

PROPTECH AND DIGITAL TRANSFORMATION

Introduction. New technologies are becoming part of almost every aspect of our everyday lives. Before technology had a functional purpose in our lives, but today our society is utterly dependent on technology. Today, almost all of our everyday customs and habits are closely intertwined with the use of technology.

Technological developments are transforming nearly every sector, from banking and insurance to fast food, fashion, and, of course, real estate. So, every sector faces the challenge of how to efficiently and successfully move into a digital future. The real estate sector is no exception [5].

The digital transformation offers lot of possibilities for the real estate market. New data management systems, together with mathematics, allow us to determine the value of real estate instantaneously. Also, this information can be obtained in real time. Digital platforms not only allow users to interact autonomously and directly with the market, but also allow for faster transactions, which ultimately results in a major increase in transactions.

This union of technology and real estate is called «PropTech» (property technology or real-estate technology). This term refers to companies that seek to add value in the real estate world through the use of a technological component. The PropTech market is still in its infancy and consequently it is full of infinite opportunities. Many young startups are seeking their place in this market. The real estate sector has been relatively slow compared to other sectors when it comes to the adoption speed of new technologies [4].

Three aspects are important for considering the governance implications of PropTech. First, PropTech increases the sheer amount of recorded information about land, housing, and property. Second, data digitization has specific effects, such as the emergence of digital data as assets with value in and of themselves, and as data amenable to algorithmic analysis. Third, PropTech brings new actors, products, and services into housing and real-estate sectors [3].

According to a recent study by KPMG, attitudes in the corporate real estate world have taken a significant turn lately [8]. KPMG found that 62 % of corporate companies now view PropTech as an opportunity. In the same global study by KPMG, we can see that 92 % of respondents believe that technological innovation will impact their business, while 86 % of respondents see technological innovation as an opportunity. Overall, property leaders now acknowledge that PropTech is going to be a significant impact on their business. In correlation with the recent shift in atti-

tudes regarding PropTech, investment in PropTech has gone from 207 million euros to over 2,500 million euros in just five years.

By 2019 a «walk through» is now on the wish list of the customers, making augmented reality (AR), almost a must-have investment for developers, according to Helen Barlow, sales and marketing director at Seven Capital. «AR is particularly beneficial for off-plan developments, where a potential buyer needs to ‘view’ the property to feel confident in what they’re planning to purchase, before it’s actually built,» she says.

But technology is not the whole story. Technology is very important to proptech as you can judge it by the name, but there is more to market transformation than the miniaturization of hardware and proliferation of sensors. Machine-learning and cloud computing are enabling, not defining.

There are several factors that can influence the development of Proptech such as: Smart real estate, Blockchain, Cryptocurrency, Geolocation, Big Data, Crowdfunding [2].

In this case study we use R programming language to make the same statistical analysis and predictions which can be used in proptech technology in order to improve the decision making in real estate market. We use dataset of the main real estate web-portal in Belarus www.realt.by, which contains information about the real estate market in Minsk. We are using linear regression [1, 7] to predict the price of the unit area of the sold houses and compare the models.

Results of the linear regression models:

Model	R-squared	Adjusted R-squared
Model 1	0,9997	0,9997
Model 2	0,1971	0,1935
Model 3	0,6623	0,6438

In the first model R² is the largest but this do not mean that is the best model because some of the variables have high correlation and some of variables are insignificant for the model. Best of these three models are model 3 with R² 0,6623 and adjusted R² 0,6438.

Conclusion. The real estate sector is famous for its lack of capacity for deep and continuing innovation and is ripe for a change [6]. We have to be aware of the real estate industry resistance to change and the generally uncritical positive spin put out by those tech businesses with vested interests. Some exist because technology makes some things possible, but do not serve an obvious need.

However, the majority of PropTech activity is taking us towards a more efficient property market, and the sums invested mean that FinTech and PropTech is here for

the long term. PropTech businesses will survive if they solve problems without duplication.

Although this analysis can be used to obtain information about the real estate market, we are not limited to it and it can always be upgraded and improved. The models that are made can easily be used for decision making process in proptech.

The material is deducted, figures, facts and quotes are verified with the original sources.

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