RISK FINANCING OPTIONS AND PROJECT SUCCESS: EVIDENCE FROM BUILDING CONSTRUCTION COMPANIES IN LAGOS STATE, NIGERIA

Hassana Adesola OKO-OSI
Department of Actuarial Science & Insurance, Faculty of Management Sciences, University of Lagos, Nigeria
aokoosi@unilag.edu.ng

Sunday Stephen AJEMUNIGBOHUN
Department of Insurance, Faculty of Management Science, Lagos State University, Lagos, Nigeria
sunday.ajemunigbohun@lasu.edu.ng

Kehinde Emmanuel ABIODUN
Department of Insurance, Faculty of Management Science, Lagos State University, Lagos, Nigeria
Kehinde.abiodun@lasu.edu.ng

ABSTRACT

Risk financing is a critical element of a business future. its indispensable metrics in safeguarding the structural and economic image of construction firms. Therefore, this study assessed the relationship between risk financing options and project success, with specific reference to the perceptions of selected construction firms in Lagos State, Nigeria. The study adopted a cross- sectional survey research design; with combination of both judgmental and convenience sampling techniques. The study population consisted of sixty-nine (69) registered building construction firms in Lagos State. Thus, a structured questionnaire was adopted in the distribution and data collection processes. Eight-seven (87) were used as sample size and in the data analytical procedure. The statistical technique employed was simple regression. This result confirmed the nexus between risk financing options and project success of selected construction firms in Lagos State. While risk retention options proved a positive relationship with project success at a p value of 0.043, risk transfer options confirmed a positive relationship with project success at a p value of 0.017. the study recommended that more risk retentive capacities should be built by building contractors in a bid to handle small proportions of their risks possibly by creating a risk management department. Government should also be dutiful in their regulatory oversight of monitoring the compulsory purchase of builders' liability insurance and thus, ensure that buildings under construction are covered for under a contractor's all-risk insurance policy.

Keywords: *risk retention options, risk transfer options, project success, contingency theory, building contractors, Nigeria*

1. INTRODUCTION

Countries with the desire to create a modern environment may not survival if its infrastructural development is not built by formidable construction firms. Construction companies in any modern economy provide basic living atmospheric plights for sustainable development of human lives (Alsaadi & Norhayatizakuan, 2021; Urbanski, Haque, & Oino, 2019). However, there is no part of human relationships with construction works without some elements of risks. Studies (such as Abramov & Al-Zaidi, 2020; Moshood, Adeleke, Nawanir, & Mahmud, 2020; Purohit, Siddiqui, Nandan, & Yudav, 2018) had affirmed some levels of human risks associated with construction works. According to Ohenhen and Shirzaei (2022), human errors in the construction project can never be overemphasised hence it remains an undeniable aspect of concern in relation to collapse, dysfunctionality, destruction, among others, of several buildings.

Globally, several incidences of collapse of buildings had been accounted for yearly, culminating into more than 300 individual lives lost (Keim, 2021). However, subsisting literatures (such as Nicholas, Dickson, & Okeke, 2022; Obodoh, Amade, Obodoh, & Igwe, 2019; Wordu & Kanu, 2021) had reported that not less than 300 building collapse had been experienced between the year 1978 and 2022 in Lagos state; despite this consequential human efforts, events of building collapse in Nigeria had been largely underreported. Studies (such as Nicholas et al., 2022; Renault & Ansary, 2018; Watema & Tulirinya, 2021) have argued that failure in project implementation had become risky to the developmental aspiration of most builders. Thus, financing the embedded risk in project seems to be problematic where a construction firm does not have the retentive required capacity and transferability exigencies to so. Areiqat, Alali, and Arikat (2018) noted that project failure criteria are characterised by project not executed on time, inappropriate project outcomes, and project budget insufficiency. Project execution of most construction firms are also said to be encountered with issues such as project timing, project costing, project budgeting, project scheduling, project dissatisfaction, project inefficiency, project non-technicality, project incompletion, among others (Dinu, 2016; Primchangthong & Boonjing, 2017). The aim of this study is to examine the relationship that exist between risk financing options and project success among building construction companies in Lagos, Nigeria. The specific objectives are to assess the effect of risk retention options on project success among building construction companies in Lagos State, Nigeria; and evaluate the influence of risk transfer options on project success of building construction companies in Lagos State, Nigeria

2. Literature Review

2.1. Conceptual Review

2.1.1. Risk Financing Options

Risk is described as a doubt regarding the occurrence of loss events (Ajemunigbohun, & Adeoye, 2018). It is a concept that is explained around any situation causing an entity to lose it valuable image (Alaka, Ajemunigbohun, & Balogun, 2022). Risk financing is an estimation of how an entity will pay for loss situations in the most efficacious and cost-effective manner. It most often involves situations in which risk would be identified, estimated how possible the risk is financed, and ensure proper monitoring of effective risk financing option selected (Pukala, Sira, & Vavrek, 2018). Sirivunnabood (2020) mentioned that selecting the most

appropriate disaster risk financing option, is dependent upon the different phases in the disaster event. Therefore, the core financing options in this regard are risk retention and risk transfer. He noted that, for risk retention, key options are reserve funds, budget contingencies, and lines of contingent credit, while insurance and its different forms are suggested for risk transfer.

