Business Models for Sustainability (BMfs) in the sharing economy. Emerging platforms in accommodation service

MARTINA NANNELLI[*] MARIANGELA FRANCH[•] MARIA DELLA LUCIA[♠]

Objectives. *Contributing to the debate on share value generation in the digital era by evaluating the nature of the business model and the nature of the value generated by sharing economy both on-line and off-line. In particular, investigating how sustainable are sharing economy digital platforms in the tourism accommodation service.*

Methodology. *Through a review of the most recent literature on business models (BM), business model for sustainability (BMfs), business models in the sharing economy, were identified a comprehensive sharing economy business model framework and tools to evaluate the nature of the value they generate. By collecting qualitative secondary data, these tools were used to investigate two illustrative cases of sharing digital platforms in accommodation services whose mission include issues connected to sustainability - Ecobnb.it and Fairbnb.coop.*

Findings. *Fairbnb.coop is a singular transaction model (dyadic) while Ecobnb.it is a commission-based platform (triadic model). Both platforms adopt a BM for sustainability and generate a sustainable shared value. Due to its dyadic structure and the cooperative form, Fairbnb is more inclined to distribute the value generated among the platform users and the society.*

Research limits. *Exploratory study building on new streams of managerial literature. More case studies should be analysed and compared by using mixed tools of analysis and primary and secondary data.*

Practical implications. *Preliminary insights suggest that BM for sustainability seems to be more effective to share the value generated with the society when BM structure is dyadic.*

Originality of the study. *Investigating an n. which is still in its infancy - the sustainability of sharing digital platform - through cross-disciplinary managerial literature.*

Key words: *business model; business model for sustainability; sharing economy; digital platforms; accommodation service*

1. Introduction

Sustainability (Turner, 1993; Herman and Kenneth, 1993, Goodland, 1995) is among the main challenges that business models (BM) are pursued to face as the classical economic dogma of unlimited growth today clashes with the awareness of limited physical resources (Herman and Kenneth, 1993), the impact of global warming and climate change (UNCED, 1992) and the urgency of social inclusion and participation (Warschauer, 2004).

The failure of traditional BM (Osterwalder, 2004; Osterwalder et al., 2005) to overcome the problems of the economic growth's limit (Porter and Kramer, 2011), asks for the transition towards business models for sustainability - BMfs - (Lüdeke-Freund, 2010; Boons and Lüdeke-Freund, 2013; Rauter et al., 2015). This transition questions the nature (economic, social and environmental) and sources of value generation (value proposition, creation, delivery and capture) which incorporate, but do not remain entangled to, the traditional economic drivers such as profit, income, costs and benefits (Porter and Kramer, 2011, 2012).

In the digital era, this transition is challenged by technological advancement and IT development which transformed the actors involved in the interactions - traditional and new ones - and the ways and the places worldwide - real and virtual - in which actors interact (Armstrong, 2006; Evans, 2008). The value created and distributed online and off-line is questioned by the reshaping of an ancient phenomenon, the sharing economy, which has attracted the attention of scholars and organizations because its BM may suit with the need for sustainability, based on the exchange of underused resources at fair prices through social interactions (Belk, 1988, Belk, 2013). On the other hand, the technological advancement of digital platforms in the sharing economy market that have given more and more power to intermediaries, establishing new and distinctive strategies positioning (Porter, 2001). The investigation of the business models and new management practices in the sharing economy are still in their infancy (Magretta, 2002; Osterwalder, 2004; Sigala, 2018).

This contribution is positioned at the intersection of the most recent literature on business models (BM), business model for sustainability (BMfs) and business models in the sharing economy. Through a review of this cross-disciplinary managerial literature, it aims at evaluating the nature of the business model and the nature of the value

[*] PhD Student *of Development Economics and Local System* - University of Trento
e-mail: martina.nannelli@unitn.it

[•] Full Professor of *Management* - University of Trento
e-mail: mariangela.franch@unitn.it

[♠] Associate Professor of *Management* - University of Trento
e-mail: maria.dellalucia@unitn.it

generated by sharing economy both on-line, through digital platforms, and off-line. In particular, it aims to investigate how sustainable is sharing economy in the tourism accommodation service through the analysis of two illustrative digital platforms - Ecobnb.it and Fairbnb.coop (Yin, 2014) - which include issues connected to sustainability in their mission. Following the contributions of Ludeke-Freund (2010) and Boons and Ludeke-Freund (2013), BM digital platforms' theory is linked to sustainability concept and tools used to analyse and evaluate the valued generated - Business Model Canvas (Osterwalder, 2004) and Sustainable Business Model Canvas (Upward, 2013). Finally, the BM theory is linked with the sharing economy and digital platform through the comprehensive business model category of Ritter and Schanz (2019) that combines the BM elements with those of the digital platforms. The study provides preliminary insight about the nature of the value that is created by the sharing economy digital platforms and the BM structure more likely to generate and distribute sustainable value.

