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INFORMAL INSTITUTIONS IN THE CIRCULAR ECONOMY

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ABSTRACT: The paper adopts a perspective of institutional economics rarely used in environmental issues and aims to identify and evaluate informal institutions determining the transition towards the circular economy. Without informal institutions supporting changes, formal regulations will not serve their purpose well and will not achieve the intended objectives. The identified informal institutions comprise recognition of environmental problems, belief in the environmental impact of one's actions, willingness to make an effort to close cycles, and trust in the reliability of other actors' environmental commitment. Consumers are the ultimate product and service users, and their attitudes significantly determine the circular transition, so the CAWI survey was conducted among them. The results indicate that the identified informal institutions do not support circular transitions sufficiently. Significant changes in informal institutions are required to support the transition.

KEYWORDS: informal institutions, institutional economics, circular economy, circular transition, consumer behaviour

Introduction

The rapid increase in volatility and uncertainty in the global economy, climate change and its effects, and the increasing evidence of resource depletion drive the need to develop new economic models. One of the concepts that has gained popularity in recent years is the circular economy. The data showing climate change results and the scale and inefficiency of resource use are alarming and confirm the need for change and closing cycles.

International organisations and individual countries develop climate change adaptation plans. At this level, the need for adjustments is gaining acceptance. However, the success of these plans requires a wide acceptance and change of habits on all levels. Ostrom (2010, 2014) points out that addressing global issues, such as the fight against climate change, requires a polycentric approach and cooperation between public, private and individual actors at different levels.

From a scientific perspective, circular economy, despite the growing interest, remains a relatively new research area for academics from different disciplines. This leads to a diverse approach to analysis. However, it also offers many new research problems related to the motivators and barriers of development, as well as the causes and effects of transformation or the development of measurement methods.

When analysing the circular transition, it is essential to pay attention to institutional factors – all the actors' economic actions occur within a complex institutional environment. Considering the specific role of institutions and using an institutional economics approach makes it possible to seek answers to many questions about economics. Economists with the institutional approach consider adaptation to climate change as a novel and vital topic to address, which needs to be put on the research agenda (Roggero et al., 2018). Still, little is known about how institutions influence the implementation of circular models (Carlos et al., 2022). It is essential to be aware that institutions can support the transformation and motivate the closing of cycles but also slow or limit the adjustments. Significant progress has been made in formal institutions in recent years. A review of the strategies and critical regulations related to the circular economy at the EU level shows that the framework for changes is clearly marked by European Commission (2014), European Commission (2019), European Commission (2020a), European Commission (2020b), Directive (2022). However, one should be aware that without broad public acceptance of such plans and relying only on formal institutions, their implementation will be slow and ineffective. As Wojtach (2016) stressed, developing a circular economy requires increased public awareness and changes in production and consumption patterns. This is a significant challenge, mainly as using a life cycle approach and policies affecting efficiency in a product's production and consumption have been poorly utilised in the EU (Milios, 2018).

It is, therefore, vital to identify the institutional determinants affecting the circular economy, analyse how they work and identify possible areas for improvement. Using an institutional approach allows for the consideration of diverse factors. It will enable the incorporation of the often neglected area of informal institutions, i.e., actors' attitudes. The research in all fields focuses on formal institutions connected with regulations. They are easier to identify, operationalise and evaluate (Bentkowska, 2021). Nevertheless, informal institutions are gaining importance as their crucial role in different fields is confirmed.

Thus, the paper aims to identify and evaluate informal institutions that determine the transition towards a circular economy. Without informal institutions supporting changes, formal regulations will not serve their purpose well and will not achieve the intended objectives.

The literature contains research on consumer attitudes towards the environment or actions taken in this regard, though these are usually not focused on the circular economy. Still, these are not embedded in the broader perspective of institutional economics. Therefore, the paper adopts the rarely used perspective of institutional economics to analyse the circular transition. The analysis contributes to a better understanding of informal institutions and their role in adapting to climate change.

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An overview of the literature

Our understanding of the circular economy and its practical application in economic systems has gradually evolved to encompass elements from different concepts (Geissdoerfer et al., 2017). It is not easy to attempt a single definition to explain the essence of the concept, and different approaches are used in practice (Moraga et al., 2019). Literature reviews indicate a lack of consensus on terminologies and definitions (Homrich et al., 2018). Attempts are made to propose a consensus view of the basic notions connected with circularity (Prieto-Sandoval et al., 2018). However, there are also opinions that it is not worth pursuing a universal definition of the circular economy, as it is a dynamic concept and is constantly evolving (Korhonen et al., 2018). Two main approaches to the definition can be distinguished – broad and narrow (Nowicka, 2022). In a broad approach, circularity is captured as "an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximise ecosystem functioning and human well-being" (Murray et al., 2017). The framework considered here emphasises a combined view of three main aspects, i.e. environment, resources and economic benefits (Lieder & Rashid, 2016). Narrow interpretations of circularity focus on its main features, i.e., slowing resource loops (designing long-life products and extending their life cycle, e.g. through repair or repurposing) and closing the cycles (ensuring the circular flow of resourcesby recycling) (Bocken et al., 2016).

The EU defines circular economy as „a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended. In practice, it implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible, thanks to recycling. These can be productively used again and again, thereby creating further value" (European Parliament, 2023). Such a circular system is restorative and regenerative by intention and design as it "replaces the 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models" (Ellen MacArthur Foundation, 2012).

The circular approach is quite different from linear economic models – it aims to (Stahel, 2019):

- maintain value instead of creating value-added,
- optimise stock management instead off lows,
- increase the efficiency of the products' use instead of their production process.

This is tantamount to moving away from a linear economy model based on a sequence of activities: "take – make – consume – throw away". The linear economy is often pictured as emphasising being 'bigger-better-faster-safer' (Bartoszczuk, 2023). The business models based on shortening product life cycles, encouraging consumers to re-purchase products, overlooking waste, and pricing products without taking environmental costs into account are to emerge in place of the popular business models of today (Nowicka, 2022). After the 1930s crisis, entrepreneurs began to seek profits by increasing sales and shortening products' life cycles. Consumers, in turn, were persuaded to purchase more goods that were portrayed as better than their predecessors and give up repairing them as this became a highly specialised service (Webster, 2017). The circular philosophy completely breaks with such an approach.

