

Covid-19 Pandemic Impact on the Real Estate Industry: A Review of the Literature and Way Forward

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Abstract

Coronavirus is a global disease triggered by severe acute respiratory syndrome (SARS -COV-2). The virus has put the globe's public health in danger and affected the global economy since it first appeared in Wuhan, China in November 2019 and speedily spread to Europe and other parts of the universe. Confirmed cases of the pandemic infection according to WHO (2022) as of the 7th of August 2022 stood at 589,246,575 with about 6,436,274 reported cases of deaths. The world's gross domestic product also experienced a decline of about 6.7 percent in 2020 due to the covid-19 pandemic outbreak. The global real estate sector was not left out as the industry also faces similar challenges in different ways, and despite the general optimism about curtailing the impact of the pandemic, it yet remains a risk to economic growth and stabilization of the real estate industry. This paper, hence, undertakes a serious analysis of the literature and presents the findings of various studies on the impact of the covid-19 pandemic on the real estate industry, and suggests appropriate measures to adopt against similar emergency health challenges in the future that could endanger the industry's survival. Documentary pieces of evidence were obtained from various secondary sources related to the issue and were reviewed accordingly. The findings of this study as obtained from the literature revealed that the covid-19 pandemic has had a significant detrimental effect on the real estate industry and remains a risk to the stabilization of the industry. The study, therefore, suggests that industry players should act fast in adopting various digital technologies appropriate to real estate practices as well as the need for business diversification to save the industry from a state of vulnerability in case of future emergencies or challenges.

Keywords

Real Estate, Industry, Covid-19 Pandemic, Impact, Way Forward

1. Introduction

The severe acute respiratory syndrome that causes coronavirus is a worldwide disease (SARS -COV-2). The global economy has been coping with the deadly epidemic since its initial outbreak in Wuhan, China, in December 2019, and following the World Health Organization's (WHO) pronouncement of it as a Public Health Emergency International Concern on the 30th of January 2020 and thereafter as a pandemic on the 1st of March 2020 due to its rapid and widespread spread in Europe, the United States, and later to the rest of the world. According to WHO (2022), as of August 7th, there were 589,246,575 confirmed instances of the pandemic infection, with around 6,436,274 documented cases of mortality. The epidemic severely had a distressing stimulus on people's lives and businesses across the universe, forcing a strict lockdown on numerous industries for several months and affecting a much bigger portion of the global population leading to about 7.7 million jobs lost in the US leisure and hospitality sector alone as at April 2020 submission of the US job reports (Fortmueller, 2021).

The consequences of the COVID-19 contagions, according to Milcheva (2021), caused a foremost waning in the global gross domestic product (GDP) of around 4.16 percent in the year 2020. Similarly, based on an advance evaluation revelation made by the Bureau of Economic Analysis in the second quarter of 2020, Ling, Wang, and Zhou (2020) found that the real gross domestic product has likewise decreased annually, at a pace of around 32.9 percent. According to pundits, the real estate industry was almost on the edge of impending instability and a condition of acute vulnerability because of the pandemic's effects (Uchegara et al., 2020).

The aim of this paper is to undertake a comprehensive narrative review of the literature, evaluate, and presents the findings of various studies on the impact of the covid-19 pandemic on the real estate industry, and possibly suggest appropriate measures to adopt against similar emergency health challenges in the future that could endanger the industry's survival. The literature search was sourced mainly from google scholar, Sci-Hub, and google search engine. The search revealed a wealth of literature with respect to the subject matter. A good number of pieces of literature were identified using the key search terms and were accordingly screened based on the research objectives' priority.

The format of this paper is outlined as follows: The methods section comes after the introduction. Discussion of previous work on the effects of the COVID-19 epidemic on the real estate sector was done in section three. The way forward is discussed in part four, and it is wrapped up in the concluding section.