According to Rejda, McNamara, and Rabel (2022), the core components of risk retention measures are in terms of current net income, unfunded reserve, funded reserve, credit line, and captive insurance; while risk transfer measures majorly comprised of insurance and its specific classification of any circumstance. In this wise, the building construction companies would require the group life insurance, contractor's all risk insurance, builder's liability insurance, workmen's compensation insurance, and many others. Arunajatesan and Viswanathan (2017) described risk retention as a means of keeping the risk oneself and dealing with it. They buttressed that conscious decisions are required to create funds, and assume losses on the bases of the level of risk, probability, and severity. For risk transfer, is the shifting of responsibilities of the losses to someone else's shoulder; and the scientific technique to doing this appropriately is through insurance.

Insurance, as a risk financing option, does not intend to avert the risk from happenings, nor does it reduce the probability of its occurrence but ensure that the financial effect or impact on individuals or parties in the contractual arrangement, in the event of loss, is largely curtailed (Garzert & Martin, 2013 as cited in Ajemunigbohun, Isimoya, & Elegunde, 2020). Redja et al. (2022) noted that insurance, being a risk financing option, makes provision adequately and conveniently to handling risks. They reiterated that insurers create identical pool into which policyholders pay fair and reasonable premium. However, through insurance option, insurers are able to estimate the cost of portable losses, spreads the losses of few over many, fix the premium cost, take a receipt of the premium into a common pool, and pay the proper claims to individuals or parties who had suffered from the loss situation (Apostolik & Donoghue, 2015; Yoe, 2019).

2.1.2. Project Success: Criteria for performance

The conceptual understanding of project success revolves round different stakeholders' perceptions and their convictions with respect to the attainment of possible objectives. Project success, being a core facet of project management, is deeply explained in connection with successful project management and successful product of such project (Iriarte & Bayona, 2020). Project success is defined as the highest level attained at any given point of evaluation no matter the performance at lower level (Venczel, Berenyi, & Hriczo, 2021). It is depicted as a project that meets up its objectives under budget and schedule.

However, project success criteria are said to include project time, project cost, project quality, project satisfaction, project technicality, project schedule, etc. (Frefer, Mahmond, Haleema, & Almamlook, 2018). Zekavat and Momenian (2019) supported that the criteria for project success also embrace project time, project stakeholders, and project quality. They reiterated that non-compliance to these criteria might cause possible project failure. Montequin, Consillas, Alrarez, and Villanueva (2016) mentioned that while project failure is depicted as project that fails to perform a specific a task or an anticipated action, non-performance, or

non-occurrence; project success involves the attainment of something desired, attempted or planned. Thus, projects fail to meet up with anticipated expectation or deliver their promised objectives for numerous reasons, depending on the level of analysis (Van Marrewijk, Stjerne, & Sydow, 2022).

2. Research Methods

This study adopted a cross sectional survey research design hinged upon a quantitative approach to provide an enhanced perception of decisions associated the nexus between risk financing options and project success among building construction companies. This design also supported the planning and execution of this study in a way to achieve anticipated results and also, generated an association with the real-life world scenario (Creswell & Creswell, 2018; Gray, 2017). Data gathering was conducted via field survey among chosen building construction firms with the support of a structured questionnaire. The essence of selecting the participants were due to their role in the economic and social sustainability of Lagos State. The use of this data gathering tool was because of its suitability to the study design with respect to being cost effective, attract wider coverage and sample representation, sufficiency of time for participants to assign well thought out responses and simplicity in the administration the research instrument (Ghauri, Gronhang, & Strange, 2020; Hesse-Biber & Johnson, 2015).

Reference to the submission of Obialo (2023), the registered building construction companies in Lagos State are 69 in number. Out of this, 37 building construction firms were selected for the distribution and collection of required data. Each of this selected companies got at least three (3) copies of questionnaire 101 questionnaire. Out of this, 87 copies of this questionnaire were useful and appropriate for the data analysis, making up 86 percent response rate. The sampling techniques were both judgmental and convenience. For judgmental, it required the opinions of the building contractors; and for convenience, the readiness and availability of the participant justified it.

The study carried out tests of validity comprised of congruent, content, and criterion-related in nature. While the congruent validity was structured in accordance to preceding literature, content validity took cognisance of the measures on the survey instrument, and the criterionrelation validity took a probe of the outcomes from other related participants (Booth, Colomb, Williams, Bizup, & Fitzgerald, 2016). Also, the reliability test was conducted with a Cronbach alpha estimated for risk retention options, risk transfer options, and project success. These outcomes from this study were in line with statistical computations of the soundness of the scale, and the safety of the internal consistency.

