

# The role of Information Management & Digitalization with regard to Sharing Economy

---

At a glance

Katalin Telegdi

13.10.2014

## Contents

1. Synopsis .....	1
2. Information Management, Digitization and Sharing Economy .....	2
2.1 Definitions .....	2
2.1.1 Information Management.....	2
2.1.2 Digitization .....	2
2.1.3 Sharing Economy.....	2
2.2 Development of Sharing Economy.....	3
2.2.1 Non-commercial .....	5
2.2.2 Commercial.....	6
2.3 Car-Sharing.....	6
2.3.1 The role of Information Management & Digitization and their influence on “regular” economy .....	8
Bibliography.....	12

## 1. Synopsis

Sharing Economy – a term often has been mentioned during the last decade. Its importance and rapid rise results from ongoing technological progress. Several ideas and visions were turned into business and people are able to share their private apartments, cars and even their food. All this is enabled and coordinated via Internet. In 2013, ‘Shareconomy’ has been the main theme of CeBIT<sup>1</sup>, the world’s largest trade fair for information technology taking place in Germany. That emphasizes once again the impact of information management & technology within our society and economic system. Due to proceeding digitalization the boundaries between producers and consumers are becoming increasingly blurred.<sup>2</sup>

What I would like to elaborate in this paper is the role of information management and digitalization with regard to Sharing Economy. The object is not an evaluation whether Sharing Economy is good or bad but rather its influence to our society and economic system in general.

The paper is organized in the following manner. A first step will be to define the terms ‘Sharing Economy’, ‘Information Management’ as well as ‘Digitization’ to create a common understanding of what is being discussed in this paper. Second, the rapid rise of sharing economy that has been observed in recent years will be analyzed. In connection with this, I will put various examples where people are using this principle on record, also considering the differences and characteristics of commercial and non-commercial sharing economy. One main focus will be put on the concept of Car-Sharing. Based on this, the significance and relation of digitization and information management is being examined.

Finally, I comment on their economical implications with reference to previously well-established businesses.

---

<sup>1</sup> <http://www.dw.de/cebit-2013-focuses-on-shareconomy/a-16644960>.

<sup>2</sup> Tapscott / Williams (2008), p. 124 et seq.

## 2. Information Management, Digitization and Sharing Economy

I am convinced that the majority of people have heard about these terms before and they even might have an idea of their meaning. But in order to guard against misunderstandings I am going to present briefly a definition of each term.

### 2.1 Definitions

#### 2.1.1 Information Management

Although there are several explanations of Information Management (IM) in the literature, it can be said that IM in general describes the application of information, using management techniques to collect and communicate them within and outside the organization.<sup>3</sup> Furthermore, its primary responsibility is to deliver information required at the right time and in the right format to the decision maker.<sup>4</sup>

#### 2.1.2 Digitization

*‘Digitization is the process of converting analog signals or information of any form into a digital format that can be understood by computer systems or electronic devices.’<sup>5</sup>*

Within the context of this paper a wider definition of this term is required. I want to stress that in a broader sense ‘Digitization’ will be used as a synonym for any kind of information that has been made available for everybody not only on electronic devices but rather on the internet in general.<sup>6</sup>

#### 2.1.3 Sharing Economy

The term ‘Sharing Economy’ (also used as a synonym for collaborative consumption) is a more recent phenomenon for the transformation of property to (a temporary) possession of goods and services. As it was quite difficult to find a proper definition in the literature I will refer to one I found in a blog<sup>7</sup> on the internet. There, Sharing Economy was defined as a socio-economic ecosystem built around the sharing of human and physical resources, including the shared creation, production,

---

<sup>3</sup> <http://www.businessdictionary.com/definition/information-management.html>.

<sup>4</sup> Krcmar, H. (2002), p. 31.

<sup>5</sup> <http://www.techopedia.com/definition/6846/digitization>.

<sup>6</sup> Notice: Digitization does not solely mean making a product such as a book available online.

<sup>7</sup> <http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/>.

distribution, trade and consumption of goods and services by different people and organizations.

## **2.2 Development of Sharing Economy**

During this section I would like to give an overview about the emergence and development of what we regard as Sharing Economy.

