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Effectiveness of Digital Transformation in Real Estate Sector

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Abstract

Technologies are becoming obsolete yearly in an age driven by millennials. Global competition among businesses has led to the introduction of fresher, more creative marketing tactics to connect with prospective customers. One of the largest economic sectors, real estate, requires more effective, focused marketing efforts because it is a very specialised and underdeveloped industry in India. The real estate industry is expanding quickly. The branch's interdisciplinarity and diversity make the development needs tough. The provision of housing for customers is the main objective of the real estate sector. The real estate industry is expanding quickly. The branch's interdisciplinarity and diversity make the development needs tough. The study's primary objective is genuine. The real estate industry is expanding quickly. The primary goal of the study's real estate industry is to supply end customers with spaces.

Keywords: Digitalization, technologies, digital real estate, real estate industry

INTRODUCTION

Need for the Study

To understand the study about how new technologies that simplify and speed up operations in real estate sector for creating chance for comfort work life balance, to study how elements are characterized in digital transformation in real estate sector, to explore about the latest digital solution develop in real estate sector, to study the on-trend digital technology strategy in the Indian online real estate service.

Digitization Vs. Digitalization

Digitization is "the action or process of digitising; the conversion of analogue data into digital form".

"Digitalization" is the acceptance or expansion of digital or computer technology by a company, sector, or nation (Figure 1).

General

"Digitalization" refers to the improvement of company operations via the use of information and communication technology, which implies altering business paradigms. Digitalization in the real estate sector can be viewed from a variety of perspectives. Due to the relatively low data density of real estate industry, as well as its rather small degree of digitalization, big data is less important than a consequent improvement of the conventional data and its processing. This means that the focus will be on the general perception of the importance of digitalization, the quality and quantity of available data as well as the effectiveness and efficiency of their use in management decisions. General

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information about digital transformation: Adopting digital technology across [1–5] the board means fundamentally altering how you conduct business and provide value to customers. This process is known as digital transformation. Additionally, it is a cultural shift that necessitates constant experimentation, status quo challenge, and comfort with failure on the part of organisations.

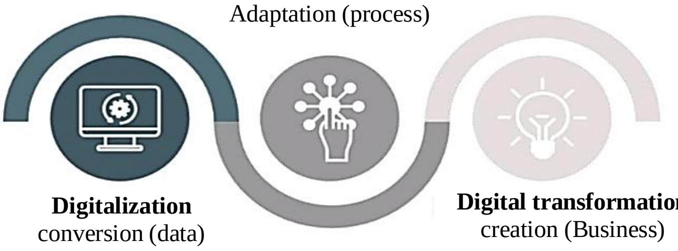

Figure 1. Digitization Vs. Digitalization.

Questions For Research

- How effective is digital transformation in the real estate industry?
- What digital technologies have realtors and real estate companies implemented in total?

Aim

The primary goal of the study is to examine how well digital innovations and change have affected the real estate business.

Objectives

1. To comprehend the real estate industry's existing level of digitization and to research the efficiency of digital platforms in the industry.
2. To research the technology and trends in the digital real estate industry.
3. To comprehend how quickly technology is developing dependent on businesses and enterprises.

METHODOLOGY

- Based on data from real estate websites and trade periodicals, the top real estate businesses were identified;
- Trimmed down the list to only include the web designers whose sites had the most visitors;
- Analysed the search terms that people use to look for different types of properties on Google.co.in;
- Examined the value of these keywords and the cost incurred by developers to target them; and
- Compared the effectiveness of various real estate developers and the audience overlap with web aggregators.

Secondary data from a variety of sources, including news articles, conglomerate websites, trade union websites, newspapers, real estate publications, etc., have been cited.

Clustering of Real Estate

Due to digitalization, data availability for transaction procedures, general market characteristics, and some of the highly transparent markets, India's transparency score increased between 2020 and 2022 from 2.82 to 2.73, outperforming some of them (Figure 2 and 3, Table 1).

The Country has Made Tremendous Progress in the Rankings Because to the digitalization of all transaction procedures, which has increased the availability of clear, transparent data

The main goals of the RERA for 2016 are as follows [1, 2]:

To cultivate trust and dependence among all the interested parties, including the developer, promoter, and buyer. To defend the buyer's interests, transparency, understanding, and responsibility must be infused. Establishing a method for resolving conflicts in order to respond to consumer complaints, eradicate fraud and scams by increasing compliance, guarantee fairness through lower wait times to sustain professionalism, competency, and standards to encourage effective operation in the real estate business in order to facilitate transactions, impose requirements and liabilities on both the promoter and the buyer.

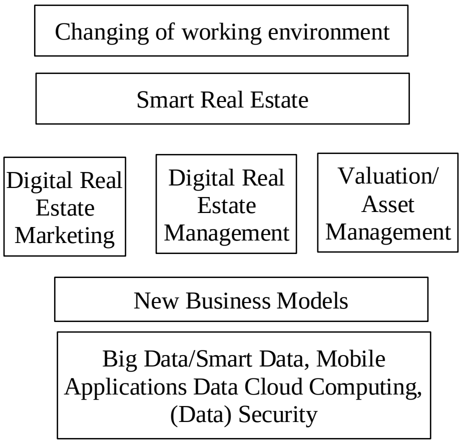

Figure 2. Process showing clustering in real estate.

Table 1. Clustering in real estate.