2. Methodology

The study's outline is essentially a narrative review of the collection of works on the impact of COVID-19 pandemics on the real estate industry. It is an archive-style of inquiry whereas the technique used to gather the necessary data was purely dependent on secondary sources of information found in academic journals, conference papers, articles, textbooks, and Cyberspace (cyber internet). Information was retrieved from an electronic database such as the Google search engine, google scholar, and Sci-Hub. The data obtained from these databases were screened accordingly as presented in Figure 1.

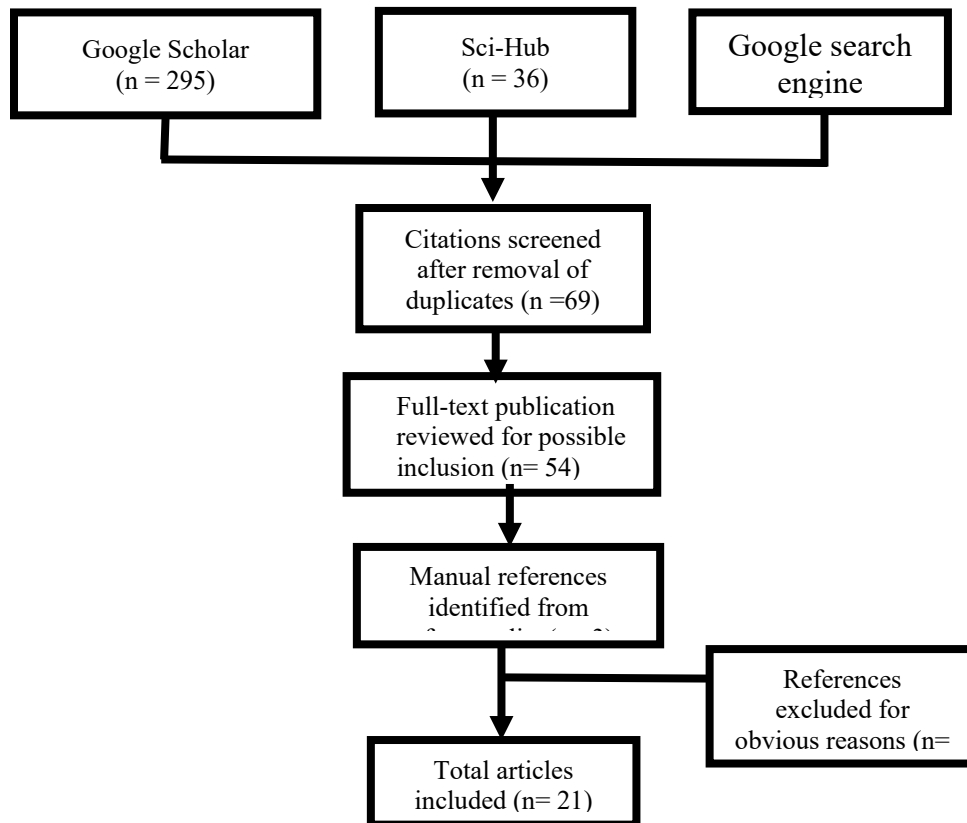


Figure 1. Flow chart of the literature selection process for the present article.

3. Results and Discussions of the Findings

Specialists, researchers, and academia in the discipline of real estate and construction industries around the world have stepped up their efforts to examine the consequences of the covid-19 pandemic on the real estate sector. This has thus led to countless studies in relation to the impact of Covid -19 pandemics on the real state sector to be undertaken. For instance, Ling, Wang, and Zhou (2020) explored the effect of coronavirus on retail real estate prices: assets level

evidence in US equity real estate investment trusts (REITs). The survey revealed that businesses dealing in residential, and retail real estate react less favorably than those in other industries. The scope of the above study was found to be limited only to retail real estate which is a subsector in the real estate industry. The effect of the virus on other sectors of the real estate in the study area remained unexplained and therefore open for further studies. The study did not also discuss the possible solution to overcoming the pandemic effect nor suggested a way forward against any possible outbreak or emergency health challenges that may also pose a threat to the industry in the future. This is also another gap for future studies.

