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ARTICLE

Consumer-to-consumer exchanges: A goal theory approach in the timebanking context



C. Valor^{a,*}, E. Papaoikonomou^b, C. Martínez-de-Ibarreta^c

^a *Universidad Pontificia Comillas, Marketing Department, Alberto Aguilera, 23, 28015 Madrid, Spain*

^b *Rovira and Virgili University, Marketing Department, Business Management Faculty, Avinguda Universitat 1, Reus, 43204 Tarragona, Spain*

^c *Universidad Pontificia Comillas, Statistics Department, Alberto Aguilera, 23, 28015 Madrid, Spain*

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Abstract In recent times, consumer-to-consumer exchange networks have gained popularity. In these exchange systems members may adopt different roles as producers or as consumers of products and services. Furthermore, the participation in such systems may aim to achieve utilitarian or political and social goals. In this paper we focus on a particular type of consumer-to-consumer exchange system, timebanking. We posit that goals influence different forms of participation in these networks: political and social goals drive membership but economic goals lead to exchanges. We find confirmation for this assumption in a dataset of 255 self-administered questionnaires to members of Spanish timebanks. In particular, our contribution lies on further understanding the nature and intensity of members' participation in consumer-to-consumer exchange systems, such as timebanking, in relation to the goals they set. We conclude that to better understand consumer-to-consumer exchange networks it is essential to, first, unbundle the membership from the carried-out transactions, and second, to separate the two roles that members perform in consumer-to-consumer markets as the goals attached to these may vary. Political goals may drive membership but not transactions.

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PALABRAS CLAVE

Bancos de tiempo, metas;
Participación;
Sistemas de intercambio;
Intercambios entre consumidores

Intercambios entre consumidores: la aplicación de la teoría de metas en el contexto de bancos de tiempo

Resumen En los últimos años los intercambios entre consumidores han ganado popularidad. En los sistemas de intercambio los miembros adoptan diferentes roles como productores o consumidores de productos y servicios. Además, la participación en estos sistemas puede utilizarse para lograr metas políticas, sociales o funcionales. En este artículo nos centramos en un tipo particular de sistema de intercambio entre consumidores, los bancos de tiempo. Proponemos

* Corresponding author at: Alberto Aguilera, 23, 0402, 28015 Madrid, Spain.
E-mail address: cvalor@upcomillas.es (C. Valor).

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que las metas de los miembros de los bancos de tiempo afectan a las diferentes formas de participación en estas redes: las metas sociales y políticas están relacionadas con la afiliación pero las metas económicas llevan a intercambios. Confirmamos esta hipótesis en un conjunto de datos de 255 cuestionarios de miembros de bancos de tiempo españoles. En particular, nuestra contribución se basa en entender la naturaleza e intensidad de participación en los sistemas de intercambio entre consumidores, como los bancos de tiempo, en relación a las metas establecidas por los miembros. Concluimos que para entender mejor los sistemas de intercambio entre consumidores es esencial diferenciar en primer lugar la afiliación de las transacciones y, en segundo lugar, separar los dos roles que los miembros ejecutan en estos mercados ya que las metas asignadas a cada rol pueden variar. Las metas políticas pueden guardar más relación con la afiliación a los bancos de tiempo que con las transacciones.

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Introduction

In the last few years, we have witnessed a growing trend of exchanging among consumers. Consumer-to-consumer (C2C hereafter) exchanges are either transforming existing markets (Giesler, 2008) or creating new markets (Scaraboto, 2015). These C2C markets could be thought of as a form of co-creation giving rise to “collaborative capitalism” (Cova, Dalli, & Zwick, 2011): if consumers feel they are capable of producing value and want to avoid interacting with brands for fear of exploitation, they turn to one another to exchange value, a phenomenon that Humphreys and Grayson (2008) call collective production. Previous literature has examined C2C markets (e.g. Giesler, 2008; Plouffe, 2008; Scaraboto, 2015) but research is still limited, especially with regard to participants’ goals and participation in such markets. As such, the study of C2C markets and exchanges constitutes a timely research line for marketers inviting further studies.

In this study, we examine timebanking, one of such exchange networks among peers and a popular form of community currencies (Dittmer, 2013). Timebanks (TBs hereafter) are nonprofit organizations hosting an exchange network that does not use tender money; in contrast, there is a direct exchange of services or products and time is used as currency (i.e. an hour’s work for an hour’s work) (Peacock, 2006). Their functioning is simple: an individual provides services to another individual earning time credits that they may later use to obtain a service that they need. In turn, the party receiving the service has a debt in time credits and needs to ‘repay’ the debt by offering a service to any member of the TB. In this way, time is ‘banked’ and may be used when the volunteer needs it. These exchanges include a variety of services and products from gardening to child care (Seyfang, 2006).

