



Research article

The antecedents of entrepreneurial behaviour in the creation of platform economy initiatives: An analysis based on the decomposed theory of planned behaviour



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ABSTRACT

The platform economy (PE) has experienced its strongest period of growth since the emergence of the sharing economy (SE). Much work has been put into understanding the effects and antecedents of the PE, with particular emphasis on peers and consumer motivation, yet few studies have analysed the motivations of the service providers and even fewer its impact on individual and collective wellbeing. The aim of this paper is provide a better understanding of the decomposed beliefs that inform the attitudinal, social-normative and control factors that make up pro-PE behavioural intention (the intention to develop a PE initiative) in the context of digitisation and wellbeing, while making the platform the focus of analysis. In this study we adapt and extend the Decomposed Theory of Planned Behaviour (DTPB) and use partial least squares regression (PLS), a structural equation modelling technique, to analyse valid data collected from 127 PE organisations operating in Spain. The empirical results obtained demonstrate that the three antecedents for behavioural intention (perceived control, attitude and the subjective norm) have a positive effect on the intention to develop a PE initiative. The study also shows that PE micro-entrepreneurs are motivated by individual and collective wellbeing and not just financial gain. This contributes substantially to reconciling the PE with its origins, rooted in pro-solidarity and social concerns, and to framing wellbeing in a broader paradigm consisting of psychological and social factors, going beyond the economic considerations and interests contained in previous paradigms.

1. Introduction

After more than a decade of development, the platform economy (PE), a phenomenon intimately linked to digitisation, is now the focus of media and academic attention. The PE largely emerged from the sharing economy (SE), driven by new millennial consumer tastes and micro-entrepreneurial opportunities. The SE was narrowly defined as a peer-to-peer (P2P) exchange of underused resources, mediated by a digital platform and providing access rather than ownership. Yet from the outset, given its broad impact, its definition proved particularly controversial, whereby different terms were used in an attempt to capture the concept, including: “gift economy”, “lateral exchange markets”, “access-based services”, “peer-to-peer economy”, “access economy” and “gig economy” (Altinay and Taheri, 2018).

Nonetheless, the earliest conceptualisations of the SE basically centred on ‘collaborative consumption’ (Botsman and Rogers, 2010), where

sharing dynamics were seen to facilitate the transition towards sustainable economies, allowing users to profit from underused assets, while the sharing aspect promoted trust between equals, thanks to the ease with which technology mediated management of the transactions. Moreover, for many academics, the SE was facilitating a transition away from consumerism among millennials by reframing the meaning of wellbeing, strengthening human bonds and providing opportunities for collective work to promote livelihoods and individual and community wellbeing (Brown and Vergragt, 2016). However, this optimistic vision has been increasingly reinterpreted in recent years via the notion of the SE as ‘platform capitalism’ (Srnicsek, 2017), decrying the impact of the explosive expansion of the SE in recent years (Slee, 2017). As the SE grew, certain sectors (mainly mobility-related, such as transport and accommodation) underwent profound reorganisation, played out via specific, uneven redistributive effects, exacerbating the rising trends in precarity caused by labour- and housing-related displacement.

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Even so, beyond the effects of such processes, the debate on the nature of the sharing phenomena has gained ground in recent years. The understanding now is that it should focus on the new forms of exchange conducted on digital platforms (Torrent-Sellens et al., 2022), where operations are based on temporary access and coordinated distribution, as well as the expectation of reciprocity or compensation (monetary or non-monetary). Thus digitisation and the platforms are now at the centre of this debate, emphasising the platform rather than the sharing process (which is treated as just one option from a range of processes mediated by these spaces), sometimes ignoring the fact that the PE mainly involves social interaction and therefore has (positive and negative) impacts on individual and collective wellbeing.

Furthermore, in recent years a field has emerged in the literature which aims to understand the precedents for the PE, beyond its effects and nature, placing special emphasis on what motivates users, especially consumers, to participate on platforms. Few studies, however, analyze the motivation of service providers and even fewer examine the platform promoters' motivations in setting up these virtual spaces, whose empirical conditions could coincide but also differ from those that define the participation of providers and consumers. In fact, in many references, the figure of both the founders but also the promoters of the platform are confused with the figure of the service provider, and it is convenient to stress that it would be necessary to highlight more these figures, as they are directly engaged to the creation and promotion of the platform, since their actions are decisive for its future and the future of the PE as a whole. Moreover, it is also essential to remember that when we talk about promoters of platforms, we could align ourselves with other contexts of entrepreneurship in the digital field, while when we talk about service providers on platforms, we can observe figures clearly similar to those of entrepreneurs but also other realities, such as those of the "false self-employed", sometimes people who work in very precarious condition.

The studies that analyse the creation of organizations in other digital environments and the few that exist in our context, such as the ones of Barnes and Mattsson (2016) and Gerwe and Silva (2020), tell us about the possibility of economic motivations, but also pro-social ones in this pro-PE entrepreneurial process. And this is going to result especially relevant, since the type of motivations to promote a platform can subsequently condition its governance and management, as well as the rules of participation of the actors involved. The fact is that academia has made a great effort to understand the reasons that explain the participation of users in the platforms, without seriously considering that these may be deeply conditioned by the nature and configuration of the platform, shaped by the motivations of its creators and promoters.

Anyway, without having many references to date that explain this context, those that allude to participation in these contexts will be particularly useful to us. Thus, returning to the aforementioned context of participation in the platforms, while the most commonly reported motivations for consumers are economic and utilitarian (Hamari, 2015; Möhlmann, 2015), providers' motivations are different and depend on the platform type and purpose. On capital platforms, providers of physical assets are driven not only by economic but also social-hedonic motives involving subjective wellbeing (Bucher et al., 2016). In the same vein, knowledge sharing and social capital creation have been traditionally reported as among the most important drivers of peer participation in the PE (Bogatyeva et al., 2021; Frenken and Schor, 2019). For labour platforms, beyond the expectation of earning additional income, providers are also attracted by the level of income and greater flexibility in work (Hall and Krueger, 2018). Moreover, in recent years, in addition to economic and pro-social drivers, sustainability concerns have gained importance (Gazzola et al., 2019) and studies such as Saeidi et al. (2021) have shown that sustainable and responsible strategies have the potential to mediate between organisational leadership initiatives and financial and non-financial indicators, particularly when these strategies are sustained by ethical leadership (N. T. T. Nguyen et al., 2021). It therefore seems clear that beyond strictly economic interests, people participate in PE initiatives in response to

drivers related to the promotion of individual lifestyles and collective wellbeing, as is indeed demonstrated in the literature. One example is the recent work by Davlembayeva et al. (2020), which provides empirical evidence of users' perceived inclusion in society and life satisfaction following use of sharing economy platforms.

Nevertheless, while considering the PE as a disruptive innovation, few studies have looked beyond the importance of peer motivation to analyse entrepreneurs' behaviour in developing the wide range of PE initiatives that are transforming our economies today. Studies by Barnes and Mattsson (2016) and Gerwe and Silva (2020) identify economic, social, legal and technological factors as the main precedents for entrepreneurial behaviour in the creation of PE initiatives. But we still lack a broader analysis of the range of determining factors for pro-PE innovation, as has been done for peers (consumers and service providers). Such determinants include not only economic and business-related drivers, but also other psychosocial factors and motivations related to the search for individual and collective wellbeing.

Thus, given the unavoidably digital nature of pro-PE innovative behaviour and the potential importance of its economic, lifestyle and pro-social antecedents, we suggest that the beliefs and attitudes of PE initiative developers should be decomposed to provide a more accurate appraisal of this creative process. Therefore, in this study we propose adapting and extending the Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd, 1995), traditionally used to analyse a wide range of behaviours, but particularly those appearing in contexts of technological innovation, such as digital-mediated consumption and entrepreneurship. The DTPB develops Ajzen's Theory of Planned Behaviour (TPB) (Ajzen, 1991) and other models, such as the Technology Acceptance Model (TAM) (King and He, 2006), which have been used to analyse organisational innovations and which share many of the salient features of new PE initiatives. The model generally also permits the inclusion of various antecedents to behavioural intent that depend on both individual and collective considerations and the addition of motives that go beyond purely economic or technological considerations.

Thus, our aim is to use a cognitive theory approach to obtain a more nuanced explanatory framework for the underlying motivations in PE initiative creation. The main novel aspect of this study is its analysis of the behaviour of the actors who create a platform initiative. Thus, we go beyond the traditional approach of studying consumers and providers in the SE or PE to understand the reasons why it emerges. This understanding will enable us to understand more clearly whether if such innovation still incorporates the original values associated with "sharing", whether it is based entirely on economic interests, or whether factors such as personal influences and technological skills affect its creators. Ultimately, we focus more on the moment the platform is created than the moment when users participate and share in it, although the latter are obviously the end purpose of these initiatives.

