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ACCESS BASED CONSUMPTION IN THE SHARING ECONOMY.

ITALY AND THE MOBILITY SECTOR.

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Introduction

The sharing economy is, today more than ever, a reality.

Together with the affirmation of new practices of fruition of goods and service in a more collaborative way, recent times have seen the affirmation of access over ownership

Being ownership a more involving, comprehensive and binding mode of fruition, there is no surprise that younger generations are looking at those new patterns with increasing interest. One reason may be found in the economic downturn that they (and their families) are experiencing. Another one, may be that they are more familiar with the internet and the smartphone based technology, whose diffusion have certainly favored the rapid spread not only of the sharing economy, but of phenomena such as collaborative consumption and peer to peer sharing, which I will further explain more in detail.

The aim of this research, is to start with giving a general picture of what ownership and access are, their course during the centuries, by considering some of previous contributes of literature.

The struggle between the two has, in fact, a long story, but sharing practices may have further changed the rules of the game. To make it more clear, some example of traditional fruition modes altered by sharing practices providing access, will be presented.

Following, I will enter more in detail with regards to the sharing economy and related phenomenon.

In the second chapter, I will introduce more in detail the area on which my research will focus: the mobility field.

In evolved cultures and in modern times, issues connected with increased mobility are interesting and affecting the society as a whole, as well as the citizens at personal level. Moving in urban areas may prove to be very difficult, affecting time, health and minds, as the number of cars is in constant increase.

Those difficulties are then considered in the light of the alternative: not owning a car, but using a shared mobility system, providing access instead of ownership, and ideally all the benefits of ownership but implying lower, variable costs and less responsibilities.

I want to analyze if we can affirm that today's society is questioning private ownership patterns in favor of mobility sharing solutions providing access, and is moving toward that configuration. Intuitively, access is an economic conscious solution for a good as a private vehicle, which is rarely used all day long, but instead left on the streets for hours, while still accounting for a significant fixed expense. If this was not enough, variable costs as fuel are increasing while the average income is going down.

All said would make reasonable, especially for younger generations, not to purchase a private vehicle. But the abandon of ownership is not guaranteed, as it is not only a custom or an habit: it has symbolic meanings, too. And, we cannot expect it to happen in one day.

Ownership has roots in the past, when it was the best way to affirm control on something, and it signals a status. It is not clear, then, if people can eventually renounce to own things.

But, we need to consider that society is continually evolving, and we do so: we change our mind-sets, we confront ourselves with issues our parents didn't have to confront with, and we make different choices from the ones they previously made.

After this, I will then give an outline of the more popular sharing practices today, of the main providers in Italy. The main problems concerning the mobility sector today will be considered to. Those, have been largely taken into account during the years, by governments at national as well at European level, with different measures adopted and more or less success.

The third and last part of my work will be devoted to a focus on Italian situation for what concerns mobility.

Thanks to a survey that I have implemented in February 2015, I will try to paint a picture of mobility habits of Italians (how often they need to move, how many kilometers they need to travel on daily basis and how they usually do so).

I will try to extrapolate general opinion toward mobility first, and sharing practices next, as well as current awareness, to understand if there is room for a great expansion and affirmation.

Intuitively, younger generations should be less bond to traditional vehicle ownership then older ones. They should also be more aware of new sharing practices, as those often involve smartphone and new technologies and has new generations are increasingly social.

I will also make some considerations on the city of provenience and on gender, to assess if those variables tend to influence some habits or perceptions.

Two of the key variables for my research will be:

- The perception of ownership of a private vehicle;
- The attitude toward letting it go in favor of an alternative.

The reason is that those will help me conclude if, in Italy, owning a vehicle is still a concept too deeply eradicated in the culture, or if there is a certain openness toward alternatives.

Finally, I will need to assess if those alternatives are well perceived, which are the most valued attributes from single driver's point of view, and the eventual obstacles perceived, both in term of attributes of the service and trust issues, that are always central when we confront with sharing practices.

Chapter 1

The *access vs ownership dilemma*

The dilemma among *ownership* and *access* has existed since a very long time.

From one side, ownership is the traditional pattern of fruition of good and services; from the other, in later years there has been an evolution toward services that provide *access* to the goods and services the user is interested in.

Access too has a long history, has been the subject of various researches and is currently affecting various areas of everyday life in new configurations. This is especially evident in the light of the latest evolution of technology, Internet and Web 2.0.

Moreover, sharing practices and digitalization of information have deeply changed our mind-sets and the way in which information and services can be exchanged and provided.

I will begin my considerations in this chapter looking at the differences between access and ownership, as outlined by literature through the years.

Then, I will provide some practical examples of how services providing access are changing the rules of the game in different fields of business and everyday life.

Finally, I will investigate the current trend toward sharing practices.

1.1 Ownership

Ownership has been the rule for a long time, and it has long been regarded as the traditional pattern for benefiting from a good or a service.

Ownership has to do specifically with a person and an object, which is their *possession*¹: when the individual owns, he can freely dispose of the object as he wishes, and he is responsible of it at full level.

¹ Bardhi F., Eckhardt G. M. (2012) Access-based consumption: The Case of Car Sharing. *Journal of Consumer Research* 39 pp. 882

If someone wants to have access to what he owns, there is no one else but him who can decide whether he can or not have it, and of course he appropriates of all profits that derive from its use or selling.

Historically, owning an asset, like a house or a car, has been considered a signal of economic stability and independence², a more convenient and more secure economic choice, and a way to accumulate capital. Those purchases were seen as natural steps on the way to adulthood, and making a different choice (renting a house or deciding for carsharing), could be classified as something done only for a lack of money.

Even though ownership is largely still in place, and past researches are mainly dedicated to it as the principal way of consumption, other alternative patterns (based on access) are emerging and gaining acceptance.

Inevitably, the emergence of a strong trend toward access makes ownership something you can eventually renounce to, and this might have devastating effects also for who was selling the good before.

The old wisdom that *we are what we own*, may need modifying to consider forms of possession and uses that do not involve ownership³.

This theory was due to Belk's reasoning⁴, presented in its 1988 work: *Possessions and the extended self*. Belk believes there cannot be a complete understanding of customers' behavior, without a parallel understanding of what importance they give to possessions.

The more the individual can exercise its control over an external object, the more it feels he is allied with it.

