Do prosumers behave differently from other consumers on collaborative consumption platforms?

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Abstract

Purpose – This paper aims at understanding the differences between user profiles in collaborative consumption (CC) platforms in order to improve their management approaches and set up customized strategies. Particularly, the authors investigate the emerging role of prosumers and their influence on the active participation and growth of CC platforms. Moreover, the authors study user experience to help promoting users' recommendation and offering intention.

Design/methodology/approach – The sample includes responses from 6,388 users of CC platforms across the EU. The data were collected through the European Commission's Flash Eurobarometer survey 467 and analyzed through a partial least squares structural equation modeling (PLS-SEM) and a fuzzy set qualitative comparative analysis (fsQCA).

Findings – The PLS-SEM findings suggest that prosumers are more likely than consumers to recommend and offer services through CC platforms. Furthermore, previous experience using platforms positively affects the switch from consumers to prosumers. The fsQCA suggests that only economic advantages affect the switchover decision.

Research limitations/implications – This study deepens the hitherto unexplored prosumer role in CC platforms and its antecedents and drivers.

Practical implications – The main limitations concern the generalizability outside of the EU, the unbalanced coverage of sectors and the number of moderator variables.

Social implications – Prosumers act as golden actors because they contribute to enlarge both the customer base (through recommendations) and the provider base (through offering intention). Hence, managers should focus on prosumers' experiences to increase the critical mass and positive externalities of CC platforms.

Originality/value – This study helps understand the importance of the role of prosumers in the growth of CC platforms. The study provides more robust results through a cross-country and mixed-method research.

Keywords Collaborative consumption platforms, Prosumers behavior, Recommendation intention, Offering intention, Switchover to prosumer, fsQCA

Paper type Research paper

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1. Introduction

Collaborative consumption (CC) is an emerging consumption model that promotes sustainable societies in all sustainability dimensions, that is, economic, social and environmental sustainability. It encompasses the sharing of underused resources with outcomes in terms of efficiency, community and sustainability (Kelly and Girzadas, 2022). Framed as a more sustainable way of consumption, CC has registered an explosive growth during the past years, both in terms of the number of users and the value of transactions (Statista, 2023).

The interplay of multiple actors of different types and sizes (e.g. platform providers, peer service providers, consumers, prosumers) has generated decentralized and mostly unregulated CC markets with disrupted sociotechnical and economic regimes, but flooded by surges of innovation (Martin, 2016). Highly fragmented, with a recognized contribution towards achieving long-term sustainability and with a stringent need for regulation, CC markets have started to be scrutinized by researchers (e.g. Plewnia and Guenther, 2018; Wang *et al.*, 2019) and policy makers (e.g. European Commission, 2018a, b). Recent crises, including the coronavirus disease 2019 (COVID-19) pandemic, have accelerated the digital transformation and highlighted the importance of service-dominant logic (Mazzucchelli *et al.*, 2021; Casidy *et al.*, 2022; Corvello *et al.*, 2022). The crises acted as catalysts, driving the accelerated adoption of digital transformation and reinforcing the importance of a service-centric approach in a rapidly evolving digital landscape (Corvello *et al.*, 2023). This involved the proliferation of new forms of exchange, including leveraging CC platforms to deliver products and services remotely (Minami *et al.*, 2021; Mattia *et al.*, 2022). Yet, if we take into account the proliferation of CC usership, empirical research is still scarce (Mazzucchelli *et al.*, 2021). So far, research has focused on individual types of CC actors, either from the demand side or from the supply side (e.g. Zamani *et al.*, 2019; Basili and Rossi, 2020; Si *et al.*, 2021). However, one of the success factors in CC is that of enabling value co-creation processes (Alves *et al.*, 2016); circumstances in which users undertake multiple roles.

Previous research (Akhmedova *et al.*, 2020; Hatzopoulos and Roma, 2017) has emphasized the contrasting, but cooperating role of different users (e.g. consumers and providers) considered as the necessary parts in any markets, especially in CC contexts like CC platforms. In this vein, an in-depth investigation of how each user profile contributes to the value creation process is crucial. Yet, the literature hitherto neglected the role of prosumers that, in fact, embraces both consumers' and prosumers' profiles.

Therefore, the main objective of this work is to study the differences between the profiles in order to improve the management of CC platforms through the adoption of customized strategies. Particularly, we investigate the emerging role of prosumers and their influence on the active participation and growth of CC platforms. Moreover, we study user experience as an antecedent of both the intention to recommend CC services to potential consumers and the intention to offer as a prosumer. This way, we aim at understanding the role of user experience in the active involvement of both user profiles and at providing useful insights on how to differentiate management strategies.

In fact, the prosumer status has emerged as a relevant usership role that is defined by the simultaneous active participation of the user on opposite sides of the CC market. According to Eckhardt *et al.* (2019), prosumers are non-professional users who provides and consumes shared resources on a CC platform, playing "*enhanced roles as both providers and users of resources*". It raises interesting questions about the motivations and behavior of prosumers, as their dual role is key with regard to the value creation in the sharing economy (Akhmedova *et al.*, 2020). In fact, they create trustworthiness by rating and reviewing CC services, increase social capital relationships and promote responsible and sustainable consumption practices (Garg *et al.*, 2022; Ranjitha and Jeesha, 2022; Sadiq *et al.*, 2023).

However, the current literature shows that the role of prosumer behavior in CC platforms is still underexplored and needs further understanding (Ertz *et al.*, 2021; Lang *et al.*, 2022). Moreover, existing empirical works focus on specific countries and/or sectors (Barnes and Mattsson, 2017; Akarsu *et al.*, 2020; Wang *et al.*, 2021), not making use of wide-ranging samples (Oliveira *et al.*, 2020; Akarsu *et al.*, 2020), which does not allow generalization of their results.

This research explores the behavioral antecedents and drivers of CC prosumers compared to those of CC consumers advancing the knowledge on the underpinnings of role-switching from consumer to prosumer on CC platforms. We used the following measures: (1) the intention of consumers to start providing services (also used by Akhmedova *et al.*, 2020; Hamari *et al.*, 2016; Lindblom *et al.*, 2018, but in other contexts) and thus switching role to the prosumer status and (2) the intention to recommend (also used by Garg *et al.*, 2022; Ranjitha and Jeesha, 2022, also in other contexts) the consumption of collaborative services to others and thus increasing the user base. Moreover, we researched the impact of perceived (dis) advantages on switching to prosumer status on CC platforms.

