

Health Care Properties/Facilities: Identifying Environmental, Social and Governance (ESG) Factors as Key Factors in Real Estate Investment Decision

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Abstract: *The study reveals that Environmental, Social, and Governance (ESG) factors are crucial in real estate investment decisions, particularly in healthcare facilities. The study adopted mixed approach in its design; it featured both descriptive and inferential statistics. It identified the key factors and mean ranking was done for the identified factors. In addition, was factor analysis which was also done to determine which of the factors were fit. The identified factors influencing ESG include biodiversity, employee wellbeing, sustainable design, indoor air quality, energy efficiency, water conservation, certification, community engagement, employment, and health and safety practices. These factors not only contribute to the sustainability and long-term profitability of investments but also contribute to societal well-being. Test done such as Kasier-Meyer-Olkin's measure of sampling adequacy and Barlett's Test of sphericity KMO measure indicate good sample quality. The study concludes that the incorporation ESG criteria into investment decisions do not only allow the investors to mitigate risks, enhance reputation but also it will help in advancing sustainable development goals. Setting priority right on ESG principles is essential for investors, developers and operators in the healthcare facilities sector and should be seen from that perspective.*

Keywords: ESG factors, facilities, health care, investment decision and real estate.

INTRODUCTION

In the real estate sector and within the context of investments, properties which are categorized as health care facilities the consideration of environmental, social and governance (ESG)

Publication of the European Centre for Research Training and Development -UK factors has gained popularity, (Trowbridge et al., 2014; Rymarzak and Siemińska, 2012). It could be said that ESG factors encompass a broad range of criteria which a reflection of an organization's commitment to sustainability, ethical business practices including social responsibility, (Izyumov, 2023). It is Pertinent to note that, the integration of ESG considerations into investment decisions is particularly in the aspect of health care facilities are seen to critical infrastructure assets which thrives in supporting the well-being of individuals and communities, (Khalfaoui et al., 2022).

Health care facilities pivotal role in the provision of essential medical services to individuals, the address of public health needs as well as support of community well-being cannot be overemphasized, (Heino et al., 2019). The operational and environmental performance of health care facilities can impact significantly on patient care, employee satisfaction, regulatory compliance as well as the overall reputation, (Mohammadpour et al., 2012). It is pertinent to state that, the investors in health care real estate have continued to recognise the importance of the incorporation of ESG factors into their investment strategies with the aim of enhancing the long-term sustainability and resilience of their portfolios, (Krech et al., 2018).

From the perspective environment and environmental concern, health care facilities appears to have a substantial environmental footprint in terms of their energy consumption, usage of water, generation of waste and emissions, (Gerali et al., 2015). Health care facilities can mitigate their environmental impact, lower their operation costs and contribute to a healthier and more sustainable built environment through the adoption of sustainable building practices, implementation of energy-efficient technologies and reduction in waste generation, (Danilov et al., 2020). Investors whose focus is on ESG considerations may set their priority on properties that demonstrate strong environmental performance such as; LEED-certified buildings, energy-efficient systems including renewable energy installations.

Properties that serve as essential community assets providing critical health services to diverse populations can be seen from the angle of social dimension of ESG factors that is particularly relevant in the context of health care facilities, (Barton et al., 2002; Булах et al., 2020). Factors such as accessibility, affordability, quality of care, patient satisfaction, community engagement and workforce diversity are more of social responsibility of health care real estate, (Khan et al., 2018). Therefore, Investors in health care may consider evaluation of health care facilities based on their commitment to patient-centered care, adherence to ethical standards, stakeholders' engagement with local community as well as the promotion of health equity and inclusivity.

Governance considerations role in ensuring transparency, accountability including compliance with regulatory requirements in the operational and strategic management of health care facilities cannot be over emphasised, (Wilson, 2017). More so, effective risk management, robust internal controls, ethical leadership and stakeholder engagement are strong governance practices that can enhance the long-term performance and reputation of health care properties, (Pronovost et al., 2018). Investors may now set their priorities on properties that have sound governance structures, experienced management and diverse teams as well as a track record of ethical and responsible decision-making.

