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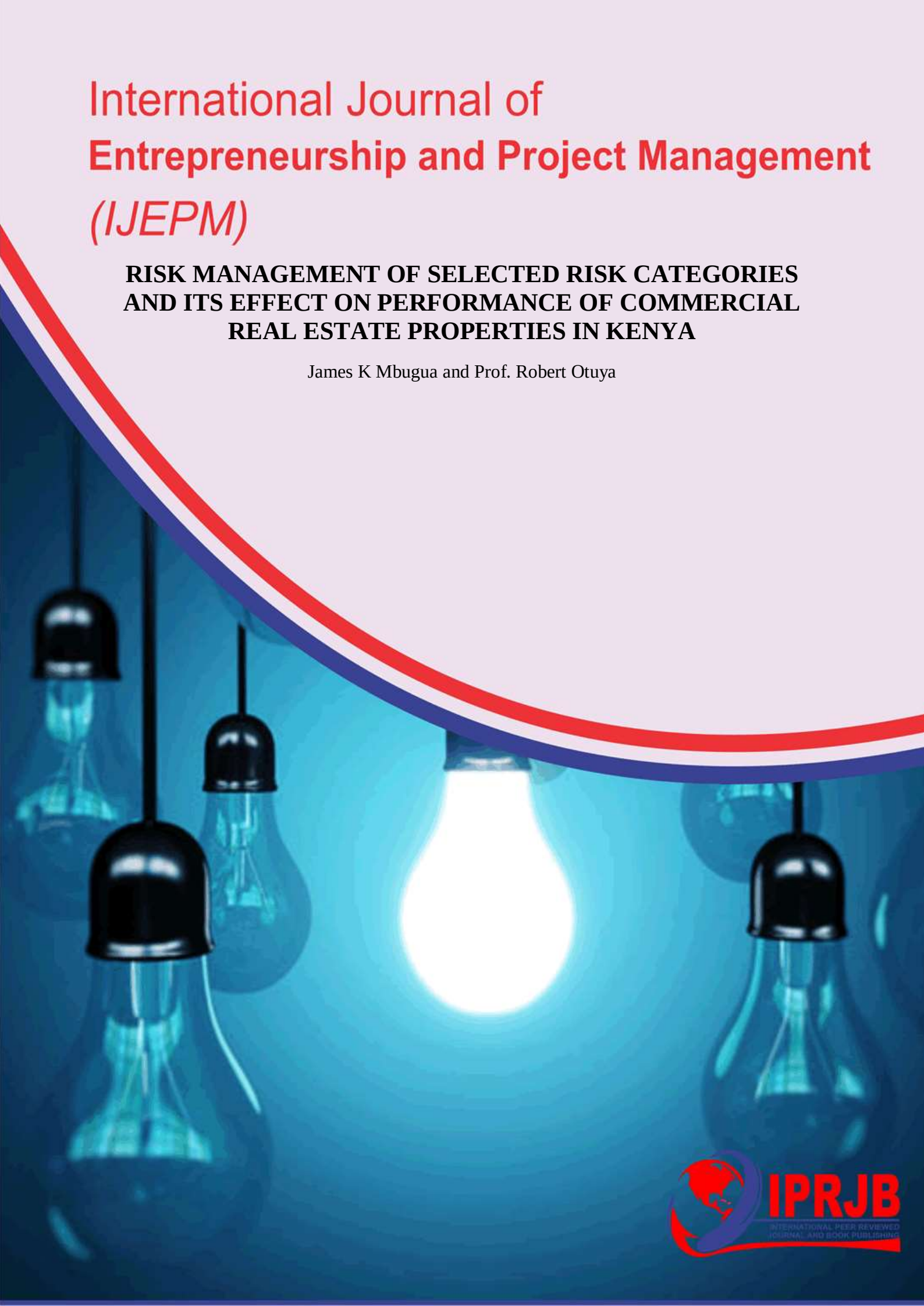

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RISK MANAGEMENT OF SELECTED RISK CATEGORIES AND ITS EFFECT ON PERFORMANCE OF COMMERCIAL REAL ESTATE PROPERTIES IN KENYA

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Abstract

Purpose of the study: The purpose of this study is to examine risk management and its effect on performance of commercial real estate properties in Kenya.