We used a partial least squares structural equation model (PLS-SEM) and fuzzy set qualitative comparative analysis (fsQCA) on 6,388 (out of 26,544) answers from the Flash Eurobarometer survey n. 467 implemented in all EU countries (European Commission, Brussels, 2018c). The PLS-SEM findings suggest that prosumers are more likely to recommend and offer services through CC platforms than consumers. Furthermore, previous experience affects the switch from consumers to prosumers. The status of the prosumer mediates the relationships between previous experience and intentions to offer and recommend CC. Some further investigations have been conducted considering the moderating effect of age and gender on the relationship between prosumer status and offering intention. In detail, older users and female users tend to have a lower intention to offer services on CC platforms. Finally, based on the fsQCA, we found that only the economic advantages impact the switchover decision from consumer to prosumer.

This paper is structured as follows: Section 2 deals with the theoretical background, the identification of literature gaps and the documentation of hypotheses; Section 3 describes the mixed methodological approach; Section 4 reports the results; Section 5 deepens the discussion about the study results and Section 6 outlines the conclusions.

2. Theoretical background

2.1 CC and prosumption: conceptualization

CC, also known as *shared consumption*, is a fast-growing phenomenon (Valerio *et al.*, 2021), often associated with the collaborative economy and the sharing economy (Möhlmann, 2015). The total number of CC platforms worldwide is currently close to 900 according to an online indexing service of existing collaborative platforms (JustPark.com, 2023). Statista (2023) estimated that the total value of the collaborative economy will increase to 600 billion US dollars by 2027, with a compound annual growth of approximately 32% (Statista, 2023). Tens of millions of active users of collaborative platforms have induced academics and specialists alike observe the emergence of a collaborative advantage enhanced by the power of many in the case of distributed economic activities (Kelly and Girzadas, 2022).

The main reason for this growing popularity has been identified as the economic benefit (i.e. reduced transaction cost and money earning) (Wang *et al.*, 2019; Hamari *et al.*, 2016; Barnes and Mattsson, 2017; Böcker and Meelen, 2017; Benoit *et al.*, 2017), although the monetization mechanism is still unclear as it can include both monetary and nonmonetary compensation or both profit and nonprofit models (Klimczuk *et al.*, 2021). However, social (e.g. community building, changes in consumer behavior) and environmental (e.g. sustainability) reasons have also been emphasized in the scholarly literature to play significant roles in the

recent growth of CC (Tussyadiah, 2016; Hamari *et al.*, 2016; Ertz *et al.*, 2018b; Roos and Hahn, 2019; Bhalla, 2021). Overall, this consumption model is changing the way people consume goods and services, creating a more efficient, sustainable and socially connected society (Hildebrandt *et al.*, 2018).

The conceptual framework of CC has been continuously developed to shed light on a popular concept, but with blurry boundaries. Early definitions of CC as "*systems of organized sharing, bartering, lending, trading, renting, gifting, and swapping*" (Botsman and Rogers, 2010; Belk, 2014) no longer accurately explain the new advances of the philosophy of CC. More recently, CC was defined as "*the set of resource circulation systems which enable consumers to both obtain and provide, temporarily or permanently, valuable resources or services through direct interaction with other consumers or through a mediator*" (Ertz *et al.*, 2016).

Specifically, this new model of consumption refers to: new economic arrangements allowing the "*shared use of resources via forms of access-based consumption*" (Hildebrandt *et al.*, 2018) where access prevails over resource ownership (Akbar and Hoffmann, 2020; Stevens *et al.*, 2023), the provision of service at distance by electronic means and on-demand (European Commission, 2015), the existence of a community of users with single/multiple roles (De Rivera *et al.*, 2017) or the "*growing practice of consumers serving each other directly rather than being served by companies*" (Schatsky and Mahidhar, 2014).

2.1.1 Duality of roles: the prosumer. Transactions between users (peer-to-peer transactions) are crucial for the CC model (Hamari *et al.*, 2016; Lindblom *et al.*, 2018). Peers or users are the critical component of the CC model in creating value in the sharing economy (Akhmedova *et al.*, 2020). They provide feedback and reviews on shared resources that build trust (Garg *et al.*, 2022), create social capital through social networks and relationships (Ranjitha and Jeesha, 2022) and implement the sharing economy to ensure that shared resources are used in a responsible and sustainable way so as to achieve their economic, social and environmental benefits (Sadiq *et al.*, 2023).

CC markets are two-sided markets where providers and consumers are participants in each market segment that can have opposing interests (that is, the provider seeks to obtain higher income, while the consumer seeks lower prices) (Hatzopoulos and Roma, 2017). Hence, the situation where a user acts as a *prosumer,* i.e. being active on both sides of the market (as provider and consumer of shared resources), raises interesting questions concerning the motivations and behavior of prosumers, given their previous experience on both sides of the CC market. Extensive research has been conducted on motivations to engage in CC. Previous studies focused on user motivation to participate in CC, either as a provider or consumer of shared resources. Consumers are motivated primarily by lower costs (Wang *et al.*, 2019; Hamari *et al.*, 2016), eliminating the burden of ownership (Hawlitschek *et al.*, 2018; Lindblom and Lindblom, 2017), waste avoidance (Hamari *et al.*, 2016), community building, variety seeking (Philip *et al.*, 2019), social reputation (Garg *et al.*, 2022) or hedonic reasons (Garg *et al.*, 2022), while providers are mainly motivated by profit-seeking (Hamari *et al.*, 2016), social and environmental benefits (Hamari *et al.*, 2016), work and professional development (Vicente and Gil-de Gómez, 2021) or achieving a personal growth or a sense of purpose (von Richthofen, 2022; Laamanen *et al.*, 2018).