When examining these exchange systems, authors have emphasized the political and social goals of timebanking and characterized it as a new social movement. For instance, Laamanen, Wahlen, and Campana (2015) defined it as a lifestyle movement, the materialization of the everyday life politics, where lifestyle is the primary means of activism. Likewise, Collom (2011) pictured it as a local social

movement organization and linked it to the antiglobalization and communitarian movements. Also, several authors (e.g. Dittmer, 2013; Seyfang & Longhurst, 2013) position community currencies, among which is timebanking, as well-fitted with the degrowth and sustainable development paradigm. Dubois, Schor, and Carfagna (2014) also have greatly emphasized the social role that timebanking plays, as it creates social networks fostering bonding and bridging, the two mechanisms of social capital.

Yet, the emphasis on the social and/or political purpose of timebanking may have obscured the fact that they are, at the core, exchange networks. TBs are created to offer a space for exchanges of services between individuals, even though the TB may encourage other activities, such as social gatherings. Or otherwise said, the exchange network may be instrumental in achieving other goals, be it political, social, and/or social welfare goals (Collom, Lasker, & Kyriacou, 2012). Still, at the core of timebanking is the creation of a market where peers exchange with one another. TBs are markets for exchange between peers, thus they are a context of study for marketing. Moreover, traditional discussions in marketing (e.g., how to build ongoing relationships) are also timely in these C2C markets.

Similar to other C2C exchange networks in TBs, members must enact two asynchronous roles: that of the provider of services, and that of the recipient. Many TBs have devices and norms to ensure that their users enact both roles such as diligent time credit registration or thresholds for time debit and credit. Therefore, in order to understand the goals that members set with their participation in a TB, we should keep in mind that members could well have different goals for each of these two roles. For instance, as a provider of services s/he may want to transform the local economy, give back to the community, or be part of a larger system for change. Yet, as a recipient one could want to obtain services that one cannot afford, or acquire new skills. Although TBs may have a more social and/or political orientation, the double role for participants and the goals attached to each role are of interest for other C2C networks and markets and the collaborative consumption literature, as this is a feature of such markets even if they do not have a clear political or social orientation (e.g., couchsurfing and Airbnb).

Furthermore, members may enact more of one role than the other role carrying out exchanges as providers or as recipients because it allows them to achieve the particular goals they seek. For example, the discussion of timebanking as a political movement could well explicate why users want to join a TB and, even why they want to offer services (the provider role), but may not be suitable to explain why users demand services (the recipient role).

Understanding what goals TB members want to achieve through their membership is of paramount importance, as previous research has demonstrated different types of participation in TBs: users that willingly offer several services; yet, they don't ask for any; users that take part in organizing committees or in gatherings/meetings but carry out limited exchanges; users that join but don't carry out any exchanges (Valor & Papaoikonomou, 2016). This reluctance to carry out transactions is the main reason why TBs fail (Papaoikonomou & Valor, 2016).

This paper aims to shed light on the goals of TB users to participate in these C2C networks and the reasons leading to a greater number of exchanges in timebanking. By drawing on goal theory and nonprofit motivation literatures, we posit that members will carry out more exchanges if they set goals that will be achieved by demanding services (e.g. economic goals, or learning goals); in contrast, those members setting political goals and social goals will be less active in the exchange network as these goals may be achieved symbolically, by being just members of the TB. According to Pieters, Baumgartner, and Allen (1995), goals serve two main motivational functions: first, they direct behaviors by establishing mental plans to achieve the desired end, second, they define the intensity of the behavior. Therefore, drawing from goal theory can enrich our understanding of the participation patterns in TBs, in particular, and C2C exchange networks, in general.

This paper builds on the growing literature on C2C exchanges by applying goal theory. In particular, our contribution lies in further understanding the ongoing participation of members in alternative exchange systems, such as timebanking, in relation to the goals they set. The results of this study show that to better understand C2C exchange networks it is essential to, first, unbundle the membership from the carried-out transactions, and second to separate the two roles – recipient and donors of services – that members perform in peer-to-peer exchange networks because the goals attached to these may vary. Our findings are useful in understanding new and alternative types of markets and exchanges which have received limited attention in marketing. The paper is structured as follows. First, TBs are further explained and previous research on timebanking is provided. Next, literature on goal theory and participation in social and political organizations is reviewed in relation to this study on timebanking. Third, the methodology employed is explained in depth. Finally, the results of this study are presented and discussed.

Antecedents: timebanking

TBs were created in the 1980s in the US by the civil rights lawyer Edgar Cahn in response to the erosion of informal neighborhood networks (Seyfang, 2003). There are

different pillars to the philosophy of the TB paradigm (Seyfang, 2006, p. 6, see also Cahn, 2001): "recognizing people as assets and that everyone has skills to share; redefining work to include the unpaid 'core economy' of work in the neighborhood and community; nurturing reciprocity and exchange rather than dependency; growing social capital; encouraging learning and skills-sharing; involving people in decision making".