Methodology: The study adopted a descriptive survey design having a quantitative approach**.** The target population for this study was 9,320 real estate developers comprised of 884, 95, 320 and 8,021 sourced from Softkenya directory, Kenya Developers Association, Estate Agent Registration Board and National Construction Authority respectively. A sample size of 324 developers was selected and using a stratified random sampling procedure, developers that participated in the study were identified and later served with online questionnaires using their emails. The primary data that was collected was analyzed descriptively and inferentially using frequency distribution – mean and standard deviation, Chi square and multiple linear regression analysis with the aid of the Statistical Package for Social Sciences (SPSS), version 20.0.

Findings: Technical risk was the most critical risk that affects the performance of commercial real estate properties in Kenya. This was attributed to poor site investigation, delays in documents approvals and majority of the real estate entrepreneurs depending on judgment, intuition and general experience obtained in construction industry in managing their risks. With the exception of market risk management, technical and financial risk management were all statistically significant in explaining performance of commercial real estate properties.

Unique contribution to theory, practice and policy: From the empirical findings the study recommends the need by the government to ensure thorough site investigation is undertaken before commencement of any project development, a risk management compliance certificate submitted before construction approval and establishment of one stop shop of construction document approvals to minimize bureaucracy, delays and corruption. With over 70% of the real estate entrepreneurs relaying of judgmental, intuition and experience approaches to manage their risks due to low knowledge on risk management, the study recommends the need to have entrepreneurs trained in risk management practice and concepts.

Key words: *Risk management, entrepreneurship, risk factors, performance, commercial real estate properties.*

1.0 INTRODUCTION

Real estate is defined as land, including the air above it and the ground below it, and any buildings or structures on it. It covers residential housing, commercial offices, trading spaces such as theatres, hotels and restaurants, retail outlets, industrial buildings such as factories and government buildings. Real estate involves the purchase, sale, and development of land, residential and non-residential buildings. Due to its unique nature, heavy capital involvement and complexity, its development entails a lot of uncertainties and risks. Entrepreneurs in this sector are expected to make sound decisions in the management of these risks in order to achieve their entrepreneurial objective on property performance.

Real estate sector is globally regarded as an integral partof a country's economy. It is responsible for a considerable part of its development investment with sizeable amount of economic growth through backward and forward linkages to a considerable number of ancillary industries and sectors. Its contribution to GDP in 2010 was 28% (US) and 28% in United Kingdom (Kongela, 2013) .The Indian real estate sector is one of the most globally recognized sectors. It is slated to grow at 30 per cent over the next decade. The construction industry ranks third among the 14 major sectors in terms of direct, indirect and induced effects in all sectors of the economy (Kimani and Memba, 2017). The GDP share of real estate in India was 6.3 per cent in 2013 and expected to generate 7.6 million jobs a year. In China, the GDP share of real estate grew from 5 per cent in 2000 to 15 per cent in 2012, with 14 per cent of urban employment coming from real estate and related sectors (Mutreja, Chua and Guha, 2015). Similar performance were realized by African states were real estate contribution to GDP was6.82% (Nigeria in 2014), 10.2% (Tanzania in 2012) while in Kenya it registered 4.8% of GDP in the year 2013 (Kongela, 2013; Kenya National Bureau of Statistics (KNBS), 2015. Although, this sector plays a pivatol role in economic development, the performance of real estate properties has perinnially been eclipsed by several challenges including the management of its risks borne throughtout their development life cycle. The resultant is a threat to its expected or intended performance (Wiegelmann (2012).

Risk, irrespective of its type, should be managed to achieve the desired outcome (Ghahramanzadeh, 2013). Given that projects undertaken in real estate sector are widely complex and often have significant budgets, reducing associated risks should be a priority for each project developer (Gajewska & Ropel, 2011). Risk management is a process designed to remove or reduce the negative effect of the risks that threatened the achievement of project objectives (Project Management Institute (2013).Although many investors enter real estate market because of its high growth potential and high profitability, achievability of properties' long term and short term profitability objectives depends on how well the risks are managed (Koirala, 2012).Sibomana (2015) postulates that the cause of property failure can be directly related to the extent of risk management undertaken during the property's development lifecycle. Ghahramanzadeh (2013) found that reactive risk management is practiced more than proactive risk management, resulting to dismal results. Poor performance is not only as a result of lack of knowledge in systematic approach to risk management by the developers, but the situation is worsened due to information asymmetry about risks in real estate in what are the different types of risks that affect their performances, and which ones can be considered to be major in terms of their criticality. Such information is important for effective decision making process when managing risk. Citroen (2011) states that the wrong decision made on the choice of strategy due to lack of information, often times will lead to failure of the project or subject the real estate developer to heavy consequences.

