

DIGITAL OPTIONS FOR FORWARD-LOOKING MANAGEMENT IN A PREDOMINANTLY OFFLINE SECTOR

Margarita Ivanova

Abstract: *This publication explores the opportunities that digitalization can offer to improve the current practice and cope with pressing challenges in the real estate sector. The analysis encompasses five key aspects. The first examines the core subject for management control. In a dynamically changing international environment, the second highlights the importance to better understand the growing client's demands. The third is dedicated to the ways to improve customer experience, as part of the strategy for increased competitiveness. The fourth section introduces the discussion for tokenization, as a new way to approach real estate assets. The fifth aspect is devoted to the human factor and the preparation of qualified professionals as a precondition for success. The key role of the university is highlighted as a leading institution. Important recommendations are formulated in the end of this publication to help real estate leaders.*

Key words: digitalization; management; innovation; artificial intelligence.

Introduction

New technologies are changing the global landscape and influence the decision-making process of the management at different levels. Innovations are transforming the way business is done, creating new opportunities and disrupting some current practices.

The question is whether sectors which are predominantly offline can get advantage of digitalization. This paper is exploring the options in the real estate sector. It is different from others for a variety of reasons. It is not only about square footage. The parameters of the deals involve the whole surrounding, the context in which they take place, the added value for the clients and the companies with reference to more than a couple of criteria. This complex decision making process, which has long-term consequences, requires analyzing multiple variables, which can change dynamically. It is much more than a matter of buying a single good or service, it is about the whole package and the overall perception of the relevant stakeholders.

The main aim of this publication is to bridge theory and practice. It has two main tasks. The first is to highlight key aspects from the literature, which are relevant for the management. The second is to review best practices and new ideas, based on the documentation and publications from different companies across national borders.

By recognizing the achievements in the research, this paper calls for discussion and offers viable options for the management, as international competition is increasing and more efforts to satisfy the growing demand for tailor-made service for clients are required to increase competitiveness.

The thesis of the author is that there are multiple opportunities to integrate digital technologies in the strategies of the companies in the real estate sector.

This paper is structured around key challenges that the business has. The first is devoted to the core subject of the management control. The second deals with the need to understand the changing demands of the customer. The third is to improve user experience as customer expectations rise. The fourth introduces a relatively new concept for the real estate sector – the so called tokenization and the challenges it offers to solve. The fifth section of this paper is dedicated to the human factor and the importance of education. The conclusion highlights key ideas and provides recommendations.

1. Management control in the digital era

Forward-looking management can be more successful, if they incorporate the achievements of the academia as the foundation for their work. Even though the technological advances at the heart of this paper, it also aims to highlight the significance of the work done during the past years by researchers and its importance for modern management (Berry et al, 2019).

Management control is a complex concept with various definitions, encompassing what managers' responsibilities require. In concise terms, it deals with all activities about designing, implementing and using planning and control systems to implement strategies (Anthony and Govindarajan, 2007). Three different perspectives can be helpful to understand where digital technologies have potential. They were highlighted long before the technological revolution of the past decade, but

are still very useful to provide the framework. Anthony (1965) was one of the first to frame the concept of management control and included several valuable points (Bredmar, 2017). First, it is a phenomenon which takes place within organizations and deals with a manager who together with the personnel has to achieve certain results. The second perspective deals with the predefined objectives at the strategic level, which provide guidance for work to the lower levels. The third is devoted to performance measurement and monitoring of planned factors and critical resources. Therefore “at the centre of management control are resources, the social context, organizational objectives and performance measures” (Bredmar, 2017, page 117). Digitalisation can offer a lot of opportunities for each of those aspects, including in the real estate sector. They help increase flexibility of the organizations and develop agile approaches. Seamless information exchange and communication due to integrated software can improve the daily operations, increase transparency and reduce time for reporting. The decision making can be straightforward, as all the documentation moves through the different departments. The shorter the time for communication and authorization procedures, where needed, the better the opportunity to react quickly to the changing environment. In the current situation, it can help reduce unnecessary physical meetings and thus help protect health, while allowing the company to continue working despite the circumstances.

2. Using digitalisation to better understand the growing customers’ demands

At the core of any business model is how to provide added value for the customer. This holds true for any sector, but it is more complex for the real estate. If the needs-based approach is adopted, the first step for the formulation or adaptation of a viable strategy for the dynamic international environment is to understand what the customer really need. As real estate contracts have long-lasting consequences and usually involve strategic decisions, the answer to this question can be challenging. As there are multiple variables in the equation, it would require a lot of time and efforts to establish the ground for future work. Big data, machine learning and artificial intelligence can be very helpful in this respect. These terms have come to illuminate on the new opportunities to better understand what customers want. For the

basis of analysis, companies can look at the growing amount of data, generated by the online presence of their potential clients, their priorities and their goals. The better the data quality, the greater the opportunity to extract meaningful information. This is the first step for designing a special approach to the customer’s preferences – thus gaining a competitive advantage.