Initially, TBs were promoted as a tool to create social capital especially among the unemployed and the socially excluded (e.g. the elderly, the disabled) and as a means to foster inclusion and equality (Collom, 2008; Kimmel, 2008), rather than as a challenge or an attack on the system. As several authors advocate (Collom, 2008; Kimmel, 2008; Seyfang, 2006), timebanking tries to deal with the social problems created by the current system: the erosion of the Economy of Care due to the impossibility of reaching full employment and the criminalization or denigration of non-paid jobs. Thanks to the participation in these exchange networks, TB members could acquire skills that could improve their employability, enlarge their social networks from which they could later gain support or have access to services that they could not afford otherwise.

Enlarging or improving social relations is probably the most characteristic objective of TBs. Similar to the findings in the volunteer field (e.g. MacNeela, 2008), the TB study of Seyfang (2003) in the UK found that there are five main motives for joining, that go from self-centered to other centered: meeting own needs, building community capacity, improving skills, helping other people, and building social capital. Likewise, Miller's work in Japanese TBs (2008) identifies companionship as an important motive to join, especially for those leaving the workplace. Dubois et al. (2014) find that, for those members that were new in town, the need to integrate and "meet new people" played an important role to their joining the TB, thus contributing to the creation of bonding social capital. Other motives include nostalgia for "neighborliness" (p. 43), environmentalism, authenticity and holistic wellness.

Yet, previous research on collaborative consumption research also found that participants are guided by different motives. For example, toy library sharing may be guided both by the desire for resistance against conventional structures and community related benefits (Ozanne & Ballantine, 2010). Similarly, participants in organized sharing events aim to reduce consumption and foster sustainable consumption, as well as to enjoy community involvement (Albinsson & Perera, 2012). For Schor (2013), TBs are largely motivated by the social connection encountered and the social experience. Thus, the participation in these "community hubs" (Gregory, 2009) is expected to serve different goals as also confirmed in a recent study on Spanish TB (Valor & Papaoikonomou, 2016).

Participation in social and political organizations

Previous work on participation in social and political organizations has examined forms of participation (Holmes & Slater, 2012) and the factors influencing it (e.g. García-Mainar & Marcuello, 2007). Three main factors are thought

to influence participation (see a review [García-Mainar & Marcuello, 2007](#)): personal motivation, socioeconomic factors like education and income, and structural factors, such as other commitments and lack of time ([Clary & Miller, 1986](#)) or contextual factors such as governmental spending in social welfare ([García-Mainar & Marcuello, 2007](#)). Furthermore, previous work in nonprofit marketing has distinguished between passive and active participation in terms of participation intensity ([Holmes & Slater, 2012](#); [Wollebaek & Selle, 2002](#)).

Although some studies have examined the relationship between motivation and participation, few studies have aimed to establish whether the intensity and type of participation depends on the types of personal goals sought. Personal goals can be broadly defined as individualized representations of "states or outcomes that one would like to achieve (or avoid)" ([Ford, 1992](#), p. 248). Through the participation in different social networks, as would be the case of TB, individuals intend to attain their goals, whether they are self-related or other-related ([Wollebaek & Selle, 2002](#)).

[Tschirhart, Mesch, Perry, Miller, and Lee \(2001\)](#) concluded that volunteers' behavior is purposeful and intends to achieve their life goals. In a qualitative study of membership organizations, [Holmes and Slater \(2012\)](#) suggested a relationship between type of goal and patterns of participation. The authors identify four broad types of goals for joining a membership organization: purposive, solidary, hobby, and material goals. Purposive goals are based on global concerns, such as promoting justice or fighting poverty. Solidary goals are related to social interaction and the establishment of social groups. Hobby goals capture the lifelong interest in the subject or site supported by the association. Finally, material goals refer to benefits of a more tangible nature, such as discounts. The authors found that hobbyists were the most active participants, but fail to offer a rationale to explain why this is the case.

Previous work on participation in TBs has implicitly assumed that, regardless of the goals of participants, they will be active in the exchange network. Participation in TBs is depicted as a political lifestyle by several authors ([Collom, 2011](#); [Dittmer, 2013](#); [Laamanen et al., 2015](#); [North, 2006](#)). These authors implicitly assume that, for the enactment of this lifestyle, members would be active in exchanges with one another to obtain services. By exchanging outside mainstream markets, they resist neoliberal marketplace and break from the power relations inherent in the capitalist system. These authors' rationale suggests that exchanging is, for these members, a form of political emancipation ([North, 2006](#)); therefore, following these authors we should expect greater participation for members with political goals.

Likewise, members with social goals join the TB as they see in this alternative market an instrument to meet new people, extend their social network, be of help to their neighbors and, in short, nurture social capital by bonding and developing trust with one another ([Collom, 2008](#); [North, 2014](#)). Therefore, it is expected that, to meet these goals, members should exchange with one another. If they do not exchange, they will fail to meet new people and establish a rapport, practices that are the basis for the trust creation ([Válek & Jašíková, 2013](#)). This rationale also suggests that members with social goals conduct greater transactions.