Global Perspective of Real Estate risk management

A study on Malaysian construction industry revealed that 92% of construction projects could not be completed within the contract period, while 89% were facing the propblem of cost and time overunn in the range of 5-10% of contract. In their study on the factors affecting effective risk management in public housing construction projects in Rwanda, Maina et al. (2016) postulates that although there is a well- developed, designed and implemented processes of project risk management such as risk management planning, risk identification, risk assessment, risk analysis and risk response planning, 51% of construction project experience failure attributed to occurrence of risks. In this regard, they advocate for effective risk management approach that helps to convert uncertainty to risk and convert risk to opportunity. Similar findings were arrived at by Ghahramanzadeh (2013) in his study on Iranian real estate industry where reactive risk management is practiced more than proactive risk management, resulting to dismal results.

Local Perspective of Real Estate risk management

Property failure in Kenya is not different. In an audit report coveing two and a half years of sampled counties by the National Buildings Inspectorate (NBI) revealing some worring findings; out of 4,879 buildings that were inspected during that period, 650 were categorised as very dangerous, 826 as unsafe, 1,185 fair while only 2,170 representing about 44% were found to be safe for occupation (National Building Inspectorate, 2017). According to Githenya and Ngugi (2014) argue that construction projects do not always meet key performance goals such as scheduled time, cost, quality or return on investment and hence beg for answers to explain this phenomenon. Kariungi (2014) on the other hand postulates that although risks are managed every day in the Kenyan real estate industry, they are not managed in a structured way and knowledge of risk management was close to zero. . A case at hand is the Kenya Power and Lighting Company project in Thika, where major risk management flows were found to have contributed to the project's completion failure (Kariungi, 2014). Similarly, minimal application of risk management practices was associated to poor performance of Constituency Development Fund (CDF) projects in Juja (Mwangi & Kwasira, 2016).

1.1 Statement of the problem

Commercial real estate properties play a critical role in economic growth of any nation (Mouzughi, Bryde, and Al-Shaer, 2014). In view of this, the Kenya government together with its development partners as well as private developers continue to allocate huge financial resources to finance real estate development in a bid to earn from its investment. Real estate properties are considered to be successful when they meet the client's satisfaction in terms of project cost, scheduled time, economic and structural functionality, market demands, and return on investments (Hove and Banjo, 2015)

Despite the Kenyan Government and other state corporations considering the real estate as a significant contributor of economic development more than 70% of construction projects in Kenya experience time overrun of a magnitude of over 50%, while 50% of the projects experience excess cost budget of a magnitude of more than 20% (Auma, 2014; Gwaya, Masu & Wanyona, 2014). In the year 2015, office space absorption levels dipped, rental levels for retail outlets stagnated while the residential accommodation uptake was low (Knight Frank, 2015). On collapsing of buildings, the cases has reached an 'alarming stage' in the past few years with several buildings structurally failing (Kioko, 2014).Between 2009 and 2014

seventeen buildings spontaneously collapsed, killing and injuring many people. (Fernandez, 2014).In total 87 cases of buildings that have collapsed and death toll of 170 people has been recorded to date (Kabala, 2019). Financial performance is similarly blink with defaults on mortgage standing at 38 billion shillings by December 2018 (Central Bank of Kenya, 2018).

This documented poor performance may be attributed to lack of adequate insight on key risk factors, their criticality and failure to manage property risks in a systematic way. For the performance of commercial real estate properties to be realized insight on key risk factors, their effects on performance and how they are dealt with is necessary to the developers. Such information is lacking in literature and amongst real estate entrepreneurs in Kenya. This study envisages filling this gap by investigating risk management of selected risk categories and its effect on performance of commercial real estate properties in Kenya.

1.3 Purpose of the study

The purpose of this study is to examine risk management of selected risk categories and its effect on performance of commercial real estate properties in Kenya.

