INFLUENCE OF ENTREPRENEURSHIP ON GROWTH OF COMMERCIAL REAL ESTATES IN MACHAKOS COUNTY

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ABSTRACT

Purpose of the Study: The purpose of the study was to establish the influence of entrepreneurship on the growth of commercial real estate in Machakos County.

Statement of the Problem: Demand for housing units continues to outstrip the supply; property developers in Kenya have in the recent years considerably scaled down their construction activities, pointing to a struggling property sector. In 2018 the real estate sector in Kenya recorded its slowest annual growth in four years, giving weight to property market reports that signaled a slump in demand despite increased supply of new housing units. Agency theory was used to inform this study.

Research Methodology: The study adopted a cross-sectional survey research design. The target population for this study was made up of 374 registered property developers with Kenya Property Developers Association operating in Machakos County. The study used census approach to study all the 374 registered property developers. Prior to commencement of the actual study, 40 respondents from Kajiado, a neighboring county to Machakos was used in a pilot study to pre-test the research instrument. The researcher triangulated both structured questionnaires and open ended interview guide to gather and saturate data from the respondents. While the interview guides were bent to gather in-depth qualitative data from the real estate agents, the structured questionnaire was used to collect quantitative data from the respondents who develop the real estates. Both quantitative/ numerical data and qualitative/ descriptive data were collected using structured questionnaire and unstructured interview guide respectively. Qualitative data was analyzed using descriptive statistics while quantitative data was analyzed using inferential statistics. Time series

was also be utilized in this study. Statistical Packages for Social Sciences (SPSS) software was used for higher statistical computations.

Results: The findings revealed a positive and significant relationship between entrepreneurship and the growth of commercial real estate in Machakos County (β =0.329, p=0.000).

Conclusion: On the basis of the findings, it was concluded the risk-averse investors or those with low risk bearing ability should choose the real estate markets where prices are less volatile, in order to pursue the long-term commercial real estate investment value with a lower risk. The risk-lover investors or those with greater risk tolerance can consider more volatile markets in order to realize the benefit maximization. Investors concern the factors influencing house price fluctuations, such as leverage, investment demand ratio, etc., as these factors change, price volatility could change correspondingly.

Recommendation: The study therefore recommended that real estate property management involves understanding of operating expenses and budgeting; from this information, appropriate rental rates are set balanced by the current market and what it will support in the way of rents. A firm knowledge of the area and competitive rental properties is hence required. The property manager may recommend marketing programs, special promotions and other advertising strategies to the owner in order to maximize occupancy and rental rates.

Keywords: *Entrepreneurship, Commercial, Real estate, Growth, Machakos, County*

1.1 BACKGROUND OF THE STUDY

Real Estate is an important part of the economy and is accountable for an extensive part of its development, advancement of any nation's infrastructure stand & major originators of trade and industry activity. Guo, Zhang, Zhu and Sun (2018) opine that more money has been made in real estate sector alone than all other financial investment streams combined globally and evidence of this are shown in most world top billionaires, people like Donald Bren with a net worth of $15.1 billion, President Donald Trump with a net worth of $4.5 billion, Rick Caruso, David Lichtenstein, and other world billionaires were listed on Forbes magazine to have made their fortune in Real Estate. This could be because the real estate sector has strong connections with various industries such as tiles, paints, fittings & fixtures, cement & steel to mention a few, so prosperity in this sector means wealth for all other sectors, thereby positively impacting such country's economic growth (Kauškale & Geipele, 2017). According to Ibrahim (2017), property development is extremely risky, with many risks witnessed throughout the property development process. Risks in real estate development arise from social, technological, economic (exchange rates, volatility of returns and levels of inflation), environmental and political instability. Property developers require innovations to improve performance and minimize investment risks. Innovation enables companies to have a competitive advantage over other companies (Friedman, 2016). Through innovations, one is able to increase cash flow, save time, decrease cost, improve quality and minimize uncertainty. Real estate industry is unique because of different features which are not directly interchangeable.

There has been a slow growth in the commercial real estates in Kenya as compared to the demand of the houses (Muli, 2013). Demand for housing units continues to outstrip the supply (Masika, 2010). According to Kenya National Bureau of Statistics (2018), property developers in Kenya had for the past 4 years considerably scaled down their construction activities, pointing to a

struggling property sector. Real estate industry has become immensely attractive and lucrative for many investors due to its size and measure in terms of value (Su, Lin, Che & Li, 2018). Demand and supply are some of the elements of the business sector that have greatly affected the real estate business sector. Some of the piece of evidence of investor confidence in the Kenyan real estate commercial property is Old Mutual Property's recent investment in the Two Rivers Mall. The country real estate sector has also witnessed investments from the Delta Africa Property Fund, Retail Africa and Abland – all from South Africa. AVIC International Holding Corporation of China is also expected to invest over US$ 200M in constructing their Africa Headquarters in Nairobi. The multi-user development has been reported to contain the highest office block in East Africa and will undoubtedly reshape Nairobi's skyline. All these investments are attributed to the vibrant and the growth of real estate sector in Kenya.

Real estate developers need innovations to improve performance (Tharachai, 2019). Innovations help companies to generate competitive advantage through improvements that yield desirable outcomes. Innovations decrease cost, save time, improve cash flow, create distinctive consumer preference, increase quality, and minimize uncertainty or a combination. Innovation can only be managed successfully if innovation influencing factors are understood. The product, process, ICT, material and value factors influence real estate development innovation. Kajander, (2009) find a key aspect of sustainability is how companies and policy makers can stimulate innovation in built environment in order to move from incremental to substantial environmental improvements. According to Ogbenjuwa, Egbu and Robinson, 2018, rapid population growth rates coupled with low levels of economic development in developing countries have created among others immense obstacles to the provision of adequate housing to the majority of residents.

As technology progresses each year, the real estate industry can no longer rely on just traditional methods to promote properties or meet the expectations of its newest customers. By relocating their business to the digital world, real estate investors not only expand their opportunities, but are also able to reach a broad audience over the internet and reach markets far beyond their local area. According to Freybote (2019), 71% of millennials are interested in acquiring a property and real estate investors and agents need to be innovative and to adapt to this needy consumer base. Millennials have the highest consumer expectations among all other generations and they're interested in more than just buying a property. They want to know if the place they want to settle down in has other amenities and possibilities, such as shopping areas, food provisions, walking areas and employment opportunities. That's why commercial and residential real estate investors and have to be innovative and use big data in order to provide personalized offers based on the clients' preferences and provide detailed descriptions alongside future area developments.