As noted, analysing circular transition from an institutional perspective offers interesting insights. Institutions can generally be understood as "the rules of the game" but more specifically as a set of fundamental political, social and legal rules that form the structure of production, distribution and exchange (North, 1994). They consist of formal institutions, informal institutions and enforcement mechanisms (North, 1994).

Formal institutions comprise legal regulations, administrative and technical rules, etc. They are often introduced and enforced by the state but also by other authorities (e.g., a company can introduce rules for its employees). It is relatively easy to shape them in the desired direction. Characteristically, they are written down and should be strictly adhered to. Moreover, there are enforcement mechanisms (e.g., sanctions) that play a crucial role in shaping proper behaviour and ensuring compliance with formal institutions. Formal institutions in the circular economy refer to all regulations and recommendations of EU and national authorities governing the implementation of solutions in this area. Such regulations can support and stimulate the circular transition but can also be neutral

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or slowdown. Still, they may be insufficient. Ciechelska et al. (2022) underline the crucial role of informal arrangements governed by everyday rules in municipal waste management systems.

Informal institutions are unwritten codes of conduct, customs, behavioural norms, traditions, culture, religion or morals. Unlike formal institutions, they exist independently of the state. They result from acquired experiences and value systems and are created through individual interaction. They embody societies' mentality and perceptions of the world and current events. As principles rooted in people's consciousness, they tend to last a long time and are not very sensitive to deliberate change (Williamson, 2000). The attitudes of different groups of actors influence the pace of the circular transition. Relevant here are regulators, who shape formal institutions; state organisations, whose approach can set an excellent example in the introduction of innovative solutions; entrepreneurs, who choose such solutions or abandon them for various reasons; and consumers, who look for products and services in line with circular economy requirements and support their development through their behaviour. The last group seems particularly important. With their purchase decision, consumers determine which products there is demand for, how they will be used, and how long their life cycle will be. By their choices, they determine, to a large extent, the actions of companies and the possibilities of closing cycles.

It should be noted that formal and informal institutions are interconnected, which is often the subject of research (Chavance, 2008; Chung & Kim, 2021; Cruz-García & Peiró-Palomino, 2019; Helmke & Levitsky, 2004; Leković, 2011; Pejovich, 1999; Williamson, 2009). They can strengthen or weaken their effect. It isn't easy to pick out an individual institution and analyse its impact on actors. Sometimes, people are unaware of the rules or norms that determine their behaviour. Both types of institutions are equally crucial for the actors' actions.

Informal institutions are poorly researched, although their crucial role in many areas is increasingly highlighted. First of all, this role is underscored in institutional change (Aoki, 2001; Chavance, 2008; Kingston & Caballero, 2009; Roland, 2004; Seligson & McCants, 2021) or transplanting institutions (Boettke et al., 2008; Eggertsson, 2006). Without informal institutions supporting the change, it is not effective. This critical observation should be considered when implementing the circular economy. Moreover, studies confirm informal institutions' role in many areas such as economic development (Aron, 2000; Casson et al., 2010; Cunningham & Dibooglu, 2020; Glaeser et al., 2004; Knack & Keefer, 1997; Lipsey, 2009; Tabellini, 2010; Williamson, 2009) or in specific problems of efficiency in certain areas, e.g. response to shocks and disasters (Bentkowska, 2021; Paniagua & Rayamajhee, 2022; Rayamajhee et al., 2024; Storr et al., 2021), impeding or supporting entrepreneurship (Frølund, 2021; Smith & Brownlow, 2022) or income inequality (Chong & Gradstein, 2019). Despite recognising the role of informal institutions in various fields, their impact on circular transition remains unexplored.

Informal institutions can be reflected in different dimensions, such as culture (Tabellini, 2010), level of trust in society (Chung & Kim, 2021; Cruz-García & Peiró-Palomino, 2019; Muringani, 2022; Tabellini, 2010) or social capital (Knack & Keefer, 1997). Sometimes, they are also operationalised as narrow measures capturing certain features, such as control over life (Williamson, 2009; Williamson & Kerekes, 2011) or respect and obedience (Tabellini, 2010; Park, 2023; Williamson, 2009; Williamson & Kerekes, 2011). Such operationalisation is not well-suited for analysing circular transition.

Altruistic and pragmatic factors can be distinguished among the factors motivating the circular transition. The first ones are related to the belief of entities in the concept's soundness, and the second ones result from the issue of legal compulsion or the desire to achieve economic benefits. The PARP report points out that implementing circular economy solutions in Poland is most influenced by pragmatic motivations (PARP, 2020). Pragmatic motivations may not be enough. Meanwhile, it is often emphasised that the circular transition requires a change in philosophy (Lovins et al., 2018). Stahel (2019) mentions motivating individuals to achieve happiness beyond ownership as one of the leading accelerators of circularity.

Therefore, other dimensions of informal institutions seem fundamental in circularity. I propose paying attention to informal institutions reflecting such attitudes as:

- recognition of environmental problems,
- belief in the environmental impact of one's actions,
- willingness to make an effort to close cycles,
- trust in the reliability of other actors' environmental commitment.

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The proposed informal institutions are based on studies investigating consumers' perceptions of climate change and actions necessary in the adaptation process. Those profoundly ingrained approaches in these fields determine the success of the circular transition. The proposed informal institutions do not comprise a complete list of institutions crucial for circular transition. The possibility of capturing them in a CAWI survey largely determines their selection. In further research, other institutions can be selected to enrich their picture. My approach represents the first proposal for their study.

Research methods and results of the research

The survey aimed to evaluate the informal institutions essential for pro-environmental actions that are part of a circular economy. Consumer surveys are critical in analysing a circular economy's implementation and identifying the transformation's stimulants and destimulants. Consumers are the ultimate product and service users, and their attitudes significantly determine the circular transition.