Tuan and by James, before him, had stated that we tend to consider what we own as part of ourselves, as something that can be useful to support out fragile sense of self⁵.

The concept of self of a man would then be the sum of its possessions, from its family to its lands and yacht and car⁶.

² Snare F. (1972). The concept of property. *American Philosophical Quarterly*. 9 (2).

³ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

⁴ Belk R. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15, pp. 139-168.

⁵ Tuan Y. (1980). The significance of the Artifact. *Geographical Review*, 70 (4) p. 472

⁶ James W. (1890). *The Principles of Psychology*, Vol. 1, New York; Henry Holt.

The loss of each one of his possession will turn him down, even if with a different degree of intensity. The *extended self* concept proposed by Belk includes in the *possessions* not only the physical ones, but also people and places. When someone loses a possession, he feels a sense of resentment, not only because he felt it as part of himself, but also because it provided some benefit for him⁷.

A 1981 work by Niederland and Sholevar⁸, aim of investigating on American males' behavior, found out that also the car was considered a part of the extended selves, and used to nurture the ego, for example when treated with great care and customized. When it was somehow damaged, the owners felt like being hurt.

The role and the importance of ownership and possession changes during different ages and moments of life, as the individual begins to understand that there are some things he can control and some others he cannot, he distinguishes them into self and environment.

Summing up owning something is not only a costumed behavior, but it also has deeper and more complex implications. What we will see next, is that the ownership concept may simply seem outmoded in the *digital age*, and that this can be especially true for some products or services.

1.2 Access

Access, as well as sharing, is not a novelty. It is instead a phenomenon as old as the humankind is.

Unlike it, some other concept, like *collaborative consumption* and the *sharing economy*, are more recent, and sons of the Internet.

⁷ Belk R. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15, 139-168.

⁸ Niederland W. G., Sholevar B. (1981) The Creative Process – A psychoanalytic discussion. *The Arts in Psychotherapy*, 8 (1), pp. 71-101.

According to Botsman and Rogers's 2010 work⁹, collaborative consumption may have changed the way in which we think about ownership as much as the Industrial Revolution did.

Access differs from ownership in that it does not provide the individual with a so big range of powers toward the object, but also it does not require so big responsibilities. It is, then, associated with greater flexibility and adaptability, as it has emerged as a way to adapt to an increasing changing environment.

The trend toward digitalization has especially made easier the transferal of everything that can be turned into digital bits¹⁰, and therefore be transferred at very small, if not zero, cost. It follows that the right of access may overcome in importance the right to ownership.

Internet is nothing more than the way you can have access to a non-precedent pool of knowledge and content, and what is needed to enjoy its benefits, is nothing more than a computer, an Internet connection and a government allowing access to the content. More precisely, the newer Web 2.0 is different from the Web 1.0 (concerned more about one directional communications), as it refers to:

"All the websites that allow users to contribute content and connect with each other."¹¹

The discussion of access versus ownership is persistent in the work of many authors, and one of the recurrent questions regards whether it can or cannot perform well enough to substitute for ownership and, some scholars agree that the greatest obstacles are *consistency* and *reliability*¹².

⁹ Botsman R., Rogers R. (2010). *What's mine is yours: The rise of collaborative consumption*. New York: Harper Collins.

¹⁰ (2008). Beyond ownership Music companies need more ways to sell access to content in *Financial Times* 24th March 2008

¹¹ Carroll E, Romano J. (2011). *Your digital afterlife: When Facebook, Flickr and Twitter are your estate, what's your legacy?* Berkley CA: New Riders.

¹² Truesdell B. C. (1994) Is Access a Viable Alternative to Ownership? A Review of Access Performance. *The Journal of Academic Librarianship*. pp. 200-206

In recent years, the so-called *sharing solutions* have opened the way to *access-based consumption*. With this words are intended transactions that can be market-mediated, but where no transfer of ownership takes place¹³, and access (that is what people are interested in) is ensured through a number of different and innovative consumption models, in which there is a pool of resources, products or services, which are shared.

We said in the previous paragraph that ownership is traditionally associated with a more stable choice of life.

On the other hand, it is easy to see access as synonymous for a more precarious, less stable lifestyle, and an inferior consumption mode if compared to full ownership, but that can better suit new generations' requirement.

For instance, when it comes to cars, Millennials¹⁴ are aware that they may not afford their own vehicle, but also that there may be more cost-effective alternatives: services that sell mobility instead of cars, a less stable choice that does not imply full commitment.

Some insights about Millennials' behaviour and attitude has, among the others, been given by Jill Hennessey, clinical professor at the Kellogg School of Management at Northwestern University, who focused her studies on Millennials' attitude on car-buying process¹⁵.

What resulted from her researches is, first, that there are some relevant differences between them and the Baby Boomers¹⁶ o the Generation Xers¹⁷.

The Millennials that responded to the survey admitted that yes, they wanted to own a car; but, they also wanted to smartphone, and the smartphone is the physical possession they demonstrated to be more attached to.

¹³ Bardhi F., Eckhardt G. M. (2012) Access-based consumption: The Case of Car Sharing. *Journal of Consumer Research* 39 pp. 881-894

¹⁴ This term was first used by William Strauss and Neil Howe in their 1992 book: *Generations: The History of America's Future, 1584 to 2069*. It is now generally used to indicate all those people who were born in the years between 1980s to the early 2000s.

¹⁵ Cfr. (2013) Nelson, N., Why Millennials are ditching cars and redefining ownership. In NPR.org

¹⁶ A person that was born between 1945 and 1964 in the USA, thus contributing to the *baby boom*, a significant demographic increase.

¹⁷ Generation born after the baby boom. The born date are usually considered those between 1960s and 1980s.

As for all the others possession named, they were very thoughtful and never rushed in saying a decide “yes” to the need of owning it, instead preferring focusing on simple pleasures and bare necessities.

According to the researcher, the reason is that in today’s economic and financial situation, Millennials are questioning the whole ownership pattern, putting into discussion its relevance and real importance of owning something.

That pattern of behaviour is a consequence of the economic situation they are facing, having witnessed a great economic downturn that has affected their families, and still finding themselves in a deeply uncertain situation.

This, anyway, is not a symptom of pessimism.

Instead, the Millennials are an optimistic generation that tries to find value in experiences rather than in things.

1.3 Access vs ownership, some practical examples

The aspects of traditional life and business that have been affected by the trend toward access are in numerous, and in different ways.