Yet, there is plenty of evidence to suggest otherwise. First, several studies have shown that more members are willing to offer services but reluctant to ask for any ([Papaoikonomou & Valor, 2016](#)). However, one of the key features of timebanking is that it is based on generalized reciprocity. This principle makes the working of timebanking different from traditional forms of volunteerism. Rather than differentiating between helpers and helped, volunteers and beneficiaries, timebanking relies on members adopting the role of coproducers by both asking for services and offering their skills ([Amanatidou, Gritzas, & Kavoulakos, 2015](#)). [Gregory \(2012\)](#) refers to this phenomenon of reluctance to ask for services as the "credit hoarding" effect which leads to the collapse of the TB, as it creates a similar effect to that of "lemon markets". Or, if the TB does not collapse, it is restructured as a space for debate and group activities, but person-to-person transactions remain limited or nonexistent; the TB is reshaped into a civil society space where the exchange network plays a marginal, if any, role ([Valor & Papaoikonomou, 2016](#)).

Abounding on that, other work ([Carnero, Martinez, & Sánchez-Mangas, 2015](#)) has shown that there is a correlation between membership and unemployment rate and that demand of services is more related to wants and needs. The aforementioned research by [Collom \(2011\)](#) also found that users with economic needs engaged in greater transactions.

Taking the previous discussion into account, we contend that members may join the TB in order to achieve different goals; the type of goal (goal content) will have a bearing on the form of engagement. Therefore, we should differentiate between goals that could be achieved by mere membership and those goals demanding transactions to be achieved.

We expect that those seeking access to services that they cannot otherwise afford will carry out more transactions. The same could be said about those with learning-related goals (learn new things) because, to achieve this goal, members must carry out transactions. In contrast, those with political and social goals may not conduct transactions, as they can achieve their goals by taking active part in the organization (e.g. attending gatherings or assemblies, or being part of the organizational committee) but not necessarily in the exchange network. If a member's goal is to protest against the current system or foster social capital, s/he may join the bank and remain as a member without conducting transactions.

We suggest that membership may be sufficient for the enactment of the lifestyle that members with political and social goals seek to affiliate with. They show support for the values that the TB incarnates by joining and offering services. Their commitment is symbolically realized. Yet, for demanding services users should exhibit other goals, such as learning or acquiring skills and/or having access to services they could not afford otherwise. This symbolic saturation of motivation by mere adherence has also been suggested in the nonprofit literature. For instance, to explain why volunteers drop out immediately after initial training, it has been suggested that they have established their commitment to the 'idea' of the project ([Yanay & Yanay, 2008](#)). Likewise, in volunteering, [Hooghe \(2003\)](#) argued that passive participation serves to achieve goals, but they failed to specify what goals.

Table 1 Goals cited (whole sample $n = 255$).

| Type of goal | Focal goal | % |
|----------------------|--|------|
| <i>Intrapersonal</i> | | |
| Affective | Enjoy, have a fun experience | 42.6 |
| Cognitive | Learning new things/acquire skills | 56.4 |
| | Be more creative and find new ways of solving problems | 49.5 |
| Economic | Have access to services that otherwise I cannot afford | 44.0 |
| <i>Interpersonal</i> | | |
| Political | Be an active member of the community | 57.7 |
| | Be a good neighbor | 63.3 |
| | Help others | 77.9 |
| Social | Protesting against the current system | 53.2 |
| | Showing others to be responsible | 42.5 |
| | Promote equality and justice | 54.8 |

Based on the previous discussion, the guiding assumption of this study is: Members with economic and learning goals will carry out a greater number of transactions and be more active in the exchange network; members seeking to achieve political or social goals will not carry out more transactions nor will they be more active in the exchange network.

Method

Data collection process

Self-administered questionnaires were sent to TB members by TB managers acted as gatekeepers: we asked for their cooperation in forwarding the questionnaire to TB members. The questionnaire consisted of six main parts and it collected information for different purposes: (i) questions about their participation in TB (e.g. time of last transaction, frequency of transactions, number of years as a member); (ii) goals sought when they joined the TB and life goals; (iii) evaluation of goal achievement of the three most important goals; (iv) barriers to engagement in TB (a list of 15 barriers based on previous studies and on the interviews with time brokers); (v) sociodemographic variables of the participant (age, gender, professional situation, type of household).