1.4 Objectives of the study

The following are the specific objectives of the study

i) To determine the effect of technical risk management on performance of commercial real estate properties
ii) To investigate the effect of financial/economic risk management on performance of commercial real estate properties
iii) To evaluate the effect of market risk management on performance of commercial real estate properties

1.5 Research Hypothesis

The hypothesis for this study is:-

i) $H_0$1: Management of technical risk does not have statistically significant effect on performance of commercial real estate properties
ii) $H_0$2: Management of financial/economic risk does not have statistically significant effect on performance of commercial real estate properties
iii) $H_0$3: Management of market risk does not have statistically significant effect on performance of commercial real estate properties

2.0 LITERATURE REVIEW

2.1 Risk Management

According to Wiegelmann (2012) risk management is a structured and disciplined approach that aligns strategy, processes, people, technology and knowledge with the purpose of evaluating and managing the uncertainties a real estate development organization faces as it creates value. Uher (2003) on his part defined risk management as “a systematic way of looking at areas of risk and consciously determining how each should be treated. Nielsen (2010) introduces a further aspect of risk management to mean the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. He further postulates that by introducing

prioritization in the definition he recognizes that most management practices to a large extend is about prioritization.

Alongside the discussion on risk definition, risk management and risk management process, scholars have also equally spent some time in discussing its classification. Project Management Institute (2008) defines risk classification as a provider of a structure that ensures a comprehensive process of systematically identifying risks to a consistent level. Although it is impossible to list all the risks in a real estate property, risks are usually categorized into clusters so as to have a wider spectrum and inclusiveness which in return will help manage risks effectively. They are validly categorized in literature which include categorization advocated by Boateng, Chen, Ogunlana and Kediashi et al., (2012) comprising of Technical risk, Financial/economic risk, market risk, environmental risk, political/legal risk and property operational risks. This study is concerned with the first three categories; technical, financial and market risks.

2.2 Technical risk management and property performance

Technical risk is risk associated to the combination of construction methods, construction materials, construction work tasks, designs and identification of suitable development sites encountered by a real estate entrepreneur in a bid to provide space users with desired accommodation. According to (Koirala, 2012) technical risk is created by several factors. Firstly it could be due to unavailability of skilled and experienced project engineer who does not study and correctly interpret the project documents and ends up not implementing the project in accordance to the plans and specification. Secondly due to unskilled and inexperienced awarded consultants and contractors who do not in some cases adhere to or incorporate clients' requirements and ends up reflecting their own feelings in the design and construct differently rather than specified one. Poor plans, wrong specifications and wrong interpretation of client's desire will lead to poor performance in terms of wrong product being offered to the market at unbudgeted costs (Sahu and Dudhe, 2016).

Wang et al., (2004) and Koirala (2012) postulate that technical risk came about whenever the local or central government authority and its agencies fail to approve the project related issues in time or even cancels the already approved ones. Beside the building design approvals, the impacts of the developments to it environment has become a thing of great concern in the recent past. Globally, governments and international non-governmental organization are taking great initiatives in seeking solutions to prevent environment degradation. Subsequently, almost all commercial real estate properties are subjected to an environmental impact assessment and audit for new projects or existing one respectively. Technical risk management entails therefore engaging technically sound and skilled persons throughout all the life cycle of the development project, undertaking a comprehensive site investigation procedure that will help advice on the salient features of the development site. Procedures that help the company/firm minimize delays in getting document approvals need to be developed, as well as inculcating a due diligence culture in all its undertakings.

2.3 Financial/Economic risk management and property performance

These are mostly risks of project finance that evolve during the project delivery such as inadequate sources of project funds by an owner or funding agent, financing problems caused by inadequate sources of project funds, costs influenced by fluctuations in the exchange rates of foreign currencies, inflation, and many other financial and economic factors such as tariffs and fiscal policies (Anton, Rodriguez & Lopez, 2011). The real estate investment is a

production process, commencing from the purchase of the development land to the construction of the property and managing it throughout its life cycle. During this period heavy financial obligations are instituted by the developer(s) where borrowed money should be repaid together with interest accrued. Mei (2008) postulates that if the inflation fluctuated, the interest rate of credit will be fluctuated consequently. The rising interest rate of the credit will increase the financial cost of the real estate investment and will counteract large parts of the expected profit. In their study on risk factors impacting construction projects in Ghana, Chileshe and Yirenkyi-Fianko (2014) found that financial/economic risk was the most composite risk factor impacting on the performance of the projects.