The CAWI survey was conducted on a sample of N=1000 consumers representative in terms of age, gender, education and place of residence. The questions were based on an in-depth literature review and results of previous research in similar fields. They were concerned with the general perception of environmental issues, green products, manufacturing companies and consumers' role in dealing with environmental issues. Furthermore, they related to taking active measures in multiple areas as respondents were asked to designate their pro-environmental actions that fit into the circular economy. Among these questions were those crucial to circularity concerning green purchase decisions, life-cycle extension, and the handling of packaging and waste.

The responses allow evaluation of the identified informal institutions connected with the recognition of environmental problems, willingness to make an effort to close cycles, belief in the environmental impact of one's actions, and trust in the reliability of other actors' environmental commitment.

The identified informal institutions can be tracked by consumers' perceptions of some statements regarding environmental action (Figure 1).

The results imply that consumers show a moderate commitment to environmental activities. This indicates that they do not perceive environmental problems as essential. Regarding belief in the environmental impact, only a small group of respondents strongly agree that their actions affect the climate or are an example to others. As to willingness to make an effort to close cycles – consumers show limited inclination to pay higher prices for green products made in line with the circular economy (almost 60% claim they are willing to pay 10% more, but only 28% would agree to pay a price 30% higher). Additionally, more than 80% perceive green products as too expensive. The responses concerning lack of knowledge and time to increase effective product use are almost equally divided between consumers experiencing these problems and those not. Only in segregating waste did fewer respondents declare lacking knowledge. Trust in the reliability of other actors' environmental commitment proves to be limited. While consumers rather admit believing that products labelled as organic really are so, a lack of trust in companies is also an issue, with 87% of consumers considering that companies deliberately produce low-priced, low-quality products to encourage repeat purchases. They are also not overly optimistic about other people's behaviour, as almost half of the respondents doubt their care for the environment.

While analysing informal institutions, we should be aware of the so-called "value action gap" between declarations and actual behaviour. For example, in Mintel's Consulting (2022) research, more than 80% of respondents declared trying not to harm the environment. In comparison, less than 60% confirmed performing the simple task of recycling products' packaging.

Therefore, a further part of the survey illustrates whether behaviours confirm declarations. Consumers indicated the actions taken daily. The first group of questions concerns taking active steps to demonstrate environmental awareness while shopping. Such actions include paying attention to the composition of the products and their packaging, making well-considered purchases, making an effort to save resources (by taking their own packaging), or willingness to pay higher prices for organic products (Figure 2).

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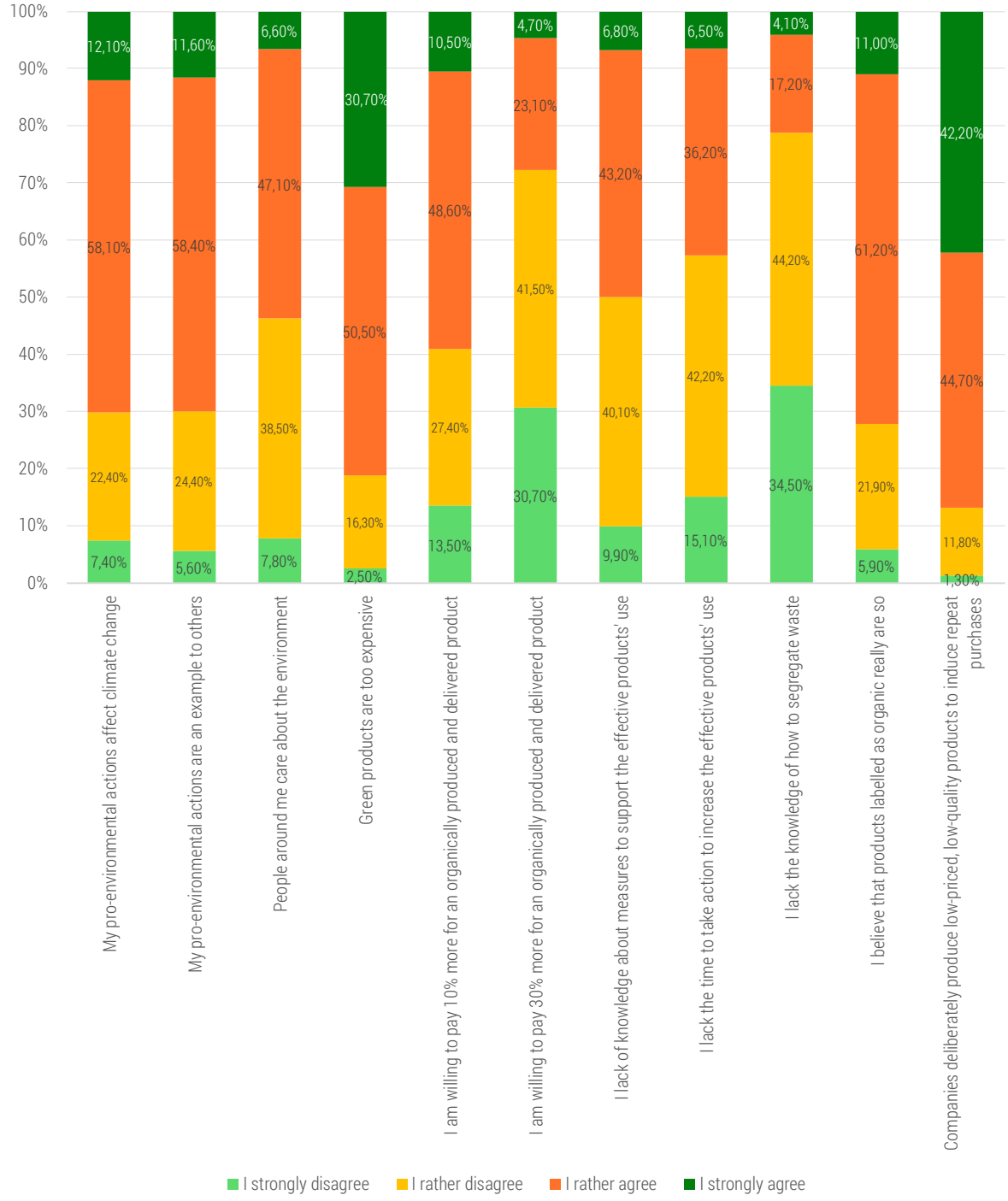

Figure 1. Consumers' perception of statements regarding environmental actions

The second group of questions considers using products and managing their waste efficiently. Consumers can contribute to extending products' life cycles and making fuller use of them by using platforms offering second-hand products or donating leftover food.