Mixed results were reported in a related study by Oyediji (2020). The study was centered on how the novel virus affected Lagos, Nigeria's real estate market. The author specifically examined the impact of the pandemic on the real estate supply, demand, sale, rental value, and other related issues bordering on property transactions during the Covidien-19 pandemic, in the study region. The methodological approach of the study was descriptive using frequency tables, ranking, and a relative importance index. Results of the study indicated that warehouses and other retail properties had a positive impact in terms of both demand, availability, and higher rental and sales prices during the pandemic period. The study on the other hand also revealed that the pandemic has influenced the supply, demand, sale, and rental values of properties in the study area, but that the rate of real estate transactions during the time in the area was found to be stable. Methodologically, the study reported descriptively the impact of the pandemic on general property transactions in the area, but the magnitude of the said impact was not explained which may thus lead to questioning the statistical significance of the results. A more scientific analysis using Regression or SEM may reveal the statistical significance of the various elements based on their level of impact and make the results more robust.

Furthermore, Del Giudice, Del Paola, and Del Giudice (2020) scrutinized the short and mid-run effects of Covid -19 real estate markets on housing prices in the Campania region of Italy. The study investigated the regional economic implication of the epidemic and how housing prices in the real estate market of the region are affected. The researchers adopted the Lotka- Volterra technique and the real estate model in evaluating the implication of housing prices in the short and mid-run goods. The outcome of the researcher's findings shows a drop of 4.16% in housing prices in the short-run and a drop of 6.49% in the mid-run of 2020 and early 2021. This result has tentatively indicated an adverse influence of the pandemics in the real estate market on housing prices. This result is also in conformity with the study by Ling, Wang, and Zhou (2020). The study however examined the impact of the pandemic only in the housing sector, the impact of the pandemic on other sectors of the real estate industry in the study area remains untapped for further studies to explore.

Kalklauskas et al (2020) undertook an analysis of literature in the field of sustainable construction investment, real estate development, and Covid -19 pandemics. The study undertook an extensive analysis of studies related to covid -19 pandemics, real estate development, and workable construction investment. The report from the intensive literature surveys of the study shows that investors' tastes have significantly changed because of the epidemic, with real estate and construction projects shifting toward solutions that will improve people's health and well-being. The research findings also indicated that the virus has altered investment strategies and found that it has an influence on investments made in the building sector for a variety of property kinds.

Milcheva (2021) led a study on the instability and the cross-section of real estate equity yields during the covid period across the US and Asian countries. The study investigated how the pandemic risk exposure affects the cross-section of real estate equity and how it influences the real estate market functioning in the study areas. A total of 447 real estate companies from five countries including, the US (213); China (36); Hong Kong (66); Japan (74), and Singapore (58) were sampled. The author examined the effect of the pandemics on the real estate sector across the US and Asia and compared responses of real estate company stocks across the two regions before, and at the early stage of the pandemics. Fama MacBeth's model was used in regressing various measures of risk and other controls for the purpose of assessing the cross-sectional link between risk and returns for the two given periods. The study's results indicate that the real estate establishment revenues in the United States experienced an abrupt decrease and an abnormal distribution due to the contagion, with considerable disparities between sectors. The findings equally show that Asian-based establishments' returns were less significantly affected than those in the United States despite the pandemic starting in China. Additional revelations from the study indicate that retail has drastically underperformed in the United States during the epidemic which is in contrast with the earlier study by Oyediji (2020). We have also noticed from the study that in the United States, the hotel industry had the highest sensitivity to Covid-19 hazards in contrast with

Asia, whereas the office sector constituted the highest sensitivity during the period. In summary, the results of the above study indicated that covid-19 pandemic has had a significant negative impact on the real estate sector which is in agreement with other studies earlier reported by Kalklauskas et al. (2020).