In this study, we focus on the hitherto underexplored role of the "prosumer". Generally referred to as "*a peer among peers*" (Hatzopoulos and Roma, 2017), the prosumer has traditionally been seen as a co-creator of value (Ritzer and Jurgenson, 2010) that adopts a production behavior for its own consumption (Wei *et al.*, 2021) and as a "*distinctive feature of the collaborative economy*" (Ertz *et al.*, 2022). In this study, we define a prosumer as a non-professional person who provides and consumes shared resources on a CC platform according to the approach of Eckhardt *et al.* (2019), that is, agents with "*enhanced roles as both providers and users of resources.*"

2.1.2 Post-consumption behavior. The value of a CC platform increases with the number of users (Sung *et al.*, 2018). Previous studies established that a large user base generates network effects (Yun *et al.*, 2017; Boudreau *et al.*, 2022), increases the revenue potential of the platform (Rangaswamy *et al.*, 2020), ensures a better competitive advantage that improves the negotiation power of the platform (Gupta *et al.*, 2020), increases user engagement on the platform (Libai *et al.*, 2020) and produces additional data that provide future revenue-generating opportunities (Gupta *et al.*, 2020).

However, a large user base alone is not sufficient to ensure the performance and sustainability of the CC-business, but influences various user behavior intentions to: (1) continue using the services of the platform (either as consumer or prosumer), (2) recommend services to potential users (i.e. intention or willingness to recommend) or (3) switch roles from consumer to prosumer. Consequently, this study adopts *the intention to recommend CC services* and the *intention to continue to use collaborative services* as the main constructs, in line with Izogo (2016), Bankole and Bankole (2017) and Oliveira *et al.* (2020).

(1) *The intention to continue to use collaborative services* refers to the intention to reuse CC services in the future (Wang *et al.*, 2021; Yang *et al.*, 2017; Ni, 2021). Empirical studies report that intention is positively and significantly associated with service satisfaction (Lin *et al.*, 2017; Wang *et al.*, 2021), enjoyment (Barnes and Mattsson, 2017), attitude (Oliveira *et al.*, 2020; Perera *et al.*, 2023) and price and facilitating conditions (Oliveira *et al.*, 2020).

(2) The user's *intention to recommend collaborative services* refers to the individual's willingness to share positive experiences about using collaborative services and recommending them to others. The intention to recommend represents a key traditional metric of customer satisfaction and loyalty (Bendle *et al.*, 2020). However, the intention to recommend has been little explored in the CC context, despite its significant importance, since it: (1) increases user acquisition through positive word of mouth. Satisfied users create a snowball effect of acquisition and growth; (2) creates trust and credibility that are of paramount importance for the growth and sustainability of the collaborative economy (Räisänen *et al.*, 2021; Akhmedova *et al.*, 2021); (3) reflects user satisfaction and loyalty, which are predictors of future platform performance; and (4) stimulates community building and a sense of belonging (Małecka *et al.*, 2022a).

A few articles have examined the recommendation intention in CC platforms, which are substantiated by different behavior theories adapted for technology adoption: unified theory of acceptance and use of technology 2 (UTAUT2) (Oliveira *et al.* (2020), expectation confirmation theory (ECT) (Wang *et al.*, 2021), theory of reasoned action (TRA) (Barnes and Mattsson, 2017) and social exchange theory (SET) (Akarsu *et al.*, 2020).

(3) The possibility of *switching roles* between consumer and prosumer are key characteristics of the collaborative economy, where the consumer and the provider are co-creators of the CC experience (Małecka *et al.*, 2022b). Interchangeability and trust spur "*the ability to act as both service provider and service user*" (Nguyen *et al.*, 2020). Only a few studies have mentioned the switch between roles. Role-switching, or switchover, represents a reversible transition of role between user and provider (Scaraboto, 2015) or "centrality of a two-sided instead of one-sided consumer role" (Ertz *et al.*, 2018a). The dual role is discussed by Eckhardt *et al.* (2019) who refer to prosumers as embracing "*enhanced roles as both providers and users of resources.*"

We address the following gaps in the literature on CC. First, prosumer behavior has been little empirically researched and, therefore, is not entirely understood. Previous research has generally focused on a single role held by the user in the context of CC, predominantly on the

status of the consumer (Lawson *et al.*, 2016; Möhlmann, 2015). Second, understanding of post-adoption behavior is critical to ensure the sustainability of the CC model. Apart from studies on segmenting CC users (e.g. Małecka *et al.*, 2022b), few studies have been carried out to investigate the continuance of usage or the intention to recommend CC (see, e.g. Torrent-Sellens *et al.*, 2022; Ertz *et al.*, 2021, 2022; Lang *et al.*, 2022; Nguyen *et al.*, 2020). However, none of them investigated post-consumption behavior for the specific role of prosumer. To our knowledge, no research has investigated, so far, the relationship between having the status of a prosumer and behavioral intention to recommend and to offer CC services. Third, the few studies that have been conducted on user intentions focused on specific activities (bicycle sharing, car sharing, accommodation sharing), limiting the results to a specific sector. Fourth, previous studies of adoption and post-adoption behavior relied on small sample surveys in selected countries and sectors (Oliveira *et al.*, 2020; Wang *et al.*, 2021; Barnes and Mattsson, 2017; Akarsu *et al.*, 2020), raising the issue of international and cross-sector validity.

2.2 Development of hypotheses

Our research model considers the difference in the behavior of CC between having a single consumption role and having a dual role (i.e. prosumer status). The model includes the *previous experience* in using services via CC platforms, the *status* of either consumer or prosumer, the *intention to recommend* the consumption of collaborative services and the *intention to offer* services via CC platforms.

Previous experience is a clear competitive differentiator and predictor of the success of CC platforms (Frey *et al.*, 2019). It provides a complete understanding of the dynamics of acceptance, adoption and behavioral intentions such as the intention to recommend services to others or the continuance to use intention in the context of digital platforms (Camacho-Otero *et al.*, 2019). Previous experience positively influences the perceived usefulness of CC and, therefore, the intention to participate in CC (Małecka *et al.*, 2022b). Previous experience might be an important predictor of future CC behavior. Empirical evidence points to the fact that previous experience with CC plays an important role in the switch between roles. Previous experience from participation in CC as a consumer will subsequently lead to participation as a provider. Adopting the provider status is mainly the result of previous experience as a consumer ($\beta = 0.498$, $p < 0.001$) (Torrent-Sellens *et al.*, 2022). Previous experience familiarizes users with how the system works to develop usage skills and habits over time. Thus, previous experience with CC ensures user expertise with online transactions, self-confidence, reassurance and trust in performing online collaborative transactions (Ertz *et al.*, 2021). Consequently, we hypothesize that:

H1. There is a positive relationship between previous experience in using services (via collaborative platforms) and the switch from only consumer to prosumer status.

