# Business Model Innovation in Sharing Economy: A Benchmark Approach

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## Keywords

Business Model Canvas, Pillars of Sharing Economy (SE), Heat map, Collaborative Economy, Zero-Marginal Cost Economy

## Abstract

A new economic paradigm entitled “Sharing Economy” (SE) has emerged with the growth of sharing assets by using information technology and digital platforms based on more collaborative forms of consumption. Cost structure strongly differs in SE compared with traditional companies, as collaborative rather than capitalistic approach is about shared access rather than private ownership. Millions of people are using various digital platforms like websites and mobile Apps in a network community to share assets like home, car, knowledge, space, money and other items at low or near zero marginal cost. For this reason, companies in the SE steal clients, value and profit from traditional capitalist companies. In this sense, it is worth analysing what the innovations at business model level are that companies from SE do. So, the main purpose of this study is to shed light on the effect of the four main pillars of Sharing Economy (namely Digital platforms that connect spare capacity and demand, Transactions that offer access over ownership, More collaborative and trust-based forms of consumption, and Branded experiences that drive emotional connection) on each of the Business Model elements of a company suggested in the Osterwalder’s business model canvas. A number of companies active in the Sharing Economy environment in the fields of transportation, accommodation and finance are selected and the required information for building their business model is acquired through conducting a content analysis, and a benchmarking process is done. The effect of each of the Sharing Economy pillars on each Business Model element is studied for all selected companies and a heat map, showing the concentration of the companies on each element in the SE environment is provided. As a result of analysing the heat map, some hints are provided for the companies to help them make an innovation in the Business Model, which are valuable for researchers involved in Business Model Innovation.

## Introduction

A new economic phenomenon is taking place over the last years and traditional capitalist companies have been defied by a new set of companies which are operated from sharing or collaborative economy. For example Airbnb in accommodation sector, Uber or Lyft in transportation sector and Funding Circle in finance or banking sector have disrupted the businesses of traditional capitalist companies in travel and hotel industry, mobility industry and banking industry, respectively. They do so with new business models that strongly rely on the active use of information technology and trust between users among other characteristics. Those new business models allow for new more effective cost structures being able to grant lower prices for customers.

This is the corner stone of the new economic paradigm as described by Rifkin (2015) in "zero marginal cost society", how the emerging Internet of Things is speeding us to an era of nearly free goods and services, precipitating the meteoric rise of a global Collaborative Commons and the eclipse of capitalism. Innovation in the business model of the companies is a major key to their success in a sharing economy nvironment. Non-ownership, temporary access, and redistribution of material goods or less tangible assets are the main characteristics of such an environment (Kathan, Matzler & Veider, 2016). Therefore, realizing the effects of Sharing Economy on different elements of the BM can help companies to get ideas how to make an innovation in their business models to improve their competitive position.

In this study, a few famous and successful companies active in the SE environment in transportation, accommodation and finance fields are selected and the effect of the core pillars of the SE introduced by PricewaterhouseCoopers (PwC) (Trunkfield, 2015; Atkinson, 2015) on each of their BM elements based on the Osterwalder's business model canvas (2010) are studied. Based on the analysis conducted using a heat map comprising of SE pillars and BM elements, some hints are provided for the companies to make an innovation in their business model.

The remaining parts of the paper is organized as follows. In section 2, the theoretical backgrounds of the SE and BM as well as a brief explanation regarding the SE core pillars and BM elements are provided. The methodology applied in this study is discussed in section 3 and is followed by results and discussion in the next section. In the final section, the conclusions of the research are summarized.

## Theoretical Background

The name "Sharing Economy" (SE) may be interpreted under different labels. Examples of the different interpretations currently interconnected to the concept of sharing economy include collaborative consumption, collaborative economy, on-demand economy, peer-to-peer economy, zero-marginal cost economy, and crowd-based capitalism (Selloni, 2017). The first appearance of the term "Sharing Economy" in the Oxford Dictionaries was in 2015, and its transformation into a popular buzz word happened since the publication of a book by Botsman and Rogers (2010) regarding the rise of collaborative consumption (Hern, 2015; The Economist, 2013). In the SE, information technology is utilized to make connections between dispersed groups of people and companies and provide them the opportunity to share access instead of ownership, so that they can make better use of goods, skills, services, capital and spaces.

Sharing Economy is distinguished by the following four core pillars (Trunkfield, 2015; Atkinson, 2015), which are also considered in the analysis conducted in this paper.