As indicated above, Sharing Economy considered at the current state and how this principle is put into practice is a quite modern phenomenon. The term itself is not a completely new one, though. Already in 1984, Martin L. Weitzman<sup>8</sup> has coined the original meaning of the term Sharing Economy. In his book “The Share Economy: Conquering Stagflation”, he is dealing with the problem of long-term inflation and stagnation within a political economy as well as their potential solutions. Weitzman stated his view that the problem’s solution needs to be transferred to the company level by the creation of new compensation models on the basis of employee participation in profits.<sup>9</sup> This new and more flexible share system regarding employee compensation was supposed to help the American economy out of the continuing inflation caused by the oil crisis in 1973 and the tremendous national debt.

As a next step towards Sharing Economy the ongoing technological developments during the 1990s could be identified. Especially, the proceeding change through Internet can be detected as a driving force as its invention and development have ushered in a new era called the “New Economy” including dimensions such as e-commerce, e-government, social mass-mobilization and others.<sup>10</sup> During the beginning of this era most people were skeptical about the World Wide Web and all the information offered and they consequently behaved more reluctant as consumers.<sup>11</sup> In the end of the 1990s and around the turn of the millennium, the new level of development of the western society has led to an Internet boom. However, the “New Economy” hype has found a sudden end when the so-called “dotcom bubble”<sup>12</sup> burst in 2000/2001.<sup>13</sup> The period of regeneration due to the experiences

---

<sup>8</sup> One of America’s leading economic theorists as well as Professor of Economics at Harvard University.

<sup>9</sup> Weitzman, M. L. (1984), p. 2 et seq.

<sup>10</sup> Quah, D. (2003), p. 4.

<sup>11</sup> Dolgin, A. (2012), p. 5.

<sup>12</sup> The dotcom bubble (also referred to as Internet bubble) was a speculative bubble of stock prices of mainly American Internet companies in the late 1990s.

<sup>13</sup> Wollscheid, C. (2013), p. 5 et seq.

that have been made did not last long, though. The continuing success of companies such as eBay and Amazon, both founded in the mid 1990s has demonstrated that e-business might work very well. Among other companies they have exerted influence on consumer behavior as well as on today's Sharing Economy from the point they were established. A further milestone has been the period of "Web 2.0". Although there is no hard boundary, this is basically a description for the time after the dotcom bubble burst. In comparison to "Web 1.0", this period was characterized by the main idea that Web is not only an accumulation of mostly static websites but rather a platform that is focusing on the participation of its users.<sup>14</sup> They are not only consuming web contents any longer but also creating new content by their selves. A new and open culture of communication was formed by the open-source movement, the emergence of Wikis, Web blogs and not least the establishments of social networks. All of these platforms are bringing into focus the exchange of interests, knowledge and mutual collaboration. Especially the latter – social networks – first and foremost facebook is being held responsible by Jeff Jarvis, an American journalist, for encouraging the trend where participants (user) are taking the initiative and thereby re-shaping and changing our society.<sup>15</sup> One could say that such an active participation on World Wide Web due to social networks has ushered in a new era – the Sharing Economy.

Although the idea of sharing, swapping, leasing and gift-giving of goods and services as well as intangible resources is not new innovative business models arose over the past years. It seems that there has been a revival of these forgotten approaches, enabled by the ongoing development of technologies and inventions like the Internet. In their book, Rachel Botsman and Roo Rogers have also held the latter responsible for the tendency of a shift in values towards consumer awareness.<sup>16</sup>

For being able to understand why the Sharing Economy has become so important and popular, I will briefly refer to its main characteristics. Firstly, as indicated above, their main feature is that people do not have the right of property on a good or service. Instead, temporary access, disposability and limited possession are in the foreground.<sup>17</sup> In addition to the development above the financial and economic crisis in 2008/2009 can also be identified for the people's desire to share, rent and give things in place of buying and owning them. Many peer-to-peer rental companies

---

<sup>14</sup> O'Reilly, T. (2005).

<sup>15</sup> Jarvis, J. (2011), p. 14.

<sup>16</sup> Botsman / Rogers (2011), p. 44.

<sup>17</sup> Rifkin, J. (2000).