Sometimes, the conflict between ownership and access is just obvious¹⁸, and among the cases outlined in previous researches, two of the most interesting regarded the evolved role of libraries¹⁹ and of music industry.

1.3.1 The role of libraries

Libraries have been traditional viewed as warehouses, information collectors, and this is true from the time of the first library in Babylon.

Given the new conditions in the world of technology (materials are available in machine-readable format, computers proliferate and people are better at using them, and Internet is increasingly available for everyone everywhere) and of general evolutions in the mind-

¹⁸ Townsend L. (1997) *Access vs. Ownership: Do We Have To Make a Choice?* Kane. College & Research Libraries. 58 (1), pp. 59-67

¹⁹ Ibid.

set, their role has been changed and they have assumed more the role of information providers²⁰.

In a 1997 paper by Laura Townsend, referral was made to a video published by OCLC²¹ at that time, and titled *Cruisin. That Information Superhighway with Mr. Dewey and His Dot*.

In this video, the chance that nothing will be published in the future is considered.

This would be made possible by the fact that everyone will increasingly have a computer in their house, and will therefore be able to have access to all the information he needs directly in their home.

Among the consequences it would have, it would make libraries and librarians simply unnecessary.

Anyway, this is just a possibility, as another point of view on the subject is also presented: libraries may keep on existing until someone who has some thirst of knowledge exists.

Those two mind-sets represent respectively the point of view of access and ownership supporters.

The author, anyway, suggests a third solution for the dilemma: the race among ownership and access may, in fact, be not a one or another choice, as someone can benefit from both access and from ownership.

Future libraries, as well as other traditional activities, should only find a new balance facing the dynamic transformations of the surrounding environment, such as the information explosion in the 20th century, that made them not capable of physically purchasing all the material that would satisfy everyone's information need.

At the same time, the resources to purchase all this enormous amount of information have decreased, for librarians as well for purchasers.

Those who have accepted it, and have not fought against the trend toward access, try to find items around the world embracing new technologies.

²⁰ Ibid.

²¹ Online Computer Library Center, Inc. is a non-profit, membership, computer library service and research organization dedicated to the public purposes of furthering access to the world's information and reducing information costs

Every time a change like this is experienced, a possibility is for the old configuration to simply disappear, in favor of the newest, more usable one. In this case, some believe libraries will eventually end up to be demised.

The truth is, in this particular case, probably in the middle.

The concept of a library that is based only on ownership is probably no more feasible, exactly as one only based on access.

Completely ignoring the other side of the problem may lead to the failure of both arrangements.

A combination of the two may instead prove to be successful.

The topic of access and ownership for libraries is confronted by many authors, also considering the crisis in material acquisition, causing libraries to non being able to purchase a great portion of the books published each year, as well as technological forces driving resource sharing, without which there simply wouldn't be any point in opening a debate about access²².

Some criteria for measuring the good functioning of access in this field have been suggested, such as cost, turnaround time, and fill rate²³.

1.3.2 The music industry

Another industry, in which the rise of services providing access to material has been very strong, is the music one.

It has long found hard to establish a stable business model in the digital media field, mainly because of considerations and mind-sets about ownership²⁴.

In fact, it may seem more comfortable for a user to have their owned digital music outright, instead that having access to a library of musical content.

²² Truesdell B. C. (1994) Is Access a Viable Alternative to Ownership? A Review of Access Performance. *The Journal of Academic Librarianship*. pp. 200-206

²³ Line M.B. (1979). National Interlending Systems Existing Systems and Possible models. *Interlending Review* 7 p. 42-46

²⁴ (2008). Beyond ownership Music companies need more ways to sell access to content in *Financial Times* 24th March 2008

As a consequence, the Apple's iTunes digital music catalogue is the second US music retailer, but also music piracy has increased and arrived to preoccupying levels.

Even if the service was initially seen as a potential savior for the problem of illegal downloads, it has not succeeded in solving it: in a recent analysis conducted by the Financial Times, it has been reported that 83% of European iPod users, instead of paying for legal music download, rely on illegal downloads instead²⁵.

Most of the piracy is probably caused by the fact that latest, more digital than ever generations, simply did not learn the habit of paying for music, mostly online.

Apple, confronting with the main music labels about what would be the best way to sell access to customers, is examining some innovative fruition modes.

One of the chances may be requiring an upfront payment to guarantee unlimited access to music for all the life of the customer's Apple device, but only limiting the fruition to the single device, including or not a regular fee in addition.

There is no guarantee, anyway, that Apple and the music industry will find an agreement, mostly for the price conditions that would meet common interests²⁶.

Providing this kind of access to music, moreover, would need to pass the *access vs ownership* test, as it is not clear if the idea of ownership is still that much eradicated.

People may in fact feel uncomfortable with paying monthly for music (as they may sense they already paid for it), or the fact that they only have their tracks on their iPhone may seem like not really owning them.

According to an August 2001 Insight Research Group Survey commissioned by eMusic, a subscription service, conducted on 1000 online music consumers aged between 18 to 64 around America, 89% of online music consumers reported they prefer to own their music rather than listening to it in streaming, and about the same percentage said they felt a sense of security about not losing their files when they own that²⁷.

²⁵ Fitzpatrick R. (2009) Why Spotify may spell the end of ownership; the new music website shows us how we will access our entertainment in future. *The Sunday Times*.

²⁶ Ibid.

²⁷ (2011). Why they buy: ownership prevails over streaming access in music. *Entertainment Marketing Letter*. 24 (19)

A relatively small percentage of the respondents, about 13%, pay to stream music online, while the 87% don't, and would use the service if they needed to pay for it.

Moreover, almost four over ten respondents would feel safer with keeping their files in a cloud-based locker.

In the music field, Spotify accounted for a significantly disruptive innovation that, according to some, has signed to end of ownership²⁸.

Spotify is considered the *21st century jukebox*: a library of millions of songs that can be played for free directly from the computer, not downloaded, and artists and other songs are suggested based on the preferences demonstrated.

In its first month of life, it registered more than 250.000 subscribers in the United Kingdom, and now has more than 60 million subscribers.

What is left here of the old-fashioned idea of ownership in music, is probably declining.

Vinyl has almost disappeared, but still has some taste of the past and says something about a person's taste of music, while CDs may be in some part considered as little work of art, including their booklets.

If the change is forever, however, they too are destined to disappear for good.

