

Investigating the impact of the sustainability transition in European building codes and regulations on the congruence of identity, practice, and knowledge in commercial real estate companies

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Abstract

Sustainability is currently a hot topic in many industries, including commercial real estate. Resulting from environmental challenges, many new European building codes and regulations are introduced focusing on sustainability, forcing companies to change. To research the influence this sustainability transition in European building codes and regulations has on commercial real estate companies, the identity-practice-knowledge model is used. Previous research on topics like sustainability and organizational change show several outside pressures and triggers for change, while the seven interviews conducted with industry professionals give an insight into the internal struggles, like necessary additional knowledge, and opportunities of commercial real estate companies, like improving sustainable practice. This paper provides insight into the impact of the sustainability transition in European building codes and regulations on the congruence of identity, practice, and knowledge of commercial real estate companies, and the priorities they must make. This might aid commercial real estate companies in preparing for this change, and in creating a change process for a smooth transition.

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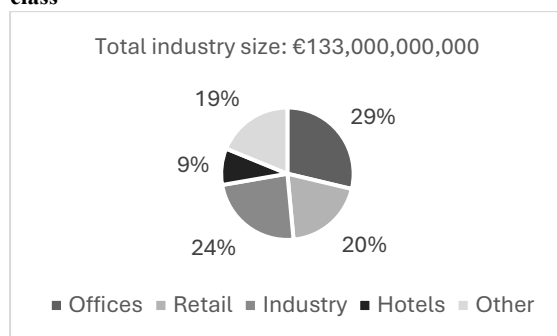
Key words

Sustainability transition, commercial real estate, identity-practice-knowledge, European building codes and regulations

1. Introduction

Due to recent transitions in European sustainability codes and regulations, companies are forced to change. The goal of these codes and regulations is to become carbon neutral by 2050 (United Nations, n.d.). The commercial real estate sector is heavily affected by this transition (Why the Built Environment – Architecture 2030, n.d.). The goal of reducing CO2 emissions in commercial real estate can be divided into three themes: energy usage, building and materials, and (transparent) reporting. Within these three themes we distinguish between new-built and existing buildings. The distribution of asset classes (Statista, 2024b) and total market size (Statista, 2024) of the European commercial real estate industry are shown in Figure 1. Besides its large size, the commercial real estate industry is responsible for 40% of the total CO2 emissions globally (World Green Building Council, 2021). The relevance of this transition towards sustainability for the commercial real estate industry lies in its reliance on these European building codes and regulations as a benchmark across the three themes mentioned. This envisioned industry transition implies that many organizations change toward more sustainable practice. Organizational change is the transition of an organization from one situation to another (Barnett & Carroll, 1995).

Figure 1: European commercial real estate per asset class



Research on sustainability shows that even though executives see the importance of sustainability, only a small percentage has implemented a sustainability strategy in their organization (Kiron et al, 2017). The actions of these sustainability strategies are characterized by institutional pressures (Scott, 2007) and economic incentives that are influenced by competitive pressures (Nyoni et al, 2023). Tagod et al (2021) show how these coercive pressures shape a company's structure and risk management. Lastly, why and how organizations incorporate sustainability into their strategy, systems, and activities is researched by Sroufe (2017).

A fair amount of research is done on organizational change and change management. According to a model developed by Vanegas and Pearce (2000) a change in codes and regulations is a major trigger for organizational change. Another model by them builds further on these triggers and consists of reasons for organizations to include sustainability in their practices by developing a general

guide for this change (Vanegas & Pearce, 2000). Other research on the institutional perspective of organizational change shows that, among other things, radical organizational change as a response to field-level change does not spread equally across organizations within that field (Greenwood et al, 2008). This radical change causes incongruences in the identity, practice, and knowledge of organizations (Kump, 2018). Graetz and Smith (2010) present the competing and complementary forces that organizations must face when dealing with organizational change. These forces are, for example, profitability and sustainability in case of this research.

The commercial real estate market is very conservative in nature and hasn't experienced much radical change in the past (Utko, n.d.). Due to its capital intensiveness, the commercial real estate industry changes very slowly. The transition towards sustainability is a radical one that impacts the congruence of identity, practice, and knowledge of companies. In this case, the trigger for change is the transition in European building codes and regulations towards sustainability.

What we do know is that commercial real estate companies experience incongruences between their identity, practice, and knowledge (Kump, 2018). What we don't know is what these incongruences mean for companies in the commercial real estate sector: how should they deal with this forced transition towards sustainability, due to the transition in European codes and regulations, especially where it concerns the companies' identity, practice, and knowledge as per the model developed by Kump (2018).