As Chiavacci and Lechevalier (2017) note that during the 1970-1980s Japan was a role model: the market economy was well functioning in addition to unseen efficiency levels that allowed Japanese firms to also embark on non-profitable activities as well as to avoid laying off workforce in the events of negative shocks. The trend, however, shifted with the 1990s financial crisis which led to a long lasting period of economic decay. While according to Chiavacci and Lechevalier (2017) some studies have argued the reason for the market collapse, and the thus the recession, to lie within structural problems of the economy, Chiavacci and Lechevalier (2017) claim that due to the intensity and the duration of the Japanese crisis, the lack of structural or institutional changes cannot be the sole reason for the recession. Furthermore, the study argues that, if the system is to be liable for the recession, it is more the disruptions within the system in addition to structural

incompatibilities which had risen due to lack of coordination and coherence. (Chiavacci and Lechevalier, 2017).

The Nigerian real estate industry has witnessed positive growth in recent years (Ogbenjuwa, Egbu & Robinson, 2018). According to a report released by the Nigerian National Bureau of Statistics (NNSE), the real estate sector grew by 5.9 per cent and contributed 8.37 per cent to the gross domestic products (GDP) in the 4th quarter of 2014 alone. Another report by Price water house Coopers (PwC) put the value of the real estate sector in Nigeria at $9.16 billion in 2014. According to the projections, further growth was expected to increase the value of the real estate industry in Nigeria to $11.36 billion in 2015 and $13.65 billion in 2016. According to the report titled "Real Estate: Building the Future of Africa", the Nigerian real estate sector is growing at a rate of 8.7 per cent and is now the sixth largest sector in the economy. The report also indicated that high net worth individuals invest 25 per cent of their assets in real estate compared to 18 per cent or less in equities and other instruments.

In Kenya, real Estate investment has attracted both local and global investors due to its diversified amount of wealth, return and market availability. In addition, real estate investment is an interest that is placed on buildings and real property housing for commercial and residential purposes. Real estate investment is also referred to as the business of renting, selling or buying buildings or housing (Cummings, 2013). Ruitha, 2014 notes that slow and lack of innovation in technologies for housing has a negative effect in real estate investment because of improved mortgage facilities offered by financial institutions. Real estate performance in the country is likely to increase in terms of higher returns, less risk and increased rental income due to the government commitment to promote and encourage investors. An improvement in one of the factors will positively lead to the other improvement. When real estate finance is poorly developed, it is difficult to mobilize the capital tied up in this sector. Today, different factors such as global warming and natural hazards have significant consequences on property investment portfolios. The ever-dynamic legal liabilities, consumer preferences, government regulations, environmental risks and other factors all together. This makes it difficult to ignore social, political and environmental problems. It is therefore beneficial in terms of finances to address them in real estate investing process (Tharachai, 2013). Entrepreneur is a person who brings other factors of production in one place and uses them for the production process. Entrepreneurship includes the visionaries and innovators behind the entire production process (Mkala, Wanjau & Kyalo, 2018). The entrepreneurs combine all the other factors of production to conceptualize, create, and produce the product or service.

According to Kuria, Riro and Kiragu (2018), it is estimated that over 80% of Kenyan population will have migrated from rural areas by 2030, meaning that shelter is one of their basic needs. Presently, slum dwellers are1/3 of the urban dwellers population whereby Kenya's Kibera slum is one of the largest dwelling in Africa yet only approximately three million people are urban dwellers. Hence as more rural urban migration occurs more houses, well-constructed must be built to combat slum uprising problem. The real estate industry must be supported and it will have to grow at a faster pace that it currently does (Mwathi & Karanja, 2017). The Kenya industry is benefiting from economic growth of the country and the inflow of foreign aid is being regarded as a very promising venture. The government is also heavily investing in this industry in various ways such as the inclusion of the ministry of housing in the government body, availing of funds to the housing ministry; enforcement of laws to do urban planning, regulatory laws in license permits (Homes Expo Kenya, 2017).

One of the prevalent parts of an economy is real estate, in majority of countries across the world (Koech, 2013). According to Zoopla (2012), real estate price have been increasing with majority of the population preferring to purchase property than renting. In Kenya, statistics from CBK reflects that there is a significant increase on real estate value over the last ten years (2006-2015). The value of property in the city of Nairobi and its environs (Kiambu, Machakos and Kajiado) has increased by more than four times from 7 million to 28 million, (Hass Consult, 2015).

Commercial real estate sector in Kenya has seen growth in the past years due to robust office space demand (Mwathi & Karanja, 2017). Major cities in Kenya such as Nairobi, Mombasa and Kisumu have witnessed a rise in the price of commercial property. This is because of the huge competition in workers looking for jobs that pay well. This has put a strain on the real estate market in these cities, in that; new construction is not able to keep up with the demand due to a lack of available land (Chege & Bett, 2019). The Kenyan real estate market has experienced increased competition both in residential and commercial properties (Kuria, Riro & Kiragu, 2018). The market has diversified and more innovative houses have attracted a huge number of home buyers. With the formation of the county government, more developments have sprouted as more developers explore the opportunities in the counties. According to Muema and Gladys (2019), residential and commercial properties on the Nairobi outcast have attracted highest increase in prices. This is has been attributed to expansion and developments in this regions especially the infrastructure; roads, electricity and water. The diversified mortgage market has also led to increased competition across the sector. The real-estate sector of Kenya is diversified among three sections; people, geography, and property types where people include high, middle and lower sections of society, geography defines the area to be utilized for property developments and property types including retail, office, residential, Industrial and special properties mainly found in urban areas (Mang'ong'o, Githui & Omurwa, 2018).

1.2 PROBLEM STATEMENT

Real estate provisions have diminished besides the government of Kenya's commitment to provide affordable housing for the period between 2018 and 2022. Demand for houses has increased from 150,000 units to 200,000 units per year compared to the production of only 35,000units per year, (NHC, 2018). In Kenya, real estate recorded a growth of 5.8% in September 2018 which is the slowest registered since 2014 (KENBS, 2018). Population growth rate is growing faster than the provision of new housing and housing infrastructure (Ogbenjuwa, Egbu & Robinson, 2018).