4. Data Analysis, Results, and Discussion of Findings

4.1. Descriptive Analysis of Risk Retention Options

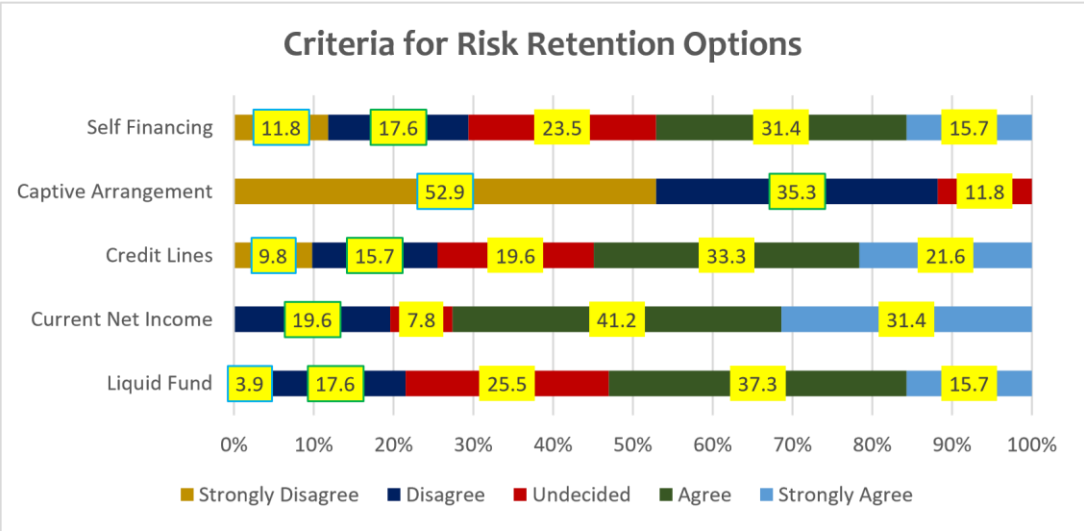

Fig. 4.1: Figure explaining criteria for risk retention option among Building Contractors in Lagos State

Figure 4.1 explains risk retention metrics among building construction companies in Lagos state in terms of *liquid fund, current net income, credit line, captive arrangement, and selffinancing.* For the statement that 'my company set aside liquid funds to pay for losses on building projects undertaken', while 3.9 percent strongly disagreed, 17.6 percent disagreed with it, 25.5 percent neutral, 37.3 percent expressed their agreement, and 15.7 percent were strongly in agreement with the statement. This implies that while 53 percent agreed totally with the statement, only 21.5 percent expressed their utmost disagreement. For the statement 'my company fund losses on building projects out of its current net income and treat risk exposures as expenses for each year', while none expressed their strong disagreement, 19.6 percent disagreed, 7.8 percent stood neutral, 41.2 percent showed their agreement, and 34.1 percent showed their strong agreement of the statement. This invariably indicates that while 72.6 percent expressed their agreement, 19.6 percent were in disagreement with the statement.

For the statement that *'*my company finance building construction risks through established credit line from financial institutions', while 9.8 percent signified their strong disagreement, 15.7 percent disagreed, 19.6 percent were neutral, 33.3 percent displayed their agreement, and 21.6 percent showed their strong agreement. This, in turn, signifies that over 64.8 percent agreed with the statement. For the statement that *'my company finances its risk exposures through captive arrangement',* while 52.9 percent displayed their strong disagreement, 35.3 percent disagreed, 11.8 percent were neutral, and none was indicated for both agreement and their strong agreement. This shows that more than 88 percent disagreed with the statement. For the statement that *'*my company use self-financing method to cater for employee work related accident on building projects', while 11.8 percent indicated their strong disagreement, 17.6 percent expressed their disagreement, 23.5 percent for neutral, 31.4 percent for agreement, and 15.7 percent strongly agreed. This implies that more building contractors (46.1 percent) have shown their agreement with the statement, while 29.4 percent disagreed.

From the above, it shows clearly that building contractors engaged liquid fund, current net income, credit lines and self-financing in their desires to retain construction related risks,

while captive arrangement was never their plans in financing risks. This result is supported by previous studies (such as Aduloju & Akindipe, 2022, Aduloju & Oluwaleye, 2023; Bahamid & Doh, 2017; Ipigansi & Ajemunigbohun, 2023). However, a strong correlate was expected among the various metrics to ascertain the retentive capacities of building construction companies. These studies validated the uses of risk retention metrics and their relationship with the performance of building contractors in Lagos State, Nigeria.

4.2. Descriptive Analysis of Risk Transfer Options

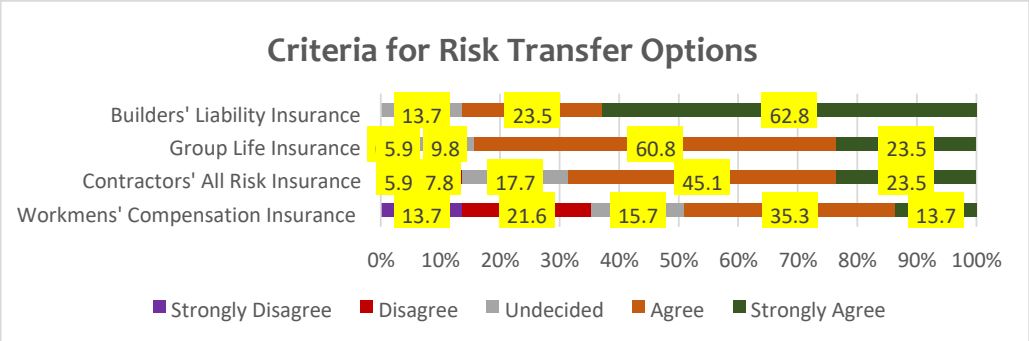

Fig. 4.2: Figure explaining criteria for risk transfer option among Building Contractors in Lagos State