The third group of questions indicates consumers' readiness to raise their environmental awareness and influence the decisions of others in this area (Figure 3).

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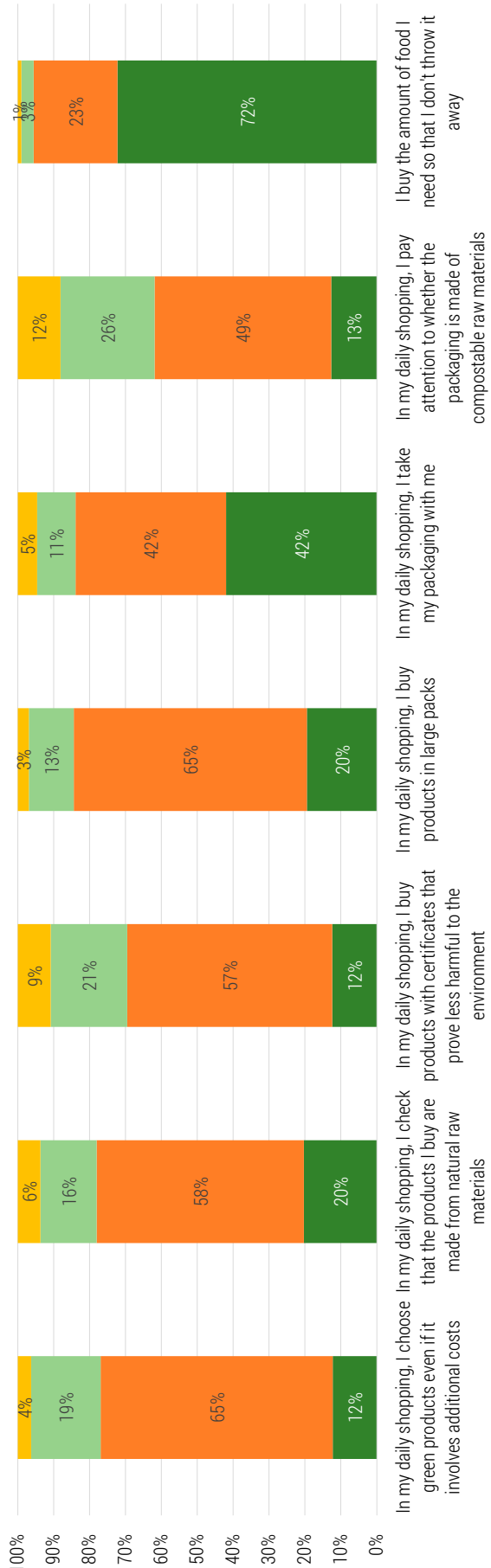

Figure 2. Consumers' actions taken daily (part 1)

Figure 3. Consumers' actions taken daily (part 2)

Rating the intensity of actions from the three groups, respondents most often chose the answer "sometimes", indicating that they chose actions somewhat accidentally or at their discretion. Furthermore, only a few respondents who are not taking action are willing to change this in the coming year. This reveals a reluctance to change passive attitudes.

There are only two exceptions in the actions taken. Segregating waste is more popular; however, consumers are motivated by direct financial benefits, as they pay less for their waste through segregation. Buying the right amount of food also stands out; again, it can be supported by the reluctance to lose money. Lack of commitment to regular effort, e.g. checking the product composition and its certificates or packaging, proves a low willingness to make an effort to close cycles and does not indicate that environmental concerns are considered vital in everyday purchasing decisions. Using online platforms is only an example of how the product life cycle could be extended, but it does not seem very popular among respondents.

Furthermore, consumers are not eager to raise their own and others' environmental awareness. This is connected with a poor recognition of environmental problems and may indicate a lack of awareness and a sense of empowerment.

The results indicate that informal institutions supporting pro-environmental decisions are not consistent and prevalent. Consumers engage in somewhat random activities that are not settled in deep-ingrained beliefs.

Discussion

Consumer participation in circular transformation is often cited as one of the most critical missing links (e.g., Fundacja Circular Poland, 2021). The results indicate that the identified informal institutions do not adequately support circular transitions. Apparent shortcomings exist among all the institutions identified and selected in the analysis.

Despite positive opinions on consumer awareness, e.g. "the 21st century is often called the ecological century because society's awareness of ecology has increased over the last decade" (Niekurzak et al., 2023), the recognition of environmental problems seems insufficient, and the research confirms it. Evidence can also be found in other studies, e.g. a significant group of Poles declares concerns about the state of the environment, but these are more often on a global than on a local scale (CBOS, 2020). This may be related to the belief that the environmental impact of one's actions is limited. These are important observations, and climate scepticism and environmental concern should be considered when explaining the decisions behind buying a circular product (Szilagyi et al., 2022).

The results also indicate insufficient knowledge of climate and circular economy. They are also vindicated by other studies showing a lack of knowledge (ARC Rynek i Opinia, 2019; Mobile Institute, 2021) and a systemic failure to teach about climate change (Sadura et al., 2021). Furthermore, consumers still tend not to follow information on the state of the environment – only a tiny percentage is interested in this topic (Mobile Institute, 2021). The knowledge of environmental terminology remains insufficient even for commonly used phrases such as "carbon footprint", while the knowledge of the term "circular economy" is described as almost non-existent (ELOPAK, 2023).