This leads to a gap in the research currently existing on sustainability and organizational change in the commercial real estate industry. To close this gap, the impact of the sustainability transition in European building codes and regulations on commercial real estate companies and the congruence of their identity, practice, and knowledge will be researched. The relationship between the variables of this research will be explained by the distinction between new-built and existing buildings, and the three themes: energy usage, building and materials, and (transparent) reporting.

Resulting from the research gap, the research question of this paper is: *How does the transition towards sustainability in European building codes and regulations impact congruence of identity, practice, and knowledge in commercial real estate companies?* By conducting interviews with seven experts in the field of commercial real estate. this research question will be answered by the end of the paper. This research is both inductive and deductive and has a qualitative approach.

From an academic perspective, this paper contributes to research on sustainability and European sustainability codes and regulations. It provides insight into the dynamics of organizational change and the congruence of identity, practice, and knowledge in commercial real estate companies resulting from the sustainability transition in European codes and regulations. This research can be a

steppingstone for further research on this topic and related topics.

From a practical perspective, this paper gives commercial real estate companies an insight into specifics of organizational change, consisting of the impact of the sustainability transition of European building codes and regulations on their identity, practice, knowledge, and congruence thereof. These insights aid these companies in preparing for this change and design a change process to smooth the transition towards sustainability.

2. Theoretical background

There are several research papers and articles that will be used in this paper. These papers and articles cover relevant topics regarding sustainability in commercial real estate, European sustainability building codes and regulations, organizational change, and congruence of identity, practice, and knowledge in companies. Resulting from this research, the research gap is developed.

2.1 Sustainability in commercial real estate

Sustainability is a hot topic nowadays, especially in commercial real estate given its contribution to worldwide carbon (CO₂) emissions. According to the World Green Building Council, it is estimated that the commercial real estate sector is responsible for close to 40% energy related CO₂ emissions globally (World Green Building Council, 2021).

According to Kiron et al, a survey shows that 90% of executives from multinationals considers sustainability to be important, but only 60% of these multinationals have a sustainability strategy (Kiron et al, 2017). Sustainability action is characterized by institutional pressures, which form the basis for the institutional context which organizations operate within (Scott, 2007). Research by Nyoni et al (2023), suggests these increasing institutional pressures are caused by government action and stakeholders of the organization. The key findings of this research show that even though sustainability actions are mainly driven by economic incentives (for example, rising energy and resource costs), there is significant external (coercive) pressure from governments and other stakeholders on real estate owners regarding sustainable action. Additionally, these economic incentives are influenced by competitive pressures that create an environment in which organizations copy practices from successful organizations in the market to remain competitive (Nyoni et al, 2023).

The conclusion of research by Tagod et al. (2021) suggests that energy efficiency and renewable energy are top priorities in the real estate sector for addressing sustainability, which is supported by earlier research by, for example, Bandejas et al (2020). This can be explained by the business benefits of investing in energy efficiency as this reduces operation costs and increases earnings. This is due to the coercive pressure of sustainability demands made by tenants (Nyoni et al, 2023).

2.2 European sustainability building codes and regulations

At the basis of the sustainability transition of European building codes and regulations are the reporting standards, with the non-financial Corporate Sustainability Reporting Directive (CSRD) at its heart. The CSRD requires large and/or listed companies to report and publish the social and environmental aspects of their activities and the effect they have on the environment and the people living there (Corporate Sustainability Reporting, n.d.). Some gaps that existed in the European sustainability regulations are closed by the EU Taxonomy Regulation (Baumüller & Grbenic, 2021). The EU Taxonomy is an initiative that aims to make private financial investments more sustainable by providing a ranking of environmentally friendly economic activities. Another key sustainability regulation is the Carbon Border Adjustment Mechanism (CBAM). This regulation aims at reducing CO₂ that is emitted during production outside the EU of imported products, called carbon leakage (Zhong & Pei, 2023). CBAM is part of the European Green Deal which consists of a set of policy initiatives that aim at making Europe the first climate-neutral continent by 2050. Creating a circular economy is one of the main objectives of this initiative to reduce carbon emissions and increase economic growth (Fetting & ESDN Office, 2020).

These regulations are implemented to create awareness in organizations about the use of resources and the impact on environment and people. The focus of most sustainability regulations is on new development. The Energy Performance of Buildings Directive (EPBD), however, is focused on the renovation of already existing buildings. This directive aims to increase the number of renovations of energy inefficient buildings, making suggestions on how to improve their energy performance (Energy Performance of Buildings Directive, n.d.).