Figure 4.2 explains risk transfer metrics among building construction companies in Lagos state in terms of *workmen's' compensation insurance, contractors' all risk insurance, group life insurance, and builders' liability insurance*. For the statement that 'my company have workmen's compensation insurance policy for building projects carried out', while 13.7 percent strongly disagreed, 21.6 percent disagreed with it, 15.7 percent neutral, 35.3 percent expressed their agreement, and 13.7 percent were strongly in agreement with the statement. This implies that while 49 percent agreed totally with the statement, only 35.3 percent expressed their utmost disagreement. For the statement 'contractors' all-risks (CAR) insurance is effective for building projects exposures at worksite', while 5.9 percent expressed their strong disagreement, 7.8 percent disagreed, 17.7 percent stood neutral, 45.1 percent showed their agreement, and 23.5 percent showed their strong agreement of the statement. This invariably signifies that while 68.6 percent expressed their agreement, 13.7 percent were in disagreement with the statement.

For the statement that 'my company has group life insurance for its workforce at site to cover for construction related risks', while none signified their strong disagreement, 5.9 percent disagreed, 9.8 percent were neutral, 60.8 percent displayed their agreement, and 23.5 percent showed their strong agreement. This, in turn, implies that over 84 percent agreed with the statement. For the statement that 'my company purchase builders' liability insurance to cover for construction workers, third party and surrounding buildings', while none indicated strong disagreement and disagreement, 13.7 percent for neutral, 23.5 percent for agreement, and 62.8 percent strongly agreed. This is an indication that more building contractors (. i.e., 86.3 percent) have shown their agreement with the statement, while none disagreed.

From the above, it shows clearly that building contractors shouldered their risk on the insurers on the bases of workmen's compensation insurance, contractor's all risk insurance, group life insurance, and builder's liability insurance. This result is supported by previous studies (such

as Al-Kasasbeh, Abudayyeh, Olimat, Lu, Al-Mamlook, & Alfoul, 2021; Okolie, Ugochukwu, & Ezeokoli, 2017; Oyemogum, Adeagbo, Chindor, & Rugu, 2020; Sola, Arowojolu-Alagwe, Taiwo, & Abiodun, 2013). However, a strong correlate was designed among the various measures to ascertain the risk transfer capacities of the insurers with respect to the building construction companies. These studies validated the uses of these metrics and their relationship with the performance of building contractors in Lagos State, Nigeria.

4.3. Descriptive Analysis of Project Success Criteria

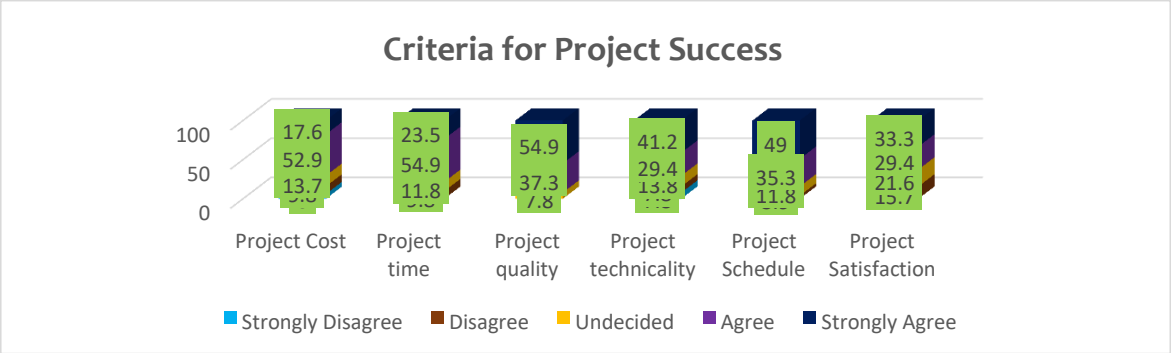

Fig. 4.3: Figure explaining criteria for project success among Building Contractors in Lagos State

Figure 4.3 explains project success metrics among building construction companies in Lagos state in terms of *project cost, project time, project quality, project technicality, project schedule, and project satisfaction.* For the statement that 'my company always manage monetary budget to enable its completion', while 6 percent strongly disagreed, 9.8 percent disagreed with it, 13.7 percent neutral, 52.9 percent expressed their agreement, and 17.6 percent were strongly in agreement with the statement. This implies that while 70.5 percent agreed totally with the statement, only 15.8 percent expressed their utmost disagreement. For the statement 'my company ensures it meets up with project completion deadline oftentimes', while none expressed their strong disagreement, 9.8 percent disagreed, 11.8 percent stood neutral, 54.9 percent showed their agreement, and 23.5 percent showed their strong agreement of the statement. This, in turn, showcases that while 78.4 percent expressed their agreement, 9.8 percent were in disagreement with the statement. For the statement that ''my company often effect quality project deliverables in a bid to meet required expectations', while none of the participants showed any form of strong disagreement and disagreement, 7.8 percent were undecided, 37.3 percent displayed their agreement, and 54.9 percent showed their strong agreement. This, in turn, signifies that over 90 percent agreed with the statement.