The results imply that belief in the environmental impact of one's actions is limited. Other studies, on the one hand, show that a growing number of Poles are convinced that everyone should take action against the adverse effects of climate change (Ministerstwo Klimatu i Środowiska, 2022). On the other hand, consumers doubt that their actions make a difference – only 1/3 of Polish consumers believe their actions can reduce the negative impact on the environment (ARC Rynek i Opinia, 2019). Moreover, consumers do not feel responsible for the products they use and believe that companies should take care of products' environmental impact and engage in environmental activities (ARC Rynek i Opinia, 2019). This may lead to a low commitment to promoting green attitudes – the studies show that consumers unwillingly participate in environmental campaigns and actions (e.g. Ministerstwo Klimatu i Środowiska, 2022). Even if the consumers are optimistic about making lifestyle changes, they are more likely to rely on formal institutions to address climate change challenges" and remain unaware of their critical role here (Tourlioti et al., 2024).

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Also, the willingness to make an effort to close cycles proves to be deficient. Undoubtedly, this is a critical challenge. "People generally support environmental causes but are unwilling to change their lifestyle, and "green" products can occasionally be perceived as unpleasant, inconvenient, or odd" (Szilagyi et al., 2022). Consumers restrict their actions to the most common and recognise this as a confirmation of their green attitude. For example, segregating waste is presented as the main activity and confirmation of ecological commitment, with a reluctance to make significant sacrifices (Sadura et al., 2021). Moreover, such sacrifices seem more disruptive than climate change as they undermine specific order and tradition. Other studies confirm that simple actions (recycling) or frugal (reducing waste) are the most commonplace (Mintel Consulting, 2022). Similarly, the European Commission (2023) reports that the most common action is reducing and separating waste (70%), followed by trying to cut down on the consumption of disposable items (53%). Still, even in the case of segregating waste, one can notice the gap between green declarations and actual behaviour – research indicates that even though about 90% of Poles declare segregating waste, only less than 60% separates all mandatory five fractions (Interzo, 2024). Insufficient interest in the composition of the products is also confirmed in other research, e.g., only half of the consumers declare that they check whether a product is green (Deloitte, 2021).

Another significant problem is related to the product's price, which remains the most critical purchase determinant, and green products are recognised as overpriced similarly in other studies (ARC Rynek i Opinia, 2019). Generally, sustainability is often perceived as 'too expensive' (Mintel Consulting, 2022). Deloitte (2021) reports that only one in four consumers is prepared to pay more for sustainable products and packaging. Many studies confirm that high prices are the biggest obstacle to buying green products. More than 40% of Poles are reported to think green products are too expensive, and almost 50% of respondents fear that living green entails additional expenses (Forum Odpowiedzialnego Biznesu, 2019).

According to the research, trust in the reliability of other actors' environmental commitment does not support the transition. It is similar to other studies. Consumers often doubt the environmental impact of green products (Mobile Institute, 2021). They remain distrustful towards manufacturers, claiming that products are deliberately made as not durable (European Commission, 2018). Likewise, Mintel Consulting (2022) shows that almost 40% of consumers do not trust companies to be honest about their environmental impact.

Regarding the research constraints, the analysis's main limitation relates to the difficulty of studying informal institutions. As noted, they are challenging to capture directly. However, this is the first attempt to analyse the shape of these institutions concerning circular transition, and the conclusions seem noteworthy. Moreover, the research focuses on a few identified institutions. An important direction for further research is to expand the set of institutions. It would also be valuable to study the shape of informal institutions in other countries and to investigate the reasons for any differences. Clearly, pro-environmental consumer behaviours are not the only result of informal institutions – they are often encouraged by the creation of appropriate conditions by the state or local government. Therefore, it would be valuable to investigate the combined role of formal and informal institutions in circular transition. Furthermore, it should be noted that the lack of environmental motivation does not prejudge the lack of CE actions. They can, for example, be enforced by formal institutions and enforcement mechanisms. Understanding environmental motivation constitutes a complicated subject and requires a holistic approach.

The analysis makes it possible to embed circular transition in institutional economics. In doing so, it attempts to identify and evaluate informal institutions that are considered challenging to capture and evaluate.

The results indicate that significant changes in informal institutions are required to support circular transition. One needs to be aware of how challenging it is –as noted, informal institutions are not legislated, remain deeply embedded, and have been developed over hundreds or thousands of years (Williamson, 2000). Faster informal institutional changes are possible but rarely occur (Helmke & Levitsky, 2004). Education is essential for increasing public awareness and practical support for the transition. Its role is constantly emphasised, and the study results confirm that it is necessary to put more prominence on education. Recognition of environmental problems remains insufficient for effective adjustments. Moreover, consumers remain oblivious to their critical role in circular transition; governments and authorities should continuously engage them in this process and raise aware-

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ness of the importance of daily activities in closing cycles. Better education and information campaigns should also highlight the vital importance of every consumer's actions. After all, they translate into the ability to close economic cycles. However, success requires increased belief in the environmental impact of one's actions, which proved to be limited.

Supporting the willingness to make an effort to close cycles involves not only better awareness but also some facilitation, e.g. consumers should have easy access to a wide range of green products made in line with the circular economy at affordable prices. Furthermore, a sense of noticeable benefit from undertaking activities in the circular economy could increase consumers' involvement. It is apparent that waste segregation has become widespread and is not opposed by consumers who may see it as financially beneficial in addition to the environmental benefits.

Increasing trust in the reliability of other actors' environmental commitment can be supported by governments and authorities setting an excellent example through their green behaviour. Increasing trust in companies by ensuring they strive to close cycles and produce products with a long life cycle also remains challenging. Consumers must be convinced that green products are eco-friendly and worth incurring the even higher cost of purchasing them.

Undoubtedly, one has to be aware that education will not lead to sudden changes in attitudes, and it takes time for its effects to become noticeable. Informal intuitions resist deliberate changes. Nonetheless, with appropriate awareness-raising and promoting good examples, people's attitudes can better evolve and support the circular transition.

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References

Aoki, M. (2001). *Toward a comparative institutional analysis.* The MIT Press.

ARC Rynek i Opinia. (2019). *Raport z badania: Konsumenci a gospodarka obiegu zamkniętego.* https://odpowiedzialnybiznes.pl/publikacje/raport-z-badania-konsumenci-a-gospodarka-obiegu-zamknietego/ (in Polish).