2. Literature

2.1. Antecedents of entrepreneurial behaviour in platform economy initiatives

Due to its very nature, pro-PE entrepreneurship is inevitably a form of digital entrepreneurship. Driven particularly by the development of information and communication technologies (ICT) as facilitators, mediators and products of entrepreneurial operations, digital entrepreneurship has been shown to involve requirements differentiating it from "traditional" entrepreneurship. Studies (Geissinger et al., 2019; Ladeira et al., 2019; Törhönen et al., 2021) analyse its contextual requirements, including resources and finance, but mainly focus on the importance of the entrepreneur's profile. Digital entrepreneurs must combine a mastery of the digital domain with a strategic understanding of the business environment. Thus, while authors such as Mancha and Shankaranarayanan (2020) propose four constructs as antecedents of digital innovativeness (entrepreneurial orientation, basic entrepreneurial self-efficacy, digital

literacy, and digital technology self-efficacy), recent studies also highlight the importance of digital entrepreneurial ecosystems (Gorelova et al., 2021).

Moving beyond purely technological drivers and needs, entrepreneurs active in the PE have been described as digital entrepreneurs who use ICT to promote business opportunities based on the new idea of doing business beyond the conventional ownership-based economy. For Richter et al. (2015) PE entrepreneurs can potentially make a profit from their role as intermediaries without requiring ownership: generating high profits from fees for using the infrastructure, with excellent future prospects due to the expected high user growth rates. However, they also face tough competition from established companies with access to greater financial resources and are exposed to risk from legal grey areas.

Meanwhile, in relation to the aforementioned approaches to digital entrepreneurship, Barnes and Mattsson (2016) identify technological and economic factors (financial benefits, lack of conventional employment opportunities) as the most significant motivations for creating PE initiatives, but add a third (although at the time less significant) motivation: the possibility of developing platform initiatives favouring business models with a lower environmental impact. In the same context, Richter et al. (2017) found a range of pro-PE drivers for entrepreneurship, highlighting the promise of economic benefits but adding other aspects involving the entrepreneur's lifestyle and wellbeing, such as the opportunity to experiment with changing living situations, flexibility and openness. More recently, found reciprocity benefits to be a salient motivating factor. In the opinion of Muñoz and Cohen (2017), the presence and weight of these antecedents may vary due to the heterogeneity of PE initiatives, embracing peer-to-peer interactions, mission-based drivers and technology platforms. From all the above we may infer that pro-PE entrepreneurs range from mission-driven individuals motivated by pro-collective wellbeing to profit-seeking serial entrepreneurs attracted by the explosive growth and profits obtained by highly publicised *unicorn companies*.

Although the behaviour of PE initiative creators has been little studied, there are a large number of studies that analyse entrepreneurial behaviour from the point of view of service providers, which once again demonstrate not only economic but also lifestyle and pro-social motivations. Wilhelms et al. (2017) show that these service providers are motivated not only by economic factors, but also by lifestyle, solidarity and sustainability. A similar finding is that of Zhang et al. (2019), who show how PE micro-entrepreneurs are motivated by financial gains but also by social connection, cultural learning, personal growth and a sense of achievement. In the same context, Torrent-Sellens et al. (2022) show that PE providers are motivated by "utilitarian" drivers complemented by other pro-social predictors, such as non-monetary exchanges. This approach is also taken by Pouri and Hilty (2021), based on the premise that the digital sharing economy is in fact a confluence of technical and social sharing processes. Pro-social motivations also seem to be relevant for communication and recent literature shows how pro-social marketing actions are effective in positioning companies, particularly in young millennials markets (Correa et al., 2021).

Finally, recent studies have used the TPB model (Ajzen, 1991) to broaden perspectives on entrepreneurship in the PE. In recent decades, the TPB has proved especially useful for analysing different types of behaviour, particularly pro-technological behaviour. For example, Akande et al. (2020) found that attitude, perceived behavioural control and subjective norm are the main predictors of intention to participate in PE initiatives, while economic benefit and perceived risk affect attitude. More recently, the study by Alferaih (2022) on digital entrepreneurship in Saudi Arabia found that propensity to act, subjective norm, perceived feasibility, perceived desirability, digital education, attitude and innovativeness influence entrepreneurial intentions, while self-efficacy and perceived behavioural control influence entrepreneurial behaviour. Given the digital nature of the process and the diversity of behavioural backgrounds, we are firmly convinced that these approaches offer the best way to gather all the information on entrepreneurial behaviour in the PE domain (in our case, focussing on the platform creators).

2.2. TPB, DTPB and their applications in the entrepreneurship literature

Ajzen's TPB is undoubtedly one of the leading models for analysing drivers of behaviour in different fields of social science. Our explanation here is therefore intentionally brief. The TPB describes behavioural intention (BINT) as the product of three constructs: 1) a person's attitude toward the behaviour (ATTI); 2) the subjective norm (NORM) regarding this behaviour; and 3) their perceived behavioural control (CONT) (Ajzen, 1991). In this model, these three constructs are preceded by the beliefs held by the subject. ATTI refers to a person's underlying attitudes regarding the results the behaviour will produce. NORM is the produce of personal concern regarding the opinion other people (family, friends, work colleagues and other agents) hold on their behaviour and the importance attached to it personally. It is dependent on two factors: normative beliefs that the subject attributes to relevant people and the motivation to behave in accordance with the wishes of these people.

Although the model has proved highly useful precisely because of its simplicity in describing the background to behavioural intention, other studies have found that the TPB's prediction of behavioural intention is limited and propose new variables to add explanatory value in certain contexts. The approach that has gained most traction is that of Taylor and Todd (1995), which analyses and decomposes the belief structures of ATTI, CONT and NORM to produce the DTPB, a widely employed model for observing individuals' behavioural intention toward innovation in a range of contexts, especially technology. The DTPB uses the Technology Acceptance Model (TAM) (Marangunić and Granić, 2015) to predict the antecedents of pro-technological innovations. In the case of ATTI, these are: ease of use (EASE), the degree to which an innovation is perceived as easy to understand and use; perceived usefulness (USEF), the degree to which an innovation is perceived as better than what already exists; and compatibility (COMP), the degree to which an innovation is perceived as in line with existing values, past experiences and the needs of potential adopters. NORM is interpreted on the basis that individuals behave in response to people who are important and/or influential to them. These can be decomposed into two reference groups: peers (INTE) and superiors (EXTE). Finally, CONT can be decomposed into the individuals' notions about their own self-efficacy (SELF) in influencing events but also in relation to the facilitating conditions (COND) that enable them to behave in that way, defined in terms of a range of resources and, especially, technological possibilities (Triandis, 1979).

Undoubtedly, a field in which the TPB has been most widely used is the study of entrepreneurship (Alferaih, 2022; Lortie and Castogiovanni, 2015), where the model has been extended by adding a range of antecedents to the attitudes, subjective norm and PBC constructs. Its uses is largely due to the extensions to the TPB that allow the incorporation (based on previous findings) of antecedents that go beyond purely technological and economic interests and fall into the domain of individual and collective wellbeing. For example, in the case of attitude, diverse studies emphasise the need to consider a range of social norms as its antecedents, highlighting autonomy, authority and self-realisation, expected value and economic opportunity (Kolvereid and Isaksen, 2006), gender (Luo and Chan, 2021) and previous entrepreneurial education, experience and skills (Gieure, 2020; Gorelova et al., 2021). More clearly still, Ghatak et al. (2020), recently extended the TPB to define the emergence of what they call "digital social entrepreneurship", whereby digital relations are mediated by empathy, moral obligation, self-efficacy and perceived social support, feasibility and desirability. These relations are also particularly important in the work of Ibáñez et al. (2022), who show that such "digital social entrepreneurship" is a result of collaboration among a large number of agents (N-Helix).

It is on the basis of these premises that we present our proposed framework and hypotheses.

2.3. Proposed framework and hypotheses

Our model is based on the premise that pro-PE behavioural intention (the intention to develop a PE initiative) can be analysed in relation to an

entrepreneur's personal range of utilities and costs, similar to the way in which the TPB and the DTPB have been used to analyse other behavioural intentions in technological contexts. Starting with the most direct antecedents of this pro-PE behavioural intention, we have already seen how in contexts similar to our own, authors such as Akande et al. (2020) found that attitude, perceived behavioural control and subjective norm were the main drivers for the intention to participate in PE initiatives. By focussing on the type of behaviour, i.e. the creation of a new technology-based organisation, instead of the context, we find interesting examples where the TPB model reveals how this behaviour is based on attitude, subjective norm and perceived behavioural control. A particularly relevant example is clearly the creation of start-ups (Bouarar et al., 2022).

