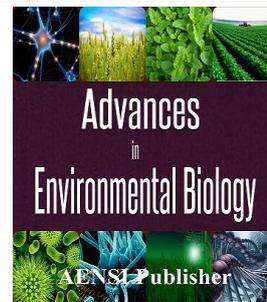




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A Conceptual Framework of Factors Influencing Building Security Cost

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ABSTRACT

Buildings cost more nowadays, and it is an assertion that significant proportions of such cost might be as a result of increased expenditure on building security. This paper aims to determine, identify and propose a conceptual framework of the factors influencing the cost building security. An exploration into cost-influencing factors of building security produced eleven factors that have direct relationships with building security. This is through the use of phenomenological research design for collecting and analyzing the data. However, relative importance index (RII) analysis was conducted on the factors to reveal their influences on building security cost. The result ranges from 94% to 72%, which shows that no significant gaps exist between factors. The study concluded that all factors have strong relationships with the building security cost when compared with the previous studies. Based on this results and the reviewed of related literature on building security, this study propose a conceptual framework of factors influencing building security cost for further investigation into future research.

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INTRODUCTION

Housing developments for human consumption such as residential, commercial, religions, institutional buildings, etc., have responded to the need to fortify buildings to forestall the commitment of crimes [1]. Looking at crime from economic point of view, [2] states that crimes are often demanded for, reason being that citizen frequently expose themselves to the outsiders. This could be prevented by embracing a self-protective measures but it would significantly increase the cost of crime prevention to an individual and the society at large. In addition, studies into the supply of crimes and the effect of the threat of punishment on decision to commit crime have received reasonable attention. However, the studies of private individuals protecting themselves have received little or no attention. Ref [3], states that the security concern of the private individuals are expressed through the provision of built-in security components that are meant to fortify the building against the criminals attacks in their houses. This was confirmed by [2] in which every individuals are taking precautionary measures to prevent or deny the criminals from getting access into their buildings.

However, this study stem from situational crime prevention theory. Previous theories such as rational choice, routine activity and environmental criminology focuses on crime incidents, policing and incarceration, decision to commit crime, land usage, traffic pattern, movement of victims and offenders etc. The situational crime prevention has deviated from the paths of the previous theories, although its central concepts are deeply rooted in and influenced by other theories such as: rational choice, routine activity and crime pattern theory [4]. However, its approaches to crime prevention are totally different from other theories. The situational crime prevention theory: reduces the opportunities for criminals to commit crime, changes criminals' ideals about whether they can get away with a particular crime, and makes it seem harder, riskier, and less rewarding to commit crime. However, the main criticism of this theory concerns its costs. Criminologist believes that strengthening deterrence by increasing the weight of punishments would be easier than manipulating the opportunity structure. To this critique, "offenders have reported higher fear of getting caught rather than the details (length, location, strength, etc.) of the punishment they would potentially receive if caught" [5]. Therefore, increasing the risks of being caught is the key category of the situational crime prevention theory.

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Buildings cost more nowadays, and it is an assertion that significant proportions of such cost might be as a result of increased expenditure on building security. Ref [6] affirmed that security related costs arise from security design principles applied to newly constructed buildings and modification of government structures. Also, the study conducted by [6] revealed the implication of design on the security cost. This shows the relationships between both structural and non-structural components and the cost, although their study was limited to threats against blast. Therefore, an investigation into building security design in other area of criminal activities such as burglary, breaking and entering etc., and its influences on cost of protection requires an urgent attention. From the literature available, works on empirical relationships between cost influencing factors and security features have not received detailed research attention, this is the gap this study aim to bridge.

Methodology:

The interview procedure was set to comprise two (2) main semi-structured open-ended questions. The aim is to determine the cost-influencing factors of building security in Nigeria urban environment. Therefore, the following questions were asked: (i) what factors constitutes the cost of building security, and (ii) what factors of building/characteristics influences building security cost. The semi-structured interview allows participants (i.e., both interviewees) to discuss and pen down their interpretations of the world in which they live in and articulate how they regard situations in their own opinion [7, 8]. The participants were drawn from among the construction professionals, who are also academicians from the Federal University of Technology Minna Nigeria. They comprise of Architects, Builders, Quantity Surveyors, Urban and Regional Planners, and Estate Surveyors and Valuers. The experts were purposefully selected based on their involvement with housing within the built environment. The study used "Open-ended questions and written comments on questionnaires" to source data from the respondents. This is among the nine methods of data collection recommended by [9].

The second part used close-ended questionnaires to advance on the previous text data collected. A total of 50 questionnaires were distributed based on simple random selection, while 41 questionnaires were returned and found valid for the analysis at 82% response rate. Phenomenological research design was used for collecting and analyzing the data. Ref [10] states that: "The researcher identifies the 'essence' of human experiences concerning a phenomenon, as described by participants in a study. Understanding the 'lived experiences' marks phenomenology as a philosophy as well as a method, and the procedure involves studying a small number of subjects through extensive and prolonged engagement to develop patterns and relationships of meanings."