Aron, J. (2000). Growth and Institutions: A Review of the Evidence. World Bank Research Observer, 15(1), 99-135. https://doi.org/10.1093/wbro/15.1.99

Arranz, C. F. A., Sena, V., & Kwong, C. (2022). Institutional pressures as drivers of circular economy in firms: A machine learning approach. Journal of Cleaner Production, 355, 1-13. https://doi.org/10.1016/j.jclepro.2022.131738

Bartoszczuk, P. (2023). Circular economy and its restriction. Economics and Environment, 86(3), 469-482. http://dx.doi.org/10.34659/eis.2023.86.3.650

Bentkowska, K. (2021). Response to governmental COVID-19 restrictions: the role of informal institutions. Journal of Institutional Economics, 17(5), 729-745. https://doi.org/10.1017/S174413742100028X

Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product Design and Business Model Strategies for a Circular Economy. Journal of Industrial and Production Engineering, 33(5), 308-320. https://doi.org/10.1080/21681015.2016.1172124

Boettke, P. J., Coyne, Ch., & Leeson, P. T. (2008). Institutional Stickiness and the New Development Economics. American Journal of Economics and Sociology, 67(2), 331-358. https://doi.org/10.1111/j.1536-7150.2008.00573.x

Arranz, C. F. A., Sena, V., & Kwong, C. (2022). Institutional pressures as drivers of circular economy in firms: A machine learning approach. Journal of Cleaner Production, 355, 1-13. https://doi.org/10.1016/j.jclepro.2022.131738

Casson, M. C., Della Giusta, M., & Kambhampati, U. S. (2010). Formal and Informal Institutions and Development. World Development, 38(2), 137-141. https://doi.org/10.1016/j.worlddev.2009.10.008

CBOS. (2020). Świadomość ekologiczna Polaków. Komunikat z badań nr 163. https://www.cbos.pl/SPISKOM.POL/2020/K_163_20.PDF

Chavance, B. (2008). Formal and Informal Institutional Change: The Experience of Post socialist Transformation. European Journal of Comparative Economics, 5(1), 57-71. https://ejce.liuc.it/18242979200801/18242979 2008050103.pdf

Chong, A., & Gradstein, M. (2019). Institutional Persistence, Income Inequality, and Individual Attitudes. Journal of Economic Inequality, 17(3), 401-413. https://doi.org/10.1007/s10888-019-09414-w

Chung, K. H., & Kim, D. (2021). Explaining Asian growth paradox through interaction between informal and formal institutions. Asian Education and Development Studies, 10(4), 600-614. https://doi.org/10.1108/AEDS-10-2020-0235

Ciechelska, A., Kusterka-Jefmańska, M., & Zaremba-Warnke, S. (2022). Municipal waste management as a polycentric system – the example of Poland. Economics and Environment, 83(4), 76-90. https://doi.org/10.34659/eis.2022.83.4.541

Cruz-García, P., & Peiró-Palomino, J. (2019). Informal, Formal Institutions and Credit: Complements or Substitutes? Journal of Institutional Economics, 15(4), 649-671. https://doi.org/10.1017/s1744137419000018

Cunningham, C., & Dibooglu, S. (2020). Engines of Growth in China: The Limits of Informal Institutions. Journal of Economic Issues, 54(1), 252-275. https://doi.org/10.1080/00213624.2020.1721978

Deloitte. (2021). *Climate Sentiment Index Deloitte.* https://www2.deloitte.com/pl/pl/pages/press-releases/articles/ponad-polowa-polakow-poparlaby-regulacje-majace-wplyw-na-zlagodzenie-skutkow-zmian-klimatu.html (in Polish).

Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting, Pub. L. No. 32022L2464, 322 OJ L (2022). https://eur-lex.europa.eu/legal-content/PL/TXT/?uri=CELEX%3A32022L2464 (in Polish).

Eggertsson, T. (2006). On the Survival of Imperfect Institutions. Revista de Analisis Economico, 21(2), 13-24. https://ideas.repec.org/a/ila/anaeco/v21y2006i2p13-24.html

Ellen MacArthur Foundation. (2012). *Towards a Circular Economy.* https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-1-an-economic-and-business-rationale-for-an

ELOPAK. (2023). *Research White Paper: The role of packaging and brands in consumer's environmental journey.* https://www.elopak.com/app/uploads/2023/12/Consumer-research-2023-white-paper.pdf

European Commission. (2014). Communication from European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, Towards a circular economy: A zero waste programme for Europe, Pub. L. No. 52014DC0398. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52014DC0398

European Commission. (2018). *Behavioural Study on Consumers' Engagement in the Circular Economy. Final Report.* https://commission.europa.eu/system/files/2018-10/ec_circular_economy_final_report_annex.pdf

European Commission. (2019). Communication from European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, The European Green Deal, Pub. L. No. 52019DC0640. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN

European Commission. (2020a). Communication from European Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, A new Circular Economy Action Plan For a cleaner and more competitive Europe, Pub. L. No. 52020DC0098. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A98%3AFIN

European Commission. (2020b). Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, A New Industrial Strategy For Europe, Pub. L. No. 52020DC0102. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0102

European Commission. (2023). *Special Eurobarometer Climate Change 538. Report.* https://europa.eu/eurobarometer/surveys/detail/2954

European Parliament. (2023). *Circular economy: definition, importance and benefits.* https://www.europarl.europa.eu/news/en/headlines/economy/20151201STO05603/circular-economy-definition-importance-and-benefits

Forum Odpowiedzialnego Biznesu. (2019). *Raport z badania Konsumenci a gospodarka obiegu zamkniętego.* https://odpowiedzialnybiznes.pl/wp-content/uploads/2019/10/Raport_CSR_ARC-FOB.pdf (in Polish).

Frølund, C. (2021). Institutions, uncertainty, and entrepreneurial judgment. Journal of Institutional Economics, 17(6), 913-923. https://doi.org/10.1017/S1744137421000485

Fundacja Circular Poland. (2021). *Raport GO!Z 2021. Polska droga do cyrkularności.* http://circularpoland.org/badanie-goz (in Polish).