In regard to goals sought when joining the TB, users were presented with a list of goals and asked to recall and report which ones they were intending to achieve when they joined the TB. A modified version of the Taxonomy of Human Goals (Ford & Nichols, 1987) was used. The list of goals was shown in a random order to different respondents in order to avoid primacy or recency bias. Although evidence suggests that individuals usually pursue a smaller cluster of goals (Eccles & Wigfield, 2002), using a comprehensive taxonomy will allow us to better identify goal content. The taxonomy includes intrapersonal but also interpersonal goals. Examples of intrapersonal goals are affective goals (e.g. Enjoy myself), cognitive goals (Learn new things or Be more creative and find ways to solve problems) and economic goals (e.g. Have access to services that I could not afford otherwise). Interpersonal goals comprise political goals (e.g. Protest against the current system, Show others to be responsible, Promote justice and equality) and

Table 2 Sample description ($n = 255$).

| Variable | Categories | % |
|------------------------|--------------------|-----|
| Gender | Men | 32 |
| | Women | 68 |
| Age | 18–29 | 11 |
| | 30–49 | 58 |
| | 50–64 | 27 |
| | Over 65 | 4 |
| Education | No studies | 0.5 |
| | Primary | 4.5 |
| | Secondary | 6 |
| | Intermediate | 17 |
| | University | 71 |
| Type of household | Alone | 25 |
| | Couple no kids | 42 |
| | Couple with kids | 23 |
| | Alone with kids | 8 |
| | With their parents | 2 |
| Employment | Employed | 60 |
| | Unemployed | 24 |
| | Student | 4 |
| | Retired | 9 |
| | Housewife | 3 |
| Member of a non profit | No | 46 |
| | Yes | 54 |

social goals (e.g. Be an active member of the community, Be a good neighbor, Help others). Only goals cited with a frequency of at least 40% were used in subsequent analysis (Table 1). The structure of the goals as belonging to the categories affective, social, economic, political and social has been empirically assessed and a principal component analysis, with five components retained, shows (after Varimax rotation) that goals are clustered in a quite similar way as proposed.

Table 3 Description of variables. Estimation sample ($n = 159$).

| Numeric variables | Mean | Std. Dev. | Min | Max |
|--|-------|-----------|-----|------|
| Number of transactions | 2.27 | 1.59 | 0 | 6 |
| Length of membership | 25.29 | 21.04 | 3 | 90 |
| # demanded services | 1.89 | 1.20 | 0 | 6 |
| # offered services | 1.84 | 1.08 | 0 | 5 |
| Dichotomous and qualitative variables | | | | % |
| <i>Learning new things, acquire skills</i> | | | | 61.0 |
| <i>Have access to services I cannot afford</i> | | | | 46.5 |
| <i>Enjoy, have fun, have a nice experience</i> | | | | 42.8 |
| <i>Be more creative</i> | | | | 49.7 |
| <i>Protesting against the current system</i> | | | | 52.8 |
| <i>Showing others</i> | | | | 47.2 |
| <i>Justice and equality</i> | | | | 56.0 |
| <i>Being an active member of community</i> | | | | 56.0 |
| <i>Be a good neighbor</i> | | | | 62.9 |
| <i>Help others</i> | | | | 79.2 |
| <i>Retired</i> | | | | 8.8 |
| <i>Women</i> | | | | 67.3 |
| <i>Active in the timebank</i> | | | | 55.1 |
| <i>Age</i> | | | | |
| 18–29 | | | | 10.0 |
| 30–49 | | | | 57.9 |
| 50–64 | | | | 28.3 |
| More than 65 | | | | 3.8 |
| <i>Education</i> | | | | |
| No studies | | | | 0.6 |
| Primary | | | | 4.4 |
| Secondary | | | | 6.3 |
| Intermediate | | | | 17.6 |
| University | | | | 71.1 |

Sample and sampling method

In total, 255 questionnaires were returned. There are no studies that have quantified or described the universe (users of TB); yet, according to TB managers, the prototypical profile of their TB is a middle-aged, graduate woman. This is also the most frequent profile in our sample (see Table 2). Compared to total Spanish population, our sample has an overrepresentation of women, middle-aged, highly educated and members of Not for Profit Organisations.

A disadvantage of the sampling method used is the self-selection; it is likely that the most committed users will answer the questionnaire, and the uncommitted will be underrepresented. However, other sampling methods were considered (e.g. handing out the questionnaires during meetings, snowball sampling) and they were likely to produce similar results.

21.1% of total respondents have not done any transaction in the bank. This percentage is lower than the figure put forward by most TB managers (ranging from 40% to 80% depending on the TB). Together those that have never done a transaction and those that did a transaction some time ago account for 50%.

Models

Two main models were estimated. The first model aims to test the first guiding assumption, that goal content influences the number of transactions in the direction specified above. To do so, the theoretical (and stylized) Eq. (1) has been specified to be estimated with the available data. In this model, the explanatory variables are the goals sought when the person joined the TB (submodel 1). Control variables include the sociodemographic features (submodel 2), and some individuals features of individual activity in the TB, as the number of services demanded and offered, and the duration of membership in the TB (submodel 3).