***Digital platforms that connect spare capacity and demand*****:** The blossoming of businesses in the SE are powered by technology platforms, through which the businesses are able to connect the available spare capacity and demand fast and dynamically.

***Transactions that offer access over ownership*****:** One common aspect in all companies working in SE is that while providing more options for the customers, they reduce costs of ownership. Therefore, what is considered here it is to give an access to a product, not necessarily transferring its ownership, and SE provides the possibility to "access" over "ownership".

***More collaborative and trust-based forms of consumption*****:** Nowadays, people are gradually taking some distance from the traditional forms of transactions and are more willing to engage in transactions which involve deeper social interactions. It is stated that 63% of the American adults who are familiar with SE, believe that engaging in an SE transaction is more fun compared with the traditional companies (Atkinson, 2015).

***Branded experiences that drive emotional connection*****:** The social connection a brand builds has become a major parameter for the value it obtains. Making such social and emotional connections with customers in the SE can mainly be achieved through experience designs, which provide more sense of friendship for the customers.

In spite of the wide spectrum of practices in SE in today's markets, there is a limited practical knowledge about how businesses involved in the SE should design their business models in order to be successful. Therefore, to find out key elements in the business model of a company, which are more eligible to accept an innovation and help the companies survive in the current competitive environment, an analysis, taking both SE and BM elements into account, seems to be useful in this regard.

There are a lot of definitions for Business Model presented by scholars, among which, could be the defining a Business Model as a tool for business planning that helps managers understand and describe the business logic of their firm (Osterwalder, 2004), as an organization's core logic for creating value (Linder & Cantrell, 2000), or as a description of a complex business that enables the study of its structure, of the relationships among structural elements, and of how it will respond to the real world (Petrovic, Kittl et al. , 2001; Applegate, 2001). Also, Weill and Vitale (2001) define a business model as a description of the roles and relationships among consumers, customers, allies and suppliers of an organization, which identifies the major flows of product, information, and money, as well as the major benefits to participants. In fact, all these definitions commonly agree that business model means how a company can work and make money. For the purpose of this study a business model is defined as "*the rationale of how an organization creates, delivers, and captures value*", which is a famous definition provided by Osterwalder and Pigneur (2010).

According to Osterwalder (2004), the first step to make business models is to define of what elements business models are composed. The nine elements in the Osterwalder's business model canvas (2010), which are used in this paper are listed in Table 1. These nine building blocks cover the four main areas of a business: customers, offer, infrastructure and financial viability.

Table 1- The business model canvas elements (Osterwalder & Pigneur, 2010)

| Main areas of business | BM Elements | Definition |
|---|---|---|
| Infrastructure | Key Partners | 2The key partnerships building block describes the network of suppliers and partners that make the business model work. Companies forge partnerships for many reasons, and partnerships are becoming a cornerstone of many business models. Companies create alliances to optimize their business models, reduce risk, or acquire resources. |
| | Key Activities | The key activities building block describes the most important things a company must do to make its business model work. These are the most important actions a company must take to operate successfully. |
| | Key Resources | The key resources building block describes the most important assets required to make a business model work. These resources allow an enterprise to create and offer a value proposition, reach markets, maintain relationships with customer segments, and earn revenues. |
| Offer | Value Proposition | The value propositions building block describes the bundle of products and services that create value for a specific customer segment. The value proposition is the reason why customers turn to one company over another. It solves a customer problem or satisfies a customer need. |
| Customer | Customer Relationships | The customer relationships building block describes the types of relationships a company establishes with specific customer segments. A company should clarify the type of relationship it wants to establish with each customer segment. |
| | Channels | The channels building block describes how a company communicates with and reaches its Customer segments to deliver a value proposition. |
| | Customer Segments | The customer segments building block defines the different groups of people or organizations an enterprise aims to reach and serve. In order to better satisfy customers, a company may group them into distinct segments with common needs, common behaviours, or other attributes. |
| Financial viability | Cost Structure | The cost structure describes all costs incurred to operate a business model. This building block describes the most important costs incurred while operating under a particular business model. Creating and delivering value, maintaining customer relationships, and generating revenue all incur costs. |
| | Revenue Streams | The revenue streams building block represents the cash a company generates from each customer segment (costs must be subtracted from revenues to create earnings). If customers comprise the heart of a business model, revenue streams are its arteries. |

In addition to what stated about BM, Business model innovation (BMI), which is defined by Zhao, Pan and Lu (2016) as a pursuing novel form of value creation and capturing mechanism, is increasingly becoming a priority for managers in terms of creating competitive advantage and achieving superior performance. In fact, BMI refers to making changes to the activity system of the organization (Zott & Amit, 2010), the "design of organizational structures to enact a commercial opportunity" (George & Bock, 2011, p. 99), or the element which inks innovation to value creation (Chesbrough & Rosenbloom, 2002), that translates technical innovation into commercial performance (Teece, 2010).