3. Offering improved client experience

Enhancing customer experience depends on two aspects: first, what the technological advances can offer; and second, what the clients are ready to accept. As this varies across the segments of the market, companies have to design their strategies carefully.

Real estate leaders can benefit from more digitalisation to “become more effective communicators and drivers of change as the industry shifts to digital at an increasing pace” (Cameron, 2019). Having understood the customer needs, companies can use technologies to offer them enhanced experience. Digitalisation is important for the real estate sector (Sittler, 2017).

Virtual reality and augmented reality are among the most spectacular improvements. They transform the way interested clients can experience a new building, allow for the tour to happen from afar, with no need for a physical meeting. Given the current situation and the avoidance of physical presence, this practice can reduce risks for the health and safe brokers’ time. “The VR technology realizes interaction between users and virtual objects in virtual scenes to develop 3D virtual estate roaming exhibition system... (it) aims at saving time and money for both real estate sellers and buyers by employing modern technologies” (Patara and Pharande, 2019) For exotic destinations or corporate property located on a different continent, it can have a high added value.

This is not a universal solution though, as the expenses associated with it can restrict the application of this approach for the moment. As technologies advances, there will be more opportunities to broaden the accessibility of such tools.

A 3-D tour of some properties, available on the internet is increasingly used by some Bulgarian companies. Its advantages are multiple, even if it is not a real substitute for a visit. It is not only a matter of a firm’s decision whether to use it. It is up to the customers to decide how much they value such options. Among those clients with limited time, this opportunity is much more valuable than for others. In any

case it is just an option. Wherever it is not sufficient or appropriate, long-tested practices come into play.

Digitalization can complement traditional work and reduce the burden for firms. But it cannot substitute the role of the broker or facility manager. It is only there to assist.

4. Tokenisation as a solution to the affordability challenge

Tokenisation has triggered a lot of discussions among managers with the opportunities it can offer and the challenges associated with it. While the technology aspects have allowed the development of new business models, which overcome challenges of asset management, some regulation and pragmatical issues have raised concerns. Apart from the equity market and debt market, tokenization has increasingly become a topic of deliberations with reference to the real estate sector. More attention has been given to the subject in the recent years (for example Berentsen and Markheim, 2020; Di Maggio, Lane, and Ma, 2018). The Organization for Economic Cooperation and Development has recently published a special issue of its blockchain policy series on tokenization of assets, including real estate (OECD, 2020). It outlines main advantages and risks, which will be elaborated on in this section. OECD highlights that for tokens, representing a pre-existing real asset, tokenization can be considered “as a proxy for asset-backed securitization on the blockchain” (ibid, page 15), which can be of great importance for decision makers.

The advantages of turning illiquid non-financial (and financial) assets into such liquid marketable securities can be multiple. “Efficiency gains through the transfer of value without the need for trusted centralized intermediaries and/or through the efficient automation of processes, resulting in faster, potentially cheaper and frictionless transactions driven by disintermediation and automation” are among the stated benefits (OECD, page 16). Transparency is another positive aspect that is elaborated on, when exploring the opportunities that blockchain has. As tokens represent only a small fraction of the asset, this fractionalisation allows also for small minimum investments and opens the gates for a larger number of participants. Those advantages are not only theory. The first sale of building through blockchain technology in Europe has already been pioneered in France (Equisafe, 2019).

While greater fluidity (Di Maggio, 2018), efficiency, ease of transactions 24/7, transparency and accessibility are attracting more attention (OECD,

2020; Deloitte, 2018; Sazandrishvili, 2020; Berentsen and Markheim, 2020), other issues raise concerns among managers. The challenges are linked to the transformation of technologically possible solutions into practice across national borders. Different jurisdictions treat blockchain in different ways, which has implications for the level playing field. This is common issue for the tokenization market in general, not only for the real estate sector. The same holds true for the creation and initial sale of tokens and the secondary markets (Deloitte, 2018). More awareness is needed for the characteristics of the digital identification. Data protection concerns have discouraged others, as more data is generated, questions for its management are increasingly discussed.

Tokenisation is still a relatively new concept. It would probably take time before it can unfold its potential. There are a lot of open questions. They are linked to regulatory issues, perceptions and awareness about the opportunities that such innovation can offer and the risks for stakeholders. Which countries will develop the necessary legal framework to allow participants on this market to benefit from the full potential and when this can happen is open for deliberations. Even if the necessary infrastructure is further developed, the question remains when and how it can be used for real estate. The decision is up to the relevant stakeholders. There is no universal solution that fits all in the sector. It depends on the management to develop criteria for evaluation of the opportunities and risks in accordance with the company strategic goals and values.