RESULTS AND DISCUSSION

Based on the questions, the themes for the study were identified through five stage procedures in line with the previous researchers. These includes: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming the themes. Through this process, the final themes captured all the cost-influencing factors of building security and presented some level of patterned response or meaning [11], for factors influencing building security cost within the built-environment in Nigeria. Figure 1 presents the proposed conceptual framework of eleven main categories that were identified having direct relationships with building security cost.

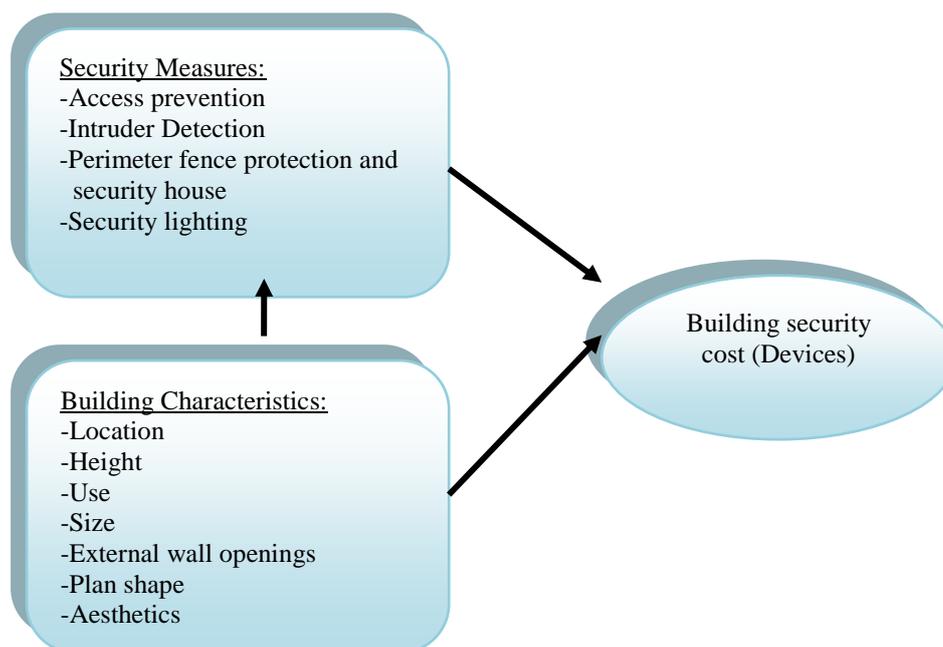


Fig. 1: Proposed conceptual framework of factors affecting building security cost.

In addition, relative importance index analysis (RII) was conducted to reveal the degree of impact/influence of the factors on building security cost, as depicted in figure 2.

Relative Importance Index Analysis:

Figure 2 present the results of the relative importance index analysis conducted to rank the factors emerged from analysis of text data. In term of ranking for each of the factor, intruder detection proved to have the highest ranking with relative importance index value of 94%. This is followed by location with value of 92%. The use of building was ranked third in the group of factors affecting building security cost with value of 87%. Access prevention, perimeter fence protection and security-house, external wall opening, height of building, security lighting, size of building, plan shape, and aesthetics follows in sequential order. These results show that there were no significant gaps or variations separating the factors.

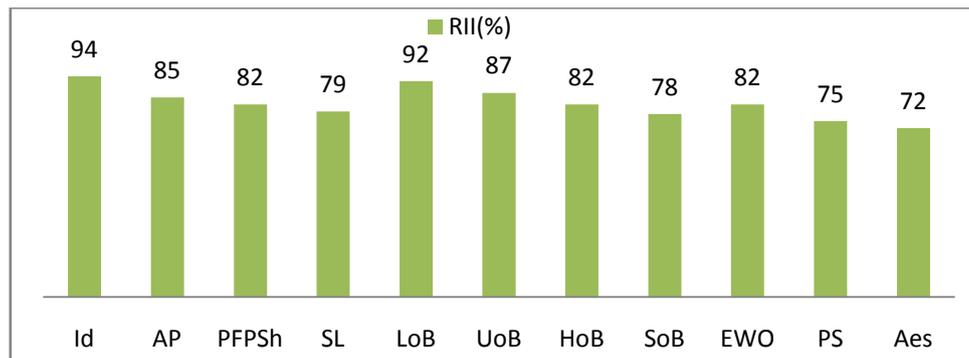


Fig. 2: Relative importance index of factors affecting building security cost.

Conclusion:

Security is increasingly having importance attached to it worldwide, and the historical background of housing cannot be separated from criminal activities committed within houses which usually follow a forceful entry by perpetrators. However, this paper present the conceptual framework of factors influencing building security cost following its exploration using phenomenological research design. Eleven (11) factors were identified through the interview conducted to have a direct relationship with building security cost. In addition, all factors were subjected to relative importance index (RII) analysis. the results revealed no significant variations between the factors with RII value ranges from 94% to 72% in a descending order. Hence, the factors are considered having strong relationship with the building security cost when compared with the previous study conducted by [12], where the top five ranked factors ranges between 89% and 78%. The proposed framework depicts the direction of the relationships, which will serve as foundation and provides useful information for future studies as a result of inadequate empirical study in the area of building security cost.

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