The earlier study by Chu, Lu, and Tsang (2020) assessed the geographic extent and the performance of real estate firms during the COVID period. The study equally investigates how geographic distance can help to reduce the pandemic's detrimental effects on China's real estate market. A systematic Regression, descriptive, and Pearson Correlation Matrix analysis confirms that the pandemic has had a negative effect on real estate business returns as also submitted by Del Giudice, Del Paola, and Del Giudice (2020). The study however reported that companies with a wider global reach and more regionally diverse property allocations have had a better outing during the crisis. From the report of the study, it can be deduced that larger organizations would have been able to lessen the pandemic's negative effects if they have adopted a more diversified strategy. This is because larger enterprises were seen to have reported worse returns during the outbreak, regardless of their geographic breadth.

Similarly, Tomal (2021) used GJR-GARCHX to demonstrate the effect of Coronavirus waves on real estate stock profitability and their unpredictability. Data from developed (US, Australia), evolving (Turkey, Poland), and border (Morocco, Jordan) markets were used in the analysis. The study's findings demonstrate the pandemic only had a negative influence on stock returns in the United States, in the first movement while Poland and Jordan recorded favorable effects in the second and third movements respectively. The study demonstrated that the epidemic has not significantly affected real estate stock earnings in Poland and Jordan. The study also demonstrates that the degree of the impact of the pandemic on real estate typical revenues and precariousness differs by country. The findings of this study concurred with the earlier findings by Milcheva (2021).

In a related study, Xie and Milcheva (2021) investigate the effect of closeness to cases of the Covid-19 epidemic on the performance of real estate companies in Hong Kong, China. The study examined how real estate companies that are near the pandemics fared in the early times of the epidemics in Hong Kong. An examination of the magnitude to which proximity to the covid case has impacted negatively on real estate assets was done by using the difference in differences (DID) spatial discontinuity model by the researchers and the result indicates that businesses whose assets are close to a Covid-19 case have been severely affected with lower daily returns, particularly for distances between one and tenths of a mile. The effect of covid-19 pandemic on the world real estate market was again examined by Nuredini (2020). The study assessed the implications of the global epidemic caused by Covid-19 on the real estate market through the collection of data from the global cycle of real estate. To provide the foundation for the analysis and generalization of the existing situation, the study's methodological approach utilized documentary evidence from the real estate sector and data on macroeconomic changes. The study's findings showed that the detrimental effects of the pandemic on the real estate industry were seemingly immediate and evident, with dropping prices and a decrease in investment because of restrictions on people's and capital's mobility.

Balemi, Fuss, and Weigand (2021) study the impact of Covid -19 plagues on real estate by appraisal and viewpoint. The research focused mainly on assessing, analyzing, and presenting the findings of the most important studies conducted in recent times on covid -19 and its influence on the real estate sector. The study went further to analyze and predict the future of these different sectors and explores potential future trends as well as the pandemic's long-term implications on real estate markets. Findings of the study discovered that Covid -19 diseases have significantly disrupted real estate markets, as evidenced by unoccupied office buildings, empty retail malls, and abandoned flats in major cities. The study revealed that the submission of most of the review papers indicated that the pandemics have impacted the housing sector, commercial real estate, and mortgage markets.

Furthermore, Majumder and Biswas (2021) investigated the effects of the Covid -19 pandemic on the standard of living at work in Kolkata, India's real estate industry. Finding out how the epidemic has impacted real estate workers' quality of life at work was the study's main goal. The effectiveness of work-life balance during the pandemic period was evaluated across twelve different factors with the aid of SPSS, ANOVA, and Bonferroni analysis. The study demonstrates that individuals' categories of real estate experience—less than 5 years, 5–10 years, and more than 10 years—are significantly impacted by dependent variables of health and safety during the pandemic. The research completely deviated from the main objective of the study as the impact of the pandemic on work-life quality was not measured and is therefore open for further research on the subject matter.