5. Preparing the specialists of tomorrow

To what extent the real estate sector can get advantage of the opportunities that new technologies can offer, depends on the education and training that decision-makers in the field have acquired, among other factors. It is a complex process, where new technologies can be used to solve current challenges, as the situation during the summer semester 2020 has showed. How successful it is, is determined by the collaboration between academia and the business. It should be guided by two main aspects – which give answers to the following questions:

The first one is linked to the evolution of the real estate sector. What will the drivers of change be? This is at the core of understanding what will be needed by the professionals of tomorrow. Innovations, demographics, customer preferences, new business models, climate change, and sustainability

concerns – all of them can influence the decision-making for real estate. They can offer new opportunities or challenge existing practices. The internet-of-things, for example, is reshaping the expectations for smart facilities. It allows for generation of data, such as use of electricity or water. This can lead to optimization. For instance, the work of light bulbs in unused spaces or computers can be reduced, thus decreasing monthly bills.

As technologies develop, they transform the market. How important is it for a client to have remote control over the power system of the property or built-in mechanisms for optimization of energy use might be a turning point in some deals. This holds true both for households and corporate real estate, especially in time of economic challenges. Given the current situation and the unknown effects of the pandemic for the business, such aspects will probably increase their significance.

Business models have to adapt to the changing international environment. How to cut unnecessary costs becomes a paramount question. If a company can reduce the money spent for electricity bills because of better facility management, they would most certainly do so. Those who do not use such technologies will probably be more interested in exploring the opportunities. To stay competitive on the market, firms might be more open for alternative solutions, especially given the economic uncertainty.

How innovations are transforming the business is a question of safety, not only money. The role of artificial intelligence (AI) and robots is attracting more attention. Given that people have to keep distance and that there are some tasks that are not very appealing, AI can offer a solution that serves multiple causes. Such technologies can be used to perform tasks for the construction or maintenance of buildings, which in the time of the pandemic, will offer the opportunity to protect human health and at the same time help some companies stay on the market and avoid going bankrupt. They can help reduce interactions between humans and still allow the business to keep delivering the planned outcomes. Tech allows for careful planning to avoid unnecessary contacts and to do preventive work, which becomes even more important today. The ever more digital management of buildings allows for a growing number of followers to join, while other activities within the real estate sector are also increasing their popularity. If construction is taken for consideration, what the effect of the 3D printing for example is thought-provoking. Authors such as Bos et al (2016), have already explored the potentials and

challenges of 3D concrete printing, as concrete is one of the most used materials in buildings. It calls for deliberations on the management of the relations between design, production, assembly and construction to better suit the needs for building development.

The technologies are there and are improving. The question is whether the management will consider such aspects, which leads to the second key aspect for this section. Some authors, such as Cooke, Appel-Meulenbroek and Arentze (2019) have already explored the adjustment of corporate real estate during a period of significant business change. The special conditions in the first half of 2020 create the preconditions for such reflections. Will the current situation stimulate more managers to integrate more technologies or vice versa? The next few years will give the answer for which activities and to what extent each firm is ready, as the real estate sector develops.

Taken the many variables, what could be done? It seems like a complex equation, where dynamic change of many of the components is almost inevitable. The question could arise, if it is possible to prepare for such a transformation. The short answer would be that it is. As long as educational institutions are involved in an appropriate way.

The second main aspect of this section is devoted to delivering high quality education to motivated students. As the real estate sector is evolving, the university gives the indispensable theoretical and practice-oriented knowledge to prepare them for success. To develop the expert skills, required in the real estate sector, they need to develop broad understanding about multiple sectors of expertise. Economics, marketing, business and administration, entrepreneurship, digital literacy, human development and communication skills are all required to get the job done in the right way. Developing innovation culture is part of the solution (Müller, 2018).

Bridging theory and practices is important, but it can include a lot of challenges. The real estate sector has a broad scope. It is influenced by the dynamics of other sectors and can influence them in return. Moreover, it can change dynamically. How the current will affect the sector is still to be seen. To succeed, one needs not only professional educators, but also motivated students. Only if the latter are eager to learn more and ready to think and actively participate, can the results of the educational process be optimal. It is a two-way street, which requires a lot of efforts from both sides to cover a wide range of topics and skills.

There is no universal recipe, nor is it possible to “download” new digital management skills. It is rather a multiple-factor process, which requires devotion and understanding for dynamically changing variables.

Multidisciplinary programs that bridge theory and practice are important. Examples where the university adapts quickly to changes of the conditions, as they have been in the summer semester 2020, prove that it has a lot to teach students. It leads them forward to being better qualified specialist and also flexible solution-orientated managers. And business representatives should support the university in their efforts. Forward-looking managers can truly understand the reasons for closer collaboration of mutual benefit for a better real estate sector.

