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**THE SHARING ECONOMY IN THE CONTEXT OF REDUCING  
FOOD WASTE IN THE CATERING MARKET**

**Abstract:** *The purpose of the study was to analyse the importance of the sharing economy as a tool to reduce food waste in the gastronomy sector. The theoretical part discusses the concept of the sharing economy, food sharing, and the zero waste approach in the context of sustainable consumption. The empirical part included a survey conducted among consumers (n=108) and in-depth interviews with representatives of gastronomic establishments. The results indicate that consumers are significantly more willing to use the services offered by restaurants involved in food waste reduction activities. Restaurant owners perceive food-sharing applications primarily as ideological and image-building tools, as well as a means of reducing financial losses, at the same time pointing out the key barriers to their implementation.*

**Keywords:** sharing economy, food sharing, food waste, zero waste, gastronomy

**EKONOMIA WSPÓLDZIELENIA W KONTEKŚCIE OGRANICZENIA  
MARNOWANIA ŻYWNOSCI NA RYNKU USŁUG GASTRONOMICZNYCH**

**Abstrakt:** *Celem pracy była analiza znaczenia ekonomii współdzielenia jako narzędzia ograniczania marnowania żywności w sektorze gastronomicznym. W części teoretycznej omówiono istotę sharing economy, foodsharingu oraz koncepcji zero waste w kontekście zrównoważonej konsumpcji. Część empiryczna obejmowała badanie ankietowe przeprowadzone wśród konsumentów (n=108) oraz wywiady pogłębione z przedstawicielami lokali gastronomicznych. Uzyskane wyniki wskazują, że konsumenci są zdecydowanie bardziej skłonni korzystać z usług restauracji podejmujących działania na rzecz redukcji strat żywności. Restauratorzy postrzegają aplikacje foodsharingowe głównie jako narzędzia ideologiczne i wizerunkowe, a także jako sposób ograniczania strat finansowych, jednocześnie wskazując na istotne bariery ich wdrażania.*

**Słowa kluczowe:** ekonomia współdzielenia, foodsharing, marnowanie żywności, zero waste, gastronomia

## I. INTRODUCTION

Food waste is one of the key challenges facing modern food systems and generates significant economic, social, and environmental consequences. In the catering sector, this problem is particularly evident due to the difficulty in forecasting demand and the need to maintain constant availability, which contributes to food surpluses [Dąbrowska and Janoś-Kresło 2013].

In response to this challenge, solutions based on the sharing economy are becoming increasingly important, enabling a more efficient use of resources through co-consumption and connecting market participants through digital platforms [Sztokfisz 2017, Koźlak 2017, Kamińska 2017]. Thus, food sharing initiatives and the zero waste concept are in line with the idea of sustainable development and rationalisation of consumption [Wilczak 2013, Drozłowska and Sobieraj 2019, Paczkowski et al. 2020].

The purpose of this study is to analyse the importance of the sharing economy as a tool to reduce food waste in the catering sector and to assess the attitudes of consumers and representatives of catering establishments towards the implementation of food sharing solutions, which are part of a sustainable development strategy.

## II. METHODOLOGY

During the creation of this work, triangulation of research methods was used, combining quantitative and qualitative approaches, allowing a comprehensive analysis of the importance of the sharing economy in reducing food waste in the catering market. The research material was based on both secondary sources (analysis of the literature on the subject) and primary sources obtained in the course of empirical research.

Quantitative research was conducted using the CAWI technique (*Computer Assisted Web Interview*). An original questionnaire was prepared and made available online, and the survey was conducted between May 27 and June 9, 2024. The research sample included 108 respondents (n=108) who were students from the University of Rzeszów. The questionnaire included questions about the frequency of using catering services, knowledge and use of food-sharing applications (including Too Good Too Go and Foodsi), motivations for choosing discounted food and attitudes towards restaurants taking measures to reduce food waste. The data obtained allowed for the verification of the research hypothesis concerning the pro-ecological attitudes of consumers and their willingness to support initiatives based on the sharing economy.