For the statement that 'my company ensures application of necessary technicalities on project execution', while 7.8 percent each signified their strong disagreement and disagreement, 13.8 percent were undecided, 29.4 percent displayed their agreement, and 41.2 percent showed their strong agreement. This, in turn, signifies that over 70.6 percent agreed with the statement. For the statement that 'my company ensures compliance with project outlines that often endear time-bound completion', while none displayed their strong disagreement, 3.9 percent disagreed, 11.8 percent were neutral, 35.3 percent agreed and 49 percent indicated their strong agreement. This shows that more than 84 percent disagreed with the statement. For the statement that 'my company ensures compliance with any project embarked upon to

produce required output', while none displayed their strong disagreement, 15.7 percent expressed their disagreement, 21.6 percent for decided 29.4 percent for agreement, and 33.3 percent strongly agreed. This implies that more building contractors (62.7 percent) have shown their agreement with the statement, while 15.7 percent disagreed.

From the above, it shows obviously that building contractors engaged in project cost, project time, project quality, project technicality, project schedule, and project satisfaction in their desires for project success in relation to construction works. This result is supported by previous studies (such as Albtoush, Doh, Rahman, & Al-Momani, 2022; Altarawneh, & Samadi, 2019; Amoah, Berbegal-Mirabent, & Marimon, 2021). However, a strong correlate was observed among the various metrics to ascertain the project success of building construction companies. These studies validated the uses of project success measures and their relationship with the performance of building contractors in Lagos State, Nigeria.

4.4. Test of Hypotheses

Ho_1: Risk retention options have no relationship with project success among building construction companies in Lagos State

Table 4.1: Simple Regression Results for Risk Retention Options and Project Success

Table 5 **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.472[a]	.222	.148	.95431	.222	3.921	1	86	.000

a. Predictors: (Constant), Risk retention options

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.570	1	3.570	3.921	.043[b]
	Residual	40.982	86	.911		
	Total	44.552	87			

a. Dependent Variable: Project success

b. Predictors: (Constant), Risk retention options

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.604	.490		5.310	.000	13.502	15.788
	Risk retention options	.283	.143	.283	1.980	.043	1.127	1.425

a. Dependent Variable: Project success

Source: *Researchers' Computation, 2023*

From the results of the regression analysis presented above, it is clear that there is positively low relationship between risk retention options and project success. The model also shows the variations experienced by the dependent variable that could be explained by the independent variable (R square) which shows that risk retention options are responsible for about 22.2 percent of variance in building construction firms' project success. This means that 77.8 percent of the project success enjoyed by the building construction firms comes from other factors other than the predictor used in this model (risk retention options). The generalisation of the results (Adjusted R square) indicates that true 14.8 percent of the variation in project success is explained by risk retention options (self-financing, captive arrangement, credit lines, current net income, and liquid fund*).* This result is almost close to reality as the difference between R Square and Adjusted R Square is not high. The standard error fit, which is a measure of the precision of the model, shows how wrong the statistical outcomes could be at 1 percent if one uses this model to make real life predictions. The above result is statistically insignificant as seen in the ANOVA table (p-value = 0.043) as it is greater than the 0.05 confidence interval used in this study. A value greater than 1 shows that F-ratio yield an efficient model but 3.921 F-ratio indicates that this model is not very efficient.

Ho_2: Risk transfer options have no significant effects on project success among building construction firms in Lagos State.

Table 4.2: Simple Regression Results for risk transfer options vs project success

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	. 694[a]	.482	.298	4.58462	.482	2.698	1	86	.017

a. Predictors: (Constant), Risk transfer options

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	56.700	1	56.700	2.698	.017[b]
	Residual	3047.722	86	21.019		
	Total	3104.422	87			

a. Dependent Variable: Project success

b. Predictors: (Constant), Risk transfer options

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	26.808	1.925		13.926	.000	23.003	30.612
	Risk transfer options	.449	.152	.135	1.642	.017	.549	.051

a. Dependent Variable: Project success

Source: *Researchers' Computation, 2023*

From the results of the regression analysis presented above, it is clear that there is positive relationship between risk transfer options and project success. The model also shows the variations experienced by the dependent variable that could be explained by the independent variable (R square) which shows that risk transfer options are responsible for about 48.2 percent of variance in project success. This means that 51.8 percent of the project success enjoyed among building construction firms in Lagos State comes from other factors other than the predictor used in this model (risk transfer options). The generalisation of the results (Adjusted R square) indicates that true 29.8 percent of the variation in project success is explained by risk transfer options (workmen's' compensation insurance, contractors' all risk insurance, group life insurance, and builders' liability insurance). This result is almost close to reality as the difference between R Square and Adjusted R Square is not high. The standard error fit, which is a measure of the precision of the model, shows how wrong the statistical outcomes could be at 5% if one uses this model to make real life predictions. The above result is statistically insignificant as seen in the ANOVA table (p-value = -0.017) as they are greater than the 0.05 confidence interval used in this study. A value greater than 1 show that F-ratio yield an efficient model but 2.698 F-ratio indicates that this model is not very efficient.