According to Baumüller and Grbenic (2021), a big part of the proposed reporting requirements (CSRD) is excessive and unrealistic due to the administrative pressure it creates for these organizations and surpasses the initial goal of the European Union (EU) to make sustainability reporting more complete, reliable, and comparable within the EU. They state that the time pressure and uncertainty regarding the contents of this regulation is highly concerning. On the other hand, the analysis by Koch et al. (2023) shows that the push the EU taxonomy tries to give is not demanding enough to reach EU goals and could lead to a risk of EU sanctioned greenwashing by organizations. In any case, these new building codes and regulations imply organizational change for companies in the commercial real estate industry.

2.3 Organizational change

According to a model by Vanegas and Pearce (2000), a change in codes and regulations is a trigger for organizational change (Vanegas & Pearce, 2000). Therefore, organizational change is inevitable in the sustainability transition of European building codes and

regulations due to the new challenges these organizations must face.

Research by Sroufe (2017) explains why and how corporations incorporate sustainability into their corporate strategy, systems, and activities. Key findings show that integration of sustainability occurs through, among other things, the alignment of performance metrics within and across business units. Sroufe predicts that integration, together with change management, is a critical success factor for the growth of strategic sustainability initiatives in organizations (Sroufe, 2017).

Another model by Vanegas and Pearce for organizational change to increase sustainability, specifically focused on the architectural/engineering/construction (A/E/C) industry, builds on these triggers. This model consists of reasons for organizational decision-makers to include sustainability in their practices, and pinpoints key strategic practices for doing so. It provides a guide for all stakeholders in the process of change, within and across the organization, and uses current practices as a starting point for the change towards sustainability but limits itself to general considerations (Vanegas & Pearce, 2000).

Other research by Greenwood et al (2008) gives an institutional perspective on organizational change, naming several key features. These include, among others, that for organizational change to be successful it needs to include both reflexivity and theorization at both a field and organizational level, and that radical organizational change as a response to field-level changes does not spread homogeneously across organizations in that field (Greenwood et al, 2008). In research by Tagod et al it is explained how coercive pressures shape organizational structures and a company's risk management (Tagod et al, 2021).

Change and continuity in organizations is both competing and complementary, according to Graetz and Smith (2010). Their research focusses on different philosophies for change and presents the competing and complementary forces that organizations must face when dealing with organizational change like, for example, the amount of uncertainty, the amount and speed of change, and stimuli for change (Graetz & Smith, 2010).

2.4 Identity-practice-knowledge

Organizational change comes with inherent internal tensions and incongruences. A model that is suited for researching this is the identity-practice-knowledge (IPK) model by Kump (2018). This model shows the balance and unity between the identity, practice, and knowledge of companies on an organizational and individual level. This balance can be affected by radical change like, for example, the sustainability transition of European building codes and regulations. The multilevel perspective aids in identifying and anticipating problems occurring due to these radical changes. The main point made in this paper is that the imbalance between identity, practice, and knowledge of organizations, that needs to be remedied by the employees, is what leads to many problems in radical organizational change. This imbalance, or incongruence, arises regardless of the starting point of this radical

change. Identity, practice, and knowledge are both interrelated and interdependent. Since all proposed changes need to be put into practice to become effective, radical organizational change always leads to a change in practice. This change in practice creates incongruence between current knowledge and required knowledge to carry out these practices. A change in organizational practice needs a shift in individual practice of employees, which might lead to an incongruence between these individual practices and individual identity of employees of the organization undergoing radical change. The identity of an organization is largely cocreated by the identities of the individual employees of this organization, just like organizational knowledge is cocreated by the individual knowledge of the organization's employees (Kump, 2018).

2.5 Research gap

The radical change that the commercial real estate industry is experiencing has an impact on the congruence of identity, practice, and knowledge of organizations. This change is triggered by the transitions of European building codes and regulations toward sustainability. It is remarkable that the commercial real estate industry is undergoing such radical change since it hasn't experienced this in the past very much (Utko, n.d.). This is due to the conservative nature of the industry causing it to change very little and very slowly. Among others, Vanegas and Pearce (2000) have added to this research explaining that changes in (sustainability) strategies of organizations, including commercial real estate companies, require reflection and adaptation to be able to cope with this changed strategy. What we currently don't know, due to a lack of experience with change processes in the commercial real estate industry in general, and the recent sustainability demands specifically, and therefore a gap in the research, is what this change means for commercial real estate companies in their transition towards sustainability: how do they deal with the incongruences of their identity, practice, and knowledge? This research gap includes the companies' identity, practice, and knowledge individually, their influence on each other, and the corresponding congruence.