Thus, based on Ajzen's TPB (Ajzen, 1991), our first set of hypotheses are:

H1: Pro-PE entrepreneurs' attitudes towards promoting a PE initiative (ATTI) directly and positively influence their intentions to develop a PE initiative (BINT),

H2: Pro-PE entrepreneurs' levels of engagement with PE initiatives (NORM) directly and positively influence their intentions to develop a PE initiative (BINT), and

H3: Pro-PE entrepreneurs' perceived behavioural control over PE initiatives (PBC) directly and positively influence their intentions to develop a PE initiative (BINT)

Furthermore, following Taylor and Todd (1995), our DTPB model incorporates three hypotheses on additional causal relationships that affect attitude, in line with the extensions to the TPB proposed in the general entrepreneurship literature discussed above. This includes antecedents such as autonomy, authority and expected value (Kolvereid and Isaksen, 2006), the context of digital entrepreneurship (Li and Fang, 2019) and the pro-PE context (Richter et al., 2015, 2017). With regard to the second of these antecedents, authors such as Standing and Mattsson (2018) show that the entrepreneur's attitude is mediated by the need for simplicity in the value proposition, approach to conceptualisation and usability of the initiative. In the opinion of authors such as Bouncken et al. (2020), the digital entrepreneurship attitude is also facilitated by contexts that make it easier and more compatible with their lifestyles and values, as is clearer still in the context of PE providers and the labour market (Hall and Krueger, 2018). Indeed, the emergence of digital nomad entrepreneurship, during the pandemic in particular, further highlights the importance of lifestyle as a motivator (Stumpf et al., 2022). Consequently, concepts traditionally advanced as antecedents of attitude in other contexts might also apply to attitudes that condition pro-PE intentions. Thus, we propose three new, related hypotheses:

H4: Pro-PE entrepreneurs' perceptions of the usefulness of developing a PE initiative (USEF) have a direct and positive influence on their attitudes regarding developing a PE initiative (ATTI),

H5: A PE initiative's ease of use (EASE) has a direct and positive influence on entrepreneurs' attitudes regarding developing a PE initiative (ATTI), and

H6: Pro-PE entrepreneurs' understanding of PE initiatives as matching their existing values, past experiences and needs (COMP) has a direct and positive influence on their attitudes regarding developing a PE initiative (ATTI).

We also propose a further attitude-related antecedent: confidence in the platform environment. This has been reported in other entrepreneurial contexts characterised by uncertainty and vulnerability (McKnight et al., 2002) and is even more important in the context of online platforms, due to the greater perception of uncertainty, as authors such as Verhagen et al. (2006) have found. Confidence is also referred to in the SE literature as a key factor in overcoming uncertainty and mitigating risk (Ter Huurne et al., 2017). Confidence in developing digital entrepreneurial behaviour is clearly an issue given special attention, particularly in relation to gender and the emancipation of women (Luo

and Chan, 2021; Shukla et al., 2021), opportunities for young people (Alferaih, 2022; Cueto et al., 2022), and intrinsic difficulties in certain cultures and regions (Abubakre et al., 2021; Alferaih, 2022). Based on these assumptions, we incorporate a new hypothesis:

H7: Pro-PE entrepreneurs' confidence in PE initiatives (CONF) has a direct and positive influence on their attitudes regarding developing a PE initiative (ATTI).

In addition, we return to the TAM literature (Davis et al., 1989), to further consider how the perceived usefulness of an innovation is conditioned by its associated ease of use, as shown in the extensive review by Gefen and Straub (2000) and confirmed in numerous digital contexts in recent years, such as digital entrepreneurship in SMEs (Chatterjee et al., 2021). In the latter case, P. V. Nguyen et al. (2021) show how entrepreneurial leadership through the full mediators of team creativity, dynamic capabilities and competitive advantages can enhance the performance of these companies. Agarwal and Karahanna (1998) incorporate the concept of compatibility into their model and present a direct relationship between this variable and both usefulness and ease of use. These assumptions are consistent with the approach taken by Taylor and Todd (1995), who analyse existing interrelationships between the sets of beliefs incorporated in their theory. We therefore add the following three hypotheses:

H8: Pro-PE entrepreneurs' perceptions of developing an SE initiative as easy to use (EASE) have a direct and positive influence on the degree to which those entrepreneurs perceive developing a PE initiative as useful (USEF),

H9: Pro-PE entrepreneurs' perceptions of an SE initiative as being in line with their existing values, past experiences and needs (COMP) have a direct and positive influence on the degree to which those entrepreneurs perceive developing a PE initiative as useful (USEF), and

H10: Pro-PE entrepreneurs' perceptions of an SE initiative being in line with their existing values, past experiences and needs (COMP) have a direct and positive influence on their perceptions of developing an SE initiative as easy to use (EASE)

With regard to measurement hypotheses, although perceived utility has traditionally been considered a one-dimensional concept, some authors suggest that it should be analysed from different points of view (Hamari, 2015). Taking into account earlier literature on digital and pro-PE entrepreneurship, we understand that a range of antecedents, from the most basic individual and collective economic drivers to those related to improving collective wellbeing, should be considered. Moreover, the entrepreneurship literature shows the importance of non-pecuniary benefits, such as greater control over the work environment, greater optimism and social capacity for improving entrepreneurs' wellbeing. This is also in line with the digital and pro-PE entrepreneurship literature, which highlights not only economic benefits (Richter et al., 2017), but also lifestyle (Barnes and Mattsson, 2016; Stumpf et al., 2022), pro-social drivers (Frenken and Schor, 2019; Ibáñez et al., 2022) and pro-environmental drivers (Cohen and Munoz, 2016; Gazzola et al., 2019; Muñoz and Cohen, 2017; Richter et al., 2017). We also believe we should consider the key concepts highlighted in the literature related to the cooperativist goals of the original SE paradigm and the need among some actors for solidarity and cooperation, or at least to reclaim these concepts for the PE (Scholz, 2016).

Thus in our model, perceived usefulness is also a second-order variable, decomposed into social, pro-solidarity, economic and environmental utility (e.g. contribution to society, cooperation and solidarity, cost reduction and saving natural resources, respectively). We understand that the focus on more collaborative, interdependent and reciprocal lifestyles associated with the original notion of the SE can be included here as an advantage in terms of individual and collective wellbeing. It is also worth noting that the current post-pandemic context is opening up entrepreneurial opportunities directly related to both economic and pro-social benefits, closely associated with the constant appearance and rapid

expansion of new needs in recent times. In line with studies such as [Brown and Vergragt \(2016\)](#), our hypothesis here is that in the present context, this broader consideration of usefulness may help frame well-being as less dependent on the economic considerations that dominated previous paradigms.

Thus, we propose that:

H11: Pro-PE entrepreneurs' perceptions of developing a PE initiative as useful (USEF) are positively influenced by the degree to which they perceive such initiatives as socially useful (SOCU) (H11a), promoting solidarity (SOLU) (H11b), environmentally useful (ENVU) (H11c) and economically useful (ECOU) (H11d).

Additionally, although the concept of subjective norm is traditionally considered one-dimensional, several authors suggest the need to analyse normative influence in different reference groups ([Burnkrant and Page Jr, 1988](#)). This is also matches our context: we have found that adapting some of the social norms of incumbent businesses is important, as is mimicking the most successful PE experiences ([Zvolška et al., 2019](#)) and, especially, the institutionalised environment ([Cohen and Munoz, 2016](#); [Geissinger et al., 2019](#); [Ghazali et al., 2021](#)). Indeed, as previously suggested, the uncertainty characterising the current post-pandemic context seems to have accelerated the influence of digital entrepreneurship ecosystems in which new initiatives emerge, apparently more interdependent on their environment than before ([Purbasari et al., 2021](#)). Moreover, in the context of platforms, knowledge is advancing on how stakeholders' interests and concerns affect these initiatives and on the power and influence they exercise over the activities of the platforms ([Hati et al., 2021](#)). Consequently, in our model, subjective norm is also a second-order variable and we propose that:

H12: Pro-PE entrepreneurs' levels of engagement regarding developing a PE initiative (subjective norm) are positively influenced by the opinions of external agents (EXTE) (H12a) and internal agents (INTE) (H12c).

We adopt the same approach in decomposing perceived behavioural control into its independent, but correlated, sub-dimensions. The literature on entrepreneurial behaviour shows the degree to which antecedents such as self-efficacy are important to attitude, the subjective norm and perceived behavioural control ([Hall and Krueger, 2018](#); [Lortie and Castogiovanni, 2015](#); [Mancha and Shankaranarayanan, 2020](#)), while in the specific pro-PE context, [Bogatyрева et al. \(2021\)](#) found that self-efficacy is associated only with engagement with digital platforms. We have also seen how the “digital” component determines pro-PE behaviour in terms of making it easier and cheaper to innovate ([Cohen and Munoz, 2016](#)); this is not a minor issue when one considers the generally young profile of many innovators and, once again, the need to combine economic motivation with others more closely associated with lifestyle. This may also be linked to the fact that opportunity entrepreneurs who have had access to facilitating conditions have a higher subjective wellbeing than necessity entrepreneurs ([Ravina-Ripoll et al., 2021](#)). Thus, we also propose that:

H13: Pro-PE entrepreneurs' ability to develop a PE initiative (CONT) is positively influenced by the existence of facilitating conditions (COND) (H13a) and by their belief in their ability to develop SE initiatives (SELF) (H13b).