Financial and economic risk management encompasses several strategies which include the company confirming credit worthiness of the client prior to commencement of the project. Whenever possible, clients who do not pay on timely manner and have poor financial status is avoided. During cost estimation or during the pricing of tender documents cost related with the exchange rate fluctuation are included in the rates. Contract with a fluctuation clause should be preferred to a fixed sum contract. Alternatively, a provisional allowance is usually made to cushion the project against the impact of this cost (Njogu, et al, 2015).

2.4 Market risk management and property performance

There are myriad market risk factors that can trigger imbalance in the supply and demand for space leading to poor property performance. These factors include inaccurate market data and inadequate market information. Real estate market is changes in general price level, market potentiality, taste and technology (Gichunge, 2000). Market risk is about the salability of the real estate property the entrepreneur has introduced in the market and its ability in recouping the invested amounts and satisfying the users. Two broad strategies are deployed to manage this risk. A comprehensive feasibility study enables the entrepreneur to understand the market needs and therefore tailor his or her product to satisfy this need in terms of product design, type, segment and locality. A post construction demand and supply survey backed with a marketing strategy enable the entrepreneur to minimize delays in letting or uptake rates while managing competition (Huxham, 2010; Mukhtar, 2017).

2. 5 Property Performance

Performance indicators are measurements that reflects the critical success factors of an organization which are agreed up front (Passenheim, 2009). They help the organization to define and measure progress towards organizational goals or objectives. In literature, real estate performance has been measured and evaluated using a variety of various dimensions (Enshassi et al., 2009). However, time, cost and quality are the three predominant performance criteria used traditionally referred to as the "iron triangle". A general assumption is at times made that if a project is completed on time, within the agreed budget and set quality (the iron triangle) the project is deemed successful. However, evidence suggests that this is not always the case since there are projects that meet all the three targets, yet considered failure. For instance a property that although meets all the criteria, and yet has a very low commercial success may not necessary be considered a success. Subsequently to capture performance of commercial real estate properties throughout their development lifecycle; during construction and post construction, this study adopted four performance criteria namely: time, cost, return on investment and client's satisfaction.

2.6 Theoretical framework

The study was guided by two theoretical approaches namely: Contingency theory, Resource Based theory (RBT)

2.6.1 Contingency Theory

This is a management theory adapted in various management concepts in literature. It originated with the work of Woodward (1958) as a response to rapid changes and increasing environmental uncertainty. The theory proposes that there are many ways to attain a given end but for every situation there is an ideal way to attain that end, in order to achieve optimal organizational performance (Mitchell, 2006), and that the optimal course of action is contingent (dependent) upon the internal and external situation (Hai & Nawi, 2012). In this case, an organization should strive to establish relationship with the environment and through decision making manipulate the relationship to attain optimal organizational performance. The theory is based on the premise that to every situation there is an optimal fit. The closer to the fit the higher the performance. The relevance of this theory to the current study is that management of risks in real estate is contingent to the type and nature of risks. There is no one best fit strategy for managing all risks but with every risk category there should be a different management strategy. In adopting contingency theory, this study hypothesizes that the closer the fit between the real estate entrepreneur's way of managing the risks and systematic risk management procedure the greater is the performance of the respective commercial real estate properties.

2.6.2 Resource based view theory (RBVT)

Resource based theory (also extensively referred to us Resource based view (RBVT) in literature) is an evolutionary multidimensional theory in that it views entrepreneurship in terms of individuals, the environment and constraints in it, as well as the organization responsible for the entrepreneurial process and the outcomes of the processes. It is a managerial framework used to determine the strategic resources a firm can exploit to achieve sustainable competitive advantage.

The theory was introduced by Wernerfeldt (1984) and later developed into a more comprehensive framework by Barney (1991) where he proposed necessary indicators for firm resources to generate competitive advantage. For the firm to have a sustainable competitive advantage, it must have tangible and intangible resources to exploit opportunities and neutralize threats. Barney (1991) further argues that for sustainable advantage to be achieved, the firm must have VRIO attributes (Valuable, Rare, Inimitable and Organized). It incorporates market opportunity, industry structure and competition, but at the same time it emphasizes resources, skills and capabilities (including the skill and capability to learn new skills and capabilities). In this regard, identification of risks and their prioritization is a core pre cursor to effective resource allocation and effective management of risks. Similarly, development of capabilities through organizational culture that embraces risk management and training of personnel on risk management is a necessary resource in achieving property performance through effective risk management hence its suitability in this study.