As the dependent variable, *Number of transactions* can be interpreted as a discrete count variable. A Poisson regression model is proposed instead of the standard linear regression model, in order to achieve more efficient estimates (Cameron & Trivedi, 2013; Franses & Paap, 2001; Long, 1997). Length of membership in the TB has been included as the exposure variable (additionally to be included as an explanatory variable) in order to control the different chances for having made transactions depending on that. Poisson regression models have been preferred

Table 4 First model: number of transactions.

| Dependent variable: number of transactions | | Poisson regression | | |
|--|---|--------------------|------------|------------|
| Type of goal | Explanatory variables | Submodel 1 | Submodel 2 | Submodel 3 |
| <i>Intrapersonal</i> | | | | |
| Affective | Enjoy, have fun, have a nice experience | -0.069 | -0.040 | 0.046 |
| Cognitive | Be more creative | 0.019 | -0.037 | -0.091 |
| | Learning new things, acquire skills | 0.016 | 0.011 | 0.003 |
| Economic | Have access to services I cannot afford | 0.238** | 0.245** | 0.217** |
| <i>Interpersonal</i> | | | | |
| Political | Protesting against the current system | -0.018 | -0.030 | -0.112 |
| | Showing others to be responsible | 0.073 | 0.160 | 0.144 |
| | Justice and equality | -0.111 | -0.019 | 0.005 |
| Social | Being an active member of community | 0.018 | 0.031 | -0.014 |
| | Be a good neighbor | -0.123 | -0.133 | -0.062 |
| | Help others | 0.040 | -0.067 | -0.122 |
| <i>Sociodemographical</i> | | | | |
| | Retired | | 0.436** | 0.564*** |
| | Age | | -0.274*** | -0.194** |
| | Education | | -0.020 | -0.046 |
| | Women | | -0.182* | -0.088 |
| <i>Timebank activity</i> | | | | |
| | Length of membership (ln) | | | 1.439** |
| | Squared length of membership (ln) | | | -0.271*** |
| | # demanded services | | | 0.104** |
| | # offered services | | | -0.106** |
| | Cons | -0.320** | 0.498 | -1.277 |
| | N | 200 | 159 | 159 |
| | Log likelihood | -366.525 | -282.886 | -273.142 |
| | Pseudo R ² | 0.012 | 0.033 | 0.066 |
| | AIC | 755.051 | 595.772 | 584.284 |

* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

to Negative binomial regression models because statistical tests have not shown any evidence against Poisson modeling (i.e. there is not enough evidence to reject that the contagion parameter is zero)

$P(\text{number of transactions}_i = x)$

$$= \frac{e^{-\lambda_i} \lambda_i^x}{x!} \quad \lambda_i = \exp(\alpha + \text{goals } \beta + X\gamma + T\delta + \varepsilon) \quad (1)$$

where λ_i represents the average number of transactions made by individual "i", **goals** is a row vector of dichotomous variables that indicates if a goal has been chosen or not by the individual, **X** is a row vector which includes all sociodemographic controls and **T** is a row vector that includes the variables related to the individual's activity in the TB. β , γ and δ are coefficient vectors and ε is the common random error term.

A second model was estimated to test the second assumption: that goal content influences activity in the exchange network in the direction specified above. To do so, a binary logit model has been specified. The dependent variable, *Activity in the research network*, is measured using the answer to the question on the frequency of the last transaction as a proxy. The original variable was converted into a dichotomous variable, being 0 (Never or Some time ago

and 1 (In the last month). In this case, in order to test the robustness of the results, three submodels have been also estimated: only goals (submodel 1); goals plus sociodemographic controls (submodel 2); and with the addition of TB activity variables (submodel 3).

Eq. (2) shows the complete equation proposed:

$$P(\text{active}_i = 1) = \frac{e^{z_i}}{1 + e^{z_i}} \quad z_i = \alpha + \text{goals } \beta + X\gamma + T\delta + \varepsilon \quad (2)$$

Measures

The variables used in each of these models were measured as follows.

Number of transactions. The dependent variable is the number of transactions done in the last year, ranging from 0 (None) to 6 (3 per week).

Type of goals. As explained above, the most cited goals were retained for the analysis. In particular, learning, economic, intrapersonal, social and political goals were included in the model, as per the number of cites (Table 1).

Table 5 Second model: activity in the exchange network.