(e.g. Air bnb, Snapgoods and RelayRides) were founded during or after this time. The American economist J. Rifkin considers the high pace of innovations as well as shorter product life cycles as further reasons for this phenomenon. Proprietary is being replaced by experiences and adventures.<sup>18</sup> The second main attribute of the Sharing Economy is that all activities are coordinated via Internet and associated platforms. Hence, people have the ability to organize their daily life from one second to another if necessary. Furthermore, the platforms that are offering a multitude of exchange possibilities within the Sharing Economy and Collaborative Consumption respectively can be categorized into three systems: Product-Service Systems (sharing, renting and leasing services), Redistribution Markets (re-use and re-selling) and Collaborative Lifestyles (sharing/ exchanging food, knowledge, time, space etc).<sup>19</sup> Many vendors of such platforms are acting as mediators or service providers facilitating users to get in contact with each other. Thereby, more and more C2C business relationships were generated as participation is at the centre of all our activities and former consumers have become progressively producers of knowledge, goods and services. Referring to the communication and coordination via Internet a third feature are reputation and rating systems for generating trust among users. Such systems are essential because:

*“Only when social trust and social exchange are well developed  
do communities engage in commerce and trade.”<sup>20</sup>*

These systems have even been improved over time to avoid negative feedback for example in case of deception or disaffection (e.g. at Airbnb both parties – lessor and renter – have to turn in their review before they can read what the other party has written).

As a step towards the role of Information management (IM) and digitization concerning Sharing Economy, I would first like to make a distinction between the commercial and non-commercial principle as they have a different influence on IM and digitization as well as on the “regular” economy.

### **2.2.1 Non-commercial**

The major characteristic of the non-commercial Sharing Economy is to provide something (product, expertise, time etc.) without expecting any return service. The

---

<sup>18</sup> Rifkin, J. (2000).

<sup>19</sup> Botsman / Rogers (2011), p. 16.

<sup>20</sup> Rifkin, J. (2000).

objective of an action is not related to profit or the like. Examples for non-commercial peer-to-peer systems are wikis, platforms for book and clothing swaps or foodsharing.<sup>21</sup> These peer-to-peer systems are typically composed around the assumption that all peers will willingly contribute resources to a global pool (also partly applicable to the commercial principle) but the more, especially the non-commercial systems, are suffering from freeloaders.<sup>22</sup> The problem with this is that there are users who consume many more resources than they contribute. Vishnumurthy et al. proposing an economic framework for discouraging freeloader-like behavior in a peer-to-peer system. Their analysis is quite interesting but not the subject of this article.

### 2.2.2 Commercial

Although one could find more distinctions between the non-commercial and commercial Sharing Economy, I only want to point to the most obvious one. Within the commercial Sharing Economy to make profit is the core of the principle. People are not sharing, leasing and renting out of pure charity, even though this is not reprehensible. In most cases it can be seen as a so-called win-win situation for both sides as people are trying to make money out of unused or less used assets that others do not have or do not want to buy (but saving money while renting/ leasing from others). The following quote sums it up:

*“The sharing concept has created markets out of things that wouldn’t have been considered monetizable assets before.”<sup>23</sup>*

One well-established example for this principle of economy is the car sharing business on which the focus is placed during the following section.

## 2.3 Car-Sharing

As the Car-Sharing business only serves as an example for the Sharing Economy, leading to the more important section of the influence of Information management and digitization on it, there will be no comprehensive in-depth analysis of the Car-Sharing principle itself.

---

<sup>21</sup> Parsons, A. (2014).

<sup>22</sup> Vishnumurthy et al. (2003), p. 1.

<sup>23</sup> Geron, T. (2013).



There are different types of Car-Sharing [Fig. 1.] including B2C and C2C relations whereas the former are in fact consistent with ordinary car rental services.



Fig. 1. Types of Car-Sharing<sup>24</sup>

This is in line with critical voices arguing that much of what is promoted as “sharing” is sheer crafty capitalism practiced by companies.<sup>25</sup>

Although, all types have in common that people are having the possibility to gain short-term access to private vehicles (either as driver or just as passenger) without the higher cost and responsibilities that would come with ownership. Depending on the company or the vehicle owner, respectively services from round trip and point-to-point (B2C) to peer-to-peer (C2C, e.g. carpooling) are offered.<sup>26</sup> To prevent getting lost in the details I will now come to the section that provides the more important linkage from the Car-Sharing business to the role of Information Management, Digitization and their effects on “regular” economy. The latter will refer to previously well-established businesses and how they are affected because of the ongoing development and improvement of “Car-Sharing 2.0”.<sup>27</sup>

<sup>24</sup> Scholl, G. (2014).

<sup>25</sup> Leonard, A. (2014), p. 14.

<sup>26</sup> Birdsall, M. (2014), p. 38.

<sup>27</sup> The notation “2.0” is meant to show the today’s Car-Sharing business in reference to the importance of the Internet and associated platforms.