Vision 2030 has managed to achieve 10% of the target by 2018 (NHC, 2018) which translates to a short fall of 90% equivalent to 200,000 units. The government of Kenya has come up with the Big Four Agenda after realizing there is a shortage of affordable housing in Kenya. Several studies have addressed demographic, social economic and the impact of economic factors on mortgage institutions in Kenya, (Lieser & Groh 2011; Ariemba, Kiweu & Riro 2015). The studies have both contextual and conceptual gaps. This study sought to bridge the gaps by addressing the effect of entrepreneurship on the growth of commercial real estates in Kenya specifically in Machakos County.

1.3 OBJECTIVE OF THE STUDY

To assess the influence of entrepreneurship on growth of commercial real estates in Machakos County.

1.4 RESEARCH HYPOTHESES

H_0: Entrepreneurship has no statistically significant influence on growth of commercial real estate in Machakos County

2.1 Theoretical Study of Variable

Agency Theory

The classic agency theory idea was produced by Jensen and Meckling (1976). This theory explains the relationship between different parties where one party referred to as principal engages an agent who is another party to do a task on their behalf. In relation to real estate business, the seller or the buyer can be termed as the principal while the real estate broker can be referred to as an agent. According to Rottke (2001), the problem of agency arises in a given a relationship where there is varying information on either parties. The separate kinds of asymmetric information that are manifested in these types of relationships entail hidden information, intentions, characteristics and action. These normally happen when action is finally executed whereby the investor discovers there is a problem that requires a solution. This disparity in information has an effect on the pricing of real estate where either party may opt to overprice in anticipation of the same from the other party with similar interest. Agency theory helps in explaining different levels of obedience, though it is more of a description. This theory explains the objective on the influence of psycho-social factors on real estate growth. It is relevant to the study in the sense that it will help the researcher to understand how the developers handle cases involving agents who tend to buy properties on behalf of others and the challenges involved.

The theory explains why conflicts exist between principals (investors/proprietors) and their agents (directors) prompting organization costs. It aims at reducing information asymmetry so that both the principal and agent read from a similar content through the dangers of authorizations and the likelihood of incentives (Sarens & Abdolmohammadi, 2011). Agency theory is produced around the idea of legally binding connections between two gatherings with clashing destinations, i.e. principles and agents (Mitnick, 2015). The objective in agency theory is to structure the contractual relationship between these groups so that agents take actions to maximize the welfare of principals. The welfare of the principals can be expanded by the act of responsibility in the associations/companies. This depends on standard principal-agent models involving supervision (Khalil & Iawaree, 2006).

2.2 Empirical Review

Kauškale and Geipele (2014) conducted a study on Urban Entrepreneurship Development Trends in Real Estate Market in Latvia. The objective of the research was to identify the urban entrepreneurship development trends in the Latvian real estate market, in order to provide recommendations for more efficient work planning of the representatives of the business and the public sector. The findings of the study revealed that Real estate market has a number of functions and tasks, and the entrepreneurial activity in the real estate business has its own characteristics. Timely regulating the real estate market and the business sector, it is possible to improve the long-term development that will positively affect the overall development of the country and promote economic growth. Based on the findings of the study, real estate investors have variety of risks. Entrepreneurship on real estate market, real estate development process has also a great social significance.

Thai and Turkina (2014) findings demonstrate four means of reducing informal entrepreneurship and boosting formal entrepreneurship: nurturing a performance-based culture; creating favorable conditions for economic advancement; increasing quality of governance; and enhancing people's resources and abilities, and it is recommended to promote cooperation and networking to encourage social capital and to encourage informal entrepreneurship before undertaking the necessary governance and economic reforms to motivate entrepreneurs to transfer to the formal sector. At the same time Dimitratos (2014) mentions that, nowadays micro multinational company mostly control and manages value-added activities and they will have a great importance in 21st century. The recession phase of Latvian economics showed the reduction of the investment amount in several sectors, including the decreased financial investments in construction and real estate transactions. During the post-crisis period, in 2012, the indicators of real estate transactions have improved, which could have been caused by the increase in foreign investments in real estate.

Mbazor, Adedayo and Olutope (2017) conducted a study on Relevance of Entrepreneurship Education in Real Estate Practice for Sustainable National Growth. The purpose of the study was to examine the relevance of entrepreneurial education to the practice of estate surveying by the graduates of Estate Management in becoming self-made entrepreneurs in their chosen field. The study reviewed related literatures to obtain main themes, such as real estate management, investment, entrepreneurship education in real estate business. The study used questionnaire, oral and telephone interview to collect samples, and the study population was centered on graduates of estate management practicing in various firms in Abuja. The study findings revealed that, 94.2% of the respondents were strongly willing to start up their own private firm, while the remaining people had different sheds of opinions. Therefore, it was recommended among other things that government and good spirited individuals make a startup capital available for graduates of estate management who are willing to become real estate entrepreneurs. In addition, further training on business ideas will assist them in no small measure in actualizing their dreams of becoming employers of labour thereby contributing to the growth of the nation.
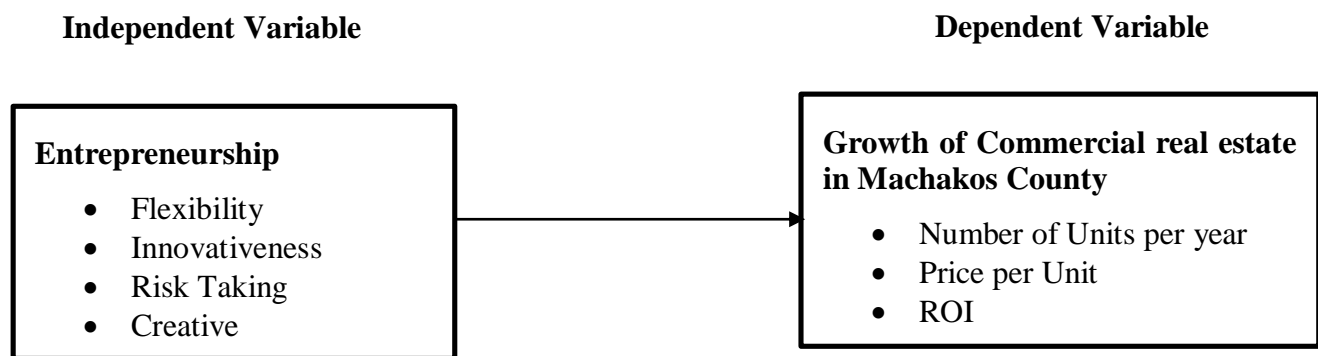
2.3 CONCEPTUAL FRAMEWORK