Changing of work environment	Smart real estate	Digital real estate marketing	Valuation/asset management	New business models
Globalization	Smart city	Real estate platforms	Drones	Prop tech
Flexibility	Smart building	Multiple listing systems (MLS)	Automatic data analysis virtual data rooms	Digital strategy
Transparency	Smart homes	Virtual reality (VR)	Virtual data rooms	New business areas
Mobility	Smart grid	Augmented reality (AR)		Block chain
Home office	Broad band supply	Customer relationship management (CRM)		
Crowdsourcing	Web traffic	Agents/broker software		
Customer focus	City development	Chatboxes		
Shared economy	Internet of things (IOT)			
Digital competence				

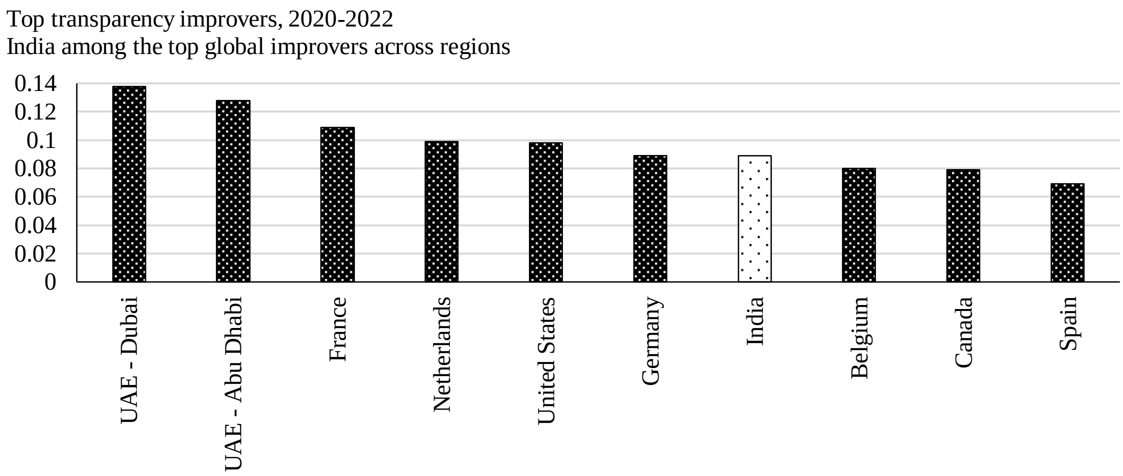

Figure 3. Top transparency improvers, 2020–2022.
Source: JLL, LaSalle Investment Management.

DIGITAL MARKETING FOR REAL ESTATE: THE BENEFITS

Cost-efficient: Marketers in the real estate sector are maximising the cost-effectiveness of digital marketing by taking advantage of its comparative lower offers than those of traditional marketing.

Increased exposure: Considering the numerous housing projects that vary in size, location and cost, having a digital marketing strategy lets you expand your overall reach and even customize that reach towards a selected target market.

Performance Analysis: Digital marketing offers numerous ways to keep track of an advertisement's performance in the competitive marketplace, making it easier for real estate developers to understand what marketing technique works best for their products.

Creative license: Be it an apartment, independent house, villa or plot of land, there are numerous ways for developers to showcase their products in the online marketplace.

Brand building: To succeed in the vast industry that is Real Estate, developers need a strong and reputable presence. Having an online presence is considered the next best brand building technique.

COMPARATIVE STUDY BETWEEN TRADITIONAL REAL ESTATE VS. DIGITAL TRANSFORMATION REAL ESTATE

The difference between traditional and digital transformation of real estate is given in Table 2.

Table 2. Differences between traditional real estate vs. digital transformation real estate.

Traditional Real Estate	Digitalization Real Estate
There is a higher Fraud risk using the traditional methods since agreements are on a paper and trust is human-based. Around 1.48 billion records were found fraudulent from 2005 to 2019. In California, 24% of mortgage cases were found to be fraud and scam	The real estate sector has been relatively slow to adopt digital technologies when compared to other larger industries such as healthcare, retail and finance, but the emerging innovations that have been made possible in just the last few years show a great deal of promise for the future of real estate as a whole. From virtual tours to personalized services to automated transactions, this recent digital transformation has already drastically altered the way we buy, list and manage properties.
Expense is also an issue due to the involvement of multiple intermediaries and multiple fees such as fees of the broker, attorney and tax etc. All these expenses are added to the value of the real estate which makes these investments expensive.	*Digitalization and the Future of Real Estate:* Digital transformation has had a profoundly positive effect on the real estate sector in the last few years. The coronavirus pandemic has illustrated that the strength of a business or industry lies in its inherent ability to adapt, maintain operational resilience, embrace newly emerging technologies, and ultimately prioritize the consumer experience. Real estate companies that are able to quickly adapt and keep up with the rapid pace of these transformations stand a greater chance of becoming industry leaders in the US market and beyond. And those who are unable to meet the demands of a rapidly evolving real estate landscape will continue to struggle as traditional business models gradually fade into obscurity.
Trust in current RE methods is based on human factors and two parties have to involve another party to build trust among themselves for these investment process. This is another issue which needs to be resolved by the use of technology (Bhanushali et al. 2020).	Top three ways blockchain is powering proptech Property technology, better known as PropTech, is revolutionizing the Fintech and real estate industries. With the help of Blockchain technology, PropTech has become one of the leading Fintech sectors and a digital facilitator for all real estate needs. Blockchain technology can be used whenever there is a transaction or exchange of information and/or goods. This is at the core of what Fintech companies do. More and more apartment buildings are utilizing an app for residents to submit maintenance requests, pay their rent online, etc. Due to the COVID-19 pandemic, many real estate listing sites have authorized virtual tours and more digital capabilities to cut out in-person paperwork. PropTech will only continue to flourish with continued advancements in Blockchain technology.
Due to the involvement of multiple agents, RE Investment process suffers	The recent pandemic has brought forth the practical benefits of digital transformation in the Real Estate industry. The modern-day Real Estate

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from transaction speed as well. As per a survey carried out by Chinese officials, 44% of investors fix an appointment with RE agents before looking to invest in a new place. 74% of investors contact more than one agent to find the best deal for them and to decide in which area they should buy the property. This involves a lot of time which can be used to better the outcome

Sector is changing rapidly due to the adoption of digital solutions with the automation of multiple business operations. Developers who made the transition have been able to maintain steady sales despite the lockdowns [6–10].

While it is pretty clear that digital transformation is not just a choice but a necessity, we also need to look at the other side of the coin, that of the challenges faced in the process of digital transformation.