4.5. Discussion of Findings

From the empirical analyses and the tests of hypotheses, this study confirmed the relationship between risk financing options and projectt success among building construction companies in Lagos State, Nigeria; with respect to the research objectives and research questions raised.

The result shows that risk retention options have positive and low relationship with the project success among build construction firms in Lagos State, Nigeria, thereby invalidating the null hypothesis and validating the alternate hypothesis at (p = 0.000). This result is supported by previous studies (such as Aduloju & Akindipe, 2022, Aduloju & Oluwaleye, 2023; Bahamid & Doh, 2017). However, the positive correlation and statistically significant relationship explained the nexus that subsist between the various metrics of risk retentive capacities and project success of building construction companies in Lagos State, Nigeria. The result shows that risk transfer options have positive relationship with the project success among build construction firms in Lagos State, Nigeria, thereby invalidating the null hypothesis and validating the alternate hypothesis at (p = 0.000). This result is supported by previous studies (such as Al-Kasasbeh et al., 2021; Okolie, et al., 2017; Oyemogum et al.,
2020). However, the positive correlation and statistically significant relationship explained the nexus that subsist between the various metrics of risk transfer options and project success of building construction companies in Lagos State, Nigeria.

5.0. Conclusion and Recommendations

From the empirical analyses conducted and the test of hypotheses, this study has been able to address the research objectives. The results show that risk retention options have positively low relationship and on the project success among building construction companies in Lagos, Nigeria, leading to the rejection of all null hypotheses at 0.05 level of significance. The finding further shows that risk transfer options play a positive and significant moderating effect of project success project success among building construction companies in Lagos, Nigeria. The responses of the respondents largely proved that cost effective implementation

of risk financing options is required to enhance the capacity of building construction companies to be able to address certain projects successfully.

Based on the justification adduced to in this study, the researchers recommended that building construction firms should try to shift their desired project management to managing the thrust of risk off to the insurance providers for adequate business, economic and financial security. However, enlightenment programmes should be carried out among building construction firms, in collaboration with other stakeholders (such as government, insurers, builders' association, communities' headship, etc.), to enable them to be aware of need to purchase more of insurance policies, by way of risk transfer. More risk retentive capacities should be built by building contractors in a bid to handle small proportions of their risks possibly by creating a risk management department. Government should also be dutiful in their regulatory oversight of monitoring the compulsory purchase of builders' liability insurance and thus, ensure that buildings under construction are covered for under a contractor's all-risk insurance policy. Insurance companies are also advised to make out ways to design group life insurance suitable for on-site workers and make attractive to building construction firms. Conclusively, on-site workers should ensure that adequate insurance policies are in place to secure their possible bodily injury or disability cases before embarking on signing any contractual agreement with building contractors.

REFERENCES

Abramov, I., & Al-Zaidi, A.K. (2020). The level of influence of human and external risks on a construction company's sustainability. *IOP Conference Series: Materials Science and Engineering, 753,* 1-10.

Aduloju, S.A., & Akindipe, O.E. (2022). Risk financing strategy and project success: Evidence from building contractors in Lagos State, Nigeria. *Annals of Spiru Haret Economic Series, 20* (1), 551-570.

Aduloju, S.A., & Oluwaleye, T.O. (2023). Risk financing techniques and safety culture of road construction companies in Ekiti State, Nigeria *Annals of Spiru Haret University. Economic Series, 23* (1), 46-67.

Ajemunigbohun, S.S., & Adeoye, A.O. (2018). Insurance awareness and awareness: Empirical evidence among small and medium sized enterprises in Lagos state, Nigeria. *Trend Economics and Management, 32* (2), 9-20.

Ajemunigbohun, S.S., Isimoya, O.A., & Elegunde, A.F. (2020). Risk attitude, insurance patronage, and SMEs performance: Empirical evidence from Lagos, Nigeria. *Annals of Dunarea de Jos University of Galati, 26* (2), 70-78.

Alaka, S.N., Ajemunigbohun, S. S., & Balogun, M. T. (2022). Risk management techniques and insurance buying behaviour: Evidence from small and medium-sized enterprises in Lagos, Nigeria. *Acta Universitatis Danubius, 18* (2), 42-64.

Albtoush, A.M., Doh, S.I., Rahman, R.A., & Al-Momani, A.H. (2022). Criteria success factors of construction projects in Jordan: An empirical investigation. *Asian Journal of Civil Engineering, 23,* 1087-1099.

Al-Kasasbeh, M., Abudayyeh, O., Olimat, H., Lu, H., Al-Mamlook, R., & Alfoul, B.A. (2021). A robust construction safety performance evaluation framework for workers compensation insurance: A proposed alternative to EMR. *Buildings, 11* (434), 1-18.

Alsaadi, N., & Norhayatizakuan, H. (2021). The impact of risk management practices on the performance of construction projects. *Estudios Economia Aplicada, 39* (4), 1-10.