The effect of different pillars of the sharing economy on each of the nine elements of business model mentioned is studied and discussed in section four of this paper. This can help companies to better decide in which parts of the business model to make an innovation, in order to succeed in today's competitive environment.

## Methodology

For the purpose of this research, a list of companies active in the SE are gathered and 7 companies active in transportation, accommodation and finance fields are selected. These companies are listed in Table 2. Secondary information is used as an input for content analysis. Using the information obtained, the business model canvas of each company is obtained and used for benchmarking.

In the next step, a heat map is designed, using the 4 core pillars of the SE in one side and the nine BM elements introduced in the Osterwalder's business model canvas in the other. Heat map is known to be a graphical representation of data in which colors are used instead of the individual numbers in each cell of the matrix. Based on the information and BMs provided in the previous step, the effect of each pillar on each BM element is investigated and each of the cells in the matrix gets a weight accordingly. A range of colors from light red to dark red is used to show the intensity of the concentration of the selected companies in each considered cell, from low to high.

Finally, based on the heat map constructed, analysis are given and suggestions are provided for BMI in companies in section 4 and 5 of the paper.

Table 2- Companies studied in this paper

| Name of the company | Filed of activity | Foundation year | Headquarters | Area served | Web address |
|---|---|---|---|---|---|
| **Airbnb** | Accommodation | 2008 | San Francisco, California, USA | more than 65,000 cities and 191 countries | https://www.airbnb.com/ |
| **WeWork** | Accommodation | 2010 | New York City, New York, USA | the globe except Africa | https://www.wework.com/ |
| **Uber** | Transportation | 2009 | San Francisco, California, USA | 566 cities around the globe. | https://www.uber.com/ |
| **Lyft** | Transportation | 2012 | San Francisco, California, USA | USA | https://www.lyft.com/ |
| **Car2go** | Transportation | 2008 | Stuttgart, Germany | America, Canada, Germany, Italy, Spain, Austria, Netherlands, China | https://www.car2go.com/ |
| **Prosper** | Finance | 2005 | San Francisco, California, USA | USA | https://www.prosper.com/ |
| **Funding Circle** | Finance | 2010 | London, UK | Its current activities are limited to UK, US, Germany, Spain, and the Netherlands | https://www.fundingcircle.com/ |

## Results and discussion

Putting the nine BM elements on one dimension of the matrix and the four SE pillars on the other, the following heat map (Table 3) is derived from studying the 7 selected companies. To classify the information and give a more clear view, the BM elements are put into 4 main areas, which Osterwalder (2010) has identified as the areas constituting the 9 essential elements of a BM. These broad areas are also shown in the table.

Analyzing this heat map, and keeping in mind the fields the companies selected are active in, important points are achieved. Some of these points are as follows.

Table 3- The heat map for the selected companies

| Main areas of business | SE Core Pillars / BM Elements | Pillar 1 | Pillar 2 | Pillar 3 | Pillar 4 |
|---|---|---|---|---|---|
| Offer | Value Proposition | | | | |
| Customers | Customer Relationships | | | | |
| | Channels | | | | |
| | Customer Segments | | | | |
| Infrastructure | Key Resources | | | | |
| | Key Partners | | | | |
| | Key Activities | | | | |
| Financial Viability | Cost Structure | | | | |
| | Revenue Streams | | | | |

Note: Pillars 1 to 4 in this table indicate “Digital platforms that connect spare capacity and demand”, “Transactions that offer access over ownership”, “More collaborative and trust-based forms of consumption” and “Branded experiences that drive emotional connection”, respectively.