Finally, we add a new relationship hypothesis, proposing that social groups can shape individuals' attitudes towards innovation ([Lortie and Castogiovanni, 2015](#)). Again, given the current context and the need for relationship frameworks that generate stability in the face of accelerating change, social norms seem to play a particularly significant role in conditioning the attitude of actors directly involved in social entrepreneurship ([Purbasari et al., 2021](#)):

H14: Pro-PE entrepreneurs' levels of engagement in developing a PE initiative (NORM) directly and positively influence their attitudes towards developing these initiatives (ATTI).

The proposed model and corresponding hypotheses are shown in [Figure 1](#).

3. Methodology

The design of the instrument used to collect information from the sample for later analysis is shown below. The study data were analysed using partial least squares regression (PLS), a structural equation modelling (SEM) technique. This is a robust methodology that best suits the research objectives. It is used to analyse topics that have not been previously tested ([Hair et al., 2011](#)) and small samples, as it does not make relative assumptions regarding the data distribution ([Chin et al., 2003](#); [Chin and Newsted, 1999](#); [Hair et al., 2021](#)). [Hair et al. \(2011\)](#) recommend using PLS-SEM “if the goal is predicting key target constructs or identifying key ‘driver’ constructs” (p. 144), as is the case here. Similarly, other authors suggest that PLS-SEM is appropriate when the research has a predictive purpose ([Richter et al., 2016](#); [Shmueli et al., 2016](#)) and an explanatory purpose ([Henseler, 2018](#)), as is the case of our study. PLS was considered appropriate as we obtained a sample of 127 interviews and because this research is an initial attempt to explain entrepreneurial behaviour in the creation of PE initiatives and to identify the key determinants influencing behavioural intention, some of which relate to wellbeing. SmartPLS 3.0 ([Ringle et al., 2015](#)) was used to assess the reliability and validity of the measurement model and analyse the structural model, as other researchers have used PLS-SEM in order to predict behaviour constructs ([Wang et al., 2019](#)).

3.1. Sample design and data collection

Founders and managers of PE initiatives were selected as respondents to the questionnaire to obtain evidence addressing the research objectives. The selected respondents had sufficient practical experience to answer questions on motivation, entrepreneurship and organisation, as they understand their organisations well and provide reliable information, as seen in previous studies (e.g., [Wei et al., 2019](#)). The respondents were also able to provide objective judgements reflecting their motivations and entrepreneurial profiles without producing bias in the research results.

There are no official records to help identify SE companies operating in Spain, so fieldwork was carried out prior to the survey. A research process, organised in the different stages described below, allowed us to identify and map a total of 1207 PE companies. The starting point was a collaboratively compiled public inventory of FLOSS and P2P initiatives that included 1221 organisations. This was updated and expanded to build the final database used to identify the organisations to which we sent our questionnaire. This involved two stages: firstly, we consulted all the websites of the organisations listed in the initial database to check they were still in business and to verify their activities. Organisations whose websites were no longer operational or that had been inactive for over a year were removed from the initial database, thereby reducing the number of listed organisations. Secondly, we searched the Internet for the keywords “collaborative economy”, “sharing”, “p2p” and “collaborative app”, and added the organisations and platform initiatives we found to the initial database, producing a final list of 1207 active organisations. A content analysis of their websites was also carried out, from which we added key information on the organisations for the study. The final database included the organisation name and website, its activity, scope, business model, contact information (such as email address, phone number, website and social media) and qualitative information in order to better understand its origins and type of activity.

These organisations are shown in [Table 1](#) using the classification of SE activities identified by [Vaughan and Daverio \(2016\)](#), to which we added a Welfare/Social category, representing 13.5% of the total. The PE organisations are spread across a number of industries. Of the 1207 organisations, 44.1% were “on-demand professional services” and 16.8% were related to tourism.

The empirical data for this study was obtained during the first quarter of 2020. Participation was voluntary and anonymous, and

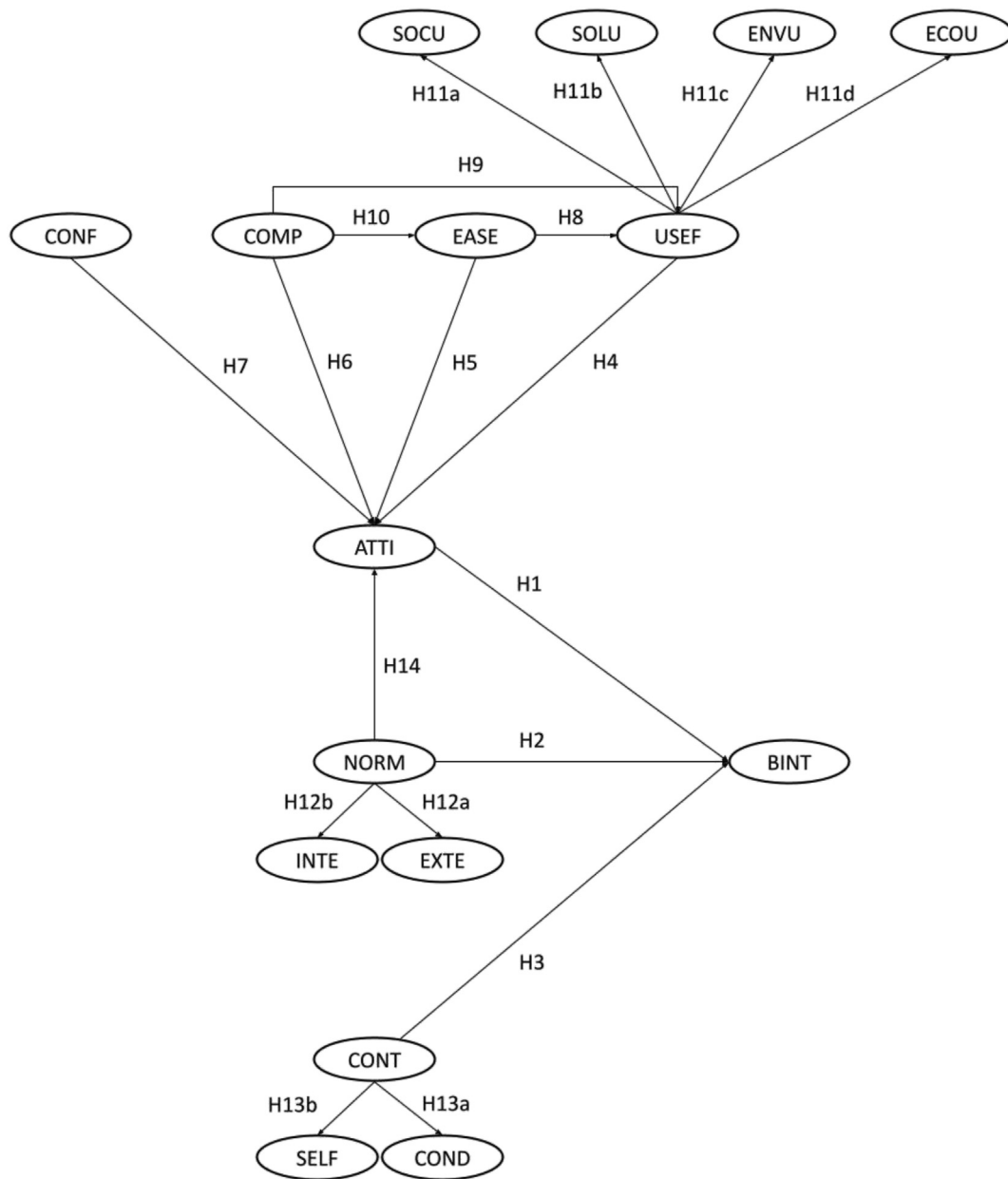


Figure 1. Model and hypotheses.

Table 1. Sector of activity of the PE organisations.

Categories	Number	Percentage
On-demand professional services	532	44.1%
On-demand household services	173	14.3%
Welfare/social action	163	13.5%
Collaborative finance	137	11.3%
Peer-to-peer accommodation	136	11.3%
Peer-to-peer transportation	66	5.5%
Total	1207	100%

conducted in accordance with Spanish and international ethical guidelines. A two-stage approach was adopted, combining a self-administered online survey followed by telephone fieldwork. Questionnaires were sent out to all 1207 identified organisations, using the contact email addresses and telephone numbers found on their websites in the

Internet research stage and included in our final database. As stated above, the questionnaires were filled out by the founders and managers of these PE initiatives. A research assistant was employed to conduct the telephone survey. The final sample for analysis consisted of 127 questionnaires (45% online and 55% by telephone). Sarstedt et al. (2022) recommend adjusting the sample size to match the power analysis. According to the results obtained through G*power software (Faul et al., 2007), the minimum sample required was 89, so our sample size was large enough to support the proposed model.

As shown in Table 2, the distribution of the responding sample (n = 127) was 55.0% female and 45.0% male. About 59% of the respondents were aged between 30 and 49, 22.8% between 50 and 59 and 11% were under 30 years old. More than 47% had university-level education (15.7% with postgraduate studies), whereas 19.7% had secondary school certificates. Around 88.2% of respondents held senior management positions or were founders of their organisations. The remaining respondents (11.0%) were responsible for administrative departments. With regard to the legal form of the organisations, 35.4% were

Table 2. Sample profile.