Alternatively, they may simply keep on being popular for small group of people, those who in the end prefer ownership to access.

1.4 The sharing trend

Multiple definitions of *sharing* exist. Two of the most effective in my opinion are the ones that refer to it as:

"The act and process of distributing what is ours to others for their use and/or the act and process of receiving or taking something from others for our use."²⁹

²⁸ (2009) *Why Spotify may spell the end of ownership; the new music website shows us how we will access our entertainment in future.* Fitzpatrick R., in *The Sunday Times*

And as a

“Non reciprocal pro-social behavior.³⁰”

If we intend sharing in its original meaning, we can say that we share for several reasons, from survival to actions with an altruistic component, following cultural patterns of expected behaviour that have become norms.

Sharing is more likely between people that are closer (friends and families, for instance), as the first, and most spontaneous form of sharing, happens in the family.

This is true, even if a pessimistic view (shared by many scholars) is that, as time passes, we are more bent toward less sharing than toward more³¹. In fact, there is a trend toward privatization also inside the single household, and families rarely even share a meal.

The starting point for every sharing act, in which more people enjoy of the benefits of ownership of something more or less physical, is that each one owns a share of benefits and costs.

What impedes sharing? The more we feel something is our possession, materialism (the importance some gives to a possession), the feeling of scarcity of resources and thus of missing something.

There may be free riders, that enjoy without giving, even if usually we are impelled to continue to share when someone has shared with: if someone allows us to merge into heavy traffic (effectively sharing the road with us), we may be more inclined to do the same for others.

When we share with someone and him or her, therefore, become closer to us, this is called *sharing in*.

²⁹ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research*. 67.

³⁰ Benkler Y. (2004) Sharing nicely: On sharable goods and the emergence of sharing as a modality of economic production. *Yale Law Journal*, 114. Pp. 273-358.

³¹ Belk R. (2007). Why not share rather than own? *The ANNALS of the American Academy of Political and Social Science*. 611 (126)

Instead, when the act has a one-time connotation, (like giving a direction to a stranger), it is referred to as *sharing out*.

Those two, form a continuum, on which all different sharing configurations find their place.

Borrowing and *lending*, more than being positioned on the continuum, can be considered as borderline cases, because generally they create the expectation of having the object back.

Sharing is a *culturally learned behaviour*³², exactly as possession and ownership, and it has different patterns depending on the society.

The concept of sharing will be different in Western cultures, among nomads, or in China, where it is almost a prescribed norm.

An example is given by *zhanguang*, that literally means *share the light*: for habit, a villager who smokes in a public place should bring enough cigarettes or tobacco for everyone.

Internet has brought about new ways of sharing, and has facilitated older forms of sharing on a larger scale, like the P2P file sharing that began with Napster and caused complaints by music and film industries trying to affirm their Intellectual Property Rights.

If we look at the future, there probably will be more of sharing of intangible goods, that are not lost when shared.

For what concerns tangible goods, the situation may be slightly different, and the *unlimited good* principle may apply³³: as long as we believe that the supply of certain goods is unlimited, we are happy to share them with others.

It is only when we believe that the supply is fixed that we become selfish and try to retain our possessions.

The new practices that in more modern times are comprised into sharing practices are numerous. Starting with collaborative consumption³⁴, via the mesh³⁵, commercial sharing systems, co-creation³⁶, until product-service systems and many others.

³² Belk R. (2007). Why not share rather than own? *The ANNALS of the American Academy of Political and Social Science*. 611 (126)

³³ Foster G. M. (1969) *Peasant society and the image of limited good*. In *Applied anthropology*, ed. G. M. Foster. Boston: Little, Brown.

These practices all have something that makes them differ one from another, but they all have in common at least two traits:

- They all rely on temporary access, non-ownership models of utilizing consumer goods and services;
- They all rely on the Internet to make this possible³⁷.

A great number of profit as well as non-profit businesses are rising, following the sharing economy trend, and being active in different areas: Airbnb, Zipcar, Wikipedia, YouTube, Flickr, Facebook, Freecycle, and Twitter³⁸.

One of Time's *10 ideas that will change the world*³⁹, presented in a 2011 article, is giving up on ownership, and opting for sharing instead.

1.4.1 The sharing economy

Recent times have seen the affirmation of the so-called *sharing economy*⁴⁰, an economy in which people care about having access to things, not simply buying them, and that is estimated to be worth \$ 3.5 billion⁴¹.

³⁴ Collaborative consumption comprises three kind of consumption patterns: 1) Product service systems, based on users paying for the benefit of using a product without needing to own the product outright; 2) Redistribution markets, in which used or pre-owned goods are transferred by someone who doesn't need them anymore to someone who wants them instead; 3) Collaborative lifestyles, shared between people that share and exchange assets not completely tangent (time, space, money, etc.), based on the fact that they have similar needs

³⁵ Encompasses public and private sector organizations and firms working within the various realms of the sharing economy.

³⁶ Economic strategy that brings different parties together to collaborate to produce a mutually valued outcome.

³⁷ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research*, 67.

³⁸ Ibid.

³⁹ Walsh B. (2011). Today's Smart Choice: Don't Own. Share in *Times International*, 10 Ideas That will change the world

⁴⁰ Fournier S., Eckhardt G. M., Bardhi F. (2013) Learning to Play in the New "Share Economy" Experience Case Study. *Harvard Business Review*.

⁴¹ Ibid.

It is an economic model premised on the notion of collaborative consumption as opposed to traditional ownership⁴².

The tendency toward this model is explained not just by economic considerations, but it is also the consequence of some recent trends: you could try to ask to a 60-years-old if he would feel comfortable with using the same car as 1.000 people, or sleeping on someone else's couch for an holiday abroad. They would see the save in money, but they would probably feel more inclined to opt for another arrangement.

New generations, instead, are increasingly *social*, and not in the sense that they use social networks 10 hours a day, but that, since families are scattered, they increasingly work and live into other countries, and do not even know who lives on their same landing.

In this situation, there is something behind sharing things with people they do not know.

People are becoming more likely to share their deepest secrets, insights, information, and loyalties with someone whom they know only by an online pseudonym, than with their partners or with other members of their families.⁴³

They also feel less inclined to commit, they want the freedom to try different arrangements and not to make long time choices, more binding and expensive.

Trust in other people emerge, and being trusted by strangers is something that everyone deeply desires.