Independent Variable   **Dependent Variable**

Entrepreneurship	Growth of Commercial real estate in Machakos County
• Flexibility • Innovativeness • Risk Taking • Creative	• Number of Units per year • Price per Unit • ROI

Figure 1: Conceptual Framework

3.0 RESEARCH METHODOLOGY

The study adopted a cross-sectional survey research design. The target population for this study was made up of 374 registered property developers with Kenya Property Developers Association

operating in Machakos County. Census approach was used to study all the 374 registered property developers. Prior to commencement of the actual study, 40 respondents from Kajiado, a neighboring county to Machakos were used in a pilot study to pre-test the research instrument. The researcher triangulated both structured questionnaires and open ended interview guide to gather and saturate data from the respondents. While the interview guides were bent to gather in-depth qualitative data from the real estate agents, the structured questionnaire was used to collect quantitative data from the respondents who develop the real estates. Both quantitative/ numerical data and qualitative/ descriptive data were collected using structured questionnaire and unstructured interview guide respectively. Qualitative data was analyzed using descriptive statistics while quantitative data was analyzed using inferential statistics. Time series was also be utilized in this study. Statistical Packages for Social Sciences (SPSS) software was used for higher statistical computations.

A linear regression model was used to show the relationship between the independent variable to the dependent variable as follows;

$$Y = \beta_0 + \beta X + \epsilon$$

Where;
Y =Growth of Commercial Real Estate
X = Entrepreneurship
The error (ϵ) term capture the unexplained variations in the model.

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The results in Table 1 show that most of the respondents (M=4.400, SD= 0.766) were in agreement on the fact that adaptability to change (flexibility) was an important trait investors in real estate industry needed to have since this aspect was found to influence the growth of commercial real estate in Machakos County. With technology constantly evolving, real estate agents are always warned they should continually adapt to the changing environment, or risk being left behind. Things are changing all the time and a lot of real estate investors don't like change. Consumers want changes, and as an investor in real estate you have got to be really adaptable to that.

The results also show that most of the respondents agreed that risk on return determines growth of commercial real estate in Machakos County. The results had a mean of 4.445 and standard deviation of 0.929. This implies according to most of the real estate investors in Machakos County, risk on return is a key entrepreneurial trait that an investor must possess to succeed in real estate investment in the county. The very backbone of finance is the concept of the risk and return relationship. Should come as no surprise that the higher the risk, the greater the return, and conversely, lower risk gets you lower return. The results further show that most of the respondents as indicated by mean and standard deviation of 4.131 and 1.080 respectively agreed that creativity (innovation) on property design determines growth of real estate in Machakos County.

The results further show that most of the respondents agreed that customer's taste and preferences influence growth of commercial real estate in Machakos County as indicated by a mean of 4.200 and standard deviation of 1.159 implying that most of the respondents were in agreement. From behavioral perspectives, insights on consumer purchase behavior and explanation were given on what drives consumers to purchase housing. Consumer behavior implies how he perceives the

pressures placed on him/her to perform or not to perform the behavior (Al-Nahdi, 2015). Purchasing of a product can be affected by consumers' perception of social pressures put on them by others such as friends, political parties, and/or agents.

Further, the results reveal that majority of the respondents as confirmed by a mean of 4.331 and standard deviation of 1.049 agreed with the statement that personality (confidence) of developers have influence on growth of commercial real estate in Machakos County. The best real estate developer has excellent communication and interpersonal skills. He/she can communicate and relate to different people with ease and quickly build relationships. While there are places and roles for all personality types to have a productive career in and around real estate development, successful developers (owners and principals), those at the actual center of the industry, is a highly entrepreneurial personality and all that it encompasses - risk tolerance, critical thinking and problem solving abilities, drive / passion, self-confidence, people skills. The best developers tend to have strong personalities and are dynamic individuals.

Similarly, the study found out that most of the respondents were confident that visionary developers are likely to influence the growth of commercial real estate as indicated by a mean of 4.352 and standard deviation of 0.977. This implies that, anyone can be a good real estate investor or developer, if they are visionary developers and have the drive and discipline to succeed in real estate industry. Vision helps to enjoy working with other people, because having a bigger network of people helps. A visionary investor doesn't have to be super extroverted, but if you're the kind of person who would rather work alone all day, you'll have a harder time. Finally, the results show that majority of the respondents were of the opinion that work ethics is a factor on growth of commercial real estate in Machakos County (M=4.462, SD= 0.844). The indicators had an overall mean of 4.332 and standard deviation of 0.972 implying that most of the respondents were in agreement with the statements; however, the responses were varied.

Table 1: Descriptive Statistics on Entrepreneurship

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
Adaptability to change (flexibility) has influence on growth of commercial real estate.	1.70%	1.70%	1.70%	44.50%	50.30%	4.400	0.766
Risk on return determines growth of commercial real estate.	1.00%	7.90%	0.70%	26.20%	64.10%	4.445	0.929
Creativity (innovation) on property design determines growth of real estate.	1.70%	13.40%	1.70%	36.20%	46.90%	4.131	1.080
Customer's taste and preferences influence growth of commercial real estate.	6.60%	6.20%	1.00%	33.10%	53.10%	4.200	1.159
Personality (confidence) of developers has influence on growth of commercial real estate.	1.70%	10.70%	1.40%	25.20%	61.00%	4.331	1.049
Visionary developers determine growth of commercial real estate.	1.00%	9.70%	1.00%	29.70%	58.60%	4.352	0.977
Work ethics is a factor on growth of commercial real estate.	1.70%	3.80%	1.40%	32.80%	60.30%	4.462	0.844
Average						**4.332**	**0.972**

The results in Table 2 show that majority of the respondents were in agreement with the statement that there had been an increase in the number of units of commercial properties built each year within Machakos County over the past 12 years. This was indicated by a mean of 3.979 and standard deviation of 1.170. This implies that Machakos County has been recording an increase in the number of real estate properties over the past decade. The results also show that most of the respondents were in agreement with the fact that prices per unit of a commercial property in Machakos County had influenced the growth of commercial real estate in the county as indicated by a mean of 3.928 and standard deviation 1.179.