3. Methodology

This research is designed to analyze the impact of the sustainability transition in European building codes and regulations on commercial real estate companies, using a qualitative approach. Qualitative research is focused on why people act the way they do, using non-numerical data (Hecker & Kalpokas, 2024). In this paper, the non-numerical data that is collected consists of seven interviews that are conducted with industry professionals, and afterwards analyzed using Alas.ti.

3.1 Sample group

For this paper seven interviews were carried out with different European commercial real estate companies differing in size, location, and focus on new-built or existing buildings. The interviews were conducted with employees of commercial real estate companies that have

experience in different departments (e.g. legal, sustainability, development, asset management) and awareness of European building codes and regulations and the transition towards sustainability thereof. To anonymize the interviews, each interviewee got a pseudonym, which can be seen in Table 1, in the format consisting of a combination of ‘IP’ and a number between 1 and 7, and characterizing details, like company names and employee names, were removed.

Table 1: Interviewee characteristics

Pseudonym	Job title	Company type
IP1	Project manager	Advisor
IP2	Head sustainability	Developer & investor
IP3	Sustainable business development	Developer & construction
IP4	CEO	Developer & investor
IP5	Head sustainability	Developer & investor
IP6	Real estate director	Investor
IP7	Head ESG and sustainability	Developer & investor

3.2 Data Collection

The focus of the interviews was on what the companies already knew versus what they didn’t know yet, what this means for their current and future business, and if this would change the company. An interview guide was used to provide structure to the interviews and keep the collected data comparable. This interview guide consisted of questions relating to the background and daily activities of the interviewee and the organization, sustainable practices and the transition towards sustainability, activities influencing identity, practice, and knowledge of the organization and its employees, the main challenges experienced by the interviewees, and advice to other organizations in similar transitions.

3.3 Data analysis

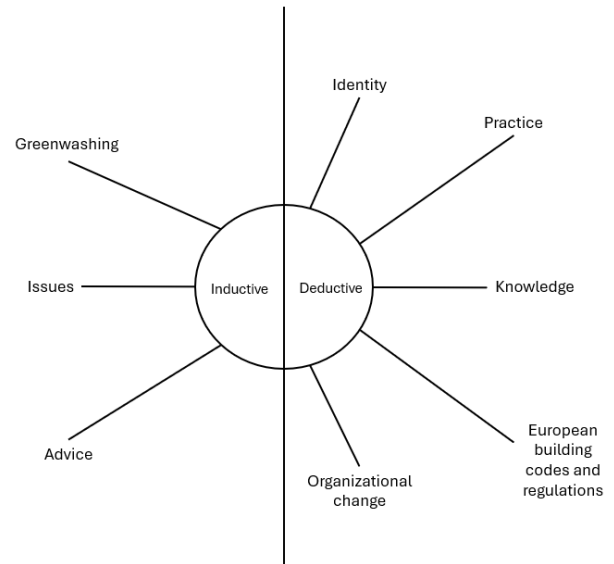
Both inductive and deductive data analysis was used in the form of interviews and literature respectively. A deductive approach to qualitative data analysis is based on pre-existing data or theories and aids in testing the theory or hypothesis of the research (Armat et al., 2018). Deductive codes were established prior to the analysis, covering the main topics: organizational change, identity, practice, knowledge, and European sustainability building codes and regulations. These codes were used as a starting point, since they provide a wide range of insights that relate to the main topics of this research.

On the other hand, an inductive approach to qualitative data analysis aids in establishing clear links between findings from raw data, like interviews, and the research objective (Thomas, 2006). During the process of analysis, inductive codes were established covering the topics: issues/challenges, greenwashing, and advice. The inductive codes were added after discovering certain similar topics discussed by the interviewees, such as a comparison between what companies say they do versus

what they actually do (greenwashing), or similar challenges like the new reporting standards.

These deductive and inductive codes were established to aid in answering the research question and were added to the data analysis.

Figure 2: deductive and inductive codes of data analysis



4. Results

This chapter shows the results of the interviews with professionals in the commercial real estate industry. The goal of these interviews is to get a better understanding of the key aspects: congruence of identity, practice, and knowledge, organizational change, and European sustainability building codes and regulations. All statements made are directly related to comments from the seven interviewees.