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The integration of environmental, social and governance factors as key considerations in real estate investment decisions for health care facilities is a reflection of a broader trend towards sustainable and socially responsible investing, (Pivo, 2008; Geiger et al., 2013). It is based on the foregoing that this research is designed with the aim of identifying the environmental, social and governance (ESG) factors as key factors in real estate investment decision with emphasis on health care facilities with a view to improving sustainability, reducing risks and enhancing long-term performance of health care facilities.

REVIEW OF LITERATURE

In the recent time, the consideration of environmental, social and governance (ESG) factors by way of inclusion in has emerged as major factors that must be part of any consideration as far as real estate investment decisions is concerned, (Pivo, 2008). In the context of properties known as health care facilities where the focus has been on sustainability, social responsibility and ethical governance practices is of paramount importance, the trend is particularly notable, (Støre-Valen et al., 2014). It is imperative to note that in investment decisions, the increasing prominence of ESG factors is a reflection of the growing awareness among investors of the interconnectedness between financial performance and broader societal and the environmental impact, (Cohen, 2023).

ESG factors hold significant relevance in the realm of health care real estate even as environmental considerations are known and seen as key components, (Izyumov, 2023). Health care facilities appear to be energy-intensive buildings and their contribution is believed to be one that is significant in terms of the portion of greenhouse gas emissions and resource consumption, (García-Sanz-Calcedo et al., 2014). Therefore, the integration of environmentally sustainable practices in the design, construction including the operation of health care facilities is critical to reducing their carbon footprint and the mitigation of the environmental impact. In the health care sector and in the recent times, studies has shown that green building certifications such as; Leadership in Energy and Environmental Design (LEED) and WELL certifications have gained traction as benchmarks for sustainable building practices, Bahaudin, Elias and Saifudin, 2014). It is imperative to note that these certifications lay emphasis on energy efficiency, water conservation, indoor air quality and occupant health and well-being, (Aktas & Özorhon, 2015). This collaborates with the well accepted goals of sustainability observed by investors as well as end-users who are continually seeking for real estate assets that are environmentally conscious, (Nainggolan et al., 2020).

More so, implementing sustainable strategies in health care facilities can lead to tangible cost savings and operational efficiencies, (Ramirez et al., 2011). In addition to the demonstration of a commitment to responsible resource management, energy-efficient equipment, renewable energy sources and water-saving technologies also helps in the reduction of utility expenses, (Tolleson et al., 2008). Sustainable building practices can help in the enhancement of the resilience of health care facilities to climate change risks e.g. extreme weather activities and disruptions in the energy supply, (Dhillon & Kaur, 2015). This no doubt will help in the safeguard of critical infrastructure as well as help in ensuring continuity in terms of care given to the patient. From the an perspective of an investor, environmentally sustainable health care

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assets have the potential to command higher market values, rental premiums and tenant retention rates, thus, reflecting the ever increasing demand for sustainable buildings in the marketplace, (Houghton et al., 2009).

The social dimension of ESG factors is integral to evaluating investments in health care facilities hence, is believed that health care real estate plays a vital role in the support of community health and well-being via the provision of essential medical services, preventive care and rehabilitation facilities, (Izyumov, 2023). Studies have also shown that investors are increasingly recognizing the social impact of health care facilities on patient outcomes, caregiver satisfaction and population health outcomes, (Shortell et al., 2009; Robbins et al., 2008; Weech-Maldonado et al., 2003). The social performance of health care facilities is critical parameters influenced by factors; accessibility, quality of care, patient safety and infection control measures, (Li et al., 2002). Investments in health care infrastructure whose priority is on patient-centered design, evidence-based care delivery and technological innovation can contribute meaningfully to improved health outcomes, reduced medical errors and enhanced patient experience, (Sadler et al., 2008). It is worthy to note that health care facilities whose delight is on fostering a culture of diversity, equity and inclusion among staff, patients and stakeholders can help in the enhancement of organizational resilience, employee engagement and community trust, (Pearson et al., 2007). In addition it will help in fostering a long-term sustainability and social responsibility, (West et al., 2014).