The results further show most of the respondents agreed that being able to offer competitive prices per unit had effected the growth of commercial real estate in Machakos County significantly. The results had a mean of 4.024 and standard deviation of 1.169 implying most of the respondents was in agreement with the statement, even though the responses were varied sharply. Majority of the respondents believed that the price of a commercial property in Machakos County had gone high attracting more investors to venture in real estate business in the county. The result recorded a mean of 3.969 and standard deviation of 1.160 implying that in deed the prices of property in Machakos County have become attractive to the real estate investors. According to the results,

most of the respondents indicated that cost of investment was a factor on growth of commercial real estate in Machakos County. The results had a mean of 3.955 and standard deviation of 1.192.

Similarly, the results show that most of the respondents indicated that expected returns on properties had gone higher in Machakos County as indicated by a mean of 3.948 and standard deviation of 1.159. Finally, it was established that most of the respondents were of the opinion that ease to adapt to changes of prices in the real estate industry had effected growth of commercial real estate. The statement had a mean of 3.997 and standard deviation 1.169 implying that most of the respondents were in agreement with the statement. In general, the statements on growth had an average mean and standard deviation of 3.971 and 1.171 respectively implying that most of the respondents agreed with all the statements of growth of commercial real estate in Machakos County.

Table 2: Descriptive Statistics on Growth of Commercial Real Estate

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
There has been an increase in the number of units of commercial properties built each year within the County over the past 12 years.	7.60%	5.20%	8.30%	39.70%	39.30%	3.979	1.170
Price per unit of a commercial property has influence on growth of commercial real estate.	6.90%	7.90%	7.90%	40.00%	37.20%	3.928	1.179
Being able to offer competitive prices per unit has an effect on growth of commercial real estate.	6.60%	6.90%	6.90%	36.90%	42.80%	4.024	1.169
The price of a commercial property in this county is high.	6.60%	7.20%	7.60%	40.00%	38.60%	3.969	1.160
Cost of investment is a factor on growth of commercial real estate.	7.20%	7.60%	6.90%	39.00%	39.30%	3.955	1.192
Expected returns on properties have influence on growth of commercial real estate.	7.60%	5.20%	8.60%	42.10%	36.60%	3.948	1.159
Ease to adapt to changes of prices in the real estate industry has effect on growth of commercial real estate.	7.60%	4.80%	8.30%	39.00%	40.30%	3.997	1.169
Average						**3.971**	**1.171**

Apart from the primary data, this study collected secondary data on the number of commercial properties and unit price of the property in a period of 12 year (2008-2019). The findings were as presented in Table 3 and Figure 2

Table 3: Descriptive Statistics on Secondary Data

	Minimum	Maximum	Mean	Std. Deviation
Year	2008	2019	2013.5	3.606
Number of Units	650	2237	1313.67	563.538
Price Per sq. Metre (Ksh)	12000	30000	20733.33	6316.225

The results in Table 3 show that the minimum number of units of commercial properties in Machakos County was in 2008 which was 650 units, while the maximum number of units was in 2019 showing that there was growth in commercial real estate in Machakos County between 2008 and 2019. In addition the results show that the mean number of units was 1313.67 and standard deviation of 563.538 showing that the number of commercial properties in Machakos County is approximately 1314 units; however the number is spread. The minimum price per square metre of commercial unit in Machakos was found to be Ksh 12,000 which was the price in 2008, while the maximum was Ksh 30,000 recorded in 2019. The mean price per square metre of a unit was Ksh 20,733.33 with standard deviation of Ksh.6, 316.225. The results imply that there has been significant growth in commercial real estate in Machakos County in the past twelve years (2008-2019).
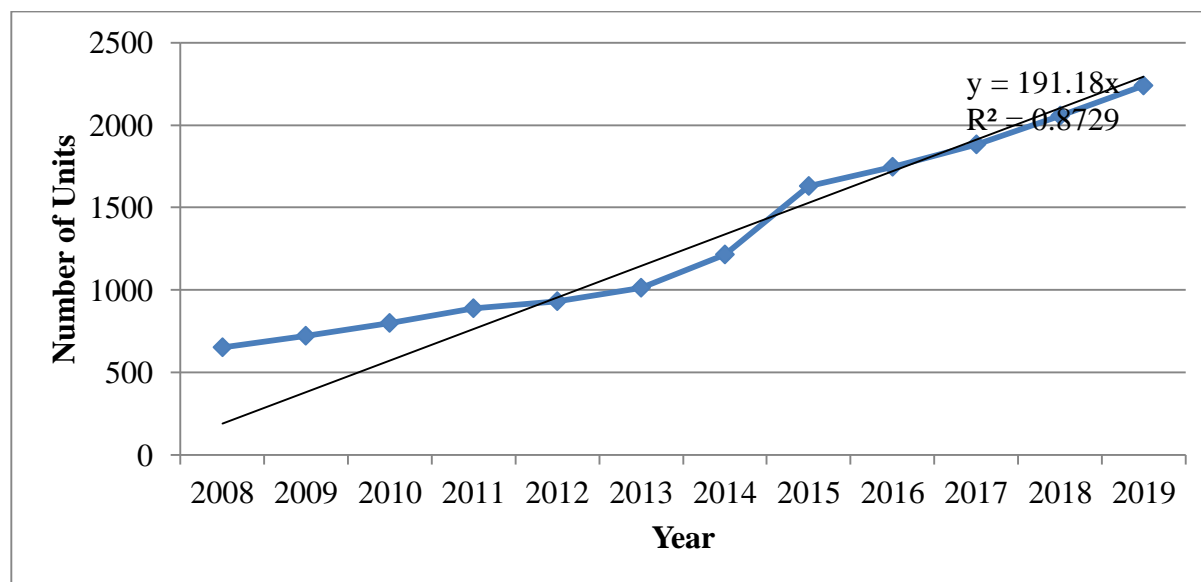

Figure 2: Number of Units

The trend line in Figure 2 show that the number of commercial properties units was on an upward trajectory in the last twelve years (2008-2019). In 2008, there were 650 commercial properties in Machakos County which moved up to 721 in the following year. In the year 2010, the number of

commercial properties in Machakos County was 801 representing 11.0% growth compared to 2009; this number went up by 10.7% in 2011 to 887 units. According to the results the number of units grew in 2012 to 933 commercial units representing 5.2% growth in the number of commercial properties in the County. In 2014, the total number of commercial properties in Machakos was found to be 1011 units representing 7.9% growth compared to 2013, a number which grew further by 19.98% to 1213 units in the following year. In the year 2015 the total number of commercial properties in Machakos County was 1630 representing 34.4% growth in the commercial real estate in the county.