4.1 Organizational change and sustainability

When asked about what triggered the need for change toward sustainability, most interviewees mentioned the different national building codes and the Corporate Sustainability Reporting Directive (CSRD) reporting standards. These national building codes sometimes differ between countries regarding content and timing of its commencement. As IP1 said: *“the biggest challenge is that some countries are already trying to implement the new codes and regulations while other countries are still waiting. This is annoying, especially for clients that have buildings in many European countries. They can do something in country 1 but are waiting for codes and regulations in country 2, making it hard for them to have buildings on the same level of modernization in different countries”*.

The CSRD is mandatory for companies of a specific size and take a lot of knowledge and time to complete. Organizations have to include data on their energy usage and how different resources influence it, which is not

always easily accessible due to tenants occupying the buildings. IP4 said: *“suddenly we have to do something with it, so that means that we suddenly have to collect all kinds of data in our organization that we’ve never looked at before and that we’ve never had or can just get from tenants of our buildings”*. These buildings have to adhere to new European and national sustainability codes and regulations, even if they are older. This forces companies to modernize these older buildings to be up to the current standard, while also developing new buildings.

The sustainable requirements for buildings usually lead to a profit for the tenants. This is called a split incentive. Even though the real estate company is paying for these resources, they are not the ones profiting from them says IP2: *“The benefit of the lower energy costs due to sustainability of the building goes to its tenants, even though we are the ones investing in it”*.

Having proof of these sustainable practices, like CSRD, prevents organizations from greenwashing. *“The mandatory reporting forces organizations to concretely show what they are doing”* according to IP2.

These European and national building codes and regulations concerning sustainability in the commercial real estate market are meant to bring awareness to these companies regarding their practices and impact of their buildings on top of them being mandatory to adhere to. *“An EU parliament member said in an interview that we shouldn’t take the CSRD too seriously, that it is to create awareness. But this is complete madness of course, because it is flat out legislation and if you don’t adhere to it there are serious legal consequences”* said IP4 during the interview.

These codes and regulations therefor caused some confusion on what the right path to take is for companies. There are so many alternatives, like the CRREM path, Building Research Establishment Environmental Assessment Method (BREEAM), Paris Proof, and many more. Even though they all aid in working towards a more sustainable practice, they all have a different approach.

It was mentioned often in the interviews that there is a huge time pressure on companies in this sustainability transition. If you only start adapting your practices or enhancing your knowledge when it is made mandatory, you are too late and you are simply left behind.

The main conflict commercial real estate companies encounter in the sustainability transition of European building codes and regulations is the consideration of sustainable practice versus profit. This sustainable practice is dictated by these codes and regulations, but also by the knowledge the company has or needs to gain in order to adjust their practices, and a shift in their identity towards sustainability.

4.2 Identity, practice, knowledge

4.2.1 Identity

Due to the challenges of organizational change that come with the transition towards sustainability in European building codes and regulations, incongruence of

companies’ identity, practice, and knowledge arise. The congruence of identity, practice, and knowledge of commercial real estate companies is a key aspect of the research question this paper tries to answer. IP4 said: *“From the three aspects, identity, practice, and knowledge, you have to pick one to start with in the change process. I think the only one you shouldn’t start with is identity, even though you often see companies doing so”*.

There was no consensus between the interviewees on the impact of sustainable practices on the image or identity of the organizations, even though every company in the industry has to adhere to the same building codes and regulations.

When talking about the impact of these codes and regulations on the company’s identity, the biggest impact comes from the ‘above-and-beyond’ steps that some companies take to become even more sustainable than is required, which sets them apart from companies that do not.

On top of that, it was mentioned that having a sustainable company identity is one thing, but proving that it is true is another, according to IP2: *“We’re not only saying we are sustainable, but we can also prove it by using certifications”*. One way of doing this, that was mentioned by IP2, is by using green building certifications to make it clear to the public how green and sustainable the building is.

Proving that the organization’s practices are sustainable is also important to avoid greenwashing. Greenwashing is creating a false impression that the organization’s practices are sustainable. IP2 says: *“having the right evidence prevents the organization from greenwashing their practices. Proclaiming to act in a sustainable way is one thing, but actually incorporating sustainability into their practices is another”*.

The main thing that was mentioned, from an identity perspective, is the shift in mindset this sustainability transition required from companies and their employees. *“It’s not the same as it used to be. This requires a shift in mindset”* says IP6. This shift in mindset is seen as both a struggle and an opportunity. Believing in what you do as an organization is very important to keep everyone involved and motivated.