From perspective of governance, investors seeking transparency, accountability and ethical standards in their real estate portfolios; effective management and governance practices of health care facilities are essential considerations, (Støre-Valen et al., 2014). It is imperative to that too, that governance factors deals with a range of principles which are related to organizational leadership, management of risk, regulatory compliance, ethical behavior and stakeholder engagement, (Anthony, Rosliza and Lai, 2019). Governance practices play a critical role in the health care sector by ensuring patient safety, data privacy, clinical quality and adherence to industry regulations, (Alharbi et al., 2022). Therefore, investors in the case of evaluation of health care facilities must assess the governance structure, operational protocols, framework for risk management and compliance procedures of the property owner or operator in order to mitigate potential legal, reputational and operational risks. Strong governance practices can help in the enhancement of the credibility of health care facilities, (Mohammadpour et al., 2012). It will help to build trust with patients and investors as well as create a foundation for sustainable long-term growth, (Abor, 2016).

RESEARCH METHODOLOGY

A mixed-methods approach which combines literature reviews, surveys, interviews and statistical analysis was adopted in this research. Both quantitative and qualitative alike were incorporated in the design in order to obtain a comprehensive understanding of the topic. Structured questionnaire which was developed was used to gather quantitative data from Estate Surveyors and Valuers. Questions that are related to the importance of ESG factors on properties referred to as mix use were used. In addition, the research design is survey as well as interview. Questionnaires developed were distributed to Estate Surveyors and Valuers

Publication of the European Centre for Research Training and Development -UK through the use online survey platforms and were explored via the aid of google form or email distribution as well as hard copy questionnaires used for data collection. Purposive sample of Estate Surveyors and Valuers was taken. Descriptive and inferential was adopted in the analysis. The analysis for that of descriptive statistics featured the determination of frequency distributions, mean scores and standard deviations; these were for different variables related to ESG factors while that of inferential statistical test such as mean rank and factor analysis was conducted.

Data Presentation and Analysis

BACKGROUND INFORMATION OF RESPONDENTS

The information shows the background information of the respondents and these include: gender, highest educational qualification, professional cadre, registered Estate Surveyor and Valuers, years of experience.

Table 1

Gender	Frequency	Percentage
Male	255	58.6
Female	180	41.4
Highest educational qualification	Frequency	Percentage
HND/BSc/BTech	285	65.5
MSc/MTech	80	18.4
PhD	70	16.1
Professional cadre	Frequency	Percentage
Probationer	300	68.9
Associate	100	22.9
Fellow	35	8.0
Registered Estate Surveyors and Valuers	Frequency	Percentage
Yes	135	30.03
No	300	69.97
Years of Experience	Frequency	Percentage
0-5	240	55.2
6-10	120	27.6
11-15	50	11.5
16 & above	25	5.8
Total	435	100.00

Source: Field survey, 2024

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The information in table 1 revealed the demographic information of respondents in this order; there were more male respondents than female respondents which could be due to high percentage of male in the real estate sector. According to level of educational qualification, 65.5% of the respondents were HND/BTech Holders which comprises of the high percentage of respondents; this was followed by MSc/MTech while PhD Holders ranked as the least. It was also revealed that a high percentage of the respondents were registered Estate Surveyors and Valuers while a high percentage of the respondents had 0-5 years of experience followed by 6-10, 11-15 and 16- above respectively.