Selahattin, Aykut, and Havvanur (2021) explore the effects of the Covid -19 pandemic on residential real estate values in Turkey as part of the ongoing examination of the pandemic's effects on the real estate industry. The study examines the effects of the pandemic on the prices of residential real estate in Turkey. It was discovered that the immediate announcement of the first outbreak of the virus by the Turkish Health Ministry on March 11, 2020, according to the report led to a disastrous impact on the country's residential real estate market. Housing sales which on record were reported to be around 118.753 and 108.670 in February and March, respectively, fell to a record low of around 42.783 and 50.936 in April and May as a result of the negative effects of health issues, orders to stay at home, and economic uncertainty. The findings of this study conform with the earlier findings by Del Giudice, Del Paola, and Del Giudice (2020).

De Toro, Nocca, and Buglione (2021) also investigated covid -19 related issues titled “Real Estate Market Responses to the Covid -19 Crisis: Which Prospects for the Metropolitan Area of Naples [Italy]? Examining changes in the Italian residential market, notably in the metropolitan area of Naples, was the goal of this study. The study also sought to ascertain how the real estate market was affected by the national crisis brought on by the Covid-19 epidemic. Official sources from 2009 to 2020 were used in determining the changes in the real estate market in the Naples metropolitan area. The discovery made from the study's findings shows that the new rules and regulations brought about by the emergency of the Covid-19 virus have caused fundamental changes in the market for residential properties in the Naples metropolitan area. The outcome of the analysis reported showed a decline in residential real estate market transactions over the time of roughly 15.5% when compared to transactions of a similar nature prior to the pandemic year. Additionally, the Naples metropolitan area's property rents have been reported to have been significantly impacted due to a fall in tourists. This result can also be compared with the findings of Selahattin, Aykut, and Havvanur (2021), Nuredini (2020), and Xie and Milcheva (2021).

Once more, Uchehara et al. (2020) conducted research on the effects of Covid -19 pandemics and risk management in the real estate supply chain. The study examines how the pandemic affected the UK real estate industry and how it will be mitigated for the tenants and the entire supply chain. In the study, a qualitative descriptive research design was employed. Data for the study were mostly acquired by carefully examining previously accessible secondary sources. The study's outcome showed that Covid-19 has had an impact on the supply chains for both renters and real estate. Most significantly, the real estate sector's tenants' worth and liquidity were impacted. According to the study's findings, the United Kingdom's gross domestic product (GDP) decreased by 2% in the first quarter and by 20.4 % in the second quarter of 2020. It is therefore evident that the real estate chain has experienced fragility due to the impact of the epidemic and the unpredictability of the economic recovery, which has made it difficult for businesses. The report is also in agreement with other findings that reported a negative impact of the covid-19 pandemic on the real estate sector. However, how the pandemic's effect will be mitigated as stated in the objectives of the study remained unanswered.

Another mixed result was yet presented by Hromanda (2021). The author examined the effects of the Covid-19 pandemic on the Czech Republic real estate market as a follow-up to the study of the consequences of the pandemic on real estate. The investigator primarily centered his study mainly on the assessment of how the Covid-19 pandemic affected real estate sales and lease agreements in the Czech Republic. The result submitted indicates that real estate transaction prices in the Czech Republic have not been significantly impacted by the Covid-19 pandemic efforts. A report from the survey further revealed that since June 2020, the real estate market has experienced an increase in turnover and a spike in pricing. The findings also revealed that Prague and its surroundings' real estate values recorded greater value than they were prior to the pandemic's onset except for the rental cost of apartments that skyrocketed. The Malaysian annual property market status report by NAPIC (2021) has further explained the impact of the covid-19 pandemic on the real estate industry. From the report, the volume and value of property transactions recorded a significant drop at about 9.9 and 15.8 respectively. In 2018 and 2019, the volume of transactions was reported to be around 313,710 and 328,647 valued at RM140,326.70 and RM141,403.22 respectively. Property transaction volume recorded an increase of 0.6% and 4.8% between 2018 and 2019. However, due to the pandemic's effect in the year 2020, a significant drop both in volume and value was recorded. As explained in Table 1 property transaction volume at the peak of the pandemic year in Malaysia was 295,968 worth RM119.075.12 million, i.e., a significant drop of about 9.9% and 15.8% respectively in volume and value from the previous year before the pandemics. Figures 2 and 3 further explain the volume and value of property transaction changes between 2017- 2021. (Table 1). The impact of