4.2.2 Practice

The main sustainable practices that the organizations of the interviewees started to incorporate as a response to the sustainability transition in European building codes and regulations are to enhance the knowledge of its employees with, for example, workshops. Even though obtaining this new knowledge is very important, putting it in practice is key. IP4: *“This accumulation of knowledge has a lot of impact on the practice, because you can actually execute everything that you learn. And the moment you start doing that, you can start looking for efficiency”*.

These codes and regulations give a direction of certain practices, but what helps the interviewees in adapting these practices is using tools like a Carbon Risk Real

Estate Monitor (CRREM) path to monitor the carbon impact of their buildings, and energy labels to express energy efficiency. IP4 said: *“without these tools, we wouldn't be able to get this done at all”*.

It was mentioned by the interviewees that it is important to find a balance between a profitable and a sustainable business. IP2 says: *“If you want to go really fast now, it is going to take more effort and time than you will gain from it. You have to find a balance where you can keep the business going and be more sustainable at the same time. If you start making everything more sustainable very quickly, it will be unaffordable”*.

To find this balance, they see a shift in focus now celebrating small wins and opportunities and looking at the details of each development or investment to see where they can reduce not only costs but also resources. IP3 said: *“It wasn't necessary to have to look at small wins and small opportunities because we earned enough money. But now times are changing, and the market is so difficult and strong that you have to look at where you can reduce your costs and, mainly, where you can reduce resources”*. An example that was given to do this was by looking more closely at the circular life or circular economy of resources of those developments and investments. *“If we can combine circularity with bio-based materials, that is the biggest win for me”* according to IP3. Circularity means that resources can be reused at a later stage or in a different development.

The identity of a company is also influenced by internal practices of the company. When looking at sustainable identity, this includes practices like using less paper or making the office more energy efficient.

What most interviewees thought was very important for the future was to start working more together with other companies in the market. Companies have to shift away from the idea that they are solely competitors, because the companies can share knowledge and ideas when they start working together, says IP3.

4.2.3 Knowledge

According to the interviewees, new knowledge is needed to adhere to the changing building codes and regulations. Where some companies are opting to hire new employees that already possess the necessary knowledge and skills, others choose to re-train their current employees. These companies are opting for training and workshops of their current employees to enhance their knowledge on sustainable practices and content of the new codes and regulations. Even though they acknowledge its importance, it takes a lot of time on top of their regular activities. IP2 said: *“It takes a lot of time to give everyone that much extra knowledge and to do further training. It is something on top of your standard day-to-day”*.

The knowledge needed to adhere to these new codes and regulations can also differ per country, creating more work for companies operating internationally, says IP1. What takes the most effort to learn is how the new reporting standards work and what information they should contain.

IP7: *“In the reporting framework you have to adjust to the sort of language that is used.”*

On the other hand, there are companies that don't see the struggle of this transition. IP6 says: *“It is also a bit of common sense”*.

Figuring out what the right way to proceed is can be difficult, especially without the right knowledge. According to IP4, companies can position themselves as a market leader if they have the right knowledge. This makes it very important to have clear communication within the company to keep everyone up to date on the right information but also to keep everyone motivated.

Besides internal cooperation, it can be valuable to companies in the same industry to work together so they can share knowledge and find support in their value chain, says IP3. Cooperation between companies can speed up the sustainable transformation of the industry by finding the solution together.

5. Discussion

5.1 Interpretation of results

In this chapter an interpretation of the results from the interviews is made, using the previous research mentioned above. This interpretation will lead to the conclusion of this paper explained in the next chapter. Furthermore, recommendations for future research, the theoretical and practical implications of this research, as well as its limitations, are discussed.

5.1.1 Organizational change and sustainability

The sustainability transition of European building codes and regulations, being a radical change (Vanegas&Pearce, 2000), creates the need for organizational change (Kump, 2018). A radical change like this has an effect on the congruence of the identity, practice, and knowledge of companies. This effect is that companies have to choose what aspects to prioritize in this transition. This can be either practice or knowledge, but not identity as this should be a result from change in the other aspects to avoid greenwashing, according to the findings of this study.

Both the CSRD and the EPBD have a large focus on energy consumption (where CSRD adds a large number of topics like social responsibility and supply chain responsibility), while the CBAM focusses on carbon emissions. The EU Taxonomy guidelines focus on both carbon reduction and energy consumption. This creates confusion for organizations on what to focus on. It is meant to create awareness, as is said by Zhong and Pei (2023), but the politicians creating these new codes and regulations don't always have their priorities straight saying that organizations shouldn't take them too seriously, according to the interviewees.