Table 2: Descriptive Statistics

	N	Mean	Std. Deviation	Rank
Biodiversity	435	3.18	1.44	1 st
Employee well being	435	3.16	1.43	2 nd
Sustainable design and materials	435	3.12	1.48	3 rd
Indoor air quality	435	3.01	1.55	4 th
Energy efficiency	435	2.95	1.51	5 th
Water conservation	435	2.93	1.51	6 th
Quest for certification	435	2.91	1.41	7 th
Community engagement	435	2.88	1.53	8 th
Employment, health and safety practices	435	2.88	1.41	8 th
Transportation access	435	2.84	1.33	9 th
Community health impact	435	2.83	1.47	10 th
Resilience climate change	435	2.82	1.37	11 th
Waste Management	435	2.80	1.44	12 th
Green certification	435	2.78	1.44	13 th
Green spaces	435	2.74	1.39	14 th
Sustainable sourcing	435	2.66	1.51	15 th
Ethical supply chain	435	2.60	1.41	16 th
Customers health and safety practices	435	2.59	1.42	17 th
Patient safety	435	2.53	1.37	18 th

Source: Field survey, 2024

According to the information on table 2, biodiversity ranked 1st with mean score of 3.18, employee wellbeing ranked 2nd with mean score of 3.16, sustainable design and materials ranked 3rd with mean score of 3.12, indoor air quality ranked 4th with mean score of 3.01, energy efficiency ranked 5th with mean score of 2.95, water conservation ranked 6th with mean score of 2.93, quest for certification ranked 7th with mean score of 2.91, community

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engagement, employment, health and safety practices ranked 8th with the mean score of 2.88
while transportation access ranked 9th with mean score of 2.84.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
Bartlett's Test of Sphericity	Approx. Chi-Square	1384.090
	Df	171
	Sig.	.000

Kaiser-Meyer-Olkin's measure of sampling adequacy and Bartlett's Test of sphericity are presented in Table 3 above. KMO measure is performed to check the degree of inter-correlation among the items and the appropriateness of factor analysis. Kim and Mueller (1978) suggested that KMOs in the range of 0.5-0.7 are considered average, those in the range of 0.7-0.8 are considered good while those in 0.8-0.9 are great and values greater than 0.9 are superb. The table 3 above shows that the KMO values obtained are in the range of 0.75 which indicates that the sample is good.

Table 4: Total Variance Explained

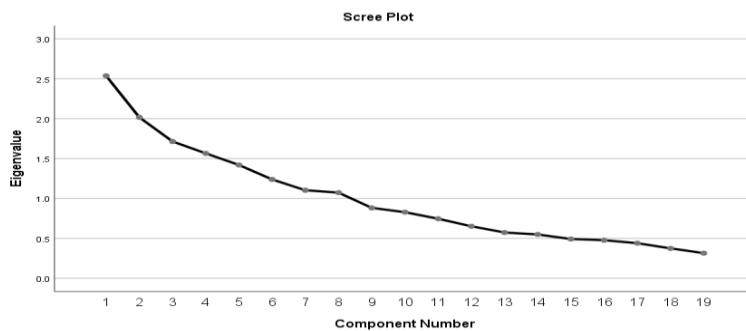
Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.537	13.353	13.353	2.537	13.353	13.353
2	2.017	10.616	23.969	2.017	10.616	23.969
3	1.715	9.024	32.993	1.715	9.024	32.993
4	1.566	8.240	41.233	1.566	8.240	41.233
5	1.420	7.474	48.707	1.420	7.474	48.707
6	1.238	6.518	55.225	1.238	6.518	55.225
7	1.103	5.806	61.031	1.103	5.806	61.031
8	1.073	5.648	66.679	1.073	5.648	66.679
9	.883	4.646	71.325			
10	.829	4.361	75.685			
11	.746	3.928	79.613			
12	.652	3.430	83.043			
13	.574	3.020	86.064			
14	.549	2.891	88.954			
15	.492	2.591	91.545			
16	.477	2.512	94.057			
17	.440	2.314	96.371			
18	.375	1.972	98.344			
19	.315	1.656	100.000			

Extraction Method: Principal Component Analysis.