Altarawneh, J. Y., & Samadi, B. (2019). The relationship between critical success factors and success criteria in construction projects in the United Arab Emirate. *International Journal of Advanced and Applied Sciences, 6* (7), 43-53.

Amoah, A., Berbegal-Mirabent, J., & Marimon, F. (2021). What makes the management of a project successful? The case of construction projects in developing countries. *Journal of Construction Engineering and Management, 147* (2), 1-36.

Apostolik, R., & Donoghue, C. (2015). *Foundations of financial risk: Overview of financial risk and risk-based regulation*. United Kingdom: John Wiley & Sons.

Areiqat, A.Y., Alali, A., & Arikat, Y. (2018). Risk management to avoid project failure: A comparison study of construction projects in the GCC. *International Journal of Business Continuity and Risk Management, 8* (2), 87-105.

Arunajatesan, S., & Viswanathan, T.R. (2017). *Risk management and insurance. 5th ed.* Delphi: Laxmi Publication Pvt Limited.

Bahamid, R.A., & Doh, S.I. (2017). A review of risk management process in construction projects of developing countries. *IOP Conf. Series: Materials Science and Engineering, 271,* 1-9.

Betta, J., & Boronina, L. (2018). Transparency in project management from traditional to angle. *Advances in Economics, Business, and Management Research, 56,* 446-449. Booth, W.C., Colomb, G.G., Williams, J.M., Bizup, J., & Fitzgerald, W.T. (2016). *The craft of research. 4th ed*. Chicago: The University of Chicago Press.

Burton, R.M., & Obel, B. (2018). The science of Organisational design: Fit between structure and coordination. *Journal of Organisation Design, 7* (5), 1-13.

Creswell, J.W. & Creswell, D.J. (2018). *Research design: Qualitative, quantitative, and mixed methods approach. 5th ed.* New Delhi: Sage Publications India Pvt Limited. De Souza (2020). An experimental test of Fielder's contingency model of leadership effectiveness: The effect of gender. Master's thesis, Loyola University, Chicago. Dinu, A. (2016). Project risk management – reasons why projects fail. *Quality Access to Success Journal, 17* (3), 1-9.

Frefer, A.A., Mahmond, M., Haleema, H., & Almamlook, R. (2018). Overview success criteria and critical success factors in project management. *Industrial Engineering & Management, 7* (1), 1-7.

Ghauri, P., Gronhang, K., & Strange, R. (2020). *Research methods in business studies. 5th ed.* New York: Cambridge University Press.

Gomes, J., & Romao, M. (2016). Improving project success: A case study using benefits and project management. *Procedia Computer Science, 100*, 489-497.

Gray, D.E. (2017). *Doing research in the business world.* New Delhi: Sage Publications Asia-Pacific Pte Limited.

Hesse-Biber, S., & Johnson, R.B. (2015). *The Oxford of handbook of multimethod and mixed methods research inquiry.* New York: Oxford University Press.

Ipigansi, P., & Ajemunigbohun, S.S. (2023). Risk financing and SMEs performance: Empirical evidence from Nigeria. *Annals of Spiru Haret University. Economic Series, 23* (1), 83-97.

Iriarte, C. & Bayona, S. (2020). IT projects success factors: A literature review. International *Journal of Information Systems and Project Management, 8* (2), 49-78. Keim, M. (2021). When building collapse. Disaster doc. Retrieved from https://disasterdoc.org/when-building-collapse/

Kureshi, N. (2013). Project performance and contingency theory. *Journal of Strategy and Performance Management, 1* (2), 46-51.

Lawrence, P.R., & Lorsch, J.W. (1967). *Organization and Environment: Managing Differentiation and Integration.* Boston, MA: Graduate School of Business Administration, Harvard University.

Lynn, V., Tom, B.J., Coenen, I.V., & Klaasjan, V. (2023). Collaboration and innovation beyond project boundaries: Exploring the potential of an ecosystem perspective in the infrastructure sector. *Construction Management and Economics, 10,* 1-18. Mirza, M.N., Pourzolfaghar, Z., & Shahnazari, M. (2013). Significance of scope in project success. *Procedia Technology, 9,* 722-729.

Montequin, V.R., Consillas, S.M., Alrarez, V., & Villanueva, J. (2016). Success factors and failure causes in projects: Analysis of cluster patterns using self-organising maps. *Procedia Computer Science, 100,* 440-448.

Moshood, T.D., Adeleke, A.Q., Nawanir, G., & Mahmud, F. (2020). Ranking of human factors affecting contractors' risk attitudes in the Malaysian Construction Industry. *Social Sciences & Humanities Open,* 1-12.

Nicholas, O.I., Dickson, N.M., & Okeke, F.O. (2022). Building collapse in Nigeria and its consequences on the architect's role as the leader of the building team. *Jordan Journal of Earth and Environmental Sciences, 13* (1), 16-25.

Obialo, M. (2023). *Full list of all construction companies in Lagos.* Retrieved from nigeriaguide.com.ng/full-list-of-all-con

Obodoh, D., Amade, B., Obodoh, C., & Igwe, C. (2019). Assessment of the effects of building collapse risks on the stakeholders in the Nigerian built environment. *Nigerian Journal of Technology, 38* (4), 822-831.