Color Key 0% 20% 40% 60% 80% 100%

If considering the pillars, “Digital platforms that connect spare capacity and demand” (Pillar 1) influences Key Activities, Key Resources, Value Proposition, Cost Structure and Channels in in all the companies studied in different fields (accommodation, transportation and finance). It also affects customer segments only in those companies, in which a strong link is created between customers through building a network; and that is the most attractive aspect in the decision made by the customers to join the network. In the companies, which are active in the field of finance, the case is somehow different as people and businesses deal with money. Banking system is nowadays powerful enough in terms of technology and IT platforms, and the electronic transactions are not of special interest for the customers to be attracted. Besides, this pillar does not affect those companies whose main resource is owned by the company itself, networking is not of that importance and the main customer segment consists of the ones who need to use that resource. In such companies, although IT can facilitate the process of using that resource, it does not seriously affect the customer segment. Therefore, based on the different and unique connection made with the customers depending on the activity field of the company, Pillar 1 can affect the customer segments.

“Transactions that offer access over ownership” (Pillar 2) does not affect channel and customer relationship, as it mainly focuses on the service/commodity being accessed through sharing. However, it affects Value Proposition and Customer Segments regardless of the main shared service/commodity being owned by the company itself or by another party, who is going to share that. It also affects Key Partners, Key activities, Key resources and cost structure only in those companies which are an intermediary between two groups of people or businesses, one willing to share something with another. These companies are not the owner of the main service/commodity being shared. Therefore, those companies who own their resource to be shared, are not affected by pillar 2 in the mentioned elements of the BM. Besides, while pillar 2 reduces the costs of providing the main shared service/commodity for the studied companies (since it is provided by another group), it affects the revenue of those companies who are the owner of the shared services/ commodities.

Whether the company owns the shared service/ commodity or not, key partners, key resources and value proposition are affected by “More collaborative and trust-based forms of consumption” (Pillar 3). Besides, the shared service/commodity being owned by the company determines the effect of Pillar 3 on key activities, cost structure and revenue stream. For those companies owning the shared service/commodity, Pillar 3 will affect only cost structure out of the elements mentioned. But for the ones who do not own them directly, Pillar 3 will affect Key Activities and revenue stream (since they have to invest less, but earn much more). This Pillar does not affect customer segments in those companies which are active in the financial field, but can affect companies which are active in transportation and accommodation fields and own the shared resources. It does not affect channel and customer relationship either, since its main focus is on the service/commodity being accessed through sharing. This is worth mentioning that for the companies who do not own the shared resource, the type of services provided and the way to provide it are key parameters to decide whether Pillar 3 has an effect on customer segments or not.

“Branded experiences that drive emotional connection” (Pillar 4) does not affect key activities, key resources and value proposition as it mainly focuses on the emotional connection of the customers. It does not affect cost structure, either. Instead, it affects Customer Relationships, Channels, Customer Segments and the Revenue Stream resulting from customer attraction. In fact, in order for SE companies to be successful, they have to pay a high attention to their 4$^{th}$ pillar as it directly affects current and potential customers. A PwC report highlights the importance of this when stating that 69% of the US adults familiar with the sharing economy will not trust companies active in SE unless they are recommended by someone they trust (Atkinson, 2015). In addition, since one group of the key partners could be the ones who provide something to share (accommodation, transportation vehicle, money, etc.), Pillar 4 can affect those companies who are not the owner of the shared resources and are only a means for sharing that resource between two persons or businesses, regardless of their field of activity. This is highlighted in companies, in which the owners of the shared resource feel that they are part of a big and branded company.

It worth mentioning that “Digital platforms that connect spare capacity and demand” and “Transactions that offer access over ownership” (Pillars 1 and 2) mainly affect the cost structure, and “More collaborative and trust-based forms of consumption” and “Branded experiences that drive emotional connection” (Pillars 3 and 4) mainly affect the revenue stream. There is an exception in “Transactions that offer access over ownership” and “More collaborative and trust-based forms of consumption” for those companies who are the owner of shared resources. i.e. for these companies, “Transactions that offer access over ownership” (Pillar 2) affects revenue stream and “More collaborative and trust-based forms of consumption” (Pillar 3) affects cost structure.

This type of analysis and the results obtained can help the companies, which are active in SE, to concentrate more on the innovative options in their business model and also can help companies to realize how to make an innovation in their business model to be more successful in a sharing economy.

## Conclusion and implications

Competition in the current market environment has lead companies to move towards finding innovative ways to increase their market share. Companies active in the Sharing Economy, whose number is growing in the recent years, follow the same story and finding ways to make an innovation in their business model to make them more successful in such a competitive environment, has become a concern for them.