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Table 4 shows that Principal Component Analysis was conducted and eight components were extracted for the factors identified in valuing health properties and it only the factors revealed the presence of six axes with eigenvalues exceeding 1.0, explaining 13.353%, 10.616%, 9.024%, 8.240%, 7.474%, 6.518%, 5.806%, 5.648% of the total variance respectively and resulting with a cumulative variance of 66.679%. The principal factors influencing ESG in health properties are: biodiversity, employee wellbeing, sustainable design and materials, indoor air quality, energy efficiency, water conservation, quest for certification, community engagement, employment, health and safety practices. Although all other factors are related but they contributed in small measures as revealed by factor analysis.

Figure 1: Scree plot



The scree plot shows that after the first three components, the difference between the third and fourth eigenvalues increased and then gradually declined. The first component explains 13.353% of the total variance at 2.537, the second component explains 10.616% of the total variance at 2.017, the third component explains 9.024% of the total variance at 1.715, the fourth component explains 8.240% of the total variance at 1.566, the fifth component explains 7.474% of the total variance at 1.420, The sixth component explains 6.518% of the total variance at 1.238, the seventh component explains 5.806% of the total variance at 1.103, the eighth component explains 5.648% of the total variance at 1.073. Thus, the factors influencing ESG in health properties are biodiversity, employee wellbeing, sustainable design and materials, indoor air quality, energy efficiency, water conservation, quest for certification, community engagement, employment, health and safety practices.

Table 5: Component Matrix

	Component							
	1	2	3	4	5	6	7	8
Energy efficiency	.154	-.229	-.226	.179	-.304	.542	-.100	.013
Water conservation	.603	.323	-.064	.034	.039	-.043	-.107	.199
Waste management	.454	.105	.238	-.499	.198	-.162	.283	.275
Indoor air quality	-.442	.384	.159	-.161	.316	.374	-.070	-.035
Green certification	.291	.228	.273	.326	-.255	.029	-.369	.479
Community engagement	.332	-.413	-.337	.282	-.187	-.289	.123	.307
Sustainable sourcing	-.382	.327	-.190	.417	-.123	.077	.123	.224
Employment, health and safety practices	-.377	.334	-.344	-.136	.300	.025	.071	.381
Ethical supply chain	.427	.020	-.217	.296	-.010	.116	.665	-.139

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Customers health and safety practices	-.270	-.257	.327	.041	.153	.194	.260	.557
Quest for certification	.351	.610	.087	-.004	-.113	-.150	-.029	-.101
Patient safety	.444	-.229	.239	.191	.521	-.231	-.238	-.162
Employee well being	.454	.385	-.334	.312	.256	.200	.073	-.090
Community health impact	.331	-.392	-.359	-.158	.224	.131	-.418	.202
Sustainable design and materials	-.222	.282	-.208	.409	.570	-.266	-.066	.038
Transportation access	.265	-.341	.210	.146	.438	.557	.069	-.054
Biodiversity	-.039	.244	.458	.465	-.160	.140	-.162	-.103
Green spaces	-.498	-.385	-.295	.327	.099	-.223	-.088	-.079
Resilience climate change	-.082	-.254	.625	.346	.081	-.226	.188	.038

Extraction Method: Principal Component Analysis.

a. 8 components extracted.

The table above shows the component matrix for factors influencing ESG in health properties and 5 components were extracted.

Table 6: Rotated Component Matrix^a

	Component							
	1	2	3	4	5	6	7	8
Energy efficiency						.702		
Water conservation	.663							
Waste management	.555							
Indoor air quality								
Green certification	.534				.465			
Community engagement			.806					
Sustainable sourcing				.454				
Employment, health and safety practices				.521				
Ethical supply chain								.843
Customers health and safety practices							.817	
Quest for certification	.567							
Patient safety		.818						
Employee well being								.454
Community health impact						.446		
Sustainable design and materials				.814				
Transportation access		.582						
Biodiversity					.728			
Green spaces								
Resilience climate change					.521		.396	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 19 iterations.