2. Theoretical background

2.1 Business Model and Shared Value

The notion of Business Model (BM) has been introduced and used in economic and managerial fields around the 20th century (Osterwalder, 2004; Osterwalder et al., 2005; Zott et a., 2011), frequently in relation to Internet, Information Technologies (IT) and e-business (Amitt and Zott, 2001; Afuah and Tucci, 2001; 2003; Osterwlder et al., 2005; Zott et al., 2011). BM has been conceived both as a concept - a representation, a description or a statement, a framework (Stewart and Zhao, 2000; Weill and Vitale, 2001; Morris et al., 2005; Shafer et al, 2005) - and/or as a tool - a model, a structural template, an architecture (Osterwalder, 2004; Osterwalder and Pigneur, 2005; Timmers, 1998; Amitt and Zott, 2001; Afuah, 2004). Irrespective of the different conceiving of this notion, scholars agree that BM is an emerging unit of analysis of organizations (Zott et al., 2011) and, as a result of the ever-changing market, it is always under innovation pressure.

According to some of the most influential scholars (Lüdeke-Freund, 2010; Boons and Lüdeke-Freund, 2013; Osterwalder, 2004), BM combines four pillars expressed in term of values - proposition, creation, delivery and capture - whose system interactions results in (share) value (proposition, creation, delivery and capture). Value proposition *is the value that organizations embeds in the product or service.* Value creation *and* delivery *result respectively from - the existing upstream relationships within the supply chain (key activities, key partnerships, key resources and channels); and the down-stream relationships with customers, the distribution and sale channels. The value capture is the financial model: the costs and benefits of the previous elements and their distribution across the BM stakeholders; for the organization it represents its revenues. The organization's BM configuration may have two structures: the traditional dyadic BM structure based on the producer-consumer relation; instead, the triadic -and even polyadic- BM relation based on the producer-intermediary-consumer relation. The intermediary has shifted mainly on-line.*

Porter and Kramer' (2011) critical analysis of BMs allows to overcome the narrow conception of capitalism focusing on the firm - and value (proposition, creation, delivery and capture) - as a close system and shift towards a broader concept focusing on exploiting the full potential of organizations through the engagement of stakeholders and the society in the organization value chain. Shared Value captures both the value nature - economic - and value sources - the variety of stakeholders participating in complex network interactions - involved in an organization BM. It bridges economic progress to the needs of society through policies and practices that improve the performances of a company while strengthening the economic and social conditions of its community (Porter and Kramer, 2011). SV is a long-term corporate strategy allowing to integrate business success (value creation for companies) with societal progress (value creation for society) (Ludeke-Freund et al., 2016). The Business Model Canvas (Osterwalder, 2004), a strategic planning tool, which help to illustrate, develop and monitor BMs structure and activities acting as an executive summary for the business plans aimed at evaluating how SV is created.

2.2 Business Model for Sustainability and Sustainable Shared Value

Nowadays, traditional BM clashes with a range of issues related to the economic growth's limit (Porter and Kramer, 2011): the awareness of limited physical resources (Herman and Kenneth, 1993), the impact of global warming and climate change (UNCED, 1992) and the urgency of social inclusion and participation (Warschauer, 2004). The digital era servers as a multiplier as the shifting of humans' horizons and interactions from local to global, and from real to virtual spaces, have grown the issues related to sustainability in size and depth. Actors, resources/input and tangible and intangible outputs involved in production, exchange and consumption processes, both off-line and online, have expanded the nature, level and scale of their impact growing exponentially worldwide.

These challenges question the broader negative impact that the system, generating a short-term SV, has on society and environment in the long-term (Porter, Kramer, 2011). And they ask for an innovation of BMs vision by including sustainability (Lüdeke-Freund, 2010) and the development of integrative and competitive solutions that both reduce negative externalities of shared value generation and increase its positive effects. In BM for sustainability (BMfs) (Boons and Lüdeke-Freund, 2013) the value of an organization combines the company's self-interests and social progress in term of sustainability - the balance between economic, social and environmental costs and benefits (Lüdeke-Freund, 2010; Porter and Kramer, 2011; Schaltegger et al., 2016).