The Problem with Traditional Real Estate: The growing demand for technology and convenience in all aspects of life is fuelling massive changes in the usually-traditional real estate industry. At present, the real estate sector makes up an estimated 60% of the world's biggest mainstream assets, yet it is one of the least tech-savvy industries. The industry is still mostly driven by age-old and paper-heavy processes. Property transfers can take weeks to settle due to the steps and intermediaries involved, and the industry is also more susceptible to fraud, typically caused by confusing or deliberately misleading legal agreements.

But the worlds of real estate have been steadily shifting; the need for newer urban and modern infrastructure in real estate is driving tradition out of the market in favour of tech-based solutions.

Challenges in Real Estate Industry in Digital Transformation:
Budgetary Issues: Real Estate Developers assume digitization to be a costly affair. They may not realize the ROI this investment can assure. Many organizations fail to find affordable digital and integrated solutions to help them can transform their business operations.

Motivation Level of the Employees: In most organizations, the workforce might be reluctant to make changes to their daily working. Lower employee morale and apprehensions of losing their jobs are among the most significant challenges in the Real Estate industry because of digital transformation. Employees need to be made a part of the process to ensure that digital transformation is not a threat to their jobs. Moreover, motivating employees to embrace the positive switch and convincing them that the change would ease down their work is crucial.

Dilemma About Technology: Effective and efficient digital transformation requires appropriate software solutions and skillset. Drawing a multi-dimensional strategy considering all facets of the business is a challenge too.

People often go for a one-size-fits-all software that is probably not suitable for their organization. Rather, you can identify the need and the areas where digital transformation has to be implemented. Looking for the right technology team and integrated solution that offer channel partner integrations as well can be customized to suit your process [11–15].

Skill Development and Training: Most organizations find that despite digital transformation, their workforce still does not use it at capacity. Encouraging employees to accept the change whole-heartedly is a process in itself.

Organize training programs in conjunction with the technology partner to help them adopt to change better. Training from industry experts allows your employees to experience the transformation and benefits fully.

DIGITAL REAL ESTATE ASSET MANAGEMENT AND VALUATION

Without the use of potent property images, virtual tours, and, more lately, 3D models, real estate marketing is virtually unimaginable. The capacity of agents, regional teams, and industry partners to successfully utilise these collections of rich material to peak interest and enhance sales is crucial to their success.

Real estate marketers embrace digital asset management (DAM) as the tool to support visual digital strategy and boost sales across all channels.

The process of managing all of an organization's digital assets is known as digital asset management (DAM) [16–18]. DAM systems are an essential component of real estate marketing and offer much more than just storage. They make it possible to store and arrange digital materials so that they can be found and utilised effectively.

Real estate companies' DAM systems provide a centralised, well-organized repository for all digital assets. Every picture or file may be tagged with information thanks to them. Users may swiftly narrow down searches using keywords and common search phrases. To guarantee proper usage, fields offer specific information for each file or project. Real estate DAM solutions also enhance processes and allow big teams to collaborate easily, wherever they are. The correct real estate marketing software makes it possible to distribute and route files in an efficient manner, guaranteeing that everyone in the team has rapid access to the most recent files.

Website Traffic Monitoring

The volume of visitors to a company's website is the single most significant measure of its online presence. The "leaderboard" provided several intriguing information, in my opinion: None of the 50 real estate developer websites I researched, received more than 100,000 visitors per month. Only 16 websites had more than 50,000 monthly visits. Raheja and India bulls, [19] two well-known companies, were not among the top 20 property developer websites by traffic. According to data from the SEMrush Traffic Analytics tool, Figure 4 shows the top 20 real estate developer websites, in order of traffic.