The next stage of empirical research consisted of qualitative research in the form of IDI (*individual in-depth interviews*) conducted with seven owners, directors or managers of catering establishments. The interviews were conducted directly in establishments that currently use mobile applications based on the sharing economy model or did it in the past. Each interview lasted approximately 15-20 minutes and focused on the motivations for implementing food sharing, perceived benefits, barriers, and the impact of environmental activities on the company's image.

The analysis of the quantitative research results was descriptive and percentage-based, while the qualitative data was subjected to content analysis to identify recurring motives and problems related to the implementation of sharing economy solutions. The methodology used allows verification of the research hypotheses and formulation of conclusions relevant to management practice in the catering sector.

## III. RESEARCH RESULTS

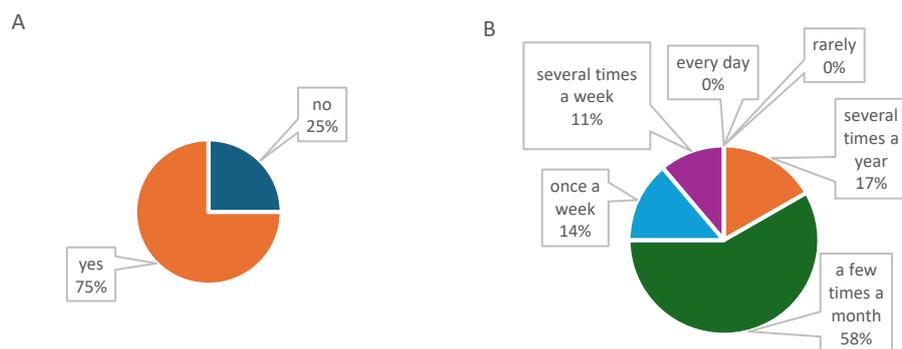
### 3.1. *Consumer activity in the sharing economy in light of the results of the survey.*

A quantitative survey was conducted among students from the University of Rzeszów. The sample consisted of 108 respondents (n=108), of whom 64% were women (n=69) and

36% were men (n=39). In the study group, 67.6% of respondents were students, and 32.4% combined work with studies. More than half of the respondents (53%) described their income as lower than the average monthly disposable income in Poland in 2023, which is important information for the analysis of economic motives in later sections of this paper.

The results indicate that 75% of respondents use apps for ordering meals to their homes, such as Pyszne.pl or Glovo, while 25% of respondents do not use such solutions (fig. 1 A). This indicates a high level of acceptance of digital services among the consumer group surveyed, confirming the important role of mobile apps in students' daily food choices.

The largest group of respondents (58%) use catering services several times a month (fig. 1 B). A smaller percentage of respondents declare that they use such establishments several times a week (11%) or once a week (14%). The lack of responses indicating daily use of catering services suggests that these services complement meals prepared at home.



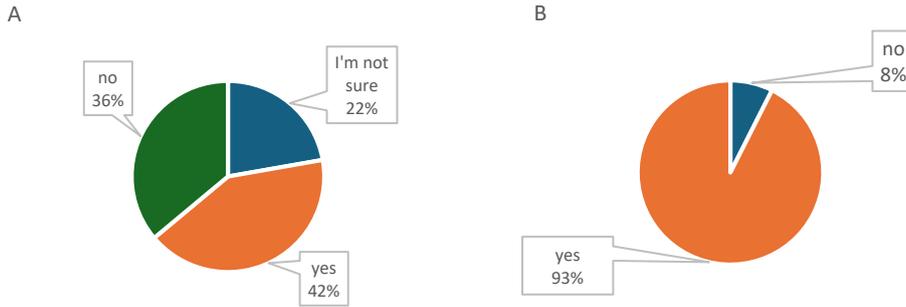
**Fig. 1 A.** Responses to the question: Do you use apps for ordering meals to your home (e.g., Pyszne.pl, Glovo)?

**Rys. 1 A.** Odpowiedzi na pytanie: Czy korzystasz z aplikacji do zamawiania posiłków do domu (np. Pyszne.pl, Glovo)?

**Fig. 1 B.** Responses to the question: How often do you eat products purchased at catering establishments (on the premises and takeaway)?

**Rys. 1 B.** Odpowiedzi na pytanie: Jak często spożywasz produkty zakupione w lokalach gastronomicznych (na miejscu i na wynos)?