Profile category	Categories	Percentage
Sex	Female	55.1%
	Male	44.9%
Age	Over 60	7.1%
	30 to 39	31.5%
	40 to 49	27.6%
	50 to 59	22.8%
	Under 30	11.0%
Education	Primary school	4.0%
	Secondary school	12.8%
	Vocational training	15.4%
	University diploma	18.1%
	Engineering or university degree	26.8%
	Postgraduate	13.4%
	Other	9.4%
Post	Area director	49.5%
	Management	28.3%
	Administration	11.0%
	Founding partner	10.4%
	Other	0.8%
Legal form of the organisation	Cooperative	34.1%
	Association	22.0%
	Limited company	22.0%
	No legal form	7.6%
	Foundation	3.8%
	Public limited company	3.8%
	Other	6.8%

cooperatives, 23.6% limited companies, 22.8% associations and 7.9% had no legal form. Private limited companies made up only 3.9% of the sample. The majority of respondents, therefore, had sufficient knowledge and experience to complete the survey. Significantly, this sample may qualify for inclusion in general studies on the population of PE organisations.

3.2. Definition of measurement scales

To test our integrated model, we developed a questionnaire to measure the constructs. The questionnaire was approved by the university ethics committee and informed consent was obtained from all participants. A series of socio-demographic identification questions was followed by two sections, one on behaviours and the other on perceptions, scored on a Likert scale from 1 to 7. The questionnaire contained 50 items, 3 for each of the 13 value groups into which the theory is divided in its third-order analysis. Each construct consisted of 3 statements which the respondent was asked to rate from strongly disagree to strongly agree on a 7-point Likert scale, thus allowing for assessment of non-directly observable variables. To do this, we had to specify the behaviour to be analysed (Ajzen and Fishbein, 1977): “developing sharing economy initiatives”. The constructs were derived from previous studies. Given that the research model is essentially based on the DTPB, the definition of most of the items (attitude, subjective norm, perceived control, ease of use, compatibility, interpersonal influences, extrapersonal influences, self-efficacy, facilitating conditions and behavioural intention) was based on Taylor and Todd’s original work (1995), adapted to the context based on prior research. Existing literature in the field of study (Hamari, 2015; Hawlitschek et al., 2018) was analysed to define the perceived usefulness items (social level, prosocial level, economic level and environmental level). Table 3 below shows the items used and the bibliographic references. No items were deleted after performing validity analyses, to maintain both convergent and discriminant validities.

4. Data analysis and results

4.1. Instrument validity

Before testing the structural relationships of the theoretical model, the measurement model was verified to ensure it provided the necessary conditions of reliability and convergent and discriminant validity. The second-order constructs of our model (utility, subjective norm and perceived control) do not have specific indicators and are measured from their first-order dimensions. To include them in the PLS model, we adopted Wold’s indicators or repeated indicators approach (1982), i.e., the manifest indicators of the first-order constructs are reused for the second-order construct. Lohmöller (1989) demonstrates that this approach is suitable for incorporating second-order constructs into models estimated using PLS-SEM. Table 4 shows the results of the measurement model. The indicators used to validate the reliability of the measurement instrument were: Cronbach’s alpha (Cronbach, 1951; critical acceptance value = 0.7); composite reliability index (Fornell and Larcker, 1981; critical acceptance value = 0.7, or Bagozzi and Yi, 1988; critical acceptance value = 0.6); and average variance extracted (AVE) (Fornell and Larcker 1981; critical acceptance value = 0.5). These three reliability indicators exceed the corresponding critical values for each of the factors. As evidence of convergent validity, the results indicate all items are loaded on their hypothesised variables and are significant ($p < 0.01$). The size of all the standardised loadings is higher than 0.60 (Bagozzi and Yi, 1988). In testing the measurement model, evidence from the discriminant validity of the measurements (Tables 5 and 6) was tested, checking that the shared variance between pairs of constructs was less than the corresponding AVE (Fornell and Larcker, 1981). Based on these criteria, we conclude that the measurements in the research provide sufficient evidence of reliability and convergent and discriminant validity.

4.2. Structural model

The estimation of the parameters was obtained by performing a bootstrapping procedure on 5000 samples to calculate the significance of the path coefficient. The results of the hypothesis testing are presented in Table 7 and Figure 2. The proposed model explains 57.2% of the variance in behavioural intention. Based on the analysis, 16 out of the 19 hypotheses in the model were supported.

Our analyses demonstrate that the three antecedents of behavioural intention have a positive effect on the intention to develop a PE initiative, in particular: perceived control ($\beta = 0.471$; $p < 0.01$; H3 validated); followed by attitude ($\beta = 0.256$; $p < 0.05$; H1 validated); and the subjective norm ($\beta = 0.152$; $p < 0.10$; H2 validated). This is in line with the findings of Akande et al. (2020), in which attitude, perceived behavioural control and subjective norm are the main drivers of the intention to participate in PE initiatives. With regard to the four antecedents of attitude, ease of use did not have a significant effect on attitude (H5 not validated), contradicting the findings of Standing and Mattsson (2018) on the need for simplicity in this kind of initiative in the entrepreneurial context. This is also the case for confidence, a new antecedent tested in our model, which also had no significant effect on attitude (H7 not validated). This refutes our assumptions about the importance of trust in these contexts, as advanced by a number of authors (Abubakre et al., 2021; McKnight et al., 2002; Ter Huurne et al., 2017; Verhagen et al., 2006). Our findings do, however, show the relevance and significance of the other two antecedents. In the case of compatibility ($\beta = 0.565$; $p < 0.01$; H6 validated), our findings confirm the assumptions of Bouncken et al. (2020) regarding digital entrepreneurship attitude and also those of Hall and Krueger (2018) in the context of PE providers. We also confirmed the relevance of perceived utility ($\beta = 0.259$; $p < 0.01$; H4 validated), as found by Kolvereid and Isaksen (2006) in the general context of entrepreneurship, and by Richter et al. (2015) in the more specific pro-PE situation.

Table 3. Items on the measurement scale and bibliographic references.

		Working on a PE initiative	
ATTITUDE (ATTI)	ATTI1	... is an idea that I like	(Bhattacharjee, 2002; George, 2004; Pavlou and Fygenson, 2006)
	ATTI2	... is a good idea.	
	ATTI3	... seems to be a positive experience to me.	
COMPATIBILITY (COMP)	COMP1	... fits well with the way I like to do things.	(Hung et al., 2009; Moore and Benbasat, 1991)
	COMP2	... is consistent with my habits.	
	COMP3	... fits with my lifestyle.	
EASE OF USE (EASE)	EASE1	... is easy for me to learn.	(Davis et al., 1989; Moore and Benbasat, 1991; Venkatesh and Davis, 2000)
	EASE2	... is simple to use.	
	EASE3	... does not involve much mental effort on my part.	
ECONOMIC USEFULNESS (ECOU)	ECOU1	... allows me to save money.	(Bock et al., 2005; Hamari, 2015)
	ECOU2	... allows me to cut my expenditure.	
	ECOU3	... allows me to benefit economically.	
ENVIRONMENT USEFULNESS (ENVU)	ENVU1	... allows me to consume sustainably.	(Collom, 2007; Hamari et al., 2016)
	ENVU2	... allows me to behave ecologically.	
	ENVU3	... allows me to behave in an environmentally friendly way.	
USEFULNESS FOR SOLIDARITY (SOLU)	SOLU1	... allows me to contribute something to society.	(Collom, 2007)
	SOLU2	... allows me to help those in need.	
	SOLU3	... allows me to do something for others.	
SOCIAL USEFULNESS (SOCU)	SOCU1	... allows me to find interesting people.	(Collom, 2007; Hawlitschek et al., 2018)
	SOCU2	... allows me to get to know new people.	
	SOCU3	... permits social interaction with other users.	
These are my perceptions of working on PE initiatives:			
EXTERNAL INFLUENCES (EXTE)	EXTE1	News in the written press on this type of community encourages me to use them	(Bhattacharjee, 2002; Hung and Chang, 2005; Hung et al., 2009; Lamberton and Rose, 2012; Widlok, 2004)
	EXTE2	Blog comments on experiences of this type of community encourage me to use them.	
	EXTE3	Comments on the social media networks of this type of community encourage me to use them.	
INTERNAL INFLUENCES (INTE)	INTE1	My friends and family encourage me to do it.	(Bhattacharjee, 2002; Hung and Chang, 2005; Hung et al., 2009; Lamberton and Rose, 2012; Widlok, 2004)
	INTE2	Those in my immediate environment think that doing it is a good idea.	
	INTE3	My colleagues encourage me to do it.	
SELF-EFFICACY (SELF)	SELF1	I can easily do it	(Koufaris, 2002; Limayem et al., 2000; Lin, 2007; Vijayarathy, 2004)
	SELF2	I am able to do it even if there is nobody nearby to help me.	
	SELF3	I feel comfortable doing it for myself	
FACILITATING CONDITIONS (COND)	COND1	I have access to the computer equipment needed to do it.	(Koufaris, 2002; Limayem et al., 2000; Lin, 2007; Vijayarathy, 2004)
	COND2	I was able to access to a computer whenever I wanted to use them.	
	COND3	I don't have Internet access problems to stop me doing it.	
BEHAVIOURAL INTENTIONS (BINT)	BINT1	I plan to do it in the next six months.	(Gefen et al., 2003; Gefen and Straub, 2000; Limayem et al., 2000; Pavlou and Fygenson, 2006)
	BINT2	I hope to do it in the next six months.	
	BINT3	I am likely to do it in the next six months	
CONFIDENCE (CONF)	CONF1	The users involved in this kind of initiative will not take advantage of others, even when the opportunity presents itself.	(Gefen et al., 2003; Hung et al., 2009)
	CONF2	The users involved in this kind of initiative always keep their promises.	
	CONF3	The users involved in this kind of initiative will tell the truth in their dealings with others.	