The incorporation of sustainability challenges in BM theory affects necessarily the enunciation of the four pillar values (Ludeke-Freund, 2010) and the result of their interaction which is sustainable shared value. The value proposition *incorporates (or not destroy) sustainable - economic, social and environmental - values into the product or service; this means to integrate private benefits (for the company) with public benefits (for society) increasing general well-being. The* value creation *integrates the partnerships, governance, activities and resources up-stream the value chain that enhance the sustainability of an organizations looking at biophysical stocks and ecosystem service. The* value delivery *integrates the relationships, stakeholders and channels down-stream the value chain looking at ecosystem actors and needs and addressing the principles of eco, social or sustainability marketing through market segmentation and distribution. The financial model at the base of the* value capture *is complemented with accounting measures evaluating both economic (costs/revenues), social and environmental (impacts/benefits) values and tools to distribute the costs and benefits across the company value chain. The Value generated by BMfs is a Sustainable Shared Value (SSV) which captures both the multidimensional value nature - economic, social and environmental - and multiple value sources taking part in the creation of value and carrying out costs and benefiting of the positive effects of value generation. In particular, the private benefits of businesses and consumers can increase the well-being of society (public benefits) in which production and consumption choices are reversed, with the achievement of widespread well-being. The Sustainable Business Model Canvas (Upward, 2013) is the tool used to evaluate this value and it is developed by integrating the Business Model Canvas with the organization's contexts (natural environment, society and financial economy) and its stakeholders and their needs.*

2.3 Business Model and Sharing Economy

Both BM and BMfs face the opportunity and challenge that an ancient phenomenon of sharing economy (Belk, 1988) has assumed in the digital era. Originally it has been defined as a socio-economic ecosystem where people share and exchange underutilized tangible or intangible assets - such as goods, skills, spaces, time and services - for monetary or non-monetary benefits (Botsman and Rogers, 2010; Belk, 2013; Breibach and Brodie, 2017; Muñoz and Choen, 2017; Frenken and Schor, 2017). The underused assets are shared in the form of renting, lending, bartering, swapping instead of the traditional exchange of ownership. Both the underused resources and the sharing instead of the owning mechanism, has been interpreted by some scholars as a potential sustainable behavior (Frenken, 2017; Frederik and Guenther, 2018).

Currently the sharing economy undergone profound changes and it has expanded its size exponentially becoming one of the main exchange mechanisms. Sharing economy BMs have assumed mainly a triadic structure giving new power to virtual intermediaries. Digital platforms have allowed many people to get in contact, quickly and simply, encouraging the exchange at lower price and becoming the guarantors over the transactions, which usually take place between strangers. Due to these benefits, a growing number of private actors entered the market by establishing and creating new businesses. However, this phenomenon has led an over-use of the resources and the creation of new assets instead of using underutilized. The over-exploitation of these sharing mechanisms may generate also negative economic, social and environmental externalities on the society. Exemplary is Airbnb, a digital platform in the accommodation service, which has exacerbated the real estate market, the gentrification and forced locals to move to the suburbs (Zarvas et al., 2016).

Ritter and Schanz (2019) link the BM theory with the sharing economy by developing a comprehensive business model matrix that applies BM elements to sharing digital platforms. Four ideal-type market segments of the sharing economy - singular transaction model, commission-based platforms, unlimited platforms and subscription-based platforms - are identified by combining two dimensions. Value creation and delivery dimension analyses the relationship between the platform and its users defined as enable *if the relationship is triadic or polyadic and* employ *if the relationship is dyadic. Value capture dimension identifies the revenue streams nature which is* utility-bound *when the compensations is linked to the fruition of the tangible or intangible assets* and utility un-bound *when there is a fee or for free. Moreover, the value proposition of the BMs in sharing economy allows to categorize the digital platforms on the basis of their assets exchanged nature in* product-oriented, use-oriented *and* result-oriented.

3. Case study and research design

Tourism, one industry strongly influencing both global economy and local systems, faces the entry of sharing digital platforms in different sectors, hospitality in particular (Zarvas et al., 2016). These platforms (Booking, Couchsurfing, Airbnb, etc.) fostered important changes on both the demand and supply side. On the supply side (value creation), they allow private actors to enter the market selling their assets on-line as occasional landlord and competing with industry professionals. On the demand side (value delivery), they allow consumers to access a lower priced housing, speeding up transactions and promoting personal interaction with locals (Zarvas et al., 2016).