Understanding how the prosumer status relates to *intention to recommend* is of great importance to the further development of the collaborative economy. The intention of recommending services represents the "ultimate test" of the relationship with a customer (Bendapudi and Berry, 1997). However, it has received little attention in previous research. In our research, the intention to recommend refers to the intention to recommend CC services to others. Previous research on CC behavior shows that the intention to recommend is positively associated with the intention to become a provider (Oliveira *et al.*, 2020), satisfaction with CC (Oliveira *et al.*, 2020; Wang *et al.*, 2021; Akarsu *et al.*, 2020) and trust, social influence, perceived usefulness and enjoyment (Barnes and Mattsson, 2017). Given these considerations, the following hypotheses can be formulated:

H2. There is a positive relationship between having a prosumer status and the intention to recommend the use of services.

H3. There is a positive relationship between previous experience and the intention to recommend using collaborative services.

Little is known about the *intention to continue* to provide services using collaborative platforms, while the way in which the prosumer status influences the continuance intention has not been researched yet. Moreover, several researchers do not explicitly differentiate between the different roles (i.e. consumer/obtainer, provider/supplier and prosumer) a user can adopt on a CC platform, as highlighted by Ertz *et al.* (2021). So far, extensive research has focused on consumer renting behavior in the collaborative economy and investigated the intention to repurchase, meaning the intention to continue to use shared resources in the future (Oliveira *et al.*, 2020; Möhlmann, 2015; Barnes and Mattsson, 2017; Wang *et al.*, 2021; Akarsu *et al.*, 2020).

The duality of the prosumer status enables a user to engage better with the platform after having obtained learning advantages (i.e. gaining trust in the system, gaining self-confidence, developing expertise) and experience advantages (i.e. experiencing social benefits, mutuality and peer influence) (Ertz *et al.*, 2021). Furthermore, it has been observed that prosumption develops a sense of belonging to the community through regular and repetitive activities (Małecka *et al.*, 2022a). Thus, we expect the prosumer status to have a direct impact on the intention to provide services via collaborative platforms, as individuals are better engaged with the platform due to role duality and previous experience with both providing and obtaining shared resources over the CC platform.

H4. There is a positive relationship between having a prosumer status and the intention to provide services.

H5. There is a positive relationship between previous experience and the intention to provide services.

The previously revised literature points to other factors that might impact the behavior of users of CC. Therefore, we include *age*, *gender* and *type of community* in terms of the level of urbanization where the respondent lives (rural area, small/medium town, large town).

The importance of individual characteristics differs according to their impact on the status of the relationship between the prosumer and the usage behavior of CC. Evidence indicates that the relationship between the choice of a status on a CC platform and usage behavior in the case of CC is moderated by age and gender (Nguyen *et al.*, 2020; Oliveira *et al.*, 2020; Akarsu *et al.*, 2020; Wang *et al.*, 2021; Torrent-Sellens *et al.*, 2022). Previous studies point to age as highly significant, indicating that younger consumers have a higher propensity to participate in CC (Owyang *et al.*, 2014; Lindblom and Lindblom, 2017). Leick *et al.* (2022) found that the likelihood that an individual provides shared accommodation through CC platforms is higher for individuals falling in the age group 25–34 and for women. Given these considerations, the following hypotheses can be formulated:

H6. There is a moderating effect of gender between having a prosumer status and the intention to recommend the use of services.

H7. There is a moderating effect of gender between having a prosumer status and intention to provide services.

H8. There is a moderating effect of age between having a prosumer status and the intention to recommend the use of services.

H9. There is a moderating effect of age between having a prosumer status and intention to provide services.

Previous studies point to the level of urbanization as a factor that determines the propensity to participate in CC. The likelihood of engaging in CC is higher for individuals from cities compared to individuals from rural areas because urban citizens are better able to adapt to innovation and have better access to online environments (Wolfe and Bramwell, 2008), have higher income levels and benefit from urban amenities (Munoz and Cohen, 2016; Vinogradov *et al.*, 2020). According to Torrent-Sellens *et al.* (2022), the type of community, considering its level of urbanization, has a significant influence on the decision to participate in CC and associated usership status. Consequently, we propose the following hypotheses:

H10. There is a moderating effect of the type of community between having a prosumer status and the intention to recommend the use of services.

H11. There is a moderating effect of the type of community between having a prosumer status and intention to provide services.

Figure 1 synthesizes all the hypotheses of the PLS-SEM model.

Users perceive several advantages and disadvantages related to their involvement in CC. Economic advantages (i.e. cheaper or free services, service bartering) are the main drivers based on previous research (Benoit *et al.*, 2017). The width of service offer and variety of choice (OECD, 2016), the convenience and ease of use (Stene and Holte, 2014; Owyang *et al.*, 2014; OECD, 2016), as well as online socialization experiences with other users (Tussyadiah and Pesonen, 2018) have a relevant impact on the decision to engage in sharing activities related to CC.