In this study, 4 core pillars of the SE, named “Digital platforms that connect spare capacity and demand”, “Transactions that offer access over ownership”, “More collaborative and trust-based forms of consumption” and “Branded experiences that drive emotional connection”, and the 9 elements in the Osterwalder’s business model canvas were analyzed for 7 companies in transportation, accommodation and finance fields in the SE regarding the mentioned pillars.

To give a clear image of the level of effectiveness of the 4 pillars of SE on the elements of business model canvas, a heat map was utilized, and the selected companies were analyzed through using that. Results indicate that the affection of SE core pillars on the BM elements, may depend on the nature of the filed the company is active in, the way the company links the customers together, the ownership of the shared service/commodity, and sometimes none of them, i.e. these pillars may have 100% or no effect on some BM elements regardless of the mentioned criteria. Therefore, while the effect of some SE pillars on some BM elements specified to be zero or 100 percent, to analyze the situation of a company and find solutions for making an innovation in its BM, the BM of the company should be constructed and the effect of each SE pillar on each BM element for the remaining cells be analyzed considering the field of activity, networking customers and the type of ownership of the company. Such an analysis can help companies to find the situation they have comparing with their successful competitors, or to get an idea for making an innovation in their business model. Some novel points and hints can be obtained from such analysis to help companies find their blue ocean and continue their business life in a more personalized, successful way in today's competitive environment.

However, this study can be improved in the future to give more exact results as the number of companies to be studied can increase and the fields these companies are active in can be more diversified.

## References


Applegate, L. M. (2001). E-business Models: Making sense of the Internet business landscape. Information Technology and the Future Enterprise: New Models for Managers. G. Dickson, W. Gary and G. DeSanctis. Upper Saddle River, N.J., Prentice Hall.

Atkinson, J. (2015). Taking the Pulse of the Sharing Economy. Tourism Travel and Research Association: Advancing Tourism Research Globally. 26. Retrieved May 5, 2017 from http://scholarworks.umass.edu/ttra/2015marketing/Proceedings/26

Botsman, R. and R., Rogers (2010). What's Mine Is Yours: The Rise of Collaborative Consumption. Harper Business, New York.

Chesbrough, H. and R.S., Rosenbloom (2002). The role of the business model in capturing value from innovation: evidence from Xerox corporations' technology pin-off companies. Industrial and Corporate Change: 11(3), 529–555.

George, G. and A.J., Bock (2011). The business model in practice and its implications for entrepreneurship research. Entrepreneurship Theory and Practice: 35(1), 83-111.

Hern, A. (2015). Why the Term 'Sharing Economy' Needs to Die, Retrieved February 8, 2016 from http://www.theguardian.com/technology/2015/oct/05/why-the-term-sharing-economy-needs-to-die

Kathan, W., K., Matzler and V., Veider (2016). The sharing economy: Your business model's friend or foe? Business Horizons: 663–672.

Linder, J. and S., Cantrell, (2000). Changing Business Models: Surveying the Landscape, Accenture Institute for Strategic Change.

Osterwalder, A. and Y. Pigneur (2010). Business Model Generation. A Handbook for Visionaries, Game Changers, and Challengers. John Wiley & Sons, Hoboken, New Jersey.

Peterovic, O., C. Kittl, et al. (2001). Developing Business Models for eBusiness. International Conference on Electronic Commerce 2001, Vienna.

Rifkin, J. (2014). Zero Marginal Cost Society: the internet of things, the collaborative commons, and the eclipse of capitalism. PALGRAVE MACMILLAN, New York.

Selloni, D. (2017). New Forms of Economies: Sharing Economy, Collaborative Consumption, Peer-to-Peer Economy. In CoDesign for Public-Interest Services. Springer International Publishing: 15-26.

Teece, D.J. (2010). Business models, business strategy and innovation. Long Range Planning: 43(2–3), 172–194.

The Economist (2013). The Rise of the Sharing Economy, Retrieved October 28, 2016 from http://www.economist.com/news/leaders/21573104-internet-everything-hire-rise-sharing-economy

Trunkfield, D. (2015). The Travel Convention Power to the People. Retrieved March 4, 2017 from http://www.thetravelconvention.com/documents/DavidTrunkfieldTTC2015.pdf

Weill, P. and M. R., Vitale (2001). Place to space: Migrating to eBusiness Models. Boston, Harvard Business School Press.

Zott, C. and R., Amit (2008). The fit between product market strategy and business model: Implications for firm performance. Strategic Management Journal: 29(1), 1–26.