3. 0 RESEARCH METHODOLOGY

The study adopted a descriptive survey design having a quantitative approach**.** The target population for this study was 9,320 real estate developers comprised of 884, 95, 320 and 8,021 sourced from Softkenya directory (SoftKenya, 2018); Property Developers Association of Kenya (KPDA, 2018), Estate agent registration Board (estateagentsboard.or.ke) and

Register of Contractors by National Construction Authority (GOK, 2016) respectively. A sample size of 324developers was selected and using a stratified random sampling procedure, developers that participated in the study were identified and later served with online questionnaires using their emails. Reliability of the questionnaires was tested for internal consistency using the Cronbach's coefficient alpha. The alpha coefficients for the items in the questionnaires were above 0.7 indicating acceptable reliability. The collected data was analyzed descriptively and inferentially using frequency distribution – mean and standard deviation, Chi square, Pearson's Correlation and multiple linear regression analysis with the aid of the Statistical Package for Social Sciences (SPSS), version 20.0.

The significance of each risk factor within the categories was examined using Risk Significant Index formula advocated by Gupta et al. (2016).

$$RIS^{i} = \frac{\sum_{j=1}^{T} S_j^i}{T}$$

Where: RIS^i = index score for risk i

S^i_j= significance score assessed by respondent j for risk i

T = total number of responses

4.0 FINDINGS AND DISCUSSION

4.1 Demographic findings

To examine the relationship between risk management and performance of commercial real estate properties in Kenya, descriptive and inferential analysis was employed. Three hundred and twenty-four (324) questionnaires were received back representing 84% response rate. The distribution of respondents based on gender was found to be skewed with male respondents taking up more than 70% of the responses received. Majority of respondents were mainly aged between 31 and 40 years, accounting for 42.3% of the respondents. Slightly more than a quarter of the respondents were aged below 30 years, an indication that the sector is attracting the younger professionals. Those who were aged between 41 and 50 years accounted for 20.4% while the smallest proportion (10.2%) of the respondents was above 50 years. Regarding respondent's highest levels of education, close to a half (47.8%) of the respondents had an undergraduate degree as their highest level of education. Diploma holders who accounted for 31.5% of the responses followed while those with postgraduate qualification accounted for 20.7% of the responses. A look at the respondent's profession reveals that contractors were the most dominant making up 37% of the total responses followed by project managers and valuers and estate agents who accounted for 24.1% and 19.4%of the responses received respectively. Architects, quantity surveyors, clerk of works, realtors, and managing agents individually accounted for less than 10% of the total responses. A significant proportion of the respondents hold less than 10 years' experience in the sector with the majority (41%) having been in the sector for between 5 and 10 years. Those with 10 – 15 years stay in the sector accounted for 27.5% while those with more than 15 years accounted for 23.1% of the respondents. Those who have been in the sector for less than 5 years accounted for 8.3% of the respondents. On management of risks, the study found that over 60% of the respondents have low knowledge on risk management procedure leading to 71.3% of the real estate entrepreneurs relaying on informal risk management approaches such as judgement, intuition and experience.

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4.2Risk Category Assessment Based on Criticality

Numerous types of risk exposure directly or indirectly affect the performance of commercial real estate properties in the real estate sector. In the current study, three types of risk categories were identified for analysis; technical, financial risk and market risk. It is important to note that the risk category are not independent of each other but have a collective contribution to the overall risk levels in a real estate investment. The level of their criticality is shown in Table 1.

Table 1: Ranking of Risk category based on Criticality

Risk Type	LC	SC	MDC	C	VC	MSC	%Mean	Chi Sqr	P-value	Rank
Technical	59 (18.2%)	0 (0%)	14 (4.3%)	1 (0.3%)	39 (12%)	211 (65.1%)	80.5	443.3***	.000	1
Market	30 (9.3%)	46 (14.2%)	93 (28.7%)	88 (27.2%)	22 (6.8%)	45 (13.9%)	58.3	81.9***	.000	3
Financial	24 (7.4%)	9 (2.8%)	56 (17.3%)	74 (22.8%)	94 (29%)	67 (20.7%)	70.8	94.4***	.000	2

Note 1: LD; Least critical, SC; Somewhat Critical, MDC: Moderately Critical, C: Critical, VC: Very Critical, MSC: Most Critical.