The results also confirm that both perceived utility as the subjective norm and perceived control may be considered second-order variables. It is worth noting that in the former, utility for solidarity ($\beta = 0.882$; $p < 0.01$; H11b validated) and pro-social utility ($\beta = 0.848$; $p < 0.01$; H11a validated) are the two most important determinants of the perceived utility of the behaviour. This supports the idea that the original elements of the sharing economy are still present, sometimes associated with platform cooperativism (Scholz, 2016) and a more pro-social vision (Barnes and Mattsson, 2016; Frenken and Schor, 2019), and may also show the impact of the pandemic on this kind of digital entrepreneurial initiative. To a large extent, this is also associated with the growing importance of environmental awareness (Cohen and Munoz, 2016; Gazzola et al., 2019; Muñoz and Cohen, 2017; Richter et al., 2017) in terms of the opportunity to create such initiatives, as demonstrated in this study by the significance of the environmental antecedent

($\beta = 0.758$; $p < 0.01$; H11c validated). Our results do not, however, diminish the continued importance of economic utility ($\beta = 0.503$; $p < 0.01$; H14 validated) when these initiatives are created, confirming previous findings, such as in Richter et al. (2017). Turning to the subjective norm, this study confirms that interpersonal influences may be determining factors ($\beta = 0.920$; $p < 0.01$; H12b validated), as might extrapersonal influences ($\beta = 0.900$; $p < 0.01$; H12a validated), in line with the findings of Zvolkska et al. (2019) on the importance of mimicking other successful PE initiatives. This also confirms the possibility that entrepreneurship ecosystems might have gained influence in the context of the pandemic (Purbasari et al., 2021).

Finally, the results show perceived control is determined by the facilitating conditions ($\beta = 0.910$; $p < 0.01$; H13a validated) and self-efficacy ($\beta = 0.907$; $p < 0.01$; H13b validated). This provides further support for the findings of the entrepreneurial behaviour literature (Hall

Table 4. Results of the measurement model. Convergent validity and reliability.

Construct	Item	Convergent validity	Reliability		
			Loadings	Cronbach α	CR
ATTI	ATTI1	0.772	0.767	0.865	0.682
	ATTI2	0.852			
	ATTI3	0.850			
COMP	COMP1	0.873	0.828	0.897	0.744
	COMP2	0.873			
	COMP3	0.841			
EASE	EASE1	0.795	0.668	0.819	0.603
	EASE2	0.825			
	EASE3	0.704			
USEF (2ND)*	ENVU	0.758	-	0.842	0.581
	ECOU	0.503			
	SOCU	0.848			
	SOLU	0.882			
NORM (2ND)*	EXTE	0.900	-	0.906	0.828
	INTE	0.920			
CONT (2ND)*	SELF	0.907	-	0.904	0.825
	COND	0.910			
CONF	CONF1	0.695	0.715	0.833	0.629
	CONF2	0.849			
	CONF3	0.881			
BINT	BINT1	0.962	0.957	0.972	0.920
	BINT2	0.968			
	BINT3	0.948			

Notes: CR = Composite reliability; AVE = Average variance extracted.
 * Second-order construct measurement indicators are calculated from their respective first dimensions.

and Krueger, 2018; Lortie and Castogiovanni, 2015; Mancha and Shan-karanarayanan, 2020) in relation to self-efficacy, in particular the relevance of facilitating conditions for opportunity entrepreneurs (Ravina-Ripoll et al., 2021) with a profile similar to that analysed in this study. Finally, we found a range of results for relationships between the different antecedents of attitude. Compatibility had a positive effect on perceived utility ($\beta = 0.704$; $p < 0.01$; H9 validated) and ease of use ($\beta = 0.456$; $p < 0.01$; H10 validated), confirming the findings of Agarwal and Karahanna (1998) in fields that incorporate the acceptance of technology. In addition, ease of use had a positive effect on perceived utility ($\beta = 0.133$; $p < 0.05$; H8 validated), in line with the findings of Davis et al. (1989) in the aforementioned TAM context, and those of Gefen and

Straub (2000), in terms of adopting e-commerce, and similar to the findings of Chatterjee et al. (2021), analysing digital entrepreneurship initiatives headed by SMEs. Nevertheless, this study also found that the effect of the subjective norm on attitude (H14 not validated) could not be confirmed. These findings do not, therefore, support our ideas on the relevance of social norms and social groups as determinants in the attitude of pro-PE entrepreneurs, as found in earlier literature (Lortie and Castogiovanni, 2015; Purbasari et al., 2021).

To ensure these findings are consistent, we used PLSpredict with 2 folds and 10 repetitions to obtain the out-of-sample predictive power of the model (Shmueli et al., 2016). The prediction statistics for the endogenous construct indicators are reported in Table 8. We first found that the endogenous variable indicators yield Q^2_{predict} values greater than 0. Next, we analysed the prediction errors in detail to identify the relevant prediction statistic, suggesting that the distribution is not highly non-symmetrical. Hence, we base our predictive power assessment on the root mean squared error (RMSE). Comparing the RMSE values from the PLS-SEM analysis with the LM benchmark, we find that the PLS-SEM analysis produces lower prediction errors for a majority of the indicators (all except one). According to Shmueli et al. (2016), these results show the model has medium to high predictive power.

5. Discussion

The objective of this research is to model behavioural intention of developing PE initiatives based on critical factors proven to influence people’s predisposition towards developing new PE projects. Among these, we focus on economic and technological factors and those affecting individual and collective wellbeing. To do this, we adapted and extended the Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd, 1995), which is a development of Ajzen’s Theory of Planned Behaviour (TPB) (Ajzen, 1991) and other models, such as the Technology Acceptance Model (TAM) (King and He, 2006), typically used to study technological innovations. By doing so we integrated beliefs that inform attitudes, social norms and perceived behavioural control into the model. The empirical study was based on data from 127 Spanish organisations, which were analysed using the partial least squares regression (PLS) technique. Based on the analysis of our research model (composed of 16 latent variables), 16 of the 19 hypotheses in the model were confirmed.

In this article we propose a comprehensive model for understanding the decomposed beliefs that inform the attitudinal, social-normative and control factors that configure pro-PE behavioural intention, considering

Table 5. Results of the measurement model. Discriminant validity.

	ATTI	SELF	COMP	COND	CONF	CONT	EASE	EXTE	INTE	BINT	NORM	ENVU	ECOU	SOCU	SOLU	USEF
ATTI	0.826															
SELF	0.497	0.813														
COMP	0.496	0.413	0.862													
COND	0.548	0.451	0.587	0.827												
CONF	0.504	0.548	0.512	0.500	0.793											
CONT	0.574	0.407	0.458	0.510	0.574	0.745										
EASE	0.373	0.559	0.456	0.448	0.415	0.558	0.777									
EXTE	0.370	0.551	0.353	0.456	0.557	0.554	0.364	0.882								
INTE	0.555	0.566	0.419	0.589	0.533	0.635	0.493	0.458	0.896							
BINT	0.605	0.621	0.404	0.584	0.453	0.517	0.374	0.479	0.589	0.959						
NORM	0.517	0.615	0.543	0.578	0.514	0.656	0.473	0.400	0.420	0.593	0.809					
ENVU	0.461	0.359	0.474	0.353	0.438	0.390	0.248	0.226	0.372	0.390	0.335	0.851				
ECOU	0.386	0.199	0.359	0.226	0.232	0.234	0.449	0.202	0.301	0.298	0.281	0.187	0.809			
SOCU	0.458	0.534	0.496	0.558	0.562	0.599	0.448	0.309	0.493	0.476	0.505	0.428	0.333	0.878		
SOLU	0.440	0.430	0.301	0.464	0.595	0.490	0.283	0.254	0.510	0.464	0.429	0.448	0.287	0.462	0.804	
USEF	0.725	0.526	0.465	0.552	0.525	0.591	0.455	0.331	0.403	0.547	0.523	0.458	0.503	0.448	0.482	0.639

Diagonal of the matrix: square root of the AVE for each construct.
 Below the diagonal: bivariate correlations between constructs.