Geissdoerfer, M. P., Savaget, N., Bocken, M. P., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? Journal of Cleaner Production, 143, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048

Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). Do Institutions Cause Growth? Journal of Economic Growth, 9(3), 271-303. https://doi.org/10.1023/B:JOEG.0000038933.16398.ed

Helmke, G., & Levitsky, S. (2004). Informal Institutions and Comparative Politics: A Research Agenda. Perspectives on Politics, 2(4), 725-740. https://doi.org/10.1017/S1537592704040472

Homrich, A. S., Galvao, G., Abadia, L. G., & Carvalho, M. M. (2018). The circular economy umbrella: Trends and gaps on integrating pathways. Journal of Cleaner Production, 175, 525-543. https://doi.org/10.1016/j.jclepro.2017.11.064

Interzo. (2024). *Między plusem a minusem. Raport z badania – Co Polacy wiedzą o bateriach i jak sobie radzą z ich segregacją.* https://interzero.pl/blog/nowy-raport-miedzy-plusem-a-minusem/ (in Polish).

Kingston, C., & Caballero, G. (2009). Comparing theories of institutional change. Journal of Institutional Economics, 5(2), 151-180. https://doi.org/10.1017/S1744137409001283

Knack, S., & Keefer, P. (1997). Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. Quarterly Journal of Economics, 112(4), 1251-1288. https://doi.org/10.1162/003355300555475

Korhonen, J., Nuur, C., Feldmann, A., & Birkie, S. E. (2018). Circular economy as an essentially contested concept. Journal of Cleaner Production, 175, 544-552. https://doi.org/10.1016/j.jclepro.2017.12.111

Leković, V. (2011). Interaction of Formal and Informal Institutions – Impact on Economic Success. Facta universitatis – series: Economics and Organization, 8(4), 357-370. http://scindeks.ceon.rs/article.aspx?query=ARTAK%26and%26Institucije%26FLTJOU%26and%260354-4699&page=7&sort=1&stype=0&backurl=%2FSearchResults.aspx%3Fquery%3DARTAK%2526and%2526Institucije%2526FLTJOU%2526and%2526O354-4699%26lang%3Den&lang=en

Lieder, M., & Rashid, A. (2016). Towards circular economy implementation: a comprehensive review in context of manufacturing industry. Journal of Cleaner Production, 115, 36-51. https://doi.org/10.1016/j.jclepro.2015.12.042

Lipsey, R. (2009). Economic growth related to mutually interdependent institutions and technology. Journal of Institutional Economics, 5(3), 259-288. https://doi.org/10.1017/S1744137409990014

Lovins, L. H., Wallis, S., Wijkman, A., & Fullerton, J. (2018). *A Finer Future: Creating an Economy in Service to Life.* Canada: New Society Publishers.

Milios, L. (2018). Advancing to a Circular Economy: three essential ingredients for a comprehensive policy mix. Sustainability Science, 13, 861-878. https://doi.org/10.1007/s11625-017-0502-9

Ministerstwo Klimatu i Środowiska. (2022). *Badanie świadomości ekologicznej mieszkańców Polski.* https://www.gov.pl/web/edukacja-ekologiczna/badania-swiadomosci-ekologicznej (in Polish).

Mintel Consulting. (2022). *Sustainability Barometer. Executive Summary.* https://www.mintel.com/press-centre/mintel-consulting-2022-sustainability-barometer/

Mobile Institute. (2021). *Green Generation. Wspólnie na rzecz ziemi.* https://mobileinstitute.eu/green (in Polish).

Moraga, G., Huysveld, S., Mathieux, F., Blengini, G. A., Alaerts, L., van Acker, K., de Meester, S., & Dewulf, J. (2019). Circular economy indicators: What do they measure? Resources, Conservation and Recycling, 146, 452-146. https://doi.org/10.1016/j.resconrec.2019.03.045

Muringani, J. (2022). Trust as a catalyst for regional growth in a decentralised Europe: The interplay between informal and formal institutions in driving economic growth. Journal of Regional Science, 62(5), 1229-1249. https://doi.org/10.1111/jors.12594

Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: an interdisciplinary exploration of the concept and application in a global context. Journal of Business Ethics, 140(3), 369-380. https://doi.org/10.1007/s10551-015-2693-2

Niekurzak, M., Brelik, A., & Lewicki, W. (2023). Economic potential of recovery and recycling of silicone photovoltaics cells and non-ferrous metals as part of the transition towards a circular economy. Economics and Environment, 86(3), 202-224. https://doi.org/10.34659/eis.2023.86.3.600

North, D. C. (1994). *Institutions, institutional change and economic performance.* Cambridge: Cambridge University Press.

Nowicka, K. (2022). Gospodarka o obiegu zamkniętym. In K. Nowicka (Ed.), *Gospodarka o obiegu zamkniętym. Część I – przedsiębiorstwo, instytucje, miasto* (pp. 15-51). Warszawa: Oficyna SGH. (in Polish).

Ostrom, E. (2010). Polycentric systems for coping with collective action and global environmental change. Global Environmental Change, 20(4), 550-557. https://doi.org/10.1016/j.gloenvcha.2010.07.004

Ostrom, E. (2014). A Polycentric Approach for Coping with Climate Change. Annals of Economics and Finance, 15(1), 97-134. http://aeconf.com/articles/may2014/aef150103.pdf

Paniagua, P., & Rayamajhee, V. (2022). A polycentric approach for pandemic governance: nested externalities and co-production challenges. Journal of Institutional Economics, 18(4), 537-552. https://doi.org/10.1017/S1744137421000795

Park, S. M. (2023). Domestic formal and informal institutions: their substitutability and comparative advantage. Review of World Economics, 159(4), 853-886. https://doi.org/10.1007/s10290-022-00483-0

PARP. (2020). *Ocena zapotrzebowania na wsparcie przedsiębiorstw w zakresie gospodarki o obiegu zamkniętym (circular economy). Raport końcowy.* https://www.parp.gov.pl/storage/publications/pdf/Raport-kocowy_Ocena-zapotrzebowania-na-wsparcie-przedsibiorstw-w-zakresie-gospodarki-o-obiegu-zamknitym-circular-economy_WCAG.pdf (in Polish).

