective reduction of building collapse in Nigeria. The model illustrates how the collective leadership and behaviour of the identified key project leaders can lead to improvement in building collapse in the Nigerian building industry.



### **Figure 1: Leadership and Leaders' Behaviour Model for Effective Reduction of Building Collapse in Nigeria.**

The key project leaders identified in Figure 1 play important leadership roles at different stages of the building process. The premise is that building collapse arises from a failure in leadership between the clients, designers (architects/engineers), project managers, quantity surveyors, town planning officers, materials suppliers and contractors. Notably, buildings failures or total collapses are directly and indirectly caused by the upstream decisions of the key project leaders who are the collective creator of the building projects (Fakolade, 1996, Iyagba (2009). In other words, their poor leadership and unethical behaviour at different stages of building processes allow the potential incident to become a reality. Behm (2006) identifies clients' poor leadership in terms of appointment of incompetent design team, lack of commitment and faulty designs as factors contributing to building failure or total collapse.

Project managers' poor leadership relative to lack of pre-qualification of contractors on quality contributes to building failure (Smallwood and Venter, 2002). Furthermore, quantity surveyors' poor leadership in terms of inadequate provision of financial resources for building project (Olatunji *et al.*, 2011); town planning officers' poor leadership relative to approval of building permits without meeting the requirements and irregular site visit to ensure that building conform to town planning and country laws (Iyagba, 2009); building materials merchants and suppliers not adhering to materials standards and quality assurance (Fadamiro, 2002); and inadequacies in contractors' management systems and poor leadership at all levels of management (Hopkins, 2006; Sunindijo and Zou, 2012), have all been addressed and factored into the model as identified in the literature. Leadership in the context of building process requires commitment, transparency and honesty at all stages of building process. Thus addressing building collapse from planning stages to construction phases can have a substantial impact on the reduction of building collapse in Nigeria.

#### **4. 0 Discussions, Conclusion and Recommendations.**

The purpose of this study is to review the literature on leadership and building collapse in order to highlight the key project participants' leadership roles and behaviour. There are few studies concerned with leadership and building collapse in Nigeria, so it is possible to extrapolate from the studies that have been conducted on causes of building collapse, leadership and construction quality and safety. In construction quality and safety there are sufficient literature dealing with leadership and behaviour internationally. It has been noted from literature scan that leadership and leaders' behaviour may be an appropriate model for reduction of building collapse in Nigeria.

CIDB (2011) states that clients' visible leadership, commitment and active involvement are the critical factors that can drive building quality and improved performance. Thus client has a decisive role in improving building collapse. The client has duty and responsibility under the law to appoint competent design team, provide information regarding the site, prequalify contractors on quality and safety of the workforce, and regularly visit site to ensure that contractors are conforming to quality. In addition, poor building design is a manifestation of unethical behaviour and lack of commitment by the designers. The study has alluded to the notion that a perceived lack of integrity, transparency, bribery and corruption could result in building collapse. In 1991 the European Foundation for the Improvement of Living and

Working Conditions concluded that 60% of fatal injuries in buildings are decisions made before work begins at the construction site (Behm, 2006). Recent studies have confirmed that most building disasters could have been prevented by collective efforts of the key participants during planning and construction stage (Hinze, 2006, Oloke, 2010). Research concerning clients' and designer's leadership roles and commitment relative to building collapse as stated in sections 2.3 and 2.4 respectively provide strong argument for designing quality into building from the early stages.

The quality of leadership at the top level determines the behaviour of line managers and workers. Sunidijo and Zou (2012) state that top management behaviour and commitment to quality and standards determine the behaviour of managers and workers on site. A good quality management system must come from the top and cascade down the floor level. Top management visible leadership is highly desirable to bring about a reduction in buildings collapse.

Most site managers lack leadership and interpersonal skills (Hopkins, 2008). The challenge for Nigerian building industry is to identify and train site managers in the areas of leadership and interpersonal skills that may improve their behaviour. Bribery and corruption has become a part of social life (Akindoyeni, 2002). There is a need for behavioural orientation among all public office holders in Nigeria. Behavioural change is imperative to all the key project stakeholders involved in all stages of building provisions. Building manufacturers should adhere to quality standards and assurance as lack thereof is unethical behaviour. Poor leadership in both public and private sectors as noted by (CIDB, 2011) report, not only compromise building quality, but also increases the number of buildings disasters.

From literature, it was found that there has been no documented case of any apportionment of liabilities for those whose actions or lack of actions was responsible for the building collapse in Nigeria. The judicial arm of the government and various professional bodies concerned with building delivery should swing into action and bring the offenders to book.

The study recommends that the leadership and leaders' behaviour model proposed in Figure 1 be adopted by all project team leaders for improved building performance and organizational effectiveness. It is further recommended as an input to Nigerian building industry for effective reduction of the spate of building collapse in Nigeria. There is an urgent need to establish building standards regulations board in all the states of the federation. The board will be responsible for testing and approving all building materials and components to be incorporated into buildings, and ensuring that only certified professionals could undertake building design and supervision in place of quacks. In addition, there should be proper documentations and licensing of all building contractors for rapid and easy investigations for future cases involving building collapse in Nigeria.

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