the pandemic was said to be more significant on the leisure sector as many hotels/resorts were compulsorily made to lock temporarily or permanently due to operational costs that were well above their ability to sustain them. The average occupancy rate as reported by NAPIC (2021) fell to 21.8 percent from 31.6 percent in 2020, according to Tourism Malaysia.

Table 1. Annual changes in property transactions in Malaysia between 2017- 2021

Year	The volume of Transaction ('000)	Change in Volume of Transaction (%) yr-on-yr	Value (RM million)	Change in Value (%) yr-on-yr
2017	311.824	-2.7	139.839.72	-3.8
2018	313.710	0.6	140.326.70	0.3
2019	328.647	4.8	141.403.22	0.8
2020	295.968	-9.9	119.075.12	-15.8
2021	300.497	1.5	144.867.94	21.7

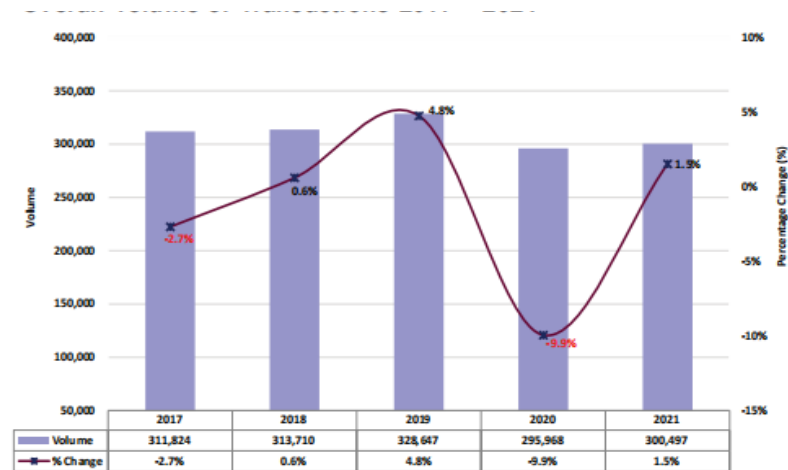


Figure 2. The volume of Property Transaction Changes in Malaysia between 2017 - 2021
Source: NAPIC (2021) Annual property market status report.

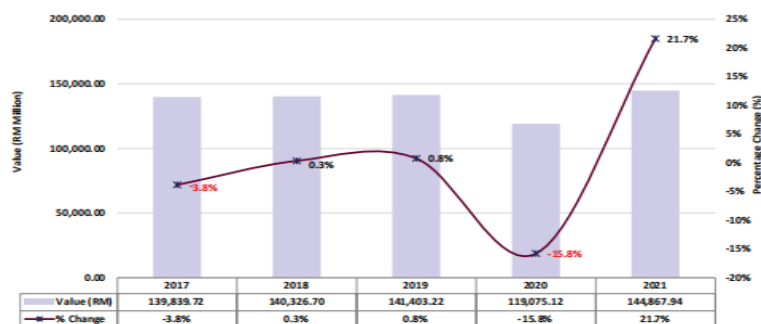


Figure 3. Value of Property Transaction Changes between 2017 - 2021
Source: NAPIC (2021) Annual property market status report.

4. The Way Forward

Even though the epidemic has had a detrimental impact on real estate companies' returns, it has been found that businesses with a larger worldwide footprint and more regionally diverse property allocations have done better throughout the pandemic period. The study therefore strongly endorsed business diversification strategies as a means of reducing not only the adverse stock market reactions brought on by the pandemic but also foreclosing any future unanticipated health emergencies that might influence the effectiveness of the real estate industry.