Other elements that have contributed to the affirmation of sharing practices is the advance in technology that has given to potentially everyone the chance to conduct sharing transactions with minimum effort, favoring diffusion of connectivity-enabled access-based consumer service, and the fact that people are more familiar with technology, and trust new tools more than they did before.

The par excellence hotbed of sharing, as previously mentioned, is the Internet⁴⁴ , with open-source code writing, the chance to share information on boards and chats, blogs

⁴² Ballus-Armet I., Shaheen S. A., Clonts K., Weinzimmer D. (2014). Peer-to-Peer Carsharing. Exploring Public Perception and Market Characteristics in the San Francisco Bay Area, California. *Transportation Research Record: Journal of the Transportation Research Board*. (2416) pp. 27-36.

⁴³ Belk R. (2007). Why not share rather than own? *The ANNALS of the American Academy of Political and Social Science*. 611 (126)

⁴⁴ Coyne R. (2005). *Cornucopia limited: Design and dissent on the Internet*, Cambridge, MA; MIT Press

and web sites, helping building shared encyclopedias (e. g. Wikipedia), participating in file sharing and much more.

There is not a general agreement on whether this new forms are the expression of a great altruism or are largely egoistic, as may be proved by the expansion of intellectual Property Rights and the subsequent battle in the field of digital information at most.⁴⁵

A practical example is Napster, which brought about the unusefulness of CDs, because of digitalization of music and the ease with which it can be shared and transferred⁴⁶.

In Italy, 260 collaborative platforms exist, according to a research promoted by Modacult (Università Cattolica del Sacro Cuore in Milan).

Of those, 160 are dedicate to exchange and sharing, 40 to self-production and 60 to crowding.

This is the signal both of a positive attention to the field, and both to the fact that many people are looking with interest to this business opportunity.

On the other hand, the same research shows that, of 1500 people interviewed about the phenomenon, only 13% has ever tried out sharing services at least once, mostly in the field of mobility and accommodation. It is interesting, as those are among the traditional *myths* for Italians.

For 2013 Christmas holidays, Blablacar's available car seats have increased by 300% compared to same period in 2012.

Airbnb had to open a subsidiary in Milan to manage the incredible popularity of the service in our country, which has numbers of 50.000 accommodations with more than 12.000 guests per day on average.

On the other hand, some others Italian services have not reached those numbers yet.

Lack of investments may account for that, together with the digital divide and lack of the right policies.

⁴⁵Belk R. (2007). Why not share rather than own? *The ANNALS of the American Academy of Political and Social Science*. 611 (126)

⁴⁶ Walsh B. (2011). Today's Smart Choice: Don't Own. Share in *Times International*, 10 Ideas That will change the world.

The people who share is a movement that aims to promote sharing ideals and practices, and through one of its reports has signaled that, in the US, 52% of population has already rented or lent their belongings, and 64% of English, that also affirm for a great percentage (81%) that they are happier when they share ⁴⁷.

In addition, one over two French respondents to a research by the *Observatoire de la Confiance* has tried some sharing practice, and more than 80% of them prefers having access to good instead of owning it, 23% practices barter and 50% has joined some form of collaborative consumption.⁴⁸

Even if four over 10 people are skeptical about sharing economy in Italy, the firms' world is becoming increasingly more aware.

1.5 Business implications of access and sharing

The effects of new sharing ventures can be huge on existing ones, as they can shake existing situations, implying less purchases and making it easy to shift from ownership to access or sharing patterns.

Reactions to these changes can be mainly of two kinds: of fight or of flight⁴⁹.

When the reaction is to *fly*, companies will diversify out of the industry, when it is the *fight* against sharing economy, it is the case of industries making complaints to re-establish Intellectual Property Rights.

In the middle, between those two options, there is destructing the old business model, adopting new and creative way of participating to changes in the industry. This is what some automobile companies or on demand and streaming music and video offering by Netflix (that is basically charging for something that could be acquired at no cost with not a so big effort) did.

⁴⁷ www.thepeoplewhoshare.com, a "global movement dedicated to spreading awareness dedicated to spreading awareness of the Sharing Economy.

⁴⁸ (2014) *Dall'auto alla casa vacanze, in Europa spopola la 'sharing economy'*. In www.blog.coworkingfor.com

⁴⁹ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

Those are basically adaptive practices to appropriate of some of the value created (in the Netflix example, users may be people with strong ethical values or people rich in cash and poor in time and that opt for safety).

Another one may be offering content for free, and acquiring revenues from other sources (like Google, that doesn't charge for its browsers and that earns through banners, paid links and much more, or Spotify, that rebates royalties to singers and music labels).

Some companies decided to simply buy the successful company that was offering the innovative technology in their field of action, like Avis, who bought Zipcar⁵⁰.

Other good examples are the numerous collaborations that are taking place among strong brands and new sharing realities, such as the one involving *Gnammo*⁵¹ and Barilla, or Renzo Rosso's financial participation in *Fubles*⁵²⁵³.

The owners of a traditional business, based on ownership, will have to make a previous assessment of how much that disruptive technology is going to last, or if it represents only a temporary anomaly, which is not always easy to determine.

Anyway, a company that wants to survive in a business cannot permit itself to ignore changes and put its head in the sand.

It should instead always look at the current trends, at what it is offering on the market, and ask itself if there are other ways in which those can be provided.

If some other ways exist, the next question will be "how may I innovate to capitalize on these possibilities?"⁵⁴

This way, will face the new trends as opportunities instead that as threads, and benefit from them being on the forefront of delivering them.

Anyway, much of the collaborative and sharing practises in use today surged in the afterwards of the financial crisis that began in 2008, which caused the loss not only of

⁵⁰ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

⁵¹ Gnammo is an Italian platform dedicated to Social Eating, and that allows each user to organize lunch, dinners and events in a chosen location and find paying guests.

⁵² Fubles is an Italian platform that allows the organization of soccer games finding players and teams in need of some members.

⁵³ Pelatelli P. (2013). La sharing economy in Italia. In <http://www.blablacar.it/>

⁵⁴ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

houses and financial resources, but accounted for a change in general mind-set, making everyone more price sensitive⁵⁵.

Furthermore, the digital revolution has only just begun, and it is likely that it will bring other, even more disruptive, changes in the next years.

1.6 Summarizing

This overview on the differences between ownership and access is intended to outline the main differences between the two practices, both at theoretical and practical levels, making examples in different areas of business.