Pejovich, S. (1999). The Effects of the Interaction of Formal and Informal Institutions on Social Stability and Economic Development. Journal of Markets & Morality, 2(2), 164181. https://doi.org/10.4337/9781847200167.00012

Prieto-Sandoval, V., Jaca, C., & Ormazabal, M. (2018). Towards a Consensus on the Circular Economy. Journal of Cleaner Production, 179, 605-615. https://doi.org/10.1016/j.jclepro.2017.12.224

Rayamajhee, V., March, R. J., & Clark, C. C. T. (2024). Shock me like a Hurricane: how Hurricane Katrina changed Louisiana's formal and informal institutions. Journal of Institutional Economics, 20e2, 1-20. http://dx.doi.org/10.1017/S1744137423000267

Roggero, M., Villamayor-Tomas, S., Oberlack, C., Eisenack, K., Bisaro, A., Hinkel, J., & Thiel, A. (2018). Introduction to the special issue on adapting institutions to climate change. Journal of Institutional Economics, 14(3), 409-422. https://doi.org/10.1017/S1744137417000649

Roland, G. (2004). Understanding institutional change: Fast-moving and slow-moving institutions. Studies in Comparative International Development, 38(4), 109-131. https://doi.org/10.1007/BF02686330

Sadura, P., Bieńkowska, Z., & Drygas, P. (2021). *Nie nasza wina, nie nasz problem*. Warszawa: Fundacja im. Heinricha Bölla w Warszawie. (in Polish).

Seligson, D., & McCants, A. (2021). Coevolving institutions and the paradox of informal constraints. Journal of Institutional Economics, 17(3), 359-378. https://doi.org/10.1017/S1744137420000600

Smith, A., & Brownlow, G. (2022). Informal Institutions as Inhibitors of Rent-Seeking Entrepreneurship: Evidence From U.S. Legal History. Entrepreneurship Theory and Practice, 47(6), 2323-2346. https://doi.org/10.1177/10422587221134926

Stahel, W. R. (2019). *Circular Economy: A User's Guide.* New York: Routledge Taylor & Francis Group.

Storr, V. H., Haeffele, S., Grube, L. E., & Lofthouse, J. K. (2021). Crisis as a source of social capital: Adaptation and Formation of Social Capital during the COVID-19 Pandemic. Cosmos + Taxis, 9(5/6), 94-108. https://cosmosandtaxis.org/wp-content/uploads/2021/05/storr_et_al_ct_vol9_iss_5_6.pdf

Szilagyi, A., Cioca, L. I., Bacali, L., Lakatos, E. S., & Birgovan, A. L. (2022). Consumers in the Circular Economy: A Path Analysis of the Underlying Factors of Purchasing Behaviour. International Journal of Environmental Research and Public Health, 19(18), 11333. https://doi.org/10.3390/ijerph191811333

Tabellini, G. (2010). Culture and Institutions: Economic Development in the Regions of Europe. Journal of the European Economic Association, 8(4), 677-716. https://doi.org/10.2139/ssrn.754086

Tourlioti, P. N., Portman, E., Pantelakis, I., & Tzoraki, O. (2024). Awareness and willingness to engage in climate change adaptation and mitigation: Results from a survey of Mediterranean islanders (Lesvos, Greece). Climate Services, 33, 1-12. https://doi.org/10.1016/j.cliser.2023.100427

Webster, K. (2017). *The Circular Economy: A Wealth of Flows – 2nd Edition.* Ellen MacArthur Foundation Publishing.

Williamson, C. R. (2009). Informal Institutions Rule: Institutional Arrangements and Economic Performance. Public Choice, 139(3/4), 371-387. https://doi.org/10.1007/s11127-009-9399-x

Williamson, C. R., & Kerekes, C. B. (2011). Securing Private Property: Formal versus Informal Institutions. Journal of Law & Economics, 54(3), 537-572. https://doi.org/10.1086/658493

Williamson, O. E. (2000). The New Institutional Economics Taking Stock Looking Ahead. Journal of Economic Literature, 38(3), 595-613. https://doi.org/10.1257/jel.38.3.595

Wojtach, A. (2016). Ecosystem services in the circular economy. Economics and Environment, 59(4), 99-108. https://www.ekonomiaisrodowisko.pl/journal/article/view/203

Katarzyna BENTKOWSKA

INSTYTUCJE NIEFORMALNE W GOSPODARCE OBIEGU ZAMKNIĘTEGO

STRESZCZENIE: W artykule przyjęto rzadko stosowaną w problematyce środowiskowej perspektywę ekonomii instytucjonalnej. Jego celem jest zidentyfikowanie i ocena instytucji nieformalnych determinujących przejście do gospodarki obiegu zamkniętego. Bez nieformalnych instytucji wspierających zmiany, formalne regulacje nie będą dobrze spełniać swojej roli i nie osiągną zamierzonych celów. Na zidentyfikowane instytucje nieformalne składają się: świadomość problemów środowiskowych, przekonanie o wpływie własnych działań na środowisko, chęć podjęcia wysiłku w celu domykania cykli oraz zaufanie do zaangażowania środowiskowego innych podmiotów. Konsumenci są ostatecznymi użytkownikami produktów i usług, a ich postawy w istotny sposób determinują transformację – przeprowadzono więc wśród nich badanie CAWI. Wyniki wskazują, że zidentyfikowane instytucje nieformalne w niewystarczającym stopniu wspierają transformację w kierunku gospodarki obiegu zamkniętego. Wsparcie zmian wymaga istotnych zmian w instytucjach nieformalnych.

SŁOWA KLUCZOWE: instytucje nieformalne, ekonomia instytucjonalna, gospodarka obiegu zamkniętego, transformacja w kierunku gospodarki obiegu zamkniętego, zachowania konsumentów

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