In 2016 the total number of commercial properties in the county went up by 7.1% to 1745 units. Based on the results on the trend line, the number of commercial properties in the county further grew by 7.8% to a total of 1881 units in 2017. In the year 2018, Machakos County had a total of 2055 units representing 9.3% growth compared to the previous year. Finally, in 2019 the total number of commercial properties in Machakos County was 2237 representing 8.9% growth compared to what was recorded in 2018. The trend line shows that there has been consistent growth in commercial real estate in Machakos County over the past twelve years. The study found that the county recorded growth in the number of shopping centres, medical facilities, stores, malls and office properties. In addition to the growth in the number of commercial properties in the county, the study sought to establish the price trends of the commercial properties in the County and the results are presented in Figure 4.2.
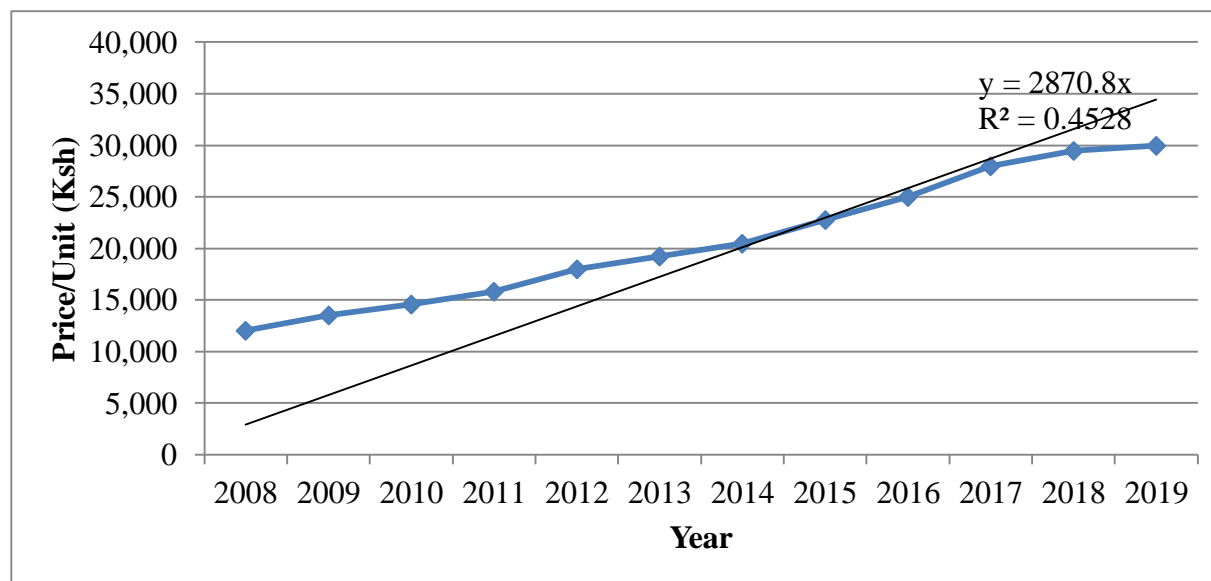

Figure 3: Price per Square Metre of Commercial Property

Based on the trend line in Figure 3, the price per m^2 of commercial property in Machakos has been on an upward trend since 2008. The results show that in 2008 the price per m^2 of commercial property in Machakos County was averagely Ksh. 12,000, a figure which went up by 12.5% to Ksh. 13,500 in 2009. In the year 2010, the price per m^2 of commercial property in Machakos County was averagely Ksh. 14,550 representing 7.8% increase in price compared to the previous year. In 2011, the price per m^2 of commercial property in Machakos was going for Ksh 15,800 on average representing 8.6% increase in property prices compared to 2010. This figure grew further by 13.9% to Ksh 18,000 per m^2 of commercial property in 2012. Based on the results, the price per

m^2 of commercial property in Machakos County in 2013 was averagely Ksh 19,200 indicating 6.7% increase in property price per m^2 in Machakos County compared to 2012.

The results in addition show that the price per m^2 in Machakos County grew by 6.8% in 2014 up from Ksh 19,200 per m^2 in 2013. The price per m^2 of commercial property increased further to Ksh 22,750 in 2015 representing 11.0% increase compared to the previous year. In 2016 the county saw a 10.0% increase in the price per m^2 of commercial property compared to what the properties was going for in the year before. The prices continued skyrocketing in the subsequent years and in 2017 the price per m^2 of commercial property was Ksh 28,000, which increased by 5.4% in the following year to averagely Ksh 29,500 per m^2 of commercial property. Finally, in the year 2019 the price per m^2 of commercial property was found to be Ksh 30,000 on average indicating 1.7% increase. The trend line implies that since 2008 the price per m^2 of commercial property has been on the increase consistently through 2019 which imply that there has been growth in commercial real estate in the County.

In addition to the primary data and secondary data results presented above, the interview guide was administered to the CEC in charge of housing in Machakos County in which he was asked to compare the population of people in the county and the number of housing units available for them. The CEC indicated that;

''... The population of Machakos County has increased enormously over the last 15 years. However, housing production has remained far below the targets in the five-year national development plans and even further below actual demand for housing. Most of the urban population in Machakos County, especially low-income households cannot afford to buy or build their own homes and as a result, most of the housing in towns within Machakos County is rental housing. The rental housing sector is a complex one involving many actors. Tenants' rights are poorly respected, especially in the informal settlements that provide most of the accommodation to low-income renters. So in short, the number of both commercial and residential properties within Machakos County is still way below than what is demanded and therefore there is need for more developers to invest in real estate industry within our county.''