Most respondents had no experience with restaurants operating under the sharing economy model – 42% declared that they had used such services, while 36% had no such experience (fig. 2 A). The high percentage of undecided respondents (22%) is also significant, indicating limited recognition of this model in consumer practice. A total of 93% of respondents reported being familiar with the Too Good To Go or Foodsi apps, which confirms a high level of awareness of food-sharing solutions among the surveyed group (fig. 2 B). In contrast, only 8% had never heard of these apps, highlighting their strong presence in the information space.



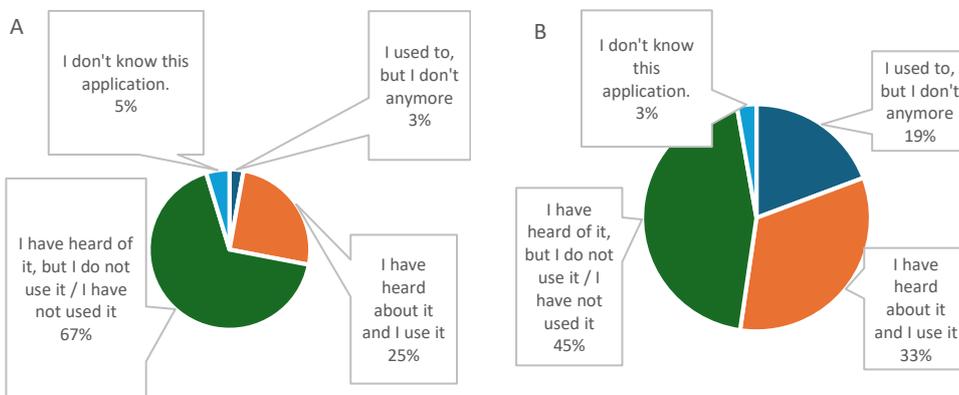
**Fig. 2 A.** Responses to the question: Have you ever used the services of a restaurant that uses the sharing economy model?

**Rys. 2 A.** Odpowiedzi na pytanie: Czy kiedykolwiek korzystałeś z usług restauracji działającej w modelu ekonomii współdzielenia?

**Fig. 2 B.** Responses to the question: Are you familiar with apps such as Too Good To Go or Foodsi, which enable you to purchase cheaper food and utilise the sharing economy?

**Rys. 2 B.** Odpowiedzi na pytanie: Czy znasz aplikacje takie jak Too Good To Go lub Foodsi, które umożliwiają zakup tańszej żywności i korzystanie z ekonomii współdzielenia?

Only 25% of respondents declared active use of the Foodsi app, while 67% are familiar with the app but do not use it (fig. 3 A). In addition, 3% of respondents had used the app in the past but subsequently stopped using it. These results indicate a significant gap between the app's recognition and its actual use. The Too Good To Go app is used by 33% of respondents, which is a higher percentage than in the case of the Foodsi app (fig. 3 B). At the same time, 19% of respondents have used the app in the past but no longer do so. These data suggest that the Too Good To Go app is more popular, but also indicate that users are abandoning it.



**Fig. 3 A.** Responses to the question: Do you use the Foodsi app ?

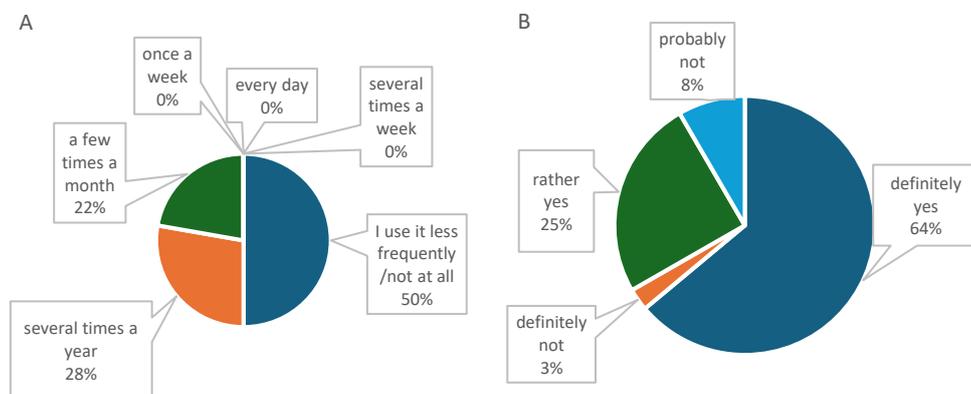
**Rys. 3 A.** Odpowiedzi na pytanie: Czy korzystasz z aplikacji Foodsi?