2. The degree of criticality was assigned a score of 1 for the least critical and 6 for the most critical.

Technical risk category was found to be the most critical ahead of financial risk having a percentage mean score of 80.6%and 70.8% respectively while market risk was considered the least critical risk category having a mean score of 58.3%. The quality of finished property depends greatly on the technical qualities and the adequacy of financial resources required. A high percentage of the total capital goes into activities related to structural aspect of the development. Consequently, real estate entrepreneurs consider technical risk and financial risk as "a make it or not" risk, that is, you either manage it and the property performs or you don't and the converse stands.

To achieve a deeper understanding of the nature of real estate risks, risk factors based on their prevalence/frequency and severity as constituted in each risk category was sought by computing the risk index score of each risk factor. Risk prevalence and severity bring to the fore two important attributes of each risk factors inherent in the real estate sector, however, evaluated independently limits the true indication of the inherent risk. Measuring risk holistically is done through a risk index, a score that ranges between zero and one, with a higher score signifying the overall risk exposure to the property. Berg, Jha and Murdoch (2012) posited that a composite risk index carries more weight in the assessment of the true property risk citing reliance on a single risk attribute is often limited in both accuracy and adequacy. The results showing risk index score for the technical risk are summarized in Table 2

Table 2: Risk Index scores of Technical risk

Technical risk factors	Mean	SD	Rank
Inadequate site investigation	0.676	0.286	1
Uncertainty over the source and availability of materials	0.376	0.222	6

Delay to obtain design approval in time	0.668	0.257	2
Incompetence of the project management team	0.561	0.261	4
Late changes of design from client side	0.634	0.233	3
Lack of consistency between bills of quantities, drawing & specification	0.515	0.196	5

Inadequate site investigation was ranked first as the most risky factor followed by delay to obtain design approval in time. Uncertainty over the source and availability of building materials was found to be the least risky technical factor as per the risk index score.

Table 3: Risk Index score of financial risk

Financial risk factors (indicators)	Mean	SD	Rank
Changes in interest rates	0.288	0.242	4
Inflation and changes in prices	0.252	0.181	5
Delay payments to contractors	0.679	0.305	1
Inability of debt servicing	0.648	0.305	2
Construction cost overrun	0.627	0.283	3

Delayed payment to contractors was considered most prevalence and severe financial factor as well as having the highest risk index (M= 0.679, SD = 0.305), followed by inability of debt servicing. The real estate developers considered inflation and price changes to be the least financial risk factor (M = 0.252, SD = 0.181). With delayed payment, most projects are not completed on time affecting their marketability or they end up stalling. Similar findings were evident where financial failure was ranked third out of 36 risk factors in South Africa construction industry (Renault, Agumba and Ansary, 2016).

Table 4: Risk Index score of market risk

Market Risk factors (indicators)	Mean	SD	Rank
Improper property market feasibility studies	0.755	0.239	1
Changes in demand	0.622	0.254	2

Several factors strongly determined the value of real estate properties in Kenya, among them; the property class, Location and the types of units within each class (Vuluku & Gachanja, 2014). With the unprecedented growth in the sector driving more units into the market every year, significantly improving consumer choice, improper market feasibility can be costly, a likely explanation for the high ranking in risk index score of (M = 0.755, SD = 0.239).

4.3Approach to Dealing with Property Risk

While structured risk management models exist to guide the risk management process, the managerial approach towards the actual risk management varies from one firm to another. The key approaches cited by respondents are as shown in Table 5.

Table 5: Approach to Dealing with Property Risk

Approach	Frequency	Percent
By experience	95	29.3
By Judgment	113	34.9

By intuition	23	7.1
By risk management procedures	93	28.7
Total	**324**	**100.0**

Over one third (34.9%) of the respondents indicated that they use judgement as a way of dealing with property risks. Close to another one third (29.3%) indicated they were dealing with property management risk using their own experience. Those using risk management procedures accounted for 28.7% of the respondents with the remaining 7.1% basing their decisions on intuition.