| Dependent variable: being active at the timebank (1:yes/0:no) | | Binary logit model | | |
|---|---|--------------------|------------|------------|
| Type of goal | Explanatory variables | Submodel 1 | Submodel 2 | Submodel 3 |
| <i>Intrapersonal</i> | | | | |
| Affective | Enjoy, have fun, have a nice experience | −0.161 | −0.088 | 0.238 |
| Cognitive | Be more creative | −0.176 | −0.069 | −0.123 |
| | Learning new things, acquire skills | −0.172 | 0.207 | 0.081 |
| Economic | Have access to services I cannot afford | 0.637** | 0.736** | 0.0741** |
| <i>Interpersonal</i> | | | | |
| Political | Protesting against the current system | 0.293 | 0.297 | 0.268 |
| | Showing others to be responsible | 0.290 | 0.291 | 0.133 |
| | Justice and equality | −0.398 | −0.495 | −0.403 |
| Social | Being an active member of community | 0.288 | 0.000 | −0.190 |
| | Be a good neighbor | −0.369 | −0.256 | −0.183 |
| | Help others | 0.525 | 0.117 | 0.064 |
| <i>Sociodemographical</i> | | | | |
| | Retired | | 0.297 | 0.904 |
| | Age | | −0.153 | −0.221 |
| | Education | | −0.421 | −0.532 |
| | Women | | −0.253 | −0.149 |
| <i>Timebank activity</i> | | | | |
| | Length of membership (ln) | | | 3.561** |
| | Squared length of membership (ln) | | | −0.621** |
| | # demanded services | | | 0.392** |
| | # offered services | | | −0.297* |
| | Cons | −0.286 | 2.42 | −1.94 |
| | N | 212 | 169 | 160 |
| | Log likelihood | −140.432 | −110.126 | −97.599 |
| | Pseudo R ² McFadden | 0.040 | 0.055 | 0.110 |
| | AIC | 302.864 | 250.252 | 233.199 |

* $p < 0.10$.
** $p < 0.05$.

Number of services demanded/offered. The number of services demanded and the number offered have been also included as complementary indicators.

Length of membership in the TB: respondents were asked the year and month they joined the TB. In the model, the number of months was introduced, together with a quadratic term, in order to capture possible non-linearity effects (inverted U-shaped) on both number of transactions and probability of being active in the TB. The logarithmic transformation was used to compress their wide range of variation and high positive skewness.

Sociodemographic features: sex, age, professional status (retired or not), and education level. Age and education, although measured in an ordinal scale, have been treated as quantitative variables in the models, in order to keep controls as simple as possible. Unfortunately, the nationality was not requested. However, as the study was conducted in Spain, we can assume that the dynamics of engagement in TB are structured by Spanish culture.¹

¹ Differences according to the type of TB and/or region were tested but no significant results were obtained.

Findings

Table 3 shows the main descriptive statistics of the variables used in estimation sample of the submodel 3 ($n = 159$) (that which uses all the variables).

Table 4 shows the estimates of the first model. Table 5 shows the estimates of the second model. It should be noted that, in Poisson and Logit models, the usual interpretation of coefficients as marginal effects cannot be directly done (Long, 1997). However, to test the hypotheses, it is sufficient to assess the sign and the significance of the parameters. The Log likelihood and AIC indicators and the growing pseudo R^2 in both models provide evidence of the greater explanatory power and significance of the third submodel; that is, this is the one to be interpreted. It should be noticed that the focal variables are consistently significant across submodels.

The results of both models are rather coincident; thus, they will be interpreted together. As expected, having economic goals influences positively participation in the exchange network, as there is a positive and significant relationship between this goal and number of transactions (model 1) and between this goal and being active in the exchange network (model 2). Yet, there is no significant relationship between learning goals and number of transactions

or activity in the network. Also, the relationship between the interpersonal goals and participation is non-significant; those with political and social goals do not carry out more transactions, nor are they more active in the network.

As a confirmation of previous results, the greater the number of demanded services, the greater the participation; however, the number of services offered negatively influences participation, either measured in number of transactions (model 1) or in activity (model 2).

Length of membership (log) presents a significantly inverted U-shaped relationship with both the number of transactions and the probability of being active in the TB. This should be interpreted in the following way: an individual made more transactions and is more active in the TB at the beginning of their membership, but after some months, the more time in the TB, the fewer transactions a member made (or his or her probability of being an active member was lessened). The threshold value where the effect of length of membership changes its sign can be estimated from both models (as $\exp[-b_{\text{length}} / (2 * b_{\text{squared length}})]$) and takes a value of 14.2 months (number of transactions model) or 17.6 months (activity model).

In regard to the sociodemographic variables, results are different in both models. In the first model, age has a negative and significant effect on number of transactions; also those retired carry out more transactions in the TB. [Miller's study \(2008\)](#) found that being retired had a significant and positive influence on participation in Japanese TB, since recently retired individuals were highly motivated to participate. In their case, individuals after retirement were found with more available time to spend, empty schedules to fill in and experience in a number of skills. TB may function for them as a smoother transition to a new lifestyle by participating in a community, meeting likewise individuals and exercising skills that make them feel useful and confident. The only explanation to reconcile both findings is that those that retire before their due time are more likely to carry out exchanges.

Conclusion

This paper has contributed to the literature on nonprofit marketing and alternative markets by offering additional evidence that there is a relationship between goal content and type of participation. The proposed rationale for such a relationship has been partially supported. We can draw different conclusions from the results of this study that explain participation in TB in the light of goal theories.