The rotated component matrix shows the factor loadings for each variable, eight components were extracted as factors influencing ESG for health properties. The first component loaded four (4) factors which are: waste management, water conservation, green certification and quest for certification. The second component loaded two (2) factors: Transpiration access, patient

Publication of the European Centre for Research Training and Development -UK safety. The third component loaded one (1) factor: community engagement. The fourth component loaded three (3) factors and they are; sustainable sourcing, employment, health and safety practices, sustainable design materials. The fifth component loaded three (3) component; green certification, biodiversity, resilience to climate change. The sixth component loaded two (2); Energy efficiency, community health impact. The seventh component loaded one (1); customer health and safety practices. The eight components loaded two (2); employee wellbeing, ethical supply chain.

SUMMARY OF FINDINGS AND CONCLUSION

The study has been able to look at the ESG as key factors in real estate investment decision while focusing health care facilities/properties. The descriptive analysis done by way of ranking shows that biodiversity ranked 1st, employee wellbeing ranked 2nd in that order to patient safety which ranked 18th.

The principal component analysis done for identified factors influencing ESG in health care facilities are: biodiversity, employee wellbeing, sustainable design and materials, indoor air quality, energy efficiency, water conservation, quest for certification, community engagement, employment, health and safety practices. Although all other factors are related but they contributed in small measures as revealed by factor analysis.

In case of Kaiser-Meyer-Olkin's measure of sampling adequacy and Barlett's Test of sphericity KMO measure was performed to check the degree of inter-correlation among the items and the appropriateness of factor analysis show that the KMO values obtained are in the range of 0.75 which indicates that the sample is good.

ESG factors are crucial considerations in real estate investment decisions and in the healthcare facilities sector. This study no doubt has identified the ESG factors and these identified ESG factors do not only have a positive impact on the sustainability and long-term profitability of investments but also in their contribution to the overall well-being of society. Therefore, through the incorporation of ESG criteria into investment decision-making processes, investors can engage actively in mitigation of risks, enhancement of their reputation as well as contribute to the advancement of sustainable development goals. Emphasis on responsible investing continues to grow or witness increased growth; the incorporation of ESG factors into real estate investment decisions is no longer optional but very germane. In the healthcare facilities sector, setting priority on ESG principles with the intent to remain competitive, attract capital and create value for all stakeholders is a must investors, developers and operators alike.

REFERENCES

- Abor, P.A. (2016). Healthcare governance and patients' perception of service quality in Ghana. *International Journal of Healthcare Technology and Management*, 15(3). 228-252. DOI: <https://doi.org/10.1504/IJHTM.2016.078367>