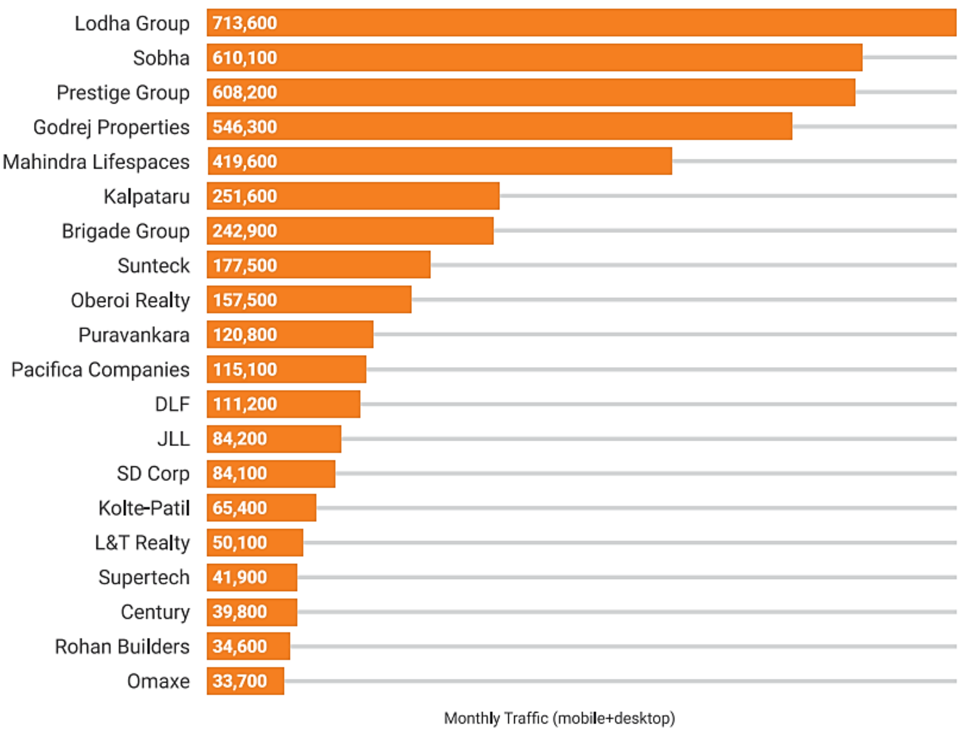
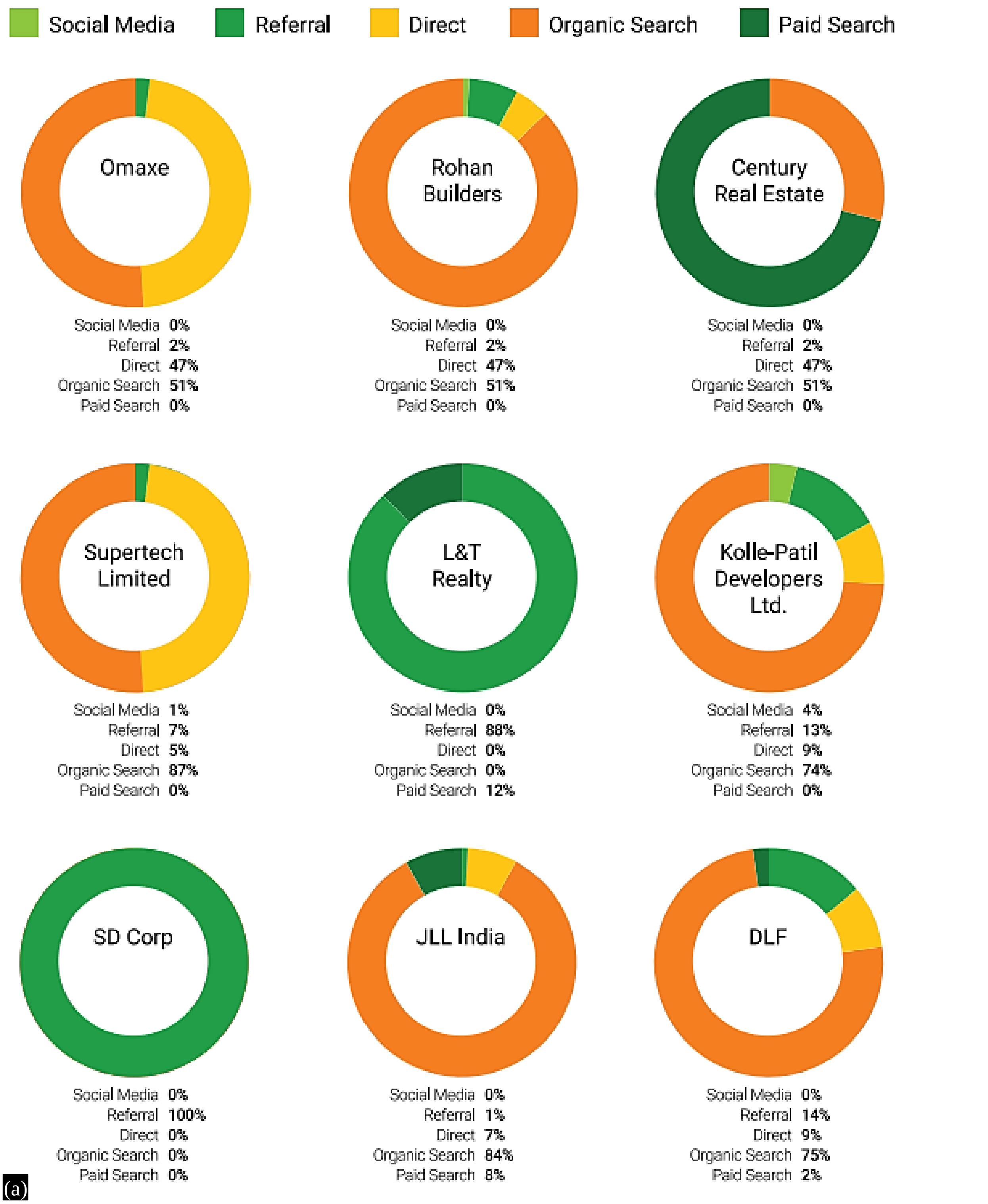


Figure 4. Sources of traffic for the top 20 organisations.

The breakdown of the top 20 firms' traffic sources is shown below in Figure 5(a and b). You can see from this which digital channel is more effective for each business.

More than half of all website traffic came from organic search, highlighting the significance of SEO in the real estate industry. Marketers who ignore this channel are missing out on a significant source of leads and clients (Figure 6).



(a)