The current evolutions of technology and communication are evoked to partially explain the apparent migration from total ownership to less involving and more commitment-free patterns, affecting most of all newer generations, and deeply influenced by the recent economic downturn.

The recent success of sharing solutions and of start-ups adopting them, is probably the signal of interesting starting points, proving that, when there is a valid alternative (in terms of cost-efficiency or improved health or comfort), people are comfortable with changing the way they approach to consumption and eventually leaving ownership in favor of access.

General features of the sharing economy are then considered, and in the next chapter, the issue will be better confronted with respect to what will be the focus of my work: sharing practices in mobility.

What said until now, may however already suggest that a mobility scenario comprising various form of sharing solutions may be possible.

The problems concerning not only ownership, but also the rise of the number of cars, will be dealt with in the next pages, as vehicle sharing addresses the problem of traffic reducing the number of vehicles circulating, and, since it usually enjoys subsidies from city governments, reduces or eliminates parking fees.

⁵⁵ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

Because of incentives received by public policies, vehicle sharing is a privileged form of transportation⁵⁶, especially in city centers.

There are number of ways through which carsharing can benefit the environment, making people drive less or share the ride, and the higher penetration comes together with a change in customers' behaviour and needs.

Infact, customers often are worried about convenience, but this does not mean that they are not at the same time concerned about community.

Using a shared car, thus, seems like a solution that implies cost saving, timesaving, and limits exposure to traffic negative consequences as well as pollution.

In principle, it would be the perfect solution for mobility problems.

We will see in the next chapter what really are those problems, how much do potential and effective users evaluate those benefits and which are the ones that bring them to consider sharing mobility solution, in addition to how are they likely to renounce to ownership in mobility, in favour of access.

⁵⁶ A. Bianchessi, G. Cugola, S. Formentin, A. Morzenti, C. Ongini, E. Panigati, M. Rossi, S. Savaresi, F. A. Schreiber, L. Tanca, E. Vannutelli Depoli (2014). Green Move: A Platform for Highly Configurable, Heterogeneous Electric Vehicle Sharing. *IEEE Intelligent Transportation Systems Magazine*. 6 (3) pp. 96-108

Chapter 2.

Access, ownership and sharing solutions in the field of mobility

We have already stated how the affirmation of alternative patterns to traditional ownership has gained acceptance in different fields of everyday life.

In particular, the following chapter will focus on the field of mobility, and in the end I will try to find an answer to whether the traditional pattern of ownership could be overcome in favor of alternative patterns providing access, or if the concept of the private owned vehicle has too deep roots in Italy to be completely overcome.

Are the problems concerning mobility becoming so hard to bear that traditional car owners are willing to give up on ownership, or is still the concept of owning a car eradicated in our culture? And, if so, what will be the benefits they will want to find in an alternative situation?

Is there room for a deep change in the very way mobility is conceived, given current trends in the environment and in the economic situation?

Is everybody likely to renounce to ownership, or

I will first consider the problems that in recent times have emerged because of the evolution of mobility and urban lifestyles, and that are showing their effects both at societal level (with increased traffic, pollution and reduction of parking space into urban centers) and personal level (increased costs of maintenance and management of a privately owned vehicle).

Following, the benefits brought by reduced use of cars are presented, and then, the main solutions providing access to a vehicle are summarized. We can name them *mobility sharing systems*, have emerged in different ways, from recent or less recent times, and have different characteristics.

After that, the attitude that governments have generally demonstrated toward those practices is briefly investigated, which I believe are worth considering, with particular interest toward solutions at European and, mostly, Italian level.

2.1 Mobility related issues

Having access to a car, instead of owning it, brings a number of benefits at personal as well as social level, as it ideally should reduce the number of vehicles circulating.

This is something that all the sharing solutions, besides being different in some aspects, have in common.

In fact, when we say that they are *solutions*, we mean that they could be the answer to some issues.

Mobility related problems had a peak, mainly due to the revaluation of living in urban areas, increased affordability of cars, and their affirmation as a status symbol to which some Western cultures can hardly renounce.

The number of people currently living in cities is in fact increasing, and is expected in 2050 to account for about 70% of world population⁵⁷.

This happens at some costs, in terms of increased motorization (traffic, less parking space, loss of time and money spent on fuel, pollution, etc.) and of impact on the self (stress, nervousness, disappointment).

When the driver uses a sharing solution, he has fewer responsibilities deriving from ownership, as he does not have to pay for fuel, revision or insurance.

Several carmakers are already entering into partnerships in the design of environment – friendly vehicles conceived ad hoc to meet carsharing and personal urban commuting, like Renault e Bolloré for the realization of electric vehicles⁵⁸. Another example regards General Motors, that recently acquired Relay Rides, an example of peer-to-peer carsharing, which connects car owners who want to rent their cars when they are not using them.

The company is favored in this case, because it can avoid maintenance and storage of cars, and will only have to stipulate an insurance to cover the rented cars.

⁵⁷M. Zilvetti, F. Brevi (2014). Moving in the Digital Era – Innovative Mobility for Responsive Urban Spaces. *The Mediated City Conference, Architecture_MPS, Ravensbourne, Woosbury University*

⁵⁸ Cfr. Renault and Bolloré form a partnership in electric vehicles (2014), *Renault website*
<http://media.renault.com/global/en-gb/renaultgroup/Media/PressRelease.aspx?mediaid=61455>

Mercedes also offers the *car2gether* service, which connects people in need for a ride with car owners offering one.

Both solutions can make car ownership more attractive, as the car owner may earn some income with sharing part of its ownership.

Also, those solutions generate favorable press, reducing the number of cars and congestion with an eye on the environment.⁵⁹

At a first glance, it may seem senseless that auto companies encourage access to short-term rental, instead of encouraging ownership of cars produced by them.

But, it makes sense if they have become aware of the change in the youngest generations' mind-set, and that car ownership has become less important for their self-definition, and too much expensive.

As previous mentioned, sharing can foster community, save resources, and create certain synergies.

Yet people do not share so much outside of their immediate families, and, even within them, there are some forms of privatization.

Billions of commuters travel each day alone in their cars, handling with stress and with increased pollution and social warming, facing several issues.

For the massive affirmation of sharing solutions to happen, it would be necessary a change in the general mind-set, and eventually in the way vehicles are perceived: no more like our possessions, but like *mobile spaces*⁶⁰.