**Fig. 3 B.** Responses to the question Do you use the Too Good To Go app?

**Rys. 3 B.** Odpowiedzi na pytanie: Czy korzystasz z aplikacji Too Good To Go?

Half of the respondents (50%) declare that they rarely or never use discounted products in restaurants (fig. 4 A). 22% of respondents use such offers several times a month, while 28% use them several times a year. The lack of declarations of frequent use indicates that discounted food plays a marginal role in the daily food choices of respondents.

The vast majority of respondents have a positive attitude towards restaurants that take measures to reduce food waste (fig. 4 B). The answers "definitely yes" and "rather yes" account for a total of 89% of responses, which confirms the high acceptance of pro-environmental initiatives in the catering industry.



**Fig. 4 A.** Responses to the question Do you use such services (discounted products or meals) in catering establishments, and if so, how often?

*Rys. 4 A. Odpowiedzi na pytanie: Czy korzystasz z takich usług (produkty lub posiłki po obniżonej cenie) w lokalach gastronomicznych, a jeśli tak, to jak często?*

**Fig. 4 B.** Responses to the question Are you more inclined to use restaurants that actively work to reduce food waste?

*Rys. 4 B. Odpowiedzi na pytanie: Czy jesteś bardziej skłonny korzystać z restauracji, które aktywnie działają na rzecz ograniczenia marnotrawstwa żywności?*

The highest-rated motive for choosing discounted food (fig. 5 A) was economic factors (average 4.29), followed by ethical motivations (3.91). Ecological factors received the lowest average rating (3.60). These results indicate that although respondents recognise ethical and environmental aspects, financial considerations remain the main determinant of purchasing decisions.

Most respondents (83%) said they would like more restaurants to offer food sharing (fig. 5 B), while the remaining participants had no clear opinion. The lack of negative responses indicates the high potential for the development of such solutions in the catering sector.

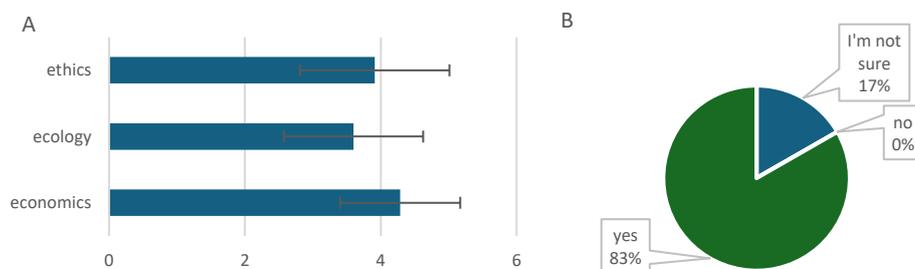
### 3.2. Engagement of gastronomic entities in the use of mobile applications based on the sharing model in the light of the results of individual interviews.

As part of the study, interviews were conducted with owners and managers of catering establishments on food waste and ways to reduce it. The establishments surveyed used the Too Good To Go and Foodsii apps.

Respondents mainly pointed to ideological motivations: reducing food waste, sustainable development, an additional promotional channel, educating customers and staff, and the

possibility of profiting from surpluses. The apps do not require a lot of work and bring environmental and financial benefits.

The biggest challenge turned out to be demanding customers, whose negative opinions can damage the reputation of the establishment. Commissions and additional costs of using the apps are also a problem. Nevertheless, the apps improve brand recognition and customer relations. Most establishments have been using Too Good To Go for 2-3 years, some use Foodsi, and others have introduced alternatives, such as "happy hour." Sharing economy technologies are actively used, although they need to be adapted to individual needs.