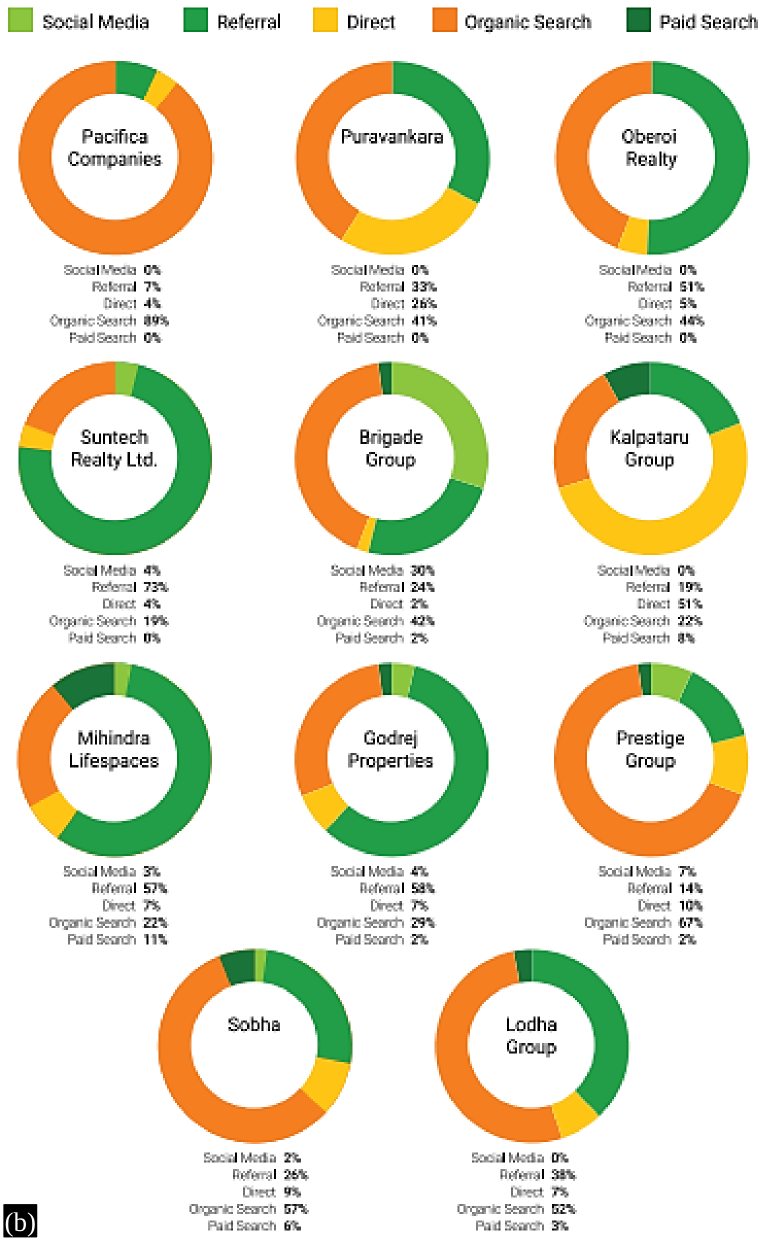


Figure 5. (a and b) Breakdown of the top 20 firms' traffic sources.

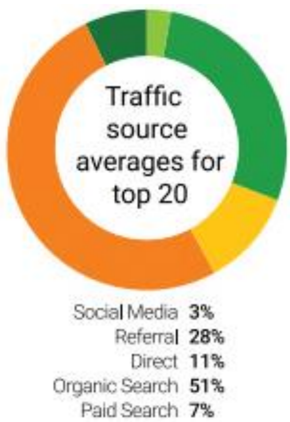


Figure 6. Average traffic source for top 20 firms.

The worst performer, providing just 3% of the traffic, was social media. This demonstrates that real estate investors and developers must strengthen their social participation and visibility (Figure 7).

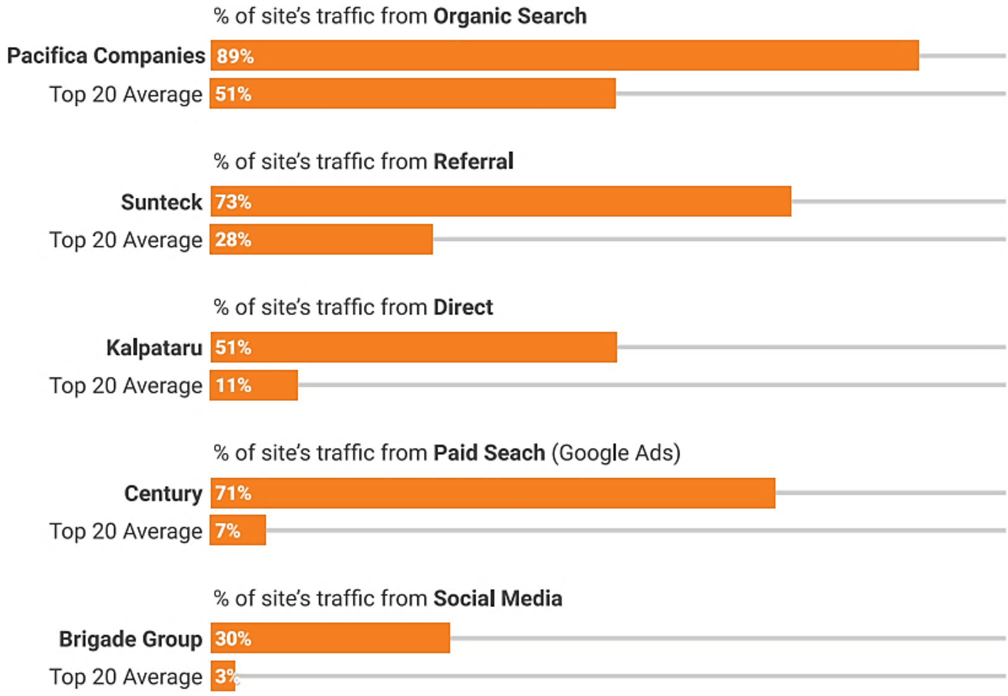


Figure 7. Best performers of the top 20, by traffic source.

Site traffic from Mobile vs. Desktop to the top 20

Mobile traffic to the top 20 sites in Real Estate far outstrips desktop traffic, reflecting the wider trends of device usage in India (Figure 8).

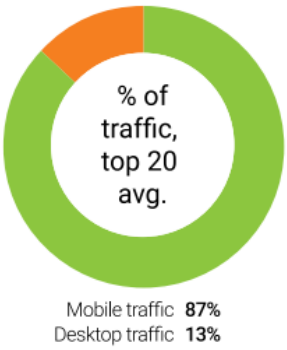


Figure 8. Site traffic from Mobile vs. Desktop to the top 20.

Website Visitors who are Outside Investors

The investor consumer group is a crucial factor in real estate. These are the folks who purchase real estate with the goal of hanging onto it until they can sell it for a profit rather than living there. People who live outside of India are eager to invest in real estate there. Here are the top nations from which the most visitors (most likely NRIs, or non-resident Indians), visit the websites of property developers (Figures 9 and 10).

Traffic varies year-round for each website or industry. The business fluctuates throughout the year as a result of its seasonality (Table 3).