The main building code mentioned in this research, the CSRD, creates a time pressure and uncertainty for companies to adapt. If companies don't start adapting as soon as possible, the ability for them to survive is

questionable, because of the fast pace of the required organizational change.

An outcome of this research is that due to this transition, the entire process of investing and developing needs to be rethought. This requires both a shift in mindset and additional knowledge. To obtain this new set of knowledge, some organizations opt for re-education of current employees while others hire new employees that already have the right knowledge set. The shift in mindset is necessary to find a balance between modernizing old buildings and developing new ones, which both have to adhere to the same new codes and regulations, and between profitability and sustainability.

Organizational change is both competing and complementary (Graetz&Smith, 2010). Where the balance between profitability and sustainability is a competing factor, the involvement of employees and the need for change are complementary.

According to Greenwood et al. (2008) organizational change needs reflexivity and theorization to be successful. This means that employees need to get involved in the new sustainable practices of their organization and puts great importance on the trust in the organizations management and people in charge of sustainability. In the transition process of commercial real estate companies this means that if you incorporate your employees in the process, they become more involved and supporting of the transition. Involvement of employees keeps them motivated and aware of new activities, and it gives them the sense that they have an impact. This is especially important since the change towards sustainability is a never ending one, that is very costly as well, and requires proactivity from companies dealing with this sustainability transition.

5.1.2 Identity, practice, knowledge

Incongruence between identity, practice, and knowledge of an organization arises regardless of the starting point of the radical change that caused it (Kump, 2018). In this case the sustainability transition of European building codes and regulations. In the case of commercial real estate companies, this research found that an organization can change towards sustainability in two ways. The first one being an adjustment of their practices by considering and deciding on new internal standards for both existing and new buildings and implementing these new standards with a trial-and-error process, or a learning-by doing approach. The second way an organization can change towards sustainability, according to this research, is by changing its knowledge. It could try to increase its knowledge before implementing new standards, by hiring external advisors, organizing courses, or sending employees to specific schooling, in order to improve knowledge of current employees, but also by hiring new employees with the right knowledge. To start with changing their identity without either having more knowledge or experience is not advisable and might lead to greenwashing. The change in identity is something that should result from the change in practice and/or knowledge of the organization.

The organizational knowledge is cocreated by the individual knowledge of employees (Kump, 2018). According to the findings of this research, what takes the most effort to learn is how the new reporting standards work and what information they should contain. Organizations have two options in attaining this new knowledge: hire new employees or train current employees. The re-training, which is done by giving workshops or providing training, is very time consuming for employees and adds to the already considerable time pressure of the new sustainability codes and regulations for which this knowledge is required, which is highly concerning according to Baumüller and Grbenic (2021).

This research shows that the knowledge needed to adhere to these new codes and regulations can also differ per country, creating an extra obstacle for companies operating internationally. This leads to some organizations that opt for the choice of hiring new employees that already have the necessary knowledge and skills to perform these new activities.

According to Vanegas and Pearce (2000), a change in codes and regulations is a trigger for organizational change. Radical organizational change always leads to a change in practice. Kump (2018) argues that this is because change needs to be put into practice for it to be effective. This research found that this change in practice consists of a shift in mindset and focus for organizations. This shift is due to the need for modernization of old buildings, which was previously not a concern, while developing new buildings that are also up to the standards of the new sustainability codes and regulations. All the while, companies have to remain profitable to keep their business afloat. To be able to do this, it is important that companies start looking at the details of their buildings to see where they can reduce costs and reuse resources to create a circular economy. Tools, like a CRREM path to monitor carbon impact of the building, can aid in this sustainability transition in creating transparency of buildings.

Although practices are mainly influenced by the building codes and regulations, the above-and-beyond measures that organizations take to increase sustainability of their buildings is what sets them apart from the competition and what influences their identity the most. Creating a sustainable identity needs to be proven true, which can be done by using green building certificates to make it clear to the public how green and sustainable a building or an organization is. Proving organizational identity is important to avoid greenwashing or suspicion thereof.

A sustainable identity goes beyond the buildings an organization develops or manages. The sustainability of internal practices of the organization, like reducing the use of paper and higher energy efficiency of the office, is key. This corresponds to the statement by Kump (2018) that, just like practice and knowledge, the identity of an organization consists of the individual identity of its employees.