The evaluation of the nature of BM and the related value generated by sharing economy in the tourism accommodation service is investigated in Ecobnb.it and Fairbnb.coop, two illustrative cases (Yin, 2014) of digital platforms which include in their mission environmental and social issues (Porter, 2011).

Ecobnb was born in Trento (Italy) from ViaggiVerdi.it blog with the aim of telling travel stories respectful of the environment, places and communities, where green travellers and environmentally friendly accommodations meet

(value proposition*). Ecobnb allows individuals to rent their accommodations (or part of them) using sustainable indicators as prerequisites for access to the platform itself (organic or local food, bio-architecture; 100% renewable energy, low-consumption lights; hot-water solar panels; eco-friendly cleaning products; >80% of sorted waste collection; access without car; water flow and rainwater recovery and reuse) and collaborating with green organizations (*value creation*). Moreover, the platform provides green accommodations that could be self-certified or certified by national and international certification bodies which guarantee for the consumer downstream of the value chain (*value delivery*). Finally, the revenue is mediated by the platform that, on the one hand, holds a fee for itself and, on the other, give back the payment to the service providers (*value capture*).*

*Fairbnb is a cooperative born in Bologna (Italy) as response to the limits that digital short-term accommodation platforms have shown in touristic cities. Is cooperative platform builds on dyadic relationship (the owners are also the providers) aims at building a dialogue with citizens and institutions by applying the "1 host - 1home" policy (*value proposition*). The platform redistributes its revenue not only within the platform system (i.e. the owner/s) but in the community in which the platform operates (50% of the revenues) through social and environmental projects and (*value delivery*). The partners up-stream the value chain (hosts) make their own resources (accommodations) available (*value creation*) to consumers (guests) that want to stay in homes that respect the social problems arising in the local context.*

The research design adopted to analyse these illustrative cases builds on a cross-disciplinary perspective at the intersection between BM and shared value (Osterwalder, 2004; Porter and Kramer, 2011), Business models for sustainability (Lüdeke-Freund, 2010; Lüdeke-Freund et al. 2016) and BM in the sharing economy (Ritter and Schanz, 2018). The nature of the BM and the value generated (economic, social and environmental) by these platforms, for whom is generated (supply side and demand side) and where this value falls (on-line/off-line) are evaluated by applying respectively the comprehensive business model category framework (Ritter and Schanz, 2019) and the (Sustainable) Business Model Canvas (Osterwalder, 2004; Upward, 2013). These tools were used to analyse the BM and represent/identify the activities/inputs/outputs implemented by these platforms in different phases of the value chain. The value creation is divided in key partners, key activities and key resources; the value delivery in customer relationships, customer segments and channels; the value capture consists in the cost structure and revenue streams. Data were collected through web-sites, articles and interviews (qualitative and secondary data).

3.1 The Ecobnb.it

Ecobnb's BM presents the following features whose:

- Value proposition: *the value embedded in the Ecobnb service takes into account both economic, social and environmental issues in a virtuous and sustainable used-oriented perspective. It considers the environmental impacts trying to reduce them thanks to the use of environmentally sustainable indicators as prerequisites to access the platform and the collaboration with green organizations and nationals and international certification bodies. The value proposition is declared by platform at on-line level.*
- Value creation: *The platform takes care of the upstream segment of the supply chain. On the supply side, the accommodations are self-certified by the owners and/or have also national or international environmental certifications, built on a participatory network (governance). The in-house capabilities, activities and resources are based on environmental indicators. The value created is double: lower costs for renting the accommodations (economic value) and the generation of green impacts for the environment (environmental). Moreover, at least in the platform system the social value is not destroyed. The economic value is created on-line by the providers, while the environmental one occurs on the territory.*
- Value delivery: *The target customers are green travellers, careful to social and environmental issues (environmentally friendly market segment). They can review the accommodations so that, if there is any non-compliance, the platform can intervene (participatory system). The demand meets the offer at on-line level, where the economic value is delivered, while it enjoys the sustainable environmental value at territorial level.*
- Value capture: *the economic revenue is spread among the users through the platform system (on-line) which acts as an intermediary. The environmental value (expressed in term of benefits) are shared among users (providers and consumers) at territorial level.*

In conclusion Ecobnb.it is a commission-based platform (triadic model) which is use-oriented, enabling and bounding (Ritter and Schanz, 2018) adopting a BM for sustainability. It creates economic and environmental value without destroying social one. The value embedded in the service is sustainable and shared among the platform users and the society can enjoy the benefits deriving from a lower environmental impact.