### 2.3.1 The role of Information Management & Digitization and their influence on “regular” economy

If one takes a look at the development of the Car-Sharing business [Fig. 2] one could also gain the impression that it might be associated with the rapid development of Information and Communication technology from the late 1990s onwards.

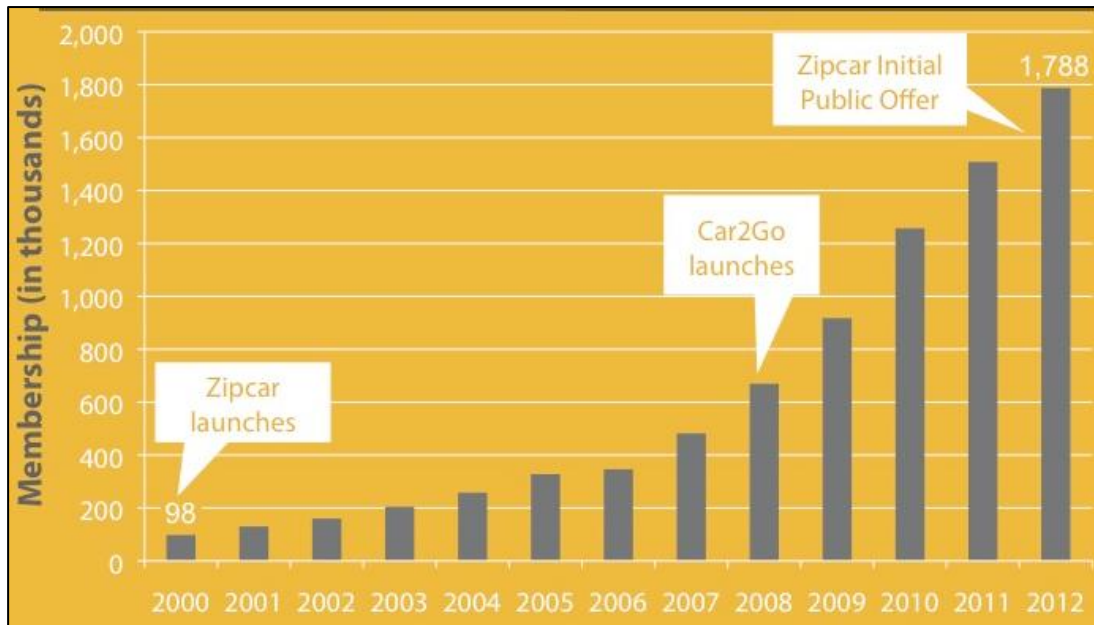


Fig. 2. Global Growth of Car-Sharing<sup>28</sup>

Even though I did not find any specific research activities concentrating on the role of Information Management and Digitization to Sharing Economy (and to Car-Sharing neither) I would like to consider all the same their potential interlacement. Generally spoken it is obvious that transaction costs have been reduced by technology, leading to an easier and cheaper way of sharing assets that in conclusion facilitates collaborative consumption on a much larger scale.<sup>29</sup> Due to the establishment of Car-Sharing platforms required Information is available on the Internet. People easily have access to it. In most cases, you need to create an own member account for receiving all information about the vehicle, conditions and with regard to peer-to-peer platforms about the owner. But the capability of saving time and money, because searching and comparison is easy and quick, is just enormous. For private vehicle owners (individuals) new opportunities were created as it is quite simple and without much effort to enter this kind of business. By reasons of an ever improving information and communication technology the availability of data about

<sup>28</sup> Graphic by EMBARQ. Data source: Shaheen and Cohen (2009, 2012).

<sup>29</sup> The Economist (2013).

people and things can be recognized as one crucial change over the years, allowing the dispersal and consumption of physical assets.<sup>30</sup> Within peer-to-peer businesses responsible for the disclosure and handling of information are still the individuals. They have to manage and update all the information that is needed and thus allowing others to receive the right information at the right time. A further step of innovation has shifted the Car-Sharing business to another level – Car-Sharing apps. At a time when many things were transmitted to the Internet and people are apparently not able to live without electronic devices such as smart phones, tablets and the like to make information available at any time and any place can be considered as a corollary. Thus, the main advantage of digitize information in this case is that digital data can be accessed from anywhere there is a network connection.<sup>31</sup> For Car-Sharing platforms like DriveNow (introduced to the German market in 2011) who are offering Free Floating Cars<sup>32</sup> the providing of digital data is essential as 93% of users arrange their booking via Smartphone app.<sup>33</sup> In addition, by using GPS one could find an available car at the nearest point while walking along the street.