 Publication of the European Centre for Research Training and Development -UK

- Aktas, B. and Ozorhon, B. (2015). Green Building Certification Process of Existing Buildings in Developing Countries: Cases from Turkey. *Journal of Management in Engineering*. 31(6). DOI: [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000358](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000358)
- Al Hammadi, F. and Hussain, M. (2019). Sustainable organizational performance: A study of health-care organizations in the United Arab Emirates", *International Journal of Organizational Analysis*, 27(1), 169 -186. DOI: <https://doi.org/10.1108/IJOA-10-2017-1263>
- Alharbi, F., Sabra, M.N.A., Alharbe, N. and Almajed, A.A. (2022). Towards a Strategic IT GRC Framework for Healthcare Organizations. *International Journal of Advanced Computer Science and Applications (IJACSA)*, 13(1), Doi: <http://dx.doi.org/10.14569/IJACSA.2022.0130125>
- Anthony, NTR, Rosliza, A. M. and Lai, P. C. (2019). The Literature Review of the Governance Frameworks in Health System. *Journal of Public Administration and Governance*, 9(3), 252 - 260, sep. DOI: <doi:http://dx.doi.org/10.5296/jpag.v9i3.15535>.
- Bahaudin, A.Y., Elias E.M. and Saifudin, A.M. (2014). A Comparison of the Green Building's Criteria. E3S Web of Conferences 3, 01015 (2014). DOI: <https://doi.org/10.1051/e3sconf/20140301015>
- Barton, R., Jones, D. and Gilbert, D. (2002). Strategic asset management incorporating ecologically sustainable development. *Journal of Facilities Management*, 1(1), 70-84. DOI: <https://doi.org/10.1108/14725960310807854>
- Bulakh, I., Didichenko, M, Kozakova, O. and Chala, O. (2020). Sustainable futures in the context of architectural design of hospitals. E3S Web Conf., 166 (2020) 08001. DOI: <https://doi.org/10.1051/e3sconf/202016608001>
- Cohen, G. (2023). The impact of ESG risks on corporate value. *Rev Quant Finan Acc*. 60, 1451–1468 (2023). DOI: <https://doi.org/10.1007/s11156-023-01135-6>
- Danilov, A., Benuzh, A., Yeye, O., Compaore, S. and Rud, N. (2020). Design of healthcare structures by green standards. E3S Web Conf., 164 (2020) 05002. DOI: <https://doi.org/10.1051/e3sconf/202016405002>
- Dhillon, V.S. and Kaur, D. (2015). *Green Hospital and Climate Change: Their Interrelationship and the Way Forward*, J Clin of Diagn Res. 9(12), LE01-LE05.
- Geiger, P., Cajias, M. and Bienert, S. (2013). The asset allocation of sustainable real estate: a chance for a green contribution? *Journal of Corporate Real Estate*, 15(1), 73 - 91. DOI: <https://doi.org/10.1108/JCRE-11-2012-0029>
- Gerali, M., Paikopoulou, D., & Servitzoglou, M. (2015). Sustainable Development in Healthcare. *International Journal of Reliable and Quality E-Healthcare (IJRQEH)*, 4(2), 31-38. DOI: <https://doi.org/10.4018/IJRQEH.2015040103>
- Hamdi, K., Guenich, H., and Ben Saada, M. (2022). Does corporate financial performance promote ESG: Evidence from US firms. *Cogent Business & Management*, 9(1). DOI: <https://doi.org/10.1080/23311975.2022.2154053>

- Heino, O.; Takala, A.; Jukarainen, P.; Kalalahti, J.; Kekki, T.; Verho, P. Critical Infrastructures: The Operational Environment in Cases of Severe Disruption. *Sustainability* 2019, *11*, 838. doi: <https://doi.org/10.3390/su11030838>
- Houghton A, Vittori G, Guenther R. (2009). Demystifying First-Cost Green Building Premiums in Healthcare. *HERD: Health Environments Research and Design Journal*. 2(4):10-45. doi: 10.1177/193758670900200402
- Izyumov, M.D. (2023). ESG in corporate real estate management: global trends and Russian experience. *E3S Web Conf.*, 403 (2023) 01012. DOI: <https://doi.org/10.1051/e3sconf/202340301012>
- Khan, M., Ajmal, M., Hussain, M. and Helo, P. (2018). Barriers to social sustainability in the health-care industry in the UAE. *International Journal of Organizational Analysis*, 26(3), 450-469. DOI: <https://doi.org/10.1108/IJOA-05-2017-1164>
- Krech, R., Kickbusch, I., Franz, C. and Nadya Wells, N. (2018). Banking for health: the role of financial sector actors in investing in global health. *BMJ Global Journals*, 2018(3), 1 - 9.
- Li, L.X., Benton, W.C. and Leong, G.K. (2002). The impact of strategic operations management decisions on community hospital performance. *J. Oper. Manag.* 20, 389.
- Mohammadpour, A., Anumba, C., Bulbul, T. and Messner, J. (2012). Facilities Management Interaction with Healthcare Delivery Process. *Construction Research Congress 2012: Construction Challenges in a Flat World*. Doi: <https://doi.org/10.1061/9780784412329.074>
- Nainggolan, S.M., Dewi, O.C. and Panjaitan, T.H. (2020). 10 Criteria of Sustainable Housing: A Literature Review. *Advances in Social Science, Education and Humanities Research*. DOI:10.2991/assehr.k.201009.005
- Pearson, A., Srivastava, R., Craig, D. *etal* (2007). Systematic review on embracing cultural diversity for developing and sustaining a healthy work environment in healthcare. *International Journal of Evidence-Based Healthcare* 5(1), 54-91.
- Pivo, G. and Environment Programme Finance Initiative Property Working Group, U. (2008). Responsible property investing: what the leaders are doing. *Journal of Property Investment and Finance*, 26(6), 562 - 576. DOI: <https://doi.org/10.1108/14635780810908406>
- Pronovost, P.J., Armstrong, C.M., Demski, R., Peterson, R.R. and Rothman, P.B. (2018). Next level of board accountability in health care quality. *Journal of Health Organization and Management*, 32(1), 2 - 8. DOI: <https://doi.org/10.1108/JHOM-09-2017-0238>
- Ramirez, B. MD, Oetjen, R. M. and Malvey, D, (2011). Sustainability and the Health Care Manager: *The Health Care Manager*, 30(2): 133-138, DOI: 10.1097/HCM.0b013e318216f4e5
- Robbins, C.J., Rudsenske, T. and Vaughan, J.S. (2008) . Private equity investment in health care services. *Health Affairs*, 27(5), 1389 – 1398. DOI: <https://doi.org/10.1377/hlthaff.27.5.1389>
- Rymarzak, M. and Siemińska, E. (2012). Factors affecting the location of real estate. *Journal of Corporate Real Estate*, 14(4), 214-225. DOI: <https://doi.org/10.1108/JCRE-11-2012-0027>