3.2 The Fairbnb.coop

Fairbnb's BM shows the following features whose:

- Value proposition: *the value embedded in the platform takes into account the issues that generally affect the accommodation service segment. It proposes a service, which respects the local system in which the assets are located thanks to the creation of social and environmental projects chosen by users in dialogue with citizens and local administrations. Moreover, the platform applies the "1 host - 1home" policy, limiting the effects of short-*

term rentals on the real estate market and the over-exploitation of resources. The value proposition is declared by platform at on-line level.

- Value creation: *The type of structure chosen by the platform (cooperative) ensuring sustainability upstream the value chain. The service providers (which are also the owner) adhering to the platform, spontaneously decide to remove a percentage of their revenues from reinvesting in social projects. The value created is double: owners/providers on the one hand create economic value by making their assets available at fair prices; on the other they create (or not destroy) social and /or environmental value thanks to their active involvement in projects that reduce impacts on the territory. The cooperative system is built on a participatory system that on the on-line level creates economic value, on the territory create social and environmental value.*
- Value delivery: *The market niche to which the platform is addressed, is composed by those travellers who decide to use this type of platform (cooperative) because they are aware of the problems caused by digital platforms in the accommodation. The economic value is distributed on-line through the platform; the social (and environmental) value is delivered through the off-line projects.*
- Value capture: *It shows an equitable on-line distribution of revenue among the actors thanks to the cooperative structure: the platform acts as an intermediary giving to the providers their profits and retaining part of the profits to pay the management of the service and to finance social or environmental projects. The social and environmental benefits fall on the territory through the creation of projects.*

In conclusion, also Fairbnb.coop is a singular transection model platform (dyadic) adopting a BM for sustainability: it is a use-oriented, employing and bounding platform (Ritter and Schanz, 2018). The value embedded in the service is sustainable and distributed among the platform users and the society. In particular, the platform acts as part of the society itself reinvesting its gains and bringing its objectives closer to those of the communities. The sustainability is guaranteed by the way economic profits and social and/or environmental benefits are distributed and shared. The SSV strategy revolves around the distribution of the value and the awareness that a healthy and sustainable market leads to greater profits also in terms of profitability.

4. Discussion and conclusions

This exploratory contribution aimed at evaluating the nature of the business model and the nature of the value generated by sharing economy both on/through digital platforms and off-line. In particular it aims to investigate how sustainable is sharing economy in the tourism accommodation service. These research questions were addressed through a review of most recent literature on business models (BM), business model for sustainability (BMfs), business models in the sharing economy. Selected tools of analysis at the intersection of these research fields were used to investigate two illustrative cases of sharing digital platforms in accommodation services whose mission include issues connected to sustainability.

Results show that Fairbnb.coop is a singular transaction model (dyadic) while Ecobnb.it is a commission-based platform (triadic model). Both platforms adopt a BM for sustainability and generate a sustainable shared value. They announce their value proposition on the platform (on-line) and their providers (value creation) and their consumers (value delivery) meet on the platform (on-line), generating for each other economic value. The economic value is captured by the platform and redistributed between users through the platform (on-line). Instead, the environmental and social benefits do not remain entangled in the platform system, but they flow on the local system (off-line level). The virtuous value sharing mechanism promoted by Ecobnb.it and Fairbnb.coop considers the negative externalities they generate on local system driven by the search for economic profit and introduce distribution mechanisms to avoid or compensate these externalities.

These preliminary insights have managerial and theoretical implications. Dyadic relationships/platforms seem to be more inclined to favour sustainable sharing behaviours but, as Fairbnb demonstrates, this depend on the form of organization and its mission - this assumption should be tested on other dyadic platforms. The building of a conceptual framework defining the sustainability of sharing economy should analyse the BM features in each of the four ideal-type market segments of the sharing economy - singular transaction model, commission-based platforms, unlimited platforms and subscription-based platforms - and to evaluate the nature of the value generated, from and for who and where. These considerations open the way to other questions: how does the form of an organization impact on the sustainability sharing digital platforms? Where do the benefits of environmental and social sustainability fall? While the economic benefits are created and delivered on-line, may the environmental and social value only occur in local system at off-line level? Further research should be conducted for both a better theoretical understating of the phenomenon and the elaboration of practical tools which allow to investigate and analyse the structure and behavior of the digital platforms in the tourism accommodation service in the sharing economy.

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