First, this study has identified the main goals that individuals set in relation to their joining a TB. It is important to note that users principally join TBs not for economic reasons, but in order to feel part of a community, to promote equality and fairness, and to learn or develop skills. However, not all these goals are equally related to participation in the exchange network.

Although members may join the TB seeking political goals, the frequency of exchanges is explained by intrapersonal or self-oriented goals; users conduct more transactions if they obtain a material gain. In line with social exchange theory, it is found that participants are interested in the instrumental value and the individual returns that the

transactions in TB represent ([Mölm, 2003](#)). Thus, those willing to receive services are more likely to be active participants. [Ozanne and Ozanne \(2011\)](#) confirm this, since the participants in their study do not want to be found in a dependency position and prefer to accumulate time prior to spending it, which assimilates to traditional market exchanges. This is also consistent with previous studies of participation in schemes of collaborative consumption ([Bardhi & Eckhardt, 2012](#)). Users with high scores in political/social goals are not more active in the exchange network, which contradicts the existing description in the literature on timebanking.

To improve TBs' functioning and efficiency, it is important to better communicate their instrumental value to existing and potential members without diminishing their social value. TBs can benefit from new technologies and social networks. Indeed, a greater number of TBs tends to digitalise exchanges but also apps could be developed to facilitate exchanges.

From a marketing point of view, TBs may be considered alternative or marginal markets when compared to mainstream markets; however, C2C exchange networks in general are becoming more widely prevalent and of interest for marketers ([Plouffe, 2008](#)). In the growing collaborative consumption field, a number of both commercial and socially-oriented initiatives have emerged based on C2C structures. Our results have implications for these other initiatives as well. For example, users of Airbnb may both be consumers and providers of lodging but the goals they seek through their participation may be different, based on their role. In order to better understand C2C exchange networks, it is essential to, first, unbundle the membership from the carried-out transactions, and second to separate the two roles that members perform in C2C exchange networks, as recipient and donors of services, as the goals attached to these may vary. Understanding what drives ongoing relationships in C2C markets is a key contribution of this study.

This study has other implications; below we discuss the possibilities of commercial use of TB, by putting timebanking in the context of collaborative economy, as well as the use of non-conventional currencies by commercial organizations. Considering the high mortality rate of TBs and taking into account the political-social approach that most TBs adopt, there are opportunities for more marketing-oriented organizations entering these types of markets to promote TB as a space for exchanges, appealing to those with more economic goals. The entry of more commercially-oriented organizations may be supported by devices, such as apps or websites, that may extend the base of users and facilitate exchanges.

According to a recent PricewaterhouseCoopers report, although the collaborative economy sector represented only 5% of total revenue in 2013, its contribution will rise to about 50% in 2025 sharing profits with the traditional rental sector ([PwC, 2014](#)). Such projections mean that C2C structures may constitute a threat for companies that do not take them into account. For example, [Zervas, Proserpio, and Byers \(2014\)](#) provide empirical evidence that Airbnb has had a negative impact on local hotel revenues and that, beyond the economic impact, collaborative consumption is changing consumption patterns and habits. This also provides further justifications for research on the particularities of the C2C

structures, on users' changing roles in these structures, their goals and motivations.

Indeed, many firms are creating marketplaces for C2C exchanges in different domains such as accommodation (e.g. Airbnb), transportation (e.g. carsharing), credit (Fixura) or products (e.g. Wallapop). Also, there are commercial players, such as TaskRabbit, which bring together consumers to get tasks done for a fee. However, the participation of commercially-oriented firms in timebanking has been limited. Companies, such as Viceroy and Infojobs, created TB for their users, but these TBs were not at the core of their offer. In contrast, there have been other commercial incursions in alternative markets with the use of other forms of community currencies where both consumers and companies can participate (see the Brixton pound case). This is the case of Mercado Social in Madrid, where users can pay partially with a community currency. There are not yet commercially-oriented firms or markets sustained by the exchange of time. Probably the limitations of time as an alternative currency, already reported by Valor and Papaoikonomou (2016), could explain it. Also, the limited possibilities of monetization in timebanking may deter more commercially-oriented organizations from fostering such C2C exchange networks.

TBs are still marginal as aforementioned. However, growing participation in not-for-profit TBs, alternative currencies and other for-profit collaborative initiatives can change consumer *habitus* normalizing participation in C2C structures to satisfy their needs. As consumers learn and get socialized in the sharing economy, exchanges of this sort may increase. Furthermore, hybrid models could be explored, promoted by both nonprofit and commercial organizations, where payments can be done in both time and conventional money.

Further research is necessary in order to understand motivation to participate in TBs or, more general, in collaborative nonprofits. Future studies should understand the goal content and structure associated with both roles of TB's users and the influence of this goal structure on participation. Moreover, the concept of prosumers is becoming more relevant to companies; consumers and companies are co-participating in value creation. Thus, it is a timely research line to understand consumers' goals in the process of co-creation of value.

Conflict of interest

None.

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