A way to reconcile *individualism* and *community* in a cost effective way is needed to increase the quality of living.

The dialogue between architects, policy makers, engineers and planners therefore will have to consider a broader level of variables, looking at societal trends and changes, trying to answer to their needs and considering the impact of their decisions on urban environment.

⁵⁹ Belk R. (2013). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research* 67.

⁶⁰ M. Zilvetti, F. Brevi (2014). Moving in the Digital Era – Innovative Mobility for Responsive Urban Spaces. *The Mediated City Conference, Architecture_MPS, Ravensbourne, Woosbury University*

Personal, as well as social, benefits can be derived from sharing, and can affect transportation, environment and land use, among the others⁶¹.

Given all this we may hypothesize that the economically rational choice might be a service that allows to use a vehicle only when there is a real need, and that is paid accordingly to effective use.

But, let's see those possible benefits more in detail.

2.1.1 Benefits from reduced use of cars

Benefits provided by lower use of private vehicles have been demonstrated, both for the society as a whole, such as less pollution, and benefits for the single person, such as cost savings.

Since the distinction is not always very sharp, I have decided to analyze them all together, considering those that most easily come to the eye.

In the next chapter I will present the survey I conducted, in which I gave the chance to the respondents to indicate the bigger or smaller incidence of those factors on their life, and how much those influence their choice between access and ownership when it comes to mobility.

- *Cost savings.* When people face an economic downturn, it is natural for them to consider their everyday expenses, what they own, and if they need really need to, or there is a cheaper alternative.

Having a private car is increasingly considered as a luxury purchase, and maintaining one implies high fixed costs and low variable ones⁶².

The first benefit at single person level is a reduction in the expenses sustained: in Italy, maintaining an average car costs around €4.500 per year, considering maintenance expenses, insurance, taxes, parking and much more.

It accounts for around the 13% of annual income for an Italian family.

⁶¹ Shaheen S. A., Cohen A. P. (2006). *Worldwide carsharing growth: an international comparison*. University of California.

⁶² Ibid.

There are also externalities, indirect costs bond to car usage, like accidents, that account for 750€ per year on average in Italy⁶³.

All those costs would be reduced, and even eliminated, if people gave up on owning a car and opt for sharing, that only implies variable costs.

Moreover, in recent years, energy prices have increased and became more volatile, adding costs and a component of uncertainty to already expensive vehicle ownership.

Parking too, is not only costly, but also limited, and so accounts for loss of time and may cause irritability⁶⁴;

- *Traffic reduction.* Traffic and commuting by car has deeper effects than increasing pollution and drivers' spending: it is bad for the health.

It has been for instance demonstrated that the stress of the time spent in traffic triples the risk of suffering from a heart attack after a short time⁶⁵, in addition to increased stress to anger, through respiratory and sleeping problems, and being involved in car accidents somehow related to traffic.

Urban living people are thinner than suburban ones and generally live less well than others live⁶⁶, and a study on happiness⁶⁷ showed how big part of respondents believed that commuting was the worst part of their day.

Sharing the vehicle with other drivers would reduce the number of circulating cars.

Traffic has its debilitating consequences also at practical level, as greater consumption of fuel brings to higher pollution.

The *IBM's 2011 Global Commuter Pain Survey*⁶⁸ has investigated drivers' perception of how traffic affects them, and has considered possible solutions.

⁶³ Libro bianco sulla mobilità e i trasporti in Italia (2014). *Eurispes*.

⁶⁴ Shaheen S. A., Cohen A. P. (2006). *Worldwide carsharing growth: an international comparison*. University of California.

⁶⁵ Peters, Von Klot S., Heier M., Trentinaglia I., Hormann A., Wichmann H. E., Lowel H. (2004). Exposure to traffic and the onset of myocardial infarction. *New England Journal of Medicine*. 351 (17).

⁶⁶ Lev-Ram M. (2014). The End of Driving (as we know it). *Fortune.com*.

⁶⁷ Conducted by Daniel Kahneman and Alan Krueger, psychologist and economist from Princeton University.

⁶⁸ Gyimesi K., Vincent C., Lamba N. (2011)

The respondents were 8.000 drivers from 20 cities around the world (among the European ones: Milan, Madrid, Paris, Stockholm, London) picked among those with higher economic activities and bigger size.

Although some differences across countries and cities, some relevant conclusions can be made.

In surveyed cities, 55% people drive to get to work or to school, while just 5% choose carpooling, and 20% public transportation.

There are of course some differences across countries: in cities like Madrid and Buenos Aires, more people use a bus, in London, Paris and New York buses; Bangalore is the motor bikes city, while in Paris sees least people that go by car.

The average distance covered each day is of 12.8 miles (around 20 km), taking about 33 minutes on average, but with some differences according not much to the length of the trip, but to traffic.

More than 90% of respondents found themselves stuck in traffic in the last three years, with 30 minutes – one hour as the average delays, that become more than two hours in Mexico City, Moscow (arriving to three hours or more according to almost one person over two interviewed), and Beijing.

Traffic has recently worsened in their city according to 41% of the respondents, especially according to respondents in Milan, the only Italian city in the sample.

Commuters have a general aversion toward stop-and-start traffic, unreliable time of travel, reduced speed and having to face rude drivers.

Many respondents expect public transport to give them some relief, but at the same time, one over four would receive gladly more real time and precise information about traffic conditions, and almost the same percentage would happily work from home.

41% on average at least one time in last three years faced so much traffic while driving (mostly going to work, others shopping, less while was driving for entertainment purposes), that they just turned around and renounced.

One third of respondents have changed the way in which they go to work, because of traffic, while almost 20% of the respondents would need a rise in fuel price of 40% to be motivated to change their behavior.

If they didn't spend so much time in traffic, half of respondents would stay more with friends and families or work out, 40% would devote more time to recreate, 29% sleep more, and 24% work more (especially in Milan, Bangalore, New Delhi, Beijing).

The conclusion is that giving answers to commuters' pains is often not easy, as it suffers from economic as well as space constraints, so the better way may be optimizing the way existing infrastructures are used.

A successful example had place in Stockholm, in 17th position in the *Commuter Pain Index*⁶⁹: a *congestion charging system* was put in place, that reduced commuting time by a half in just one month.