Publication of the European Centre for Research Training and Development -UK

- Sadler, B. L., DuBose, J. and Zimring, C. (2008). The Business Case for Building Better Hospitals through Evidence-Based Design. *HERD: Health Environments Research & Design Journal*, 1(3), 22 - 39. Doi:10.1177/193758670800100304
- Shortell, S.M., Washington, P.K. and Raymond J. Baxter, R.J. (2009). The Contribution of Hospitals and Health Care Systems to Community Health, *Annual Review of Public Health*, 30, 373 – 383. DOI: <https://doi.org/10.1146/annurev.publhealth.032008.112750>
- Støre-Valen, M., Kathrine Larssen, A. and Bjørberg, S. (2014). Buildings' impact on effective hospital services: The means of the property management role in Norwegian hospitals. *Journal of Health Organization and Management*, 28(3), 386 - 404. DOI: <https://doi.org/10.1108/JHOM-08-2012-0150>
- Støre-Valen, M., Kathrine Larssen, A. and Bjørberg, S. (2014). Buildings' impact on effective hospital services: The means of the property management role in Norwegian hospitals. *Journal of Health Organization and Management*, 28(3), 386 - 404. DOI: <https://doi.org/10.1108/JHOM-08-2012-0150>
- Tolleson, R., Dorough, S., and Putnam, C. (2008). Implementing a Strategic Energy Management Plan for Health Care. *Strategic Planning for Energy and the Environment*, 28(2), 44–57. DOI: <https://doi.org/10.1080/10485230809509193>
- Trowbridge, M.J., Pickell, S.G., Pyke, C.R. and Jutte, D.P. (2014). Building Healthy Communities: Establishing health and wellness metrics for use within the real estate industry. *Health Affairs*, 33(11). 1923 – 1929. Doi: <https://doi.org/10.1377/hlthaff.2014.0654>
- Weech-Maldonado, Robert; Neff, Gerald; Mor, Vince. Does Quality of Care Lead to Better Financial Performance?: The Case of the Nursing Home Industry. *Health Care Management Review* 28(3):p 201-216, July 2003.
- West, A.M., Lyubovnikova, J., Eckert, R. and Denis, J.L. (2014). Collective leadership for cultures of high quality health care, *Journal of Organizational Effectiveness: People and Performance*, 1(3), 240 -260. Doi: <https://doi.org/10.1108/JOEPP-07-2014-0039>
- Wilson, A.B. (2017). Attributes of turnaround rural hospitals: Case study findings and research opportunities. *Journal of hospital administration*. 6(6), 8-14. Doi: <https://doi.org/10.5430/jha.v6n6p8>