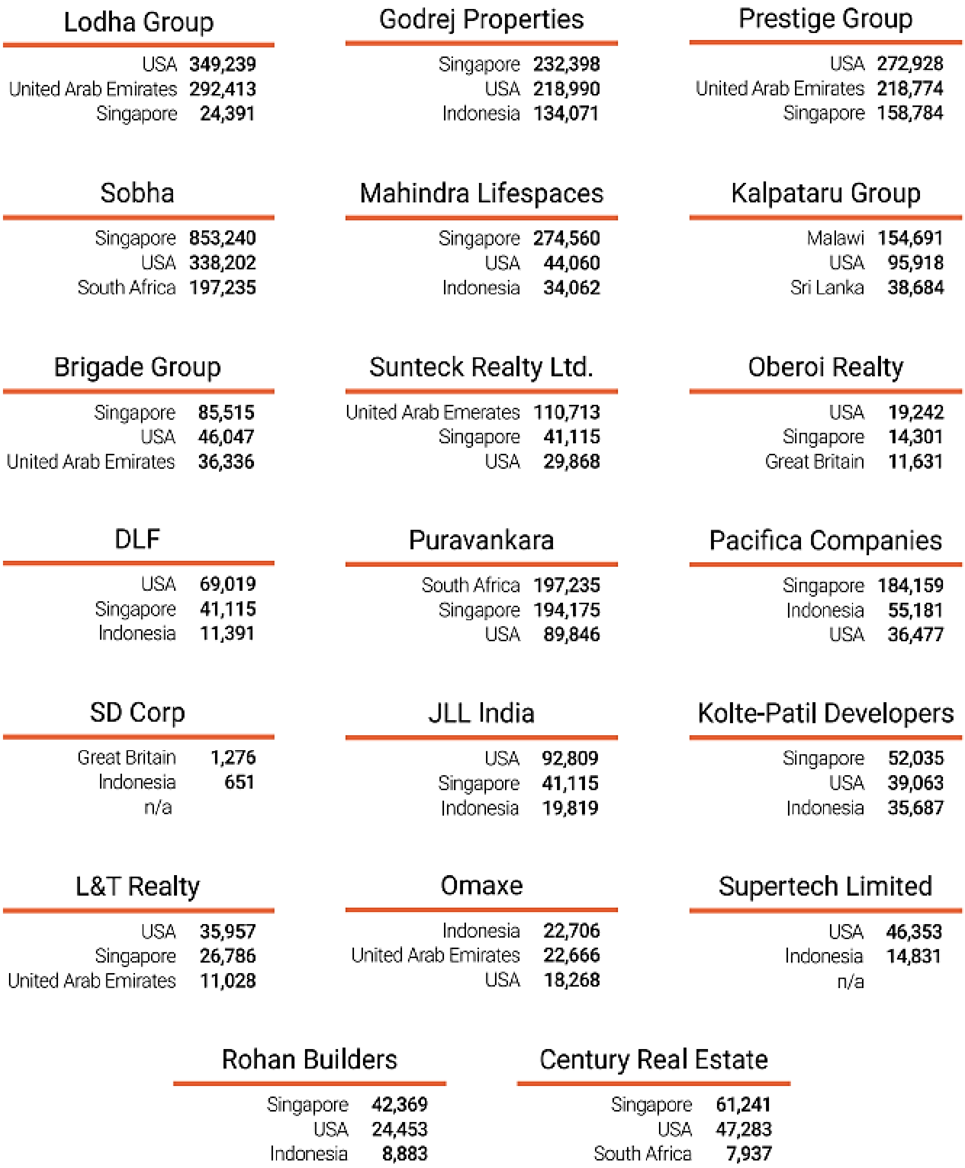


Figure 9. 2022 site traffic from top three locations outside India.

Table 3. Traffic varies year-round for each website or industry.

Base domain/Target	90acres.com	housing.com	magicbricks.com	makaan.com
godrejproperties.com	11.84%	8.47%	10.25%	4.89%
lodhagroup.com	6.45%	3.57%	4.80%	2.18%
mahindralifespaces.com	8.79%	5.56%	6.24%	3.66%
prestigeconstructions.com	9.68%	6.46%	9.36%	3.57%
sobha.com	12.12%	7.84%	12.44%	5.46%

For each website or sector, traffic fluctuates throughout the year. Due to the seasonality of the business, it changes throughout the course of the year. Example: Godrej Properties, Prestige Constructions, and Sobha.com

It is obvious that there is a great prospect for collaboration between construction firms and aggregators that goes beyond the simple listing of projects and sponsorships. They might use one other's audiences by collaborating on marketing initiatives [20–23].

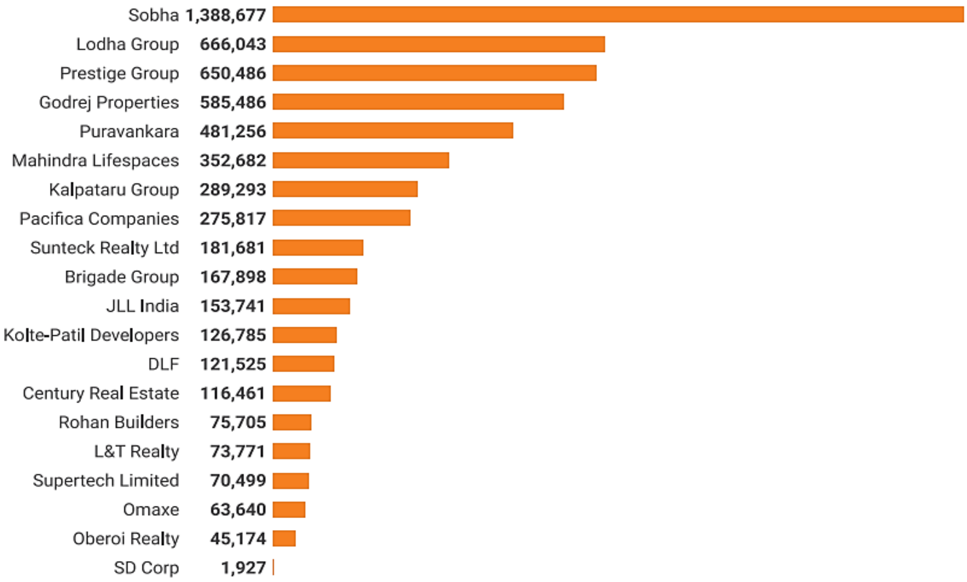


Figure 10. 2022 site traffic totals from top three locations outside India.

Social Media is a Further Useful Tool for Audience Comparison

As predicted, Facebook is the leader in this: (50–60%) Facebook (between 15 and 20%) Instagram (12 to 15%) Twitter. This suggests that real estate firms would benefit from increasing their brand visibility and interaction across all social media channels, something they are not currently concentrating on. Despite this, companies should use all of the various social media sites with prudence. Instead, concentrate on the most well-liked ones and create a long-term presence there. Since they are not really concentrating on it, real estate firms would do well to increase their brand visibility and interaction on all social media platforms (Figure 11).