The CEC was further asked to indicate some of the challenges facing real estate industry in Machakos County and what was being done by county government of Machakos to mitigate the challenges. The CEC indicated that;

''...as a government we have been conducting surveys to assess the real estate market industry within our county and the common challenges faced by developers include lack of affordable development-class land, increase supply, competition of property and high costs of funds as a property development requires a huge sum of capita. In addition, there is no insurance program that covers funds invested in real estate projects or protects investors from the failure or malfeasance of a sponsor of a real estate investment. Therefore, at times real estate investors within Machakos may find themselves unable to sell a property for as much as they originally paid for it when they are ready to exit the investment.''

''...Contrary to most securities, most real estate transactions within Machakos County are done in private markets. Whereas public markets offer daily pricing and extensive consumer knowledge, private markets are priced on "as-needed" basis and lack transparency. Private markets are harder to access as well, as many private markets require a degree of credibility or status to enter into. Last but not least, real estate closings require several interested parties and a lot of paperwork. Between structuring an offering, arranging financing, and gathering necessary due

diligence items, the process could take weeks, only contributing to lack of ability to turn real estate into cash quickly this demoralizes investors.''

Concerning mitigation measure by county government of Machakos on these challenges the CEC indicated that;

''...as a county government we are trying our level best to ensure the laws imposed on real estate industry within our county are favourable so as to attract more investors to invest in real estate in this county. This will help in addressing the shortage of both commercial and residential properties within the county.''

Finally, the CEC was asked to indicate the message he could have to the developers within Machakos County and across Kenya and the Public and the CEC indicated that;

''...Since development projects in real estate industry often spans two or more years, the real estate developers and investors in Machakos County should understand where they sit in the property cycle and pay attention to the big picture economic factors that will affect the real estate market. Additionally, I wish to point out that investors should not always believe the selling agent when they tell them the property will make a great development site, instead they (investors) need to undertake careful areas due diligence including checking the council zoning, as well specific property due diligence, things like checking the title for covenants, easements and overlays, the neighbourhood character as well as adjoining buildings and trees the topography of the site.''...Finally I wish to state that we have witnessed cases of conman-ship in the past where investors in real estate development have been swindled of their money. It is therefore necessary that any investor who wish to invest in real estate in this County puts everything in writing, especially when dealing with consultants and contractors. This helps avoid misunderstandings and confusion and keep very clear accounts. If your paperwork isn't in order, it'll only cause headaches further down the line.''

4.2 Correlation Analysis

Table 4: Correlation Matrix

		Growth	Entrepreneurship
Growth	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Entrepreneurship	Pearson Correlation	.809**	1.000
	Sig. (2-tailed)	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

Results in Table 4 revealed that there was a strong positive and significant association between entrepreneurship and growth of commercial real estate in Machakos County (r=0.809, P-value=0.00).

4.3 Normality Test

In this study, both Kolmogorov Smirnov and Shapiro Wilk tests were used to test for normality for the dependent variable and the result displayed in Table 5. The result indicates the dependent variable was normally distributed since p-values were greater than 0.05 for both Shapiro-wilk and Kolmogorov test. These values confirm further that the data was normally distributed.

Table 5: Test for Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Growth of Commercial Real Estate	.170	290	.082	.918	290	.200

a. Lilliefors Significance Correction

The result in Table 5 indicates the dependent variable (Growth) was normally distributed since p-values for both Shapiro-wilk and Kolmogorov test were greater than 0.05. These values confirm further that the data was normally distributed.
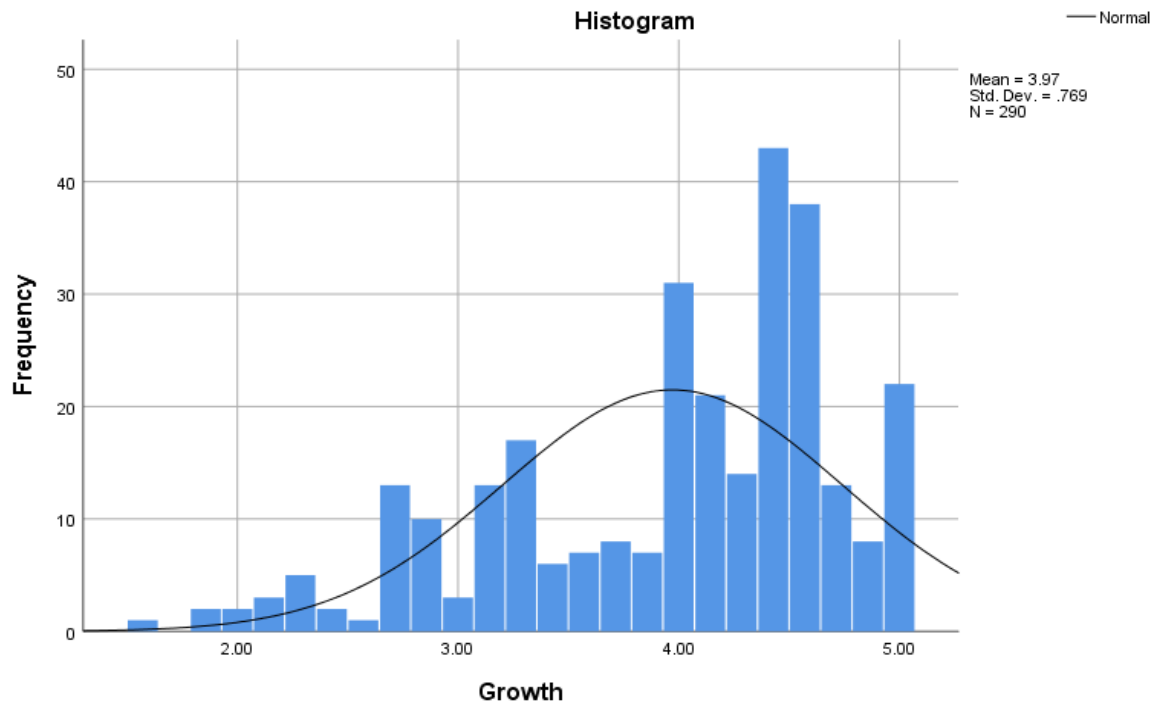