Table 6: Multiple Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.541	.160		9.618	.000*
TRMGT	.122	.058	.139	2.117	.035*
FRMGT	.276	.050	.312	5.558	.000*
MRMGT	.046	.031	.070	1.502	.134

a. Dependent Variable: Performance * significance

The overall objective of this study was to examine risk management of selected risk categories and its effect on the performance of commercial real estate properties in Kenya. To arrive at a definitive conclusion on the effect of individual risk elements, three hypotheses were considered for analysis. A technical risk management (TRMGT) coefficient ($\beta = 0.122$, $P < 0.05$) was an indication that a unit increase in technical risk management score leads to 12.2% improvement in the performance of commercial real estate properties. With a *p*-value less than 0.05, the null hypothesis was hence rejected leading to a conclusion that technical risk management significantly influences the performance of commercial real estate properties in Kenya Two fundamental issue arises when technical risk stands out as an influential factor in the performance of projects in the real estate sector. First, pre-projects implementation requirements that included site investigation, building plans approval and acquisition of all the necessary land documentation, majority of which are intended to establish a conducive environment for the implementation phase, have a direct influence on the ultimate performance of the real state property. Secondly, having the right team, with the required competencies and experience to plan and implement real estate projects significantly increases the chances of better performance of the real estate property.

Based on the regression model results, a unit increase in financial risk management (FRMGT) score ($\beta = 0.276$, $P < 0.050$) led to a 27.6% increase in real estate project performance holding all other factors constant. With the coefficient *p*–Values of less than 0.05, the null hypothesis was consequently rejected, implying that financial risk management significantly affects the performance of commercial real estate properties in Kenya. The systematic nature of financial risk because of both interest rates and inflations risk exposure affecting all projects means that a small change in the fundamental economic activity or changes in policy will more than likely influence the cost, financing and pricing components of a real estate property.

With a market risk management (MRMGT) coefficient ($\beta = 0.046$, $P > 0.05$) an indication that an increase in market risk management by one unit led to a 4.6% increase in performance of commercial real estate properties in Kenya. With a coefficient's t-test *p*-values of greater than 0.05, the null hypothesis failed to be rejected leading to the conclusion that market risk management does not significantly affect the performance of commercial real estate properties in Kenya. The failure of marketing risk to significantly influence performance of real estate properties despite a significantly high-risk index can be attributed to two reasons. First, the demand for real estate properties in Kenya have consistently outstripped supply rendering all marketing risk elements relatively ineffective in influencing property performance. Secondly, the growth in the middle class with strong spending culture has fuelled the diversification of demand for different class and type of real estate properties limiting possibility of a market glut. (Vuluku & Gachanja, 2014).

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Findings from this study show that technical risk is the most critical followed by financial risk. Inadequate site investigation was the most dominant technical risk factor followed by delay in obtaining design approval and late changes of design by the property owners. Whereas most of the risk factors in technical risk category would require some professionally acquired risk management skills, the same is lacking amongst the real estate entrepreneurs where the majority relay on judgment, experience and intuitions. Nevertheless, the effort employed in managing these risks was significantly affecting performance of commercial real estate properties in Kenya. The case of financial solvency was found to be the most critical financial risk factor affecting property performance where delayed payments to contractors and inability by the developers to service their debt/mortgages was a case of great concern. Nevertheless, the effort employed in managing financial risks was significantly affecting performance of commercial real estate properties in Kenya.

5.2 Conclusions

The performance of commercial real estate is dependent on how the real estate entrepreneurs will manage their risks. More emphasis need be directed to the management of technical risk as it was cited as the most critical risk category. Site investigation entails several items such as physical characteristics of the site, acquisition process, its development capability in regard to the intended development vis-a-vis the market. Market risk was ranked third most critical risk affecting performance of commercial real estate properties in Kenya. However, failure of market risk management effort to significantly influence performance is an indication of existing market demand trends that may not warrant a proactive risk management a case that was found to contradict the norm.

5.3. Recommendations

With technical risk category being most critical in affecting the performance of commercial real estate properties, It's prudent for the realtors to be thorough in the site investigation, seek early design /documents approval and when need be, make changes early enough not to negatively affect performance of the properties. Concern authorities should make sure there is thorough site investigation by all the developers and introduce

a risk management compliance certificate requirement before any project commencement. There is need also to find the possibility of establishing a one stop shop in every County to reduce on multiple institution so as to minimize on bureaucracy and delays in approvals. The government should avail accurate and reliable data of real estate market or help make it easily accessible to enable developers make informed decisions when investing in real estate sector.

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