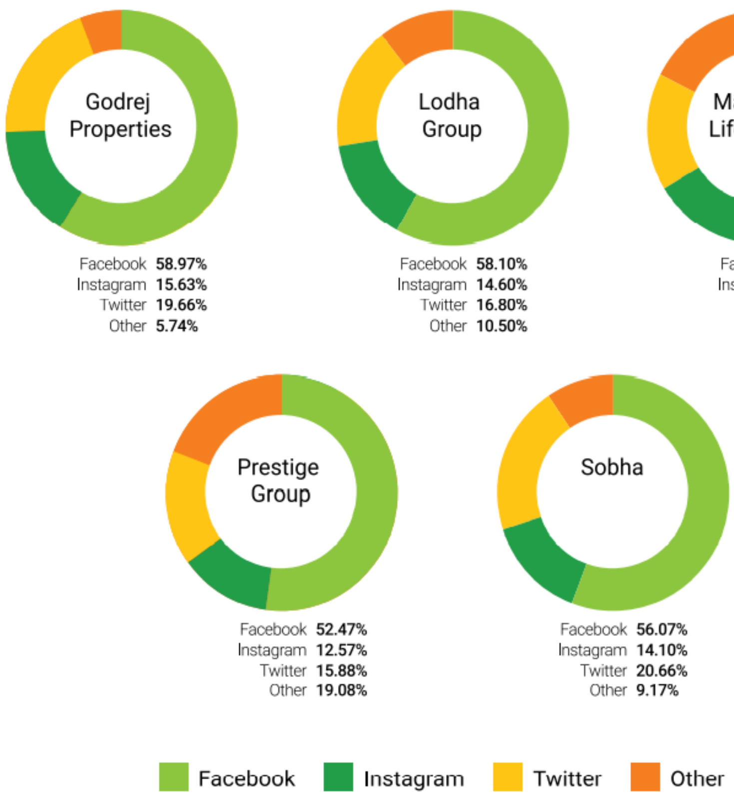


Figure 11. Traffic from social media channels.

Something they now are not really concentrating on. In spite of this, businesses should exercise caution while using all the available social media platforms. Instead, focus on the most popular ones and establish a long-term presence there.

Applicability of technologies to identified causes for delay in digital commercial real estate transaction process is shown in Table 4–6 and Figures 12 and 13.

Table 4. Real Estate transaction process in digital technologies.

Cause of delay	**Smart contracts**	**Property pass port**	**Block chain land registration**	**Satellites and drones**	**Lease info. extraction**	**AVMS**	**VR/AR**	**IoT**	**Big data**	**3d scanning**	**Cloud software**	**IoT**	**Prop tech**
Information maintenance	+	+	+	+	+	+	+						
Data rooms	+	+			+								
Due diligence period													
Searches	+	+				+							
Parcel identification		+	+	+									
Standard enquiry forms		+	+			+							
Reporting	+	+			+								
Registration			+										

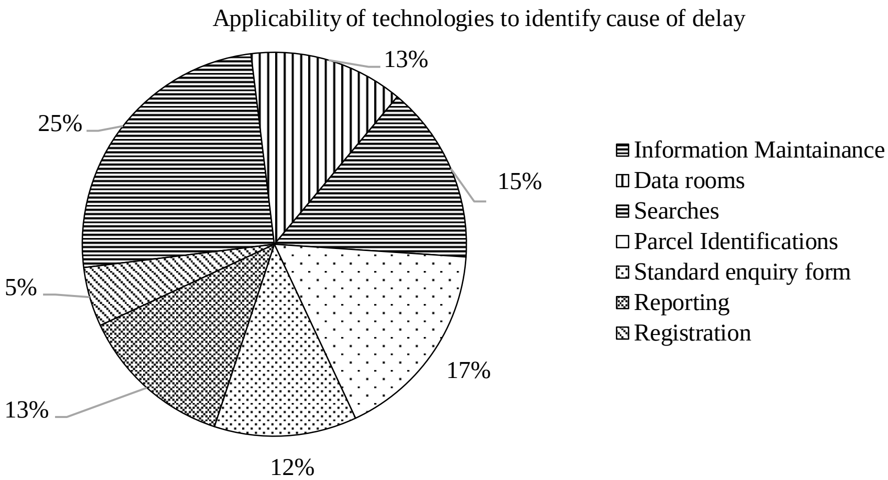


Figure 12. Applicability of technologies to identify cause of Delay.

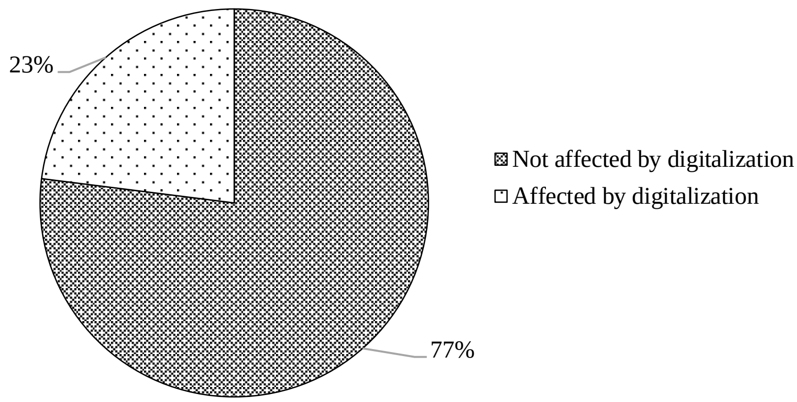


Figure 13. Cause of delay in digital real estate transaction process.

Table 5. Classification group matrix-real estate firms.