Figure 4: Histogram Showing Normality

4.4 Regression Analysis

Table 6: Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809[a]	.655	.653	.45301

a. Predictors: (Constant), Entrepreneurship

Model fitness results in 6 shows that the coefficient of determination also known as R Square was 0.655 and R is 0.809 at 0.000 significance level. The model indicates that entrepreneurship as a factor of production explains 65.5 percent of the variation in growth of commercial real estate in Machakos County. This means 65.5 percent of the growth of commercial real estate in Machakos County is influenced by entrepreneurship as a factor of production. Table 7 shows the ANOVA results on entrepreneurship.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.965	1	111.965	545.581	.000[b]
	Residual	59.104	288	.205		
	Total	171.069	289			

a. Dependent Variable: Growth

b. Predictors: (Constant), Entrepreneurship

The results in Table 7 show that the model was statistically significant in explaining the influence of entrepreneurship as a factor of production on the growth of commercial real estate in Machakos County as indicated by a p-value of 0.000<.05. The regression coefficient results are presented in Table 8.

Table 8: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.443	.153		2.891	.004
	Entrepreneurship	.867	.037	.809	23.358	.000

a. Dependent Variable: Growth

Growth = 0.443+ 0.867X

Where X=Entrepreneurship

The regression coefficient results in Table 8 show that entrepreneurship positively and significantly influences the growth of commercial real estate in Machakos County (β=0.867,

p=0.000). The gradient coefficient as indicated by the beta value shows the extent to which unit change in the independent variable causes a change in the dependent variable which in this case is a change in growth of commercial real estate in Machakos County due to a unit change in aspects of entrepreneurship as a factor of production. This implies that a unit change in aspects of entrepreneurship leads to an improvement in growth of commercial real estate in Machakos County by 0.867 units. These regression results on entrepreneurship concurs with the conclusion made my Kauškale and Geipele (2014) that real estate market has a number of functions and tasks and the entrepreneurial activity in the real estate business has its own characteristics. Timely regulating the real estate market and the business sector, it is possible to improve the long-term development that will positively affect the overall development of the country and promote economic growth. Based on the findings of the study, real estate investors have variety of risks. Entrepreneurship on real estate market, real estate development process has also a great social significance.

4.5 Hypotheses Testing

H_0: *Entrepreneurship has no statistically significant influence on growth of commercial real estate in Machakos County.*

The hypothesis was tested by using linear regression and determined using p-value and t-statistic. The acceptance/rejection criteria were that, if the p value is less than 0.05, we do not reject the H_0 but if it is more than 0.05, then H_0 is rejected. Therefore, the null hypothesis was that entrepreneurship has no statistically significant influence on growth of commercial real estate in Machakos County. Results in Table 8 shows that the p-value was 0.000. This was supported by a calculated t-statistic of 10.490 which was larger than the critical t-statistic of 1.96. The null hypothesis was hence rejected. The study adopted the alternative hypothesis that entrepreneurship has statistically significant influence on growth of commercial real estate in Machakos County.

5.0 CONCLUSIONS

The main objective of this study was to assess the influence of entrepreneurship on growth of commercial real estates in Machakos County. Based on the findings, this study concludes that entrepreneurship as a factor of production influences the growth of commercial real estate in Machakos County. It is also concluded that, for the real estate investors, it is important to consider their own risk tolerance and risk preference choose real estate investment sub-market which corresponds to their risk preference.

Based on the findings it suffices to conclude that the risk-averse investors or those with low risk bearing ability should choose the real estate markets where prices are less volatile, in order to pursue the long-term commercial real estate investment value with a lower risk. The risk-lover investors or those with greater risk tolerance can consider more volatile markets in order to realize the benefit maximization. Investors concern the factors influencing house price fluctuations, such as land leverage, investment demand ratio, etc., as these factors change, price volatility could change correspondingly. For instance, risk-averse investors could have invested in a less volatile sub-market, but once a sudden increase of land leverage or investment demand ratio happens the sub-market may well change from low volatile to high volatile.

Based on the finding, it suffices to conclude that innovations save on cost, time to build, and improve cash flow, therefore, for modern innovation in house development and financing, commercial real estate developers in Machakos County needs to do more marketing and/ or build

houses which resembles the usual stone and cement but still at an affordable prices so that it can attract market niche. Although process innovations are often more difficult to implement, they normally impact a company's performance significantly and perhaps more importantly are difficult to imitate.

This study also concludes that it is not yet foreseeable that property prices will fall as a result of the Coronavirus crisis, given the current market situation. However, it is only possible to estimate how prices and the number of sales transactions resulting from COVID-19 will develop in the second or third quarter of this year. At present, however, it appears that the property market will remain stable in terms of prices despite the corona crisis, particularly in the major towns of Machakos County. Especially in times of crisis, real estate is once again proving to be a safe investment.

6.0 RECOMMENDATIONS

Real estate property management involves understanding of operating expenses and budgeting. From this information, appropriate rental rates are set, balanced by the current market and what it will support in the way of rents. A firm knowledge of the area and competitive rental properties is required. The property manager may recommend marketing programs, special promotions and other advertising strategies to the owner in order to maximize occupancy and rental rates. Regular financial reporting to the owners is required. Understanding financial statement, profit and loss, income taxes and budgeting are all very important for property manager. This study further recommends that investing in real estate is not an easy task, so the investor should choose a right real estate agent for this should need there be. It is important that while selecting a real estate agent, one should select one that has complete knowledge about the market and know everything about the latest trends in the real estate market. It is also important that the chosen real estate agent is reliable because the bargain of the investment will fully depend on the trust and knowledge of the agent. If it happens that the chosen one is a bad real estate agent, then this could end with a bad bargain and many other problems.

In order to get the great real estate investment, there will be the need of deep research so that you can take a firm determination which will be the best location in the near future. Moreover, it will not help you in finding the best deal due to this reason using the real estate broker services is recommended. Keep in mind that you are looking for the property will not be just an investment, it should be able to provide you the solid residual income or the best returns. It will be the best to obtain the highest return. Based on the findings and conclusion, this study further recommends that the commercial real estate investors in Machakos County and the country at large should be aware of the marketing mix and exceptions as being aware of current improvements which can help them determine changes in supply and demand and identify potentially false trends in the industry.

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