Table 6. Results of the measurement model. Heterotrait-monotrait (HT/MT) ratio.

	ATTI	SELF	COMP	COND	CONF	CONT	EASE	EXTE	INTE	BINT	NORM	ENVU	ECOU	SOCU	SOLU	USEF
ATTI																
SELF	0.643															
COMP	0.992	0.779														
COND	0.708	0.857	0.732													
CONF	0.641	0.682	0.614	0.611												
CONT	0.707	0.848	0.790	1.132	0.676											
EASE	0.520	0.811	0.614	0.620	0.588	0.747										
EXTE	0.457	0.688	0.416	0.563	0.663	0.653	0.486									
INTE	0.672	0.694	0.726	0.716	0.878	0.737	0.651	0.754								
BINT	0.702	0.728	0.678	0.800	0.490	0.800	0.464	0.522	0.637							
NORM	0.613	0.748	0.621	0.694	0.836	0.754	0.617	0.837	0.828	0.629						
ENVU	0.578	0.459	0.582	0.446	0.530	0.473	0.337	0.265	0.427	0.446	0.376					
ECOU	0.505	0.277	0.447	0.299	0.321	0.301	0.653	0.246	0.369	0.342	0.334	0.251				
SOCU	0.806	0.669	0.848	0.688	0.688	0.710	0.596	0.361	0.687	0.529	0.570	0.511	0.420			
SOLU	0.838	0.574	0.765	0.621	0.796	0.625	0.406	0.311	0.632	0.547	0.513	0.834	0.378	0.829		
USEF	0.866	0.634	0.878	0.657	0.742	0.675	0.631	0.377	0.674	0.592	0.572	0.904	0.745	0.945	0.880	

Table 7. Results of hypothesis testing.

Hypothesis	Structural relationship	β	t Bootstrap	Contrast
H1	ATTI → BINT	0.256	2.264**	Supported
H2	NORM → BINT	0.152	1.261*	Supported
H3	CONT → BINT	0.471	3.981**	Supported
H4	USEF → ATTI	0.259	2.595**	Supported
H5	EASE → ATTI	-0.050	0.934	Not supported
H6	COMP → ATTI	0.565	7.524**	Supported
H7	CONF → ATTI	0.019	0.213	Not supported
H8	EASE → USEF	0.133	1.682**	Supported
H9	COMP → USEF	0.704	11.549**	Supported
H10	COMP → EASE	0.456	4.716**	Supported
H11a	USEF → SOCU	0.848	29.683**	Supported
H11b	USEF → SOLU	0.882	26.441**	Supported
H11c	USEF → ENVU	0.758	9.302**	Supported
H11d	USEF → ECOU	0.503	5.213**	Supported
H12a	NORM → EXTE	0.900	40.882**	Supported
H12b	NORM → INTE	0.920	67.987**	Supported
H13a	CONT → COND	0.910	52.270**	Supported
H13b	CONT → SELF	0.907	50.064**	Supported
H14	NORM → ATTI	0.085	0.831	Not supported

* $p < 0.1$; ** $p < 0.05$. R^2 Behavioural intention = 0.684.

it in the context of digitisation and individual and collective wellbeing, focussing the analysis on the platform. The results confirm the model as a good predictor of peoples' intention to develop PE initiatives. The research also provides valuable insights, such as the fact that the three antecedents of behavioural intention have a positive effect on the intention to develop a PE initiative. Nevertheless, pro-PE entrepreneurs' own abilities to promote PE initiatives (perceived behavioural control, PBC) (H3) are more significant in explaining motivations than attitudes (ATTI) (H1) and pro-PE entrepreneurs' levels of engagement with PE initiatives (subjective norm, NORM) (H2). In this sense, the existence of suitable conditions and entrepreneurs' abilities are stronger determining factors of the intention to develop PE initiatives.

The study may help provide a better understanding of attitudes of people in general and entrepreneurs towards developing a PE initiative (ATTI). In this regard, Taylor and Todd's DTPB model (1995) has proved useful. Along these lines, the results show the importance of the initiative aligning with the individual's existing values, past experiences and needs (COMP) (H6). Perceived usefulness (USEF) (H4) is another major driver

of such attitudes. However, attitudes were not linked to finding the initiative easy to understand and use (H5) or to confidence in PE initiatives (CONF) (H7). In light of the results, if the principal drivers include past experience, we may deduce that respondents feel sufficiently confident in themselves as they consider they have enough knowledge and experience in the scope or sector of activity. In other words, respondents' are more likely to promote a PE initiative if it matches their personal values, but also if it is associated with previous experience in the area or with personal needs, directly contributing and relating to individual wellbeing. This result is also consistent with the importance of perceived behavioural control (PBC) in our model. PE initiatives allow entrepreneurs to work with other values and approaches and include more personal interests. Thus, our research reinforces the importance of going beyond the purely economic benefits and considering other aspects relating to the entrepreneur's lifestyle and wellbeing, thereby contributing to a better understanding of the nature of the sharing phenomenon and digital entrepreneurship processes, in line with Richter et al. (2017) and Muñoz and Cohen (2017).

However, the results associated with decomposing perceived usefulness are central to the final findings. Pro-PE entrepreneurs' perceptions of developing a PE initiative as being useful (USEF) are linked to its pro-solidarity utility (H11b), pro-social utility (H11a), environmental utility (H11c) and, to a lesser degree, its economic utility (H11d). The intention to develop PE initiatives is mainly motivated by social-hedonic factors, supported by an interest in contributing to society, cooperation and solidarity (collective wellbeing) and environmental sustainability. This goes beyond the findings of Barnes and Mattsson (2016) or Gerwe and Silva (2020) on the importance of economic, social, legal and technological factors as the main antecedents for entrepreneurial behaviour in the creation of PE initiatives and the relevant position of variables related to individual and collective wellbeing. Our findings are similar to Richter et al. (2017), as they show entrepreneurial behaviour in the creation of PE initiatives goes beyond purely economic/business intentions and, to a large extent, matches part of the original ideology of SE/PE in its links to solidarity and the social element and a desire to transform society and improve collective wellbeing.

Our model also supports the notion that the subjective norm can also be decomposed (and made multi-dimensional) into external (superior/management) influences (EXTE) (H12a) and internal (peer) influences (INTE) (H12b) (Burnkrant and Page Jr, 1988; Cohen and Munoz, 2016; Geissinger et al., 2019; Zvolkska et al., 2019). Our results show that in their personal concerns regarding other people's opinions on their behaviour, entrepreneurs put peers' views before external views, but both are factors in their levels of engagement in developing a PE initiative. Nevertheless,