		Classification group				
		G-square Housing	***Casagrand Builder Pvt. Ltd.***	***Appaswamy Real estate***	***Ruby Builders and promoters***	***Akshaya Homes***
Comparison Factors	Digital services	Medium	Low	Low	Low	Medium
	Demand	High	Low-medium	Medium	Low-medium	High
	Online Customerisation	High	Medium	Low	Low	High
	Offline Customerisation	High	High	High	Medium	High
	Brand sharing	High	Low-medium	medium	Low-medium	High
	Database driven	Medium-high	Low-medium	Low	Low	Medium
	Metrices Incorporated	Medium	Low-medium	Low	Low	Medium
	Business Intelligence	High	Medium-high	Medium	Low	Medium-high
	Knowledge Management	Medium	Medium	Low	Low	Medium
	Customerisation Level	Medium-high	Medium	Medium	Low-medium	Medium

Table 6. Score of smartness indicators of digital real estate preferred by property development companies based on the SISQual approach.

Construct	**Definition and resources**	**Measures**	**Smartness indicators**
Digital Services Quality (DSQ)	The perception that the digital services are efficient, reliable and involves latest technologies	DSQ-1 DSQ-2 DSQ-3 DSQ-4 DSQ-5 DSQ-6	• Easy to access and use • The quality of services • The opinion on the selection of Property type • Virtual tour • 360° images/videos • Virtual reality
Digital Information Quality (DIQ)	The perception that the digital information is easy, accurate and comprehensive	DIQ-1 DIQ-2 DIQ-3 DIQ-4 DIQ-5	• Nearby amenities content • Nearby facilities content • The quality of information • The quality of search facilities • The Accuracy of Information
Digital System Quality (DSYQ)	The perception that the digital system is efficient smooth and has consistent graphics.	DSYQ-1 DSYQ-2 DSYQ-3 DSYQ-4	• The quality of system function • The quality of category heading • The quality of graphics • The featured listing pages

PRIORITIZATION MATRIX: DSQ, DIQ, DSYQ

From the prioritization matrix, digital service and system quality (ease to access and use) which create major impact and improvising digital transformation in real estate sector (Table 7).

Prioritization Matrix-Property Site

From the Tables 8 and 9 strategic context that is social marketing, online community engagement causes great impact and enhance digital transformation in real estate sector. According to weighted score.

Table 7. Prioritization matrix, digital service and system quality.

Importance rating (1 to 10)	**10**	**8**	**8**		
Smart indicators/construct	***DSQ***	***DIQ***	***DSYQ***	***Weighted score***	***Rank***
Easy to access and use	9	0	1	98	1st
The quality of services	3	1	3	62	5th
The opinion on the selection of property type	3	1	0	38	8th
Virtual tour	3	0	3	54	6th
360° images/videos	3	3	0	54	
Virtual reality	3	0	0	30	10th
Nearby amenities content	0	9	3	42	7th
Nearby facilities content	1	3	1	96	2nd
The quality of information	0	9	1	80	3rd
The quality of search facilities	1	3	1	32	9th
The accuracy of information	0	3	1	32	
The quality of system function	0	1	9	80	
The quality of category heading	0	0	3	24	11th
The quality of graphics	0	0	9	72	4th
The featured listing pages	1	1	3	42	

Table 8. Prioritization matrix-property site.

Rating (1 to 10)	**10**	**8**	**8**	**8**	**6**	
Strategic Context/online Property site	***Magicbricks.com***	***Housing.com***	***99acres.com***	***Sqaureyards.com***	***Makaan.com***	***Weighted Score***
Social listening	3	3	1	3	3	104
Social marketing	9	9	3	3	1	216
Social client Servicing	3	3	3	3	3	120
Online community Engagement	9	3	3	9	3	228
Ratings and reviews	9	3	9	3	3	228
Content Moderations	9	3	3	9	3	228
Crowd sourcing	0	1	0	1	0	16
Real-time social Pulse Measurement	1	3	3	3	1	88
Social media Crisis Management	3	3	1	1	3	88

Table 9. Who, what and how analysis of disruptive technologies for digital real estate.

What	Who	How		
Tech	***Stakeholders affected directly***	***Needs Addressed Directly***	***Primary Dissemination Mechanism***	***Resources Used***
Big data	AA, Consumer, GRA, CI	Business, profit, networking market awareness, understanding process, Features and requirements ethics, regulations referrals	Websites, social media and gadgets to facilitate buy, rent or sell	Land resources, realties, buyers requirement owners info, buyers demands, transaction records, page views
Cloud	AA, Consumer, GRA	Business, profit, networking referrals, reputation buy or sell, price, stakeholder co-ordination, online searching and filter, networking, profit, referrals ethics, regulations	Websites, Apps gadgets	Internet connected devices, shared storage, recent searches, stakeholder preferences, high speed internet, remote access servers
SaaS	AA, CI	Business, profit, networking, referrals, reputation, networking profit, referrals	Websites, apps, gadgets and social media to facilitate buy, rent or sell	Computer software, high speed internet, remote access, servers, shared storage
IOT	AA, Consumer, CI	Business, profit, networking online searching and filters, understanding process, market awareness networking ethics, public safety, regulations	Websites, and gadgets to facilitate sales	Telementry, sensors, local networks, remote access servers, consumer habits
Drones	AA, Consumer, CI, GRA	Business, profit, ethics neighbourhood preference, features and requirements, buy/sell Profit Ethics, public safety regulations	Websites, gadgets to facilitate buy, rent or sell	UAV (unmanned aerial vehicle) flight routes, or Bluetooth connectivity
3D scanning	AA, CI, GRA	Business, profit, ethics, public safety, regulations	Gadgets to facilitate buy, rent or sell	Lasers, building drawings, training

Note: AA: agents and associations; CI: complementary industries; GRA: government and regulatory authorities.

RESULTS AND CONCLUSION

Only 15% of sustainability reports mention that digital technologies are an effective tool for facilitating transactions, which shows how weakly real estate operations are being digitalized to promote transparency. Instead of being viewed as a tool to boost the productivity and efficiency of real estate activities, digitalization is more commonly viewed as a mega-trend of the present development that businesses must adapt to. Therefore, a number of organisations are looking into technical advancements with the aim of becoming the leaders of digitalization in the real estate business in order to stay up with the changing requirements of stakeholders. The development of digital platforms for clients and staff, as well as the production of intelligent buildings employing artificial intelligence, are some of the most frequent digital advances seen in real estate reports.

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