Conclusion and recommendations

There are various options to create added value for the company and the customers. As new ways to improve the products and services arise, it is advisable to explore the opportunities that digitalization has to offer in different areas within the real estate sector. Even if well-established practices will continue to be significant, managers should be aware of the transformations, introduced by new technologies, and include them in their strategic thinking.

The increased number of options and variables add to the complexity of management in the dynamically changing international environment. Bridging theory and practice, this paper has highlighted that there are multiple opportunities to integrate digitalisation in the real estate sector. They do not diminish the role for well-established expert knowledge in the field, but even increase its significance. Thus the thesis of the author has been proven.

To solve the equation with more variables than before (each of them changing dynamically), decision makers need the right skills mix. Which direction to choose and to what extent a particular technological advance is useful, depends on the characteristics of the business models that companies have and those of their managers.

The university can provide leadership and guidance, as it has proved to be capable of offering solutions to the new conditions of the international environment, as the summer semester 2020 has showed.

Collaboration between the academia and business can be the foundation for crisis-proven innovation strategies for a real estate sector, benefitting from the digital advances.

Literature

Anthony, R. N. (1965) *Planning and control systems: a framework for analysis*. Boston: Harvard University.

Anthony, Robert N. and Vijay Govindarajan (2007) *Management Control Systems*. 12th ed. Boston: McGraw-Hill/Irwin.

Berentsen, Aleksander & Markheim, Marina (2020) "Real Estate trifft auf Blockchain: Chancen und Herausforderungen der Tokenisierung von illiquiden Vermögenswerten [Real Estate meets Blockchain Opportunities and Challenges of tokenization of illiq,]" MPRA Paper 99399. University of Munich, Germany.

Berry, A.J., Broadbent, J. and Otley, D.T. eds., 2019. *Management control theory*. Routledge.

Bos, F., Wolfs, R., Ahmed, Z. and Salet, T., 2016. Additive manufacturing of concrete in construction: potentials and challenges of 3D concrete printing. *Virtual and Physical Prototyping*, 11(3), pp.209-225.

Bredmar, K. (2017), “Digitalisation of Enterprises Brings New Opportunities to Traditional Management Control”, *Business Systems Research*, Vol. 8, No. 2, pp. 115-125.

Cameron, I. (2019) Digital literacy: Taking the first step toward digital competency in corporate real estate. *Corporate Real Estate Journal*, 9(1), pp.42-55.

Cooke, H., Appel-Meulenbroek, R., & Arentze, T. (2019) Adjustment of corporate real estate during a period of significant business change. *International Journal of Strategic Property Management*, 23(3), 171-186.

Deloitte (2018) The tokenization of assets is disrupting the financial industry. Are you ready? Inside Magazine issue 19, November, <https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/lu-tokenization-of-assets-disrupting-financial-industry.pdf>

Di Maggio, Marco, David Lane and Susie Ma (2018) "Fluidity: The Tokenization of Real Estate Assets." Harvard Business School Case 219-057, December 2018. (Revised April 2020.) <https://www.hbs.edu/faculty/Pages/item.aspx?num=55466>

Equisafe (2019) *AnnA Operation: first sale of building through blockchain technology in Europe*, Press Kit, 25 June.

Müller, Philipp (2018) *Innovation Culture – How to shape the digital future in Real Estate Education?! In 14th ERES EDUCATION SEMINAR- "Real Estate Professionals of Tomorrow"*. ERES:

Education Seminar. Kaiserslautern (Germany).
<https://eres.architexturez.net/doc/oai-eres-id-eres2018-edu-101>

OECD (2020) The Tokenisation of Assets and Potential Implications for Financial Markets, OECD Blockchain Policy Series, www.oecd.org/finance/The-Tokenisation-of-Assets-and-Potential-Implications-for-Financial-Markets.htm

Patare, T.B. and Pharande, N.S. (2019) Virtual Reality: A New Dimension for Real Estate. *International Journal of Engineering Science*, 21371.

Sazandrishvili, G. (2020) Asset tokenization in plain English. *Journal of Corporate Accounting & Finance*, 31(2), pp.68-73.

Sittler, Peter (2017) "Digitalization in Real Estate." In 24th Annual European Real Estate Society Conference. ERES: Conference. Delft, Netherlands, <https://eres.architexturez.net/doc/oai-eres-id-eres2017-128>

Assist. Prof. Margarita Ivanova, PhD
University of National and World Economy, International Economic Relations and Business Department

1700 Sofia, Student Town, UNWE, cab. 3017

E-mail: ivanova.margarita@mail.bg