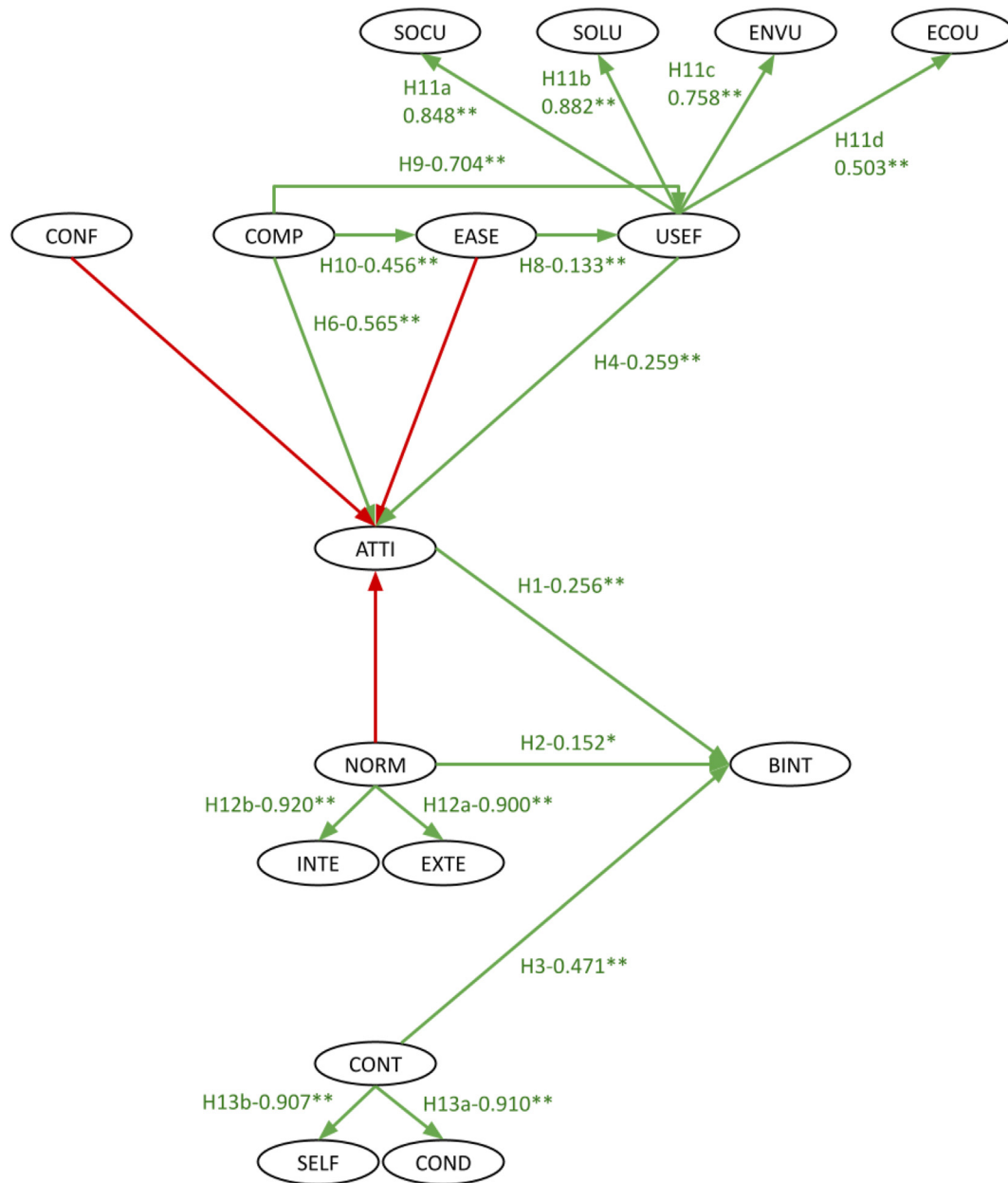


Figure 2. Results of hypothesis testing.

Table 8. PLS predictive assessment of the endogenous constructs.

Endogenous construct indicators	PLS-SEM		LM	PLS RMSE-LM RMSE
	RMSE	Q2predict	RMSE	
ATTI1	0.579	0.123	0.629	-0.050
ATTI2	0.597	0.203	0.598	-0.001
ATTI3	0.783	0.166	0.803	-0.020
BINT1	1.242	0.420	1.219	0.023
BINT2	1.228	0.443	1.241	-0.013
BINT3	1.109	0.504	1.120	-0.011

our results do not validate the influence of subjective norm on attitude (H14), hence we have not demonstrated the influence of different social groups on shaping individuals' attitudes towards innovation (Lortie and Castogiovanni, 2015). Thus, entrepreneurial processes in PE seem to be based more on individual commitment than pro-institutional contexts or

opinions. This could partly explain the explosion and spread of the phenomenon in recent years. Individual wellbeing is central to the process, but collective wellbeing is important to the vision and mission of the organisation.

As in Davlembayeva et al. (2020), this study shows that promoting individual lifestyles and collective wellbeing are fundamental drivers in the creation of PE initiatives, providing empirical evidence of users' perceived inclusion in society and life satisfaction from using sharing economy platforms. As such, our findings are in line with those of Wilhelms et al. (2017) and Zhang et al. (2019), who show that PE micro-entrepreneurs are motivated by individual and collective wellbeing, not just financial benefit. Furthermore, these results contribute to framing wellbeing in a broader paradigm, consisting of psychological and social factors that go beyond the economic considerations and interests in previous paradigms.

Finally, our findings show that perceived behavioural control may also be explained by facilitating conditions (H17) and self-efficacy (H18) (Ajzen, 2002; Armitage and Conner, 1999). This demonstrates how

antecedents such as self-efficacy are important to attitude, subjective norm and perceived behavioural control (Hall and Krueger, 2018; Lortie and Castogiovanni, 2015; Mancha and Shankaranarayanan, 2020). Moreover, it puts the digital/technological component at the heart of pro-PE behaviour, in the sense that it makes the innovative process easier and cheaper, as stated by Cohen and Munoz (2016). These factors can positively influence subjective wellbeing in digital entrepreneurship processes and encourage the development of PE initiatives.

6. Conclusion

This study presents and empirically examines a theoretical model based on DTPB that incorporates key behavioural factors in people's intentions to develop PE initiatives. It contributes to increasing knowledge in a number of ways. Firstly, our findings help provide a better understanding of the PE in relation to individual and collective wellbeing and, in so doing, contribute to identifying and calibrating the range of determinants in pro-PE innovation. We show that the model needs to be extended to include psychosocial and motivational factors beyond merely economic, business or technological factors and how this can be done, while also demonstrating the importance of moving from the most basic individual and collective economic drivers to those related to improving collective wellbeing. Secondly, we contribute to a better understanding of the entrepreneurship processes in the digital domain and shed light on the profile of the digital social entrepreneur (Ghatak et al., 2020).

In addition to these theoretical contributions, this research also has important practical implications. As mentioned above, our results provide relevant information on the profile of the digital entrepreneur and stress the importance of aspects relating to the entrepreneur's lifestyle and wellbeing as principal motivations for promoting a PE initiative. These findings contribute to understanding the real nature of the current sharing phenomenon and digital entrepreneurship processes and their relation to sustainable and pro-social motivations. In this sense, our model could prove to be a useful tool for to help policymakers improve their approaches and activities in relation to digital entrepreneurship policies and assessing the social impact of PE initiatives. In addition, our results show that entrepreneurial behaviour in creating PE initiatives goes beyond purely economic/business intentions and, to a large extent, is linked to an intention to improve individual and collective wellbeing and, in some way, transform society. Consequently, motivations related to individual and community wellbeing for entrepreneurs are an issue governments should consider and boost in their digitisation and entrepreneurship policies, as it could help promote a more sustainable and inclusive development of the PE. By providing support for initiatives or entrepreneurs with such pro-social attitudes, policymakers could encourage the embryonic PE to become a promoter of a more sustainable economy. Finally, the database produced in our initial field work, in which we identified and characterised 1207 SE initiatives currently operating in Spain, could help fill the lack of official data identifying such organisations. Thus, the information generated from this study provides greater knowledge and more a detailed explanation of the heterogeneous nature of the current PE in Spain. Such information is relevant not only to policymakers but also to the management of all kinds of organisations, as it provides a basis for designing development strategies for new SE initiatives and, therefore, for promoting digitisation processes in the Spanish economy. As stated above, the digital/technological component is at the heart of pro-PE behaviour, making innovation easier and cheaper, so policies facilitating this dimension in entrepreneurship could have a positive influence on and encourage the development of PE initiatives. More importantly, the results of the study not only allow us to identify and calibrate the range of determinants for pro-PE innovation in relation to individual and collective wellbeing, but could also contribute to the expected growth of the SE and associated digitisation and innovation policies, shifting towards (or at least maintaining) social and wellbeing perspectives and values.

6.1. Limitations

As is the case with all empirical research, this investigation has several limitations. One of these is the sample size. Although, we might have been able to obtain a larger number of responses (127 questionnaires), the sample collected was sufficient to perform the statistical analysis. The PLS-SEM technique was used to conduct this study as it is an initial attempt to explain the intention to develop PE initiatives and identify the key determinants influencing this behaviour. Secondly, there is the cultural context of the sample, which although covering a wide range of economic activities, drew from a Spanish context only. Future research should examine behavioural intention towards PE initiatives in other cultural contexts with different hierarchies of values, norms and beliefs, which might affect intentions and behaviour. Finally, the fieldwork for this research was limited by the COVID-19 lockdown in Spain, which may also have affected human motivations. A longitudinal study would, therefore, allow a deeper understanding of the impact of COVID-19 on the model and help define the framework for the PE and its current relationship with wellbeing, while also extending this study.

6.2. Future research directions

Our study may be considered a first step towards carrying out further research or extending the results. As mentioned above, the researchers strongly recommend future empirical studies with an international and comparative framework to examine the proposed research model and its variations. In addition, future studies could help modify and adapt the model for the purposes of practical empirical testing. This would help further increase our knowledge of the theoretical and practical contributions of the SE to individual and collective wellbeing, thereby obtaining a clearer, more detailed understanding of its origins and contribution to the common good, and to the transition to more sustainable societies.

We consider the identification and construction of a database of PE initiatives in Spain to be one of the outcomes of the research and a strength of this paper. The database can be used to conduct qualitative research to increase understanding of the phenomenon of developing SE initiatives in relation to sustainable principles and governance structures, examining the differences between organisations with different legal forms and more specifically between cooperative and start-up business models.

Finally, more research is needed to understand the impacts and consequences of the COVID-19 pandemic on the SE and behaviours related to its promotion and performance. We thus suggest updating our database of SE initiatives in order to visualise the impact of the pandemic period on the size of the sector. Further research is recommended to analyse how the phenomenon under study evolves, identifying adaptive and resilient strategies developed by SE initiatives in response to the pandemic. Such research approaches will broaden our understanding of the contribution of the SE to constructing new patterns of social and economic performance and digital innovation in our societies.

Declarations

Author contribution statement

S. Morales-Pérez conceived and designed the experiments, performed the experiments, analysed and interpreted the data, wrote the paper and prepared the paper for publication. L. Garay-Tamajón provided conceptual input and wrote the paper. A. Corrons-Giménez conceived and designed the experiments and wrote the paper. C. Pacheco-Bernal contributed with PLS analyse, interpreted the data, and wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of interest's statement

The authors declare no conflict of interest.

Additional information

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