**Fig. 5 A.** Responses to the question Rate on a scale of 1-5 what motivates you to choose discounted food

*Rys. 5 A. Odpowiedzi na pytanie: Proszę ocenić w skali od 1 do 5, co motywuje Państwa do wyboru przecenionych potraw*

**Fig. 5 B.** Responses to the question Would you like more restaurants to offer food sharing?

*Rys. 5 B. Odpowiedzi na pytanie: Czy chcieliby Państwo, aby więcej restauracji oferowało dzielenie się jedzeniem?*

#### IV. DISCUSSION

The results of the study confirm that the sharing economy is an important element of contemporary consumer trends, linked to the transition from ownership to access-based use of goods and services. This trend is directly linked to the development of the Internet and digital platforms, which enable the effective matching of supply and demand within new business models, as has been widely described in the literature on the subject [Sztokfisz 2017, Kozłak 2017, Kamińska 2017]. Research indicates that up to 60% of food transferred via the app was collected and consumed by other users instead of ending up in the trash [Makov et al. 2020]. In systemic terms, the sharing economy can be treated as the next stage in the development of the modern economy, responding to the dynamic technological and social changes of the 21st century [Paczkowski et al. 2020].

The high level of consumer acceptance for restaurants to take action to reduce food waste confirms the assumptions of the concept of co-consumption and the idea of sustainable development, according to which sharing resources promotes their more rational use [Wilczak 2013]. The respondents declared a greater willingness to use the services of restaurants involved in food sharing, which indicates the growing role of ethical and social factors in consumer decisions. This phenomenon is consistent with previous studies in which food sharing is identified as a practical tool to reduce food waste [Droźłowska and Sobieraj 2019, Sienicka and Kozłowska 2022].

At the same time, the noticeable discrepancy between the very high awareness of food-sharing applications and their actual use indicates the existence of behavioural and organisational barriers. As the literature points out, the mere availability of digital tools is not a sufficient factor to change consumer behaviour if it is not accompanied by appropriate education and positive user experiences [Sienicka and Kozłowska 2022]. Similar conclusions on the limitations of the development of sharing-based models are presented in studies on the functioning of online platforms in the digital economy [Zakusilo 2022, Kuźniar et al. 2024].

An analysis of the motives for choosing discounted food indicated the dominant role of economic factors, with ethical and environmental reasons also being important. This preference pattern is consistent with the results of the research on food waste in Polish households, which indicate that despite growing environmental awareness among consumers, purchasing decisions remain strongly determined by financial considerations and rational household budgeting [Dąbrowska and Janoś-Kresło 2013, Lemanowicz and Jasiulewicz 2023]. Social analysis showed that users involved in these activities usually had lower incomes but higher levels of education [Makov et al. 2020].

The results of in-depth interviews with restaurateurs confirm that the implementation of solutions based on the sharing economy is largely ideological and image-related. This approach is in line with the principles of zero waste and the 5Rs, according to which waste reduction is treated as an important element of responsible resource management [Balwan et al. 2022]. Restaurant owners perceive food sharing as a tool for building a positive brand image and a form of education for customers and employees, which is consistent with the analyses of organisational culture and corporate social responsibility [Ganczewski and Jemielniak 2022].

At the same time, the representatives of the catering sector surveyed pointed to significant barriers to the implementation of food sharing applications, in particular those related to high customer expectations and commissions charged by platform operators. These problems were also identified in studies on the functioning of food sharing in Poland, which emphasised the image and organisational risks, as well as the limited economic profitability of such solutions [Stępnicka 2019, Ziętara 2020].

In summary, the results of this study are consistent with previous findings in the literature on the potential of the sharing economy to reduce food waste [Paczkowski et al. 2020]. At the same time, they point to the need for further improvement of business models, consumer education, and adaptation of technological solutions to the realities of the catering sector [Vo-Thanh et al. 2021, Kuźniar et al. 2024].

## V. CONCLUSIONS

The sharing economy is an effective tool to reduce food waste in the catering sector.

Consumers indicate a high willingness to support restaurants that actively implement food sharing solutions, which can be a real competitive advantage.

Despite the high recognition of food-sharing apps, their use remains limited, indicating a need for further education and simplification of usage models.

Restaurateurs perceive the implementation of the sharing economy mainly as an ideological and image-building activity, while recognising organisational and financial barriers.

The future development of food sharing in the catering industry requires a balance between environmental and economic goals and consumer expectations.

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