Second, a paradigm shift is necessary in the way real estate business is done, especially considering the knowledge-driven economy's current state of affairs and the emerging world's emphasis on technical innovation, complexity, and creativity in real estate practices. Players in the real estate business must be proactive in embracing innovative technological applications that are aligned with the real estate practice such as the application software, geographic information systems (GIS), drone technology, wireless sensor networks, cloud computing, artificial intelligence, virtual reality (VR), augmented reality (AR), blockchain technology, Internet of Things (IoT), among others, as a way of preventing covid-19 pandemics and future emergency health and related shocks and to as well raise the level of practice and ensure global competitiveness.

When marketing real estate assets to clients for either rental or sale, the real estate practice must avoid face-to-face interactions. Industry participants, particularly those in emerging nations, should fully adapt to internet platforms including social media, 3-D virtual home tours, and the development of websites for marketing and conducting other company operations. Business clients and real estate brokers may now efficiently and successfully assess properties without physically visiting them thanks to the availability of virtual reality (VR) and augmented reality (AR).

The sector needs a post-Covid recovery plan as well so that it can easily stabilize the market and expand more quickly, responsibly, effectively, and sustainably. The actors in the industry need to think strategically, be adaptable and dynamic to changes that will improve the quality of practice and improve their efficiency by rarely relying on the conventional way of doing things but also by being willing to learn new and relevant skills that will add value to the practice and make them true professionals.

As a final point, it is urgently necessary for real estate companies and their employees to undergo training and retraining to improve their professional knowledge and acquire the necessary skills in compliance with worldwide norms and best practices.

5. Conclusion and Implication of the study

The study has analyzed a significant amount of pertinent literature regarding the COVID-19 pandemic and its consequences on the real estate market. It has also made recommendations for how to mitigate these negative effects. Results from the different studies we've evaluated have revealed that the pandemic has had a detrimental influence on the real estate sector, with very few studies revealing mixed findings. Most of the literature has shown how the pandemic has hurt sales of residential, commercial, and retail real estate. Numerous studies found that the lack of mobility for people and capital led to falling real estate values and a decline in investment. According to the reports, several residential complexes no longer had as much demand from prospective buyers. Renters and the real estate supply chain thus felt the effects of the pandemic.

It has been shown that travel restrictions and bans have seriously harmed real estate deals, particularly those involving shops, offices, and hotels, in many different countries throughout the world while impeding tourism. Like this, many people in the business lost their jobs both temporarily and permanently, and a significant number of international real estate enterprises' profits and stock were reported to have similarly decreased in various countries. Project deadlines, costs, and market expansion were similarly affected by the epidemic, as reported in the literature. The review also shows that the epidemic has caused a significant shift in investors' preferences, with real estate development and construction investment possibilities shifting to better individual health and well-being.

A review of the literature also showed that, in comparison to those in the US and other developed nations, the real estate markets in China and other Asian countries were less negatively impacted. This could be connected to the various response strategies employed by Asian businesses, which could differ from those in the US and other parts of the world. Despite all the bad headlines about the pandemic's effects on the real estate industry, a few studies found that the epidemic had a favorable effect on certain segments of the industry.

The study's findings will be helpful to practicing estate surveyors and valuers, real estate firms, and real estate researchers in addition to serving as a solid source of information for academics studying real estate management. In conclusion, the study has made a substantial contribution to the body of knowledge by presenting the results of many studies in regard to the COVID-19 pandemic and its effects on the real estate business. There were also helpful recommendations that will aid the industry participants in creating a practical strategy that will shield the real estate sector from any sort of vulnerability should any unforeseen challenges arise in the future.

The study's conclusion made a solid case for the real estate sectors' change and survival in light of the uncertainty. Therefore, in a knowledge-based, competitive economy, innovation is the main driving factor. A part of innovation is the development of new perspectives, strategies, and more efficient alternate methods of doing things.

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