Further considerations as well as the impact on regular economy and the conclusion are treated during this last section.

---

<sup>30</sup> The Economist (2013).

<sup>31</sup> Deegan / Tanner (2002), p. 61.

<sup>32</sup> Free Floating Cars can be parked and picked-up anywhere within a certain area of use.

<sup>33</sup> Carsharing-blog (2013).

## **Bibliography**

**Birdsall, M.** (2014), Carsharing in a Sharing Economy, In: Ite Journal-Institute Of Transportation Engineers, Vol. 84(4), pp. 37-40.

**Botsman, R. / Rogers, R.** (2011), What's mine is yours: How collaborative consumption is changing the way we live, Collins.

**Deegan, M. / Tanner, S.** (2002), Digital Futures: strategies for the information age, Neal-Schuman Publishers, Inc., New York.

**Dolgin, A.** (2012), Manifesto of the New Economy: Institutions and Business Models of the Digital Society, Springer, Heidelberg et al.

**Jarvis, J.** (2011), Public Parts: How Sharing in the Digital Age Improves the Way We Work and Live, Simon & Schuster, New York.

**Kremer, H.** (2002), Informationsmanagement, 3<sup>rd</sup> edition, Berlin Heidelberg New York.

**Leonard, A.** (2014), The Sharing Economy: Love It or Leave It? In: Earth Island Journal, Vol. 29 Issue 3, p. 14.

**Tapscott, D. / Williams, A. D.** (2006), Wikinomics: How Mass Collaboration Changes Everything, Portfolio, New York.

**Quah, D.** (2003), Digital goods and the New Economy, London.

**Weitzman, M. L.** (1984), The Share Economy: Conquering Stagflation, USA.

**Wollscheid, C.** (2013), Rise and Burst of the Dotcom Bubble: Causes, Characteristics, Examples, Grin Verlag GmbH.

### *Online resources*

**Carsharing blog** (2013), URL:

<http://www.carsharing-blog.de/2013/04/drivenow-knackt-die-100-000-mitglieder-in-deutschland/> (09.10.2014).

**CeBIT 's main theme 2013**, URL:

<http://www.dw.de/cebit-2013-focuses-on-shareconomy/a-16644960>, (02.10.2014).

**Definition Digitization**, URL:

<http://www.techopedia.com/definition/6846/digitization>, (02.10.2014).

**Definition Information Management**, URL:

<http://www.businessdictionary.com/definition/information-management.html>,  
(02.10.2014).

**Definition Sharing Economy**, URL:

<http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/>,  
(02.10.2014).

**Geron**, T. (2013), In: Forbes Magazine, issue February 11: Airbnb And The Unstoppable Rise Of The Share Economy, URL:

<http://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/> (06.10.2014).

**O'Reilly**, T. (2005), Design Patterns and Business Models for the Next Generation of Software, URL:

<http://oreilly.com/web2/archive/what-is-web-20.html> (03.10.2014).

**Parsons**, A. (2014), URL:

<https://www.opendemocracy.net/transformation/adam-parsons/it%E2%80%99s-time-to-put-power-of-sharing-back-into-sharing-economy> (06.10.2014).

**Rifkin**, J. (2000), The Age of Access: The New Culture of Hypercapitalism, Where All of Life Is a Paid-for Experience, URL:

<http://www.worldcat.org/wcpa/servlet/DCARead?standardNo=1585420182&standardNoType=1&excerpt=true> (05.10.2014).

**Scholl**, G. (2014), Collaborative Consumption and the Consumer, IÖW – Institut für ökologische Wirtschaftsforschung, Berlin, URL:

[http://www.ioew.de/uploads/tx\\_ukioewdb/Scholl\\_Collaborative\\_Consumption\\_and\\_the\\_Consumer\\_01.pdf](http://www.ioew.de/uploads/tx_ukioewdb/Scholl_Collaborative_Consumption_and_the_Consumer_01.pdf) (07.10.2014).

**The Economist** (2013), Peer-to-peer rental: The rise of the sharing economy, In: The Economist, issue March 9, URL:

<http://www.economist.com/news/leaders/21573104-internet-everything-hire-rise-sharing-economy> (08.10.2014).

**Vishnumurthy**, V. / Chandrakumar, S. / Sirer, E. G. (2003), KARMA: A Secure Economic Framework for Peer-to-Peer Resource Sharing, URL:

<http://www.cs.cornell.edu/people/egs/714-spring05/karma.pdf> (06.10.2014).