What wasn't known before is how this sustainability transition influenced commercial real estate companies and how they deal with the resulting incongruences of their identity, practice, and knowledge. Identity, practice, and knowledge go hand in hand. By adjusting knowledge, companies can change their practices to adhere to new codes and regulations or adjust their practices to enhance their knowledge, which changes their organizational identity. These organizational changes are a result of individual changes made by the organization's employees (Gioia et al., 2013). On top of these individual changes, it is important that companies within the industry start communicating on how to solve the issues that they are all dealing with. Sharing knowledge and ideas will help them find the best solution that everyone can profit from.

5.2 Theoretical implications

On a theoretical level, this paper contributes to research on the sustainability transition of European building codes and regulations. The existing research is expanded by a perspective on how this transition influences the congruence of the identity, practice, and knowledge of organizations, applied to companies in a specific industry: commercial real estate. The theory of congruence of identity, practice, and knowledge is rooted in previous research by Kump (2018). This paper has provided nuances as addition to this model by providing starting point options, specifically focusing on commercial real estate companies transitioning towards sustainability, as well as a practical example of how this model can be used in future research in, for example, specific asset classes. More generally, this paper can be a steppingstone for further research on this specific topic and industry, or related topics and industries like specific codes and regulations or industries like private real estate.

5.3 Practical implications

Besides contributions on a theoretical level, this paper also contributes on a practical level by showing commercial real estate companies what challenges to anticipate and overcome, and how some interviewed companies overcome these challenges. These insights have several valuable implications, such as guidance on how to adhere to these new building codes and regulations, alignment of the identity, practice, and knowledge of the organization, how to adjust to radical organizational change, and how adhering to these codes and regulations can give organizations a competitive advantage. During the interviews it became clear that the European building codes and regulations created some confusion on what the best way to act is. This paper gives an insight into the changes, related to the sustainability transition of European building codes and regulations companies in the commercial real estate industry can anticipate, how some companies in this industry deal with these changes, and how these changes affect congruence of their identity practice, and knowledge. Using this information gives a new perspective on risk management for companies as far as sustainability transition is concerned, providing guidelines for seeing these risks as opportunities for the organization to exploit. If applied, the outcome of this

research can help companies gain a competitive advantage in the industry.

5.4 Limitations and further research

Despite the valuable insights this paper provides, there are some limitations that could potentially influence the outcome of this research. Firstly, the sample size of the interviews. The minimum criteria of 7 experts in the industry was met but might not be representative for the entire industry considering its size, although the 7 interviewees on purpose present a broad spectrum of the industry.

These interviews are a key aspect of this paper and one of the main resources. These interviews, however, consist of the opinion of these experts. Although these opinions are educated ones, they might not be representative for every individual working in the commercial real estate industry.

Another limitation of this paper is that the commercial real estate industry is described as one market sector even though the interviewees, and the industry, are divided into many different stakeholders, for example investors, advisors, and developers. This generalization might impact the outcome of this research since it isn't focused on one specific sector of the commercial real estate industry.

Lastly, this paper uses European sustainability building codes and regulations, which might differ in certain aspects from national codes and legislation of European countries. This is mentioned by the interviewees but is not one of the main focus points of this paper which might influence the outcome.

As a result from this research two suggestions for future research are made. Firstly, it can be researched how European and national sustainability building codes and regulations differ and how this influences companies operating in those countries or companies operating in multiple European countries. Secondly, research can be specified by applying it to a specific asset class within the commercial real estate industry, like office, residential, or retail development.

5.5 Conclusion

The sustainability transition in European building codes and regulations has a significant impact on commercial real estate companies. They force them to adjust to a new reality focusing more and more on sustainability. These companies have to both gain more knowledge and gain more experience to be able to adjust properly. An organization cannot focus on all three aspects of the IPK model at once, influencing its congruence. They have to prioritize one or two aspects due to the overwhelming new European sustainability building codes and regulations. To avoid greenwashing, a change in identity has to result from a change in practice and/or knowledge. Organizations have to build their identity on something concrete. This means that an organization can start with a change in knowledge, by re-educating current employees or hiring new employees with the right skill set and knowledge, or with a change in practice, using a learning-by-doing

approach. The type of real estate company also has an influence on what the best starting point is. Where advisors best start with gaining the right knowledge to advise other companies on what best to do, developers might start with changing their practices by using different materials to adhere to the new standards, and investors could choose to go down either of these roads. The most important advice to commercial real estate companies is that they start sooner rather than later with adjusting to the sustainability transition in European building codes and regulations, regardless of the starting point is changing their knowledge or their practice.

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