IBM itself suggests a number of categories in which possible solutions may be comprised:

- Better route guidance, to use roads more efficiently;
- Intelligent transportation systems that would give some prediction to traffic, thus letting single drivers, giving relevant and real time information to make meditated decisions and system operators to put in place an efficient management;
- Increasing ease of switching from and to cars and public transportation means;
- Increased speed in solving car accidents or car breakdowns impeding regular traffic of vehicles;
- More dynamic workplaces that permit, when the kind of work allows to, instituting telecommuting.

⁶⁹ Comprised of ten issues: 1) commuting time, 2) time stuck in traffic, agreement that 3) price of gas is already too high, 4) traffic has gotten worse, 5) start-stop traffic is a problem, 6),7) driving causes stress and anger and 8) affects work, 9) traffic so bad driving stopped, 10) decided not to make trip due to traffic.

All of these solutions are somehow practicable, thanks to the present state of technology, and to the fact that people can connect to Internet and receive information, or ask for help for a car accident, almost everywhere thanks to smartphones.

However, there is no one single entity, organization, or institution that will be somehow able to resolve the problem alone.

As it is complicated, comprising many aspects of everyday life and regarding different set of people, will require collaboration of various actors' actions.

- *Changes in general mindset.* Using a shared car can account for a change in mindset: generally, those who are using a carsharing program end up using public transit, walking and bicycling a lot more, and each shared car is believed to take away from the road almost 15 privately owned cars.

Some early studies indicated that a percentage between 15 and 30% of carsharing users sold their cars, while around 25% postponed a purchase⁷⁰.

It is estimated that 32 new vehicles sales are lost for every car that is added to a ride-sharing fleet⁷¹.

This show how the increase of shared vehicles, substituting owned ones, will decrease the number of vehicles circulating in the cities;

- *Greenhouse gas emissions reduction.* Carsharing or short-term auto access is increasingly being adopted worldwide not only to reduce personal transportation costs, but also negative impacts at wider level, connected with car usage: pollution, energy consumption, congestion and inefficient land use.

Studies in Europe have demonstrated a reduction in kilometers travelled, and this result in less greenhouse gas emissions.

Furthermore, there is evidence of higher environmental awareness after having used carsharing, with reinforce of green lifestyles using more walking and hiking and reducing the dependence on ownership.

⁷⁰ Shaheen S. A., Cohen A. P. (2006). *Worldwide carsharing growth: an international comparison*. University of California.

⁷¹ Lev-Ram M. (2014). The End of Driving (as we know it). *Fortune.com*.

Moreover, many carsharing use low emission or electric vehicles.

Vehicle sharing in urban areas may be the answer to solve some issues that make harder the spread of electric vehicles use, hindered by high upfront costs, still limited range (can produce the *range anxiety*⁷² problem, the fear that the battery will empty before arrival) and much more.

In fact, vehicle sharing through an innovative and automated system could help solving the problem providing users with constant monitoring of their situation and solving issues like the fact that the recharge can take up to several hours.

All those named benefits can also be of huge proportion, leading public attention to believe they can help solve important, long story issues.

No surprise that carsharing has proven to be more successful in urban areas that suffer from space limitations, with more and more people living in urban areas, needing less a car for long commutes and increasing density. Evidence in the United Kingdom has showed that if car occupancy would double, then carbon emissions could drop by nine million tons⁷³, and that carsharing by commuters reduces an individual's carbon footprint by 10%, at the same time giving the chance to people that live where public transport is not sufficient, to arrive where they need.

Sharing has a lot to do with environmental concerns, as when you rent and share more, there is likely to be less production and less wait.

2.2 Government recognition of sharing mobility practices

Carsharing has recently seen new types of interactions with the public sector, as many of those services require privileged access to public parking space, typically managed by municipalities.

Signing this agreement is critical for a carsharing company, as being not able to succeed can prevent them from operating.

⁷² Bianchessi A. G., Cugola G. (2014). Green Move: a platform for highly configurable, heterogeneous electric vehicle sharing. *IEEE Intelligent Transportation Systems Magazine*. 6 (3). Pp. 96-108

⁷³ Cf. Tovey K., in Claburn A., Kerry L. (2009). Using existing european road capacity efficiently. *Association for European Transport and contributors*.

Carsharing is a field that has seen a great number of public-private partnerships, and governments have long demonstrated mobility concerns.

Recently, European governments have recognized mobility related issues, setting some goals: the European Union settled the first package of climate and energy measures in 2008 to reduce greenhouse gas emissions by 2020.

Some of 2008 targets are about to be achieved, accompanied by a better intensity of energy use thanks to more efficient buildings, products, and industrial processes and vehicles.

All this, with European economy growing by 45% since 1990.⁷⁴

Fossil fuel prices remain high, amounting in 2012 for €400 billion (3.1% of the Union's GDP).

The need is for further, sustained reduction of greenhouse gas emission and consumption, then the Commission has proposed to set a greenhouse gas emission reduction target for domestic EU emissions of 40% in 2030.

Specifically for mobility sector, on 23rd April 2009, European Parliament agreed on limiting the CO₂ emissions from new passenger's car sold to an average of 130g/km by 2015, also specifying a lower target to be achieved by 2020, with the goal of incentivizing car companies to invest in new technologies that will lead to lower emissions.

The Regulation defined limits for emissions for newly registered passenger cars, allowing heavier to emit more but preserving the average level, and addressing some fines.

The respect of the normative has not all the chances to be accomplished, considering also that diesel to gasoline ratio is likely to increase in Europe⁷⁵.

Reasons for this regulation can be found back to 1993, the first time that the European Union took in consideration the problem of global warming, approving the conclusion of the United Nations Framework Convention on Climate Change, requiring member states

⁷⁴ A policy framework for climate and energy in the period from 2020 to 2030 (2014). Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions.

⁷⁵ Bhatt K. (2010). Potential for Meeting the EU new passenger car CO₂ car emission targets. *Massachusetts Institute of Technology*

to formulate and implement climate change mitigation programs at national and regional level.

The *Kyoto Protocol* followed in 1997, requiring member states to collectively reduce their greenhouse gas emissions by 8% below 1990 levels between 2008 and 2012.

The focus put on transport was due to the fact that it accounts for a quarter of EU greenhouse gas emissions, it is in second position as emitting sector, following energy, and it has increased by 36% since 2000, while emission from other sectors (manufacturing and construction, industrial processes, agriculture, etc.) have generally fallen.⁷⁶

More