Ogunberu, A.O., Akintelu, S.O., & Olaposi, T.O. (2018). Application of project scope management practices on project success among telecommunication organisations in Nigeria. *International Journal of Development and Sustainability, 7* (2), 518-532.

Ohenhen, L.O., & Shirzaei, M. (2022). Land subsidence hazard and building collapse risks in the Coastal city of Lagos, West Africa, Earth's Future, 10, 1-12.

Okolie, K.C., Ugochukwu, S.C., & Ezeokoli, F.O. (2017). Addressing the building collapse problem in Nigeria: Exploring the builder's potentials, the builders' liability insurance option and the health and safety management plan. *Environmental Review, 6* (1), 71-82.

Orishede, F., Ozims, T., & Enahoro, C. (2018). Effect of contingency factors on learning organisations in Nigeria. *International Journal of Economic Perspective, 12* (1), 1-19.

Oshita, M.G., Pavao, J.A., & Borges, I.M. (2017). Analysis of the organisational structure of enterprises of technological basis with project without incubators. *International Journal of Innovation, 5* (2), 211-227.

Oyemogum, I.M., Adeagbo, D.O., Chindor, F.S., & Rugu, E.A. (2020). Assessment of contractors' level of compliance with the building insurance policy in Jos, Plateau State. *International Journal of Engineering and Emerging Scientific Discovery, 5* (1), 1-13.

Primchangthong, D., & Boonjing, V. (2017). Effects of risk management practices on the success of IT project. *Procedia Engineering, 182*, 579-586.

Pukala, R., Sira, E., & Vavrek, R. (2018). Risk management and financing among start-ups. *Marketing and Management of Innovations, 3* (13), 153-161.

Purohit, D.P., Siddiqui, N.A., Nandan, A., & Yudav, B.P. (2018). Hazard identification and risk assessment in construction industry. *International Journal of Applied Engineering Research, 13* (10), 7639-7667.

Renault, B.Y., & Ansary, N. (2018). *The relationship of risk assessment with project success: An empirical study of small and medium Contractors in Gauteng, South Africa*. Creative Construction Conference Proceedings, Ljubljana, Slovenia, 30 June 3 July. Redja, G.E., McNamara, M.J., & Rabel, W.H. (2022). *Principles of risk management and insurance.* 14th ed. Essex: Pearson Education Limited.

Rodrigues-da-Silva, L.H., & Crispim, J.A. (2014). The project risk management process: A preliminary study. *Procedia Technology, 16,* 943 949.

Rodriguez-Rivero, R., Ortiz-Marcos, I., Romero, J., & Ballesteros-Sanchez, L. (2020). Finding the links between risk management and project success: Evidence from international development projects in Colombia. *Sustainability, 12* (9294), 1-19. Shala, B., Prebreza, A., & Ramosaj, B. (2021). The contingency theory of management as a factor of acknowledging the leaders - managers of our time study case: The practice of the contingency theory in the company avrios. *Open Access Library Journal, 8,* 1-20.

Silva, M.Z., & Fernandes, F.C. (2019). The influence of contingencies factors strategy

and structure in the enterprise risk management in a hospital. *Gestao & Producao, 26* (1), 1 16.

Sirivunnabood, P. (2020). Incorporating a disaster risk financing and insurance framework into county management and development strategies. *Policy Brief, No 5,* October, Asian Development Bank Institute.

Sola, A.J., Arowojolu-Alagwe, T., Taiwo, E.M., & Abiodun, B. T. (2013). Adequacy of builders' risk insurance policy in Nigeria Building Industry. *PM World Journal, 2* (11), 1-12.

Thompson, J.D. (1967). *Organizations in Action*. New York: McGraw-Hill.

Urbanski, M., Haque, A.U., & Oino, I. (2019). The moderating role of risk management in project planning and project success: Evidence from construction business of Pakistan and the UK. *Engineering Management in Production and Service, 11* (1), 23-35. Van Marrewijk, A., Stjerne, I.S., & Sydow, J. (2022). Between success and failure: Imperfect projects as common practice. *Project Management Journal,* Special issue, 1-2. Venczel, T.B., Berenyi, L., & Hriczo, K. (2021). Project management success factors. *Journal of Physics: Conference Series, 1935,* 1-9.

Watema, J., & Tulirinya, J. (2021). Project implementation, risk management practices, and project success. *East African Journal of Business and Economics, 3* (1), 36-50. Wordu, H., & Kanu, C.M. (2021). Residential building collapse in Nigeria: Incidence, causes, effects, solution, and implication for technical education. *International Journal of Innovative Education Research, 9* (2), 153-162.

Yoe, C. (2019). *Principles of risk analysis: Decision making under uncertainty. 2nd ed.* Boca Raton: CRC Press.

Zekavat, M., & Momenian, A. (2019). Criteria for the success of the success of construction projects. *Journal of Advanced Pharmacy Education and Research, 9* (2), 104-107. Zheng, E.Z., & De Carvalho, M.M. (2016). Managing uncertainty in projects: A review, trends, and gaps. *Revista de Gestae e Projetos, 7* (2), 95-109.