Lack of trust is the most impactful disadvantage that pushes users to refrain from participating in CC (Małecka *et al.*, 2022b), which is due to the providers of the services (e.g. fear of lower quality of service, fear of theft) (Campbell Mithun, 2012), the platforms (e.g. fear of personal data misuse, fear of reimbursement issues, lack of clarity regarding legal

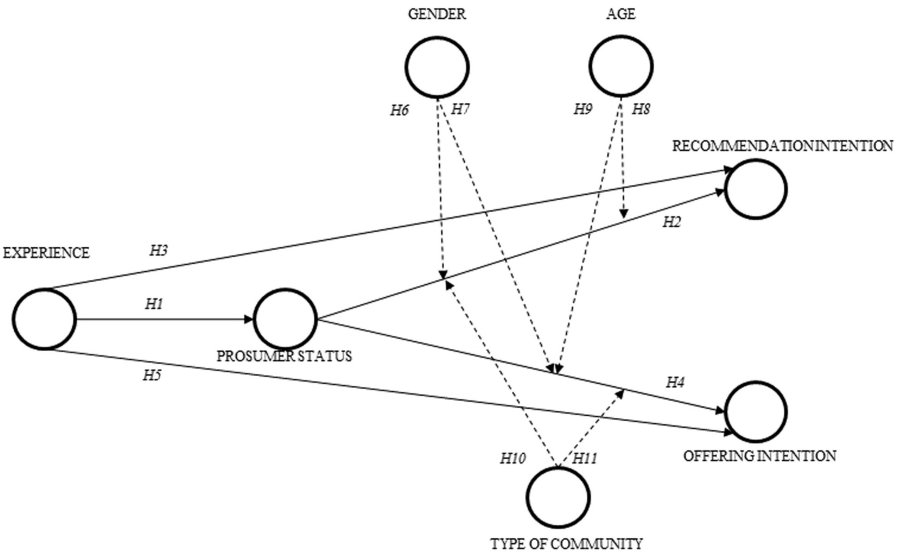


Figure 1.
PLS-SEM model and hypotheses

Source(s): Created by authors

responsibility) (Möhlmann, 2015) or other community members (e.g. misleading ratings or reviews). Finally, technical difficulties when using platforms, unfair pricing, reduction in the value of shared assets, damage to shared property and the cost of repairing or replacing the shared resource are additional disadvantages (OECD, 2016). Hence, the following hypotheses can be formulated:

H12. There is a positive relationship between perceived advantages related to participating in CC and having a prosumer status.

H13. There is a negative relationship between perceived disadvantages related to participating in CC and having a prosumer status.

3. Methodology

3.1 Questionnaire design, data collection and sample descriptions

In this study, we used an existing repository based on the questionnaire "Flash Eurobarometer 467" on "The Use of the Collaborative Economy" (European Commission, Brussels, 2018c). The questionnaire and the data collection process were designed and performed by specialized agencies under the directions of the authorizing entity, the European Commission, Directorate-General for Communication. The survey was administered to residents of EU member states aged 15 years and over, using a multistage probability sampling procedure. The mode of data collection was the computer-assisted telephone interview (CATI), i.e. with real-time data entry and computer-assisted interview administration, following the Data Documentation Initiative (DDI) Alliance (https://ddialliance.org). A total of 26,544 responses were collected among all EU countries. For the purposes of our analysis, we focused on 6,388 respondents (only consumers and prosumers). The variables used were measured using a 5-point Likert-type scale (from 1 = "strongly disagree"/"much worse" to 5 = "strongly agree"/"much better") or binomial/multinomial scales. Table 1 shows the details of the sample by age, gender, urbanization, occupational scale, user-provider profile and sector of operation. Table 2 shows the distribution by country.

As the repository was generated by specialized agencies and made available in a ready-to-use fashion to researchers, possible issues related to common method bias, non-response bias and multicollinearity did not affect this study. Likewise, the questions in our measurement model were single-item constructs, so internal consistency and convergent/discriminant validity of the measurement model were ensured by definition (Hair *et al.*, 2022; Sarstedt *et al.*, 2021).

3.2 Fuzzy set calibration

The fsQCA was applied to this research through the fs/QCA 4.0 software (Rasoolimanesh *et al.*, 2021a, b, c; Seyfi *et al.*, 2021; Kunasekaran *et al.*, 2022). The fsQCA helped identify the sufficient and necessary configurations of independent variables associated with the prosumer status and used the dependent variable (Ragin, 2006; De Canio *et al.*, 2020; Prentice *et al.*, 2021), overcoming the limitations of symmetric approaches (Woodside, 2013) and making use of set membership rescaling of each observation (Schneider and Wagemann, 2012). In detail, we used fsQCA rather than crisp-set QCA (csQCA) to avoid a dichotomic assignment of (non) membership and to better recognize different shades of membership in qualitative (difference-kind) and qualitative (difference-in-degree) fashion (Schneider and Wagemann, 2012; Ragin, 2006, 2009).

Sample	Size
Gender	
Male	3,310
Female	3,078
Age	
15–24	1,255
25–39	2,324
40–54	1,725
55 +	1,084
Subjective urbanization (Type of community)	
Rural village	1,423
Small/medium-size town	2,368
Large town	2,557
Occupation scale	
Self-employed	943
Employee	3,250
Manual workers	242
Not working	1,944
User profile	
Only consumer	5,069
Prosumer (consumer and provider)	1,319
Sectors in which collaborative platforms were used (multiple answers possible)	
Transport	3,238
Accommodation	3,614
Food	2,110
Household services	897
Professional services	548
Collaborative finance	494
TOTAL EU-28	*6,388*

Table 1. Sample distribution by age, gender, urbanization, occupational scale, user-provider profile, and sector of operation

Source(s): Created by authors

3.3 Variables

As mentioned in Section 3.1, the constructs of the *intention to recommend* and *previous experience* were measured through a 5-point Likert-type scale (from 1 = "strongly disagree"/"much worse" to 5 = "strongly agree"/"much better"). The remaining constructs were measured through multinomial/binomial scales: *prosumer status* (0 means only consumer, 1 means prosumer) and *intention to offer* (0 means that the user has no intention to offer, 1 otherwise). Hence, when a consumer answers 1, this reveals the intention to start offering (i.e. becoming a prosumer), while when a prosumer answers 1, this means the intention to continue offering. Furthermore, moderator constructs are treated as binomial/multinomial such as *age*, *gender* and *type of community urbanization* (rural = 1; small/medium town = 2; large town = 3).

The (dis)advantages used in the fsQCA were treated also as binomial variables (Table 3) and taken directly from the items of the Flash Eurobarometer 467. In particular, they refer to four main categories: economic advantages at large (cheaper/free services, convenient access, wider choice), information availability (reviews and ratings, misleading reviews and ratings), socialization and sharing (exchanging instead of paying, interacting with interesting people) and accountability and trust (use of personal data, responsibility assignments, online bookings/payments and noncompliant services/providers).

Sample	Size
Austria	170
Belgium	145
Bulgaria	144
Croatia	204
Cyprus	93
Czech Republic	172
Denmark	208
Estonia	234
Finland	152
France	277
Germany	151
Greece	231
Hungary	294
Ireland	280
Italy	167
Latvia	391
Lithuania	163
Luxembourg	106
Malta	156
The Netherlands	260
Poland	198
Portugal	176
Romania	224
Slovakia	295
Slovenia	223
Spain	231
Sweden	150
The United Kingdom	248

Source(s): Created by authors

Table 2. Sample distribution of consumers and prosumers across the then-EU-28 countries

Advantages	Disadvantages
A1 = Cheaper/free services	D1 = Problems with the online booking process/ payments
A2 = Wider choice of services	D2 = Less trust in service providers
A3 = More convenient access to services	D3 = Services through CC platforms are not as expected
A4 = Availability of ratings/reviews	D4 = Misleading ratings/reviews
A5 = Opportunities to interact with interesting people	D5 = Lack of clarity about who is responsible for problems
A6 = Possibility of exchanging services vs paying	D6 = Misuse of personal data

Source(s): Created by authors

Table 3. List of variables utilized in the fsQCA

4. Results

4.1 PLS-SEM and hypotheses testing

The overall results of the SEM analysis are reported in Tables 4 and 5 that include the significance levels and the conclusions of the hypotheses, while Figure 2 reports the structural model with path coefficients (and associated *p*-values).

All the hypotheses regarding the main constructs in the model (see Table 4) are supported, except for the direct effect of previous *experience* as users on *offering intention*. Nonetheless, the *prosumer status* fully mediates the relationship between *experience* and *offering intention*:

in fact, having a prosumer status increases the likelihood to continue offering through the platform. On the other hand, *experience* increases the *intention to recommend* CC services both directly and mediated by the *prosumer status*.

As for moderators (see Table 5), only some hypotheses regarding *age* and *gender* are supported. In particular, results suggest that older users and female ones tend to reduce the *intention to offer* services via CC platforms, if compared to younger users and male ones, respectively. On the other hand, *age* and *gender* do not affect the *recommendation intention*. No moderation is detected for the *type of community urbanization*.

We conducted both collinearity checks and path coefficient *p*-value tests (Hair *et al.*, 2022; Sarstedt *et al.*, 2021) as well as we assessed the Q^2 values to evaluate the predictive power of endogenous constructs. We found that this model has no predictive relevance, as $Q^2 < 0$ (Hair *et al.*, 2019a, b). This result was also confirmed by the cross-validated predictive ability test (CVPAT) on both the linear model (CVPAT-LM) and Indicator Average (CVPAT-IA) (Liengaard *et al.*, 2021; Sharma *et al.*, 2021), since the *p*-value is lower than 0.05. The fit of the model was assessed by checking the standardized root mean square residual (SRMR) of the estimated model (Henseler and Sarstedt, 2013). The SRMR is lower than 0.008, showing an excellent goodness of fit. Moreover, we complement the analysis of model fit through the bootstrapping-based exact model fit tests (d-ULS and d_G): both fall between the 95% and also 99% confidence intervals, proving that the model fit is excellent (Henseler and Sarstedt, 2013).

4.2 Fuzzy set qualitative comparative analysis

The results of the fsQCA are reported in Table 6, that includes raw coverage, unique coverage and consistency for each solution (i.e. single predictors) and configuration (i.e. combination of predictors).

Table 4.
Results of direct effects on *status, experience, offering intention*, and *recommendation intention*

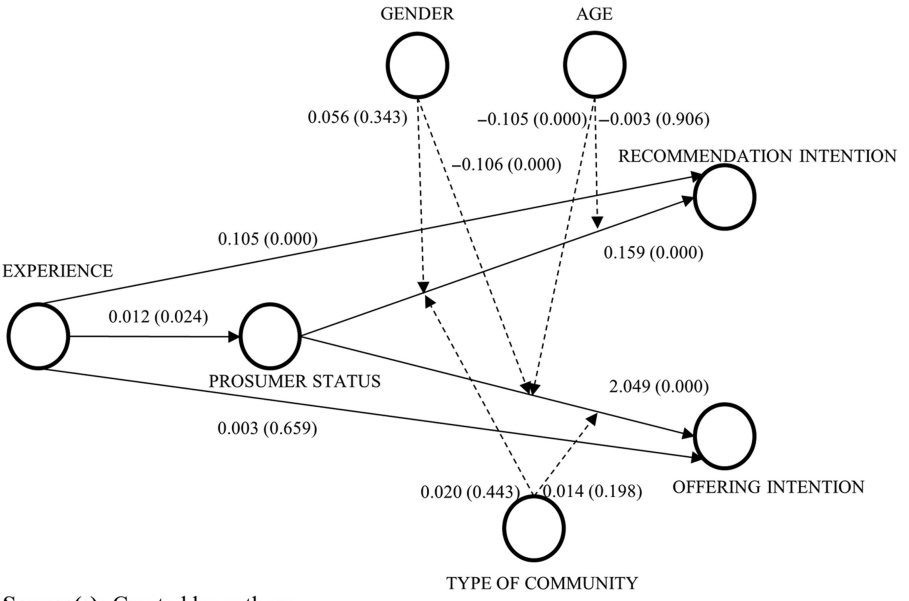
Hypotheses and structural path	Path coefficients	Conclusion
H1: Experience → Prosumer status	0.012**	Supported
H2: Prosumer status → Recommendation intention	0.159****	Supported
H3: Experience → Recommendation intention	0.105****	Supported
H4: Prosumer status → Offering intention	2.049****	Supported
H5: Experience → Offering intention	0.003	Not supported

Note(s): * = weakly significant at $p < 0.10$; ** = significant at $p < 0.05$; *** = strongly significant at $p < 0.01$; **** = strongest significant at $p < 0.001$
Source(s): Created by authors

Table 5.
Results of moderating effects of *age, gender*, and *type of community*

Hypotheses and structural path	Path coefficients	Conclusion
H6: Gender x Prosumer status → Recommendation intention	0.056	Not supported
H7: Gender x Prosumer status → Offering intention	−0.106****	Supported
H8: Age x Prosumer status → Recommendation intention	−0.003	Not supported
H9: Age x Prosumer status → Offering intention	−0.105****	Supported
H10: Type of community x Prosumer status → Recommendation intention	0.020	Not supported
H11: Type of community x Prosumer status → Offering intention	−0.014	Not supported

Note(s): * = weakly significant at $p < 0.10$; ** = significant at $p < 0.05$; *** = strongly significant at $p < 0.01$; **** = strongest significant at $p < 0.001$
Source(s): Created by authors



Source(s): Created by authors

Figure 2.
Path coefficients (and related *p*-values in brackets) of the PLS-SEM model

Solutions and configurations	Raw coverage	Unique coverage	Consistency
Solutions of single predictors			
A2	0.620588	0.01154480	0.304874
A4	0.616097	0.00897962	0.296960
A5	0.476911	0.00897962	0.389569
A6	0.457668	0.00448966	0.418840
D1	0.340935	0.00513113	0.400087
D2	0.428804	0.01475210	0.342905
D3	0.386473	0.00448960	0.387585
D4	0.475627	0.00705516	0.342729
D5	0.530148	0.01026240	0.299840
D6	0.461517	0.01346980	0.337238
Configurations of multiple predictors			
A1*A3	0.521810*	0.00705552	0.311629
Overall solution			
Solution coverage	0.912445		
Solution consistency	0.259704		

Note(s): * = necessary configuration/solution (raw coverage>0.2); ** = sufficient configuration/solution (consistency>0.8); *** = necessary and sufficient configuration/solution (rax coverage>0.2 and consistency>0.8)
Source(s): Created by authors

Table 6.
Results of the fsQCA

Table 6 shows that no single predictors are relevant for determining the prosumer status. As for configurations, only A1*A3 is relevant (the other, non-significant configurations are not reported). A1*A3 is a necessary (but not sufficient) configuration of predictors of the

prosumer status (Rasoolimanesh *et al.*, 2021a, b, c; Seyfi *et al.*, 2021). Finally, H12 is partly confirmed, as only some (economic) advantages (A1*A3) impact (positively) on prosumer status, while H13 is not supported, as no disadvantages impact on prosumer status.

For the fsQCA, we use the Quine-McCluskey algorithm (Rasoolimanesh *et al.*, 2021a, b, c; Seyfi *et al.*, 2021; Kunasekaran *et al.*, 2022) and consider the parsimonious solution (Table 6) for a more clear and effective interpretation (Rasoolimanesh *et al.*, 2021a, b, c).

5. Discussion

The purpose of this paper is investigating the dynamics underlying the participation in CC platforms through the post-consumption behavior of users (e.g. in terms of recommendation intention and offering intention). The main result of our study is that the post-consumption behavior changes depending on the role played in CC platforms. In particular, the underexplored role of the prosumer reveals a dual impact on both the behavioral intentions to recommend and to offer services via CC platforms.

The *previous experience* in using CC platforms tends to favor the *intention to recommend* CC services, confirming the existing literature (Oliveira *et al.*, 2020; Wang *et al.*, 2021; Akarsu *et al.*, 2020). However, those users playing a *prosumer role* show a stronger inclination towards *recommending* CC services because of their higher engagement in CC platforms and their personal interest (von Richthofen, 2022; Laamanen *et al.*, 2018), among which widening their consumer base and making profit are crucial (Hamari *et al.*, 2016).

Moreover, prosumers are more effective in their recommendation activity because they seem more credible and trustworthy (Garg *et al.*, 2022; Bendapudi and Berry, 1997) due to their two-sided experience (Hatzopoulos and Roma, 2017), that allows them to know the advantages associated with using CC platforms (Sadiq *et al.*, 2023), based on trialability (Rogers, 2003; Strömberg *et al.*, 2016).

Vice versa, the direct impact of *previous experience* on *offering intention* is not significant, while this impact is fully mediated by *prosumer status*. A possible explanation is that having a positive *previous experience* alone, in using CC services as consumers, is not enough to convince people to actually offer services in practice (Ertz *et al.*, 2021). This may also be due to the lack of trialability for consumers (Rogers, 2003; Strömberg *et al.*, 2016), who could not grasp the advantages and benefits associated with the prosumer status without playing such a role. An additional explanation could be that consumers may lack of sense of belonging to CC platforms' communities (Małecka *et al.*, 2022a) so, they are not interested in an active engagement as providers of CC services, as consumers' motivations are often related to economic convenience (Wang *et al.*, 2019; Lindblom and Lindblom, 2017).

Overall, these results confirm the critical role of prosumers in increasing the customer base (through *recommendations*) and the provider base (through *offering intention*) (Ertz *et al.*, 2021).

Finally, the switchover to this role is fostered by the *previous experience* in using CC platforms, confirming the existing literature (Wang *et al.*, 2021; Ertz *et al.*, 2021). Again, this can be explained by the fact that some consumers are influenced by the observability (Rogers, 2003; Pannell *et al.*, 2006) of visible and tangible benefits for prosumers (Hawlitschek *et al.*, 2018; Hamari *et al.*, 2016), convincing to realize the transition of consumers to *prosumer status*.

However, there are also other reasons that need to be investigated in order to understand what drives the decision to switch to the *prosumer status*. In this regard, the fsQCA shows that the advantages explicitly linked to economic convenience (A1 = cheaper or free services; A3 = more convenient access to services) are the ones that, when combined, are generally needed to push consumers to shift towards playing a prosumer role in CC platforms, coherently with the existing literature (Benoit *et al.*, 2017). However, if economic motivations are needed, they still need to be combined with other motivation categories in order to become

sufficient and affect the user status, such as economic and technical issues and ease of use (OECD, 2016; Stene and Holte, 2014), socialization (Tussyadiah and Pesonen, 2018), (dis)trust towards providers (Małecka *et al.*, 2022b), platforms (Campbell Mithun, 2012) and peers (Möhlmann, 2015). Therefore, the determination of sufficient configurations requires a more complex (but less clear and interpretable) combination of variables that deserves further and quantitative analyses in the near future.

As for the moderating effects of *age*, *gender* and *type of community*, the PLS-SEM shows that the type of community has no moderating effects between *prosumer status*, on the one side and *recommendation intention* and *offering intention*, on the other side. This contrasts with the literature (Wolfe and Bramwell, 2008; Vinogradov *et al.*, 2020). An increase in *age* is associated with a significant moderation effect that reduces the impact of *prosumer status* on *offering intention*, whilst no moderating effect is found towards *recommendation intention*. A possible explanation is that older people are less prone to using CC platforms due to either lack of confidence in using digital devices and technology in general or complexity when committed to managing relationships with customers (e.g. cancellations, complaints). Furthermore, older people tend to communicate less about the values and philosophy of CC and have fewer economic needs compared to the younger population (Owyang *et al.*, 2014; Lindblom and Lindblom, 2017; Leick *et al.*, 2022). The female gender is associated with a significant moderation effect that reduces the impact of *prosumer status* on *offering intention*, contrasting with Leick *et al.* (2022), whilst no moderating effect is found toward *recommendation intention*. A possible explanation is that female users consider offering a demanding activity and are constrained by possible social or cultural obstacles not addressed in Leick *et al.* (2022). *Age* and *gender* do not moderate the relationship between *prosumer status* and *recommendation*, probably because recommending is less demanding and, therefore, does not make any difference between male and female and younger and older users, in contrast with the existing literature (Nguyen *et al.*, 2020; Torrent-Sellens *et al.*, 2022).

6. Conclusions

The study proposes a quantitative and qualitative analysis to investigate whether and how the differences between the statuses of consumer and prosumer have an influence on the intention to recommend the use of/offer through collaborative platforms. Hence, this work is relevant to set up new management approaches and strategies for this specific user profile, also based on the impact of user experience. Besides, it is relevant to CC platforms' managers as it helps to understand and steer the two-sided growth mechanisms of CC platforms in many ways. First, managers should consider that prosumers' recommendations of CC services (and their two-sided experience in platforms) promote the recruitment of new consumers. Second, the prosumers' role nurtures the intention to offer and increases the providers' base.

This research provides novel theoretical implications by filling in some gaps in the literature on the considered constructs. It also provides managerial implications for CC platforms that operate in CC scenarios by identifying: (1) if and how the prosumer status and previous experiences affect the use of collaborative platforms and the consumers' intention to become service providers (prosumers) and (2) which perceived (dis)advantages lead consumers to switch to prosumer status.

Referring to the literature gaps, this paper offers some valuable contributions. First, the existing literature on CC shows that the role of prosumers is underexplored and little understood in empirical research. Hence, we fill this gap in literature and prove the relevance of prosumer role as a golden actor in CC platforms because it contributes to enlarge both the customer base (through recommendations) and the provider base (through offering intention). Finally, we contribute to the emergence of a new stream of research

investigating prosumer behavior. Second, this study is based on a wider dataset than those used in previous literature, covering all EU countries and different activity sectors (see Table 1 and Table 2). Hence, the results of the empirical analysis are more generalizable and robust towards the instrument biases affecting previous research. Furthermore, our use of the Eurobarometer dataset serves as a confirmation of data quality and accuracy of the results (Müller *et al.*, 2016). Third, we reinforce the validity of our results from a methodological perspective by combining a mixed-method approach including PLS-SEM and fsQCA.

6.1 Managerial implications

This paper has relevant practical and managerial implications, as it suggests that managers of CC platforms pay particular attention to the switchover of consumers to prosumers because of their golden role in recommending and offering services via CC platforms. This suggests that managers recognize the importance of prosumers because of their golden role. Firstly, managers should identify prosumers and design some strategic and tactical actions in order to reward them through some practical and symbolic benefits (e.g. premium features in CC platforms; monetary advantages; blue checks). Such actions can ensure they have more visibility on CC platforms, increasing their revenues. Secondly, managers should design some strategic and practical actions in order to increase the number of consumers who decide to switch to the prosumer role. First, the use of CC platforms should be as economically convenient for prospective prosumers, as this is the only necessary condition for the role switchover. For instance, CC platforms should lower the entry barriers on CC platforms for potential prosumers by: making easier platform management mechanisms; making operations management and procedures easier, faster, safer and transparent; offering insurance and legal coverage. Likewise, for older users and female users that are more reluctant to offer via CC platforms, ad hoc measures should be designed (e.g. for older users, making the use CC platforms easier; for all users and more in particular for older users and female ones, providing assistance when managing cancellation requests or complaints).

6.2 Limitations and future research areas

This paper has some limitations. First, it is grounded in an underexplored literature context that is poor in terms of empirical investigations on the prosumer status and behavior in CC platforms. Hence, this did not provide us with sufficient justification to develop hypotheses on several constructs and we were obliged to reduce the PLS-SEM model to four main (endogenous/exogenous) constructs and three moderator constructs. Therefore, future studies should be conducted, including constructs neglected in the literature so far, to test more complex PLS-SEM models. For instance, the relationship between prosumer status and performance indicators related to managerial/organizational or economic-financial variables should be considered in future research efforts. Similarly, the even more recent adoption of fsQCA in collaborative economy and CC-related research did not support a rich literature on the variables determining the shift from only consumers to prosumers. Hence, additional studies are needed to further investigate the determinants of the switchover to prosumer status, given its golden role in CC platforms. Third, this study focuses on the EU context, while the prosumer role and behavior deserve to be investigated with ad hoc studies in other geographical and cultural contexts, thus making it possible to compare the possible relevance of national and cultural factors. Fourth, although the sample is very big, it shows a unbalanced distribution between some categories, that is, among consumers and prosumers, on the one side and among different sectors, on the other side. Therefore, additional studies should be conducted using more balanced datasets. Fifth, even if our model included the moderators (age, gender, community) between status and offering/recommendation

intention - as the status construct is the focus of our study -, we recognize the need to investigate also the moderating effects on the construct related to experience. In fact, to the authors' best knowledge, there is no literature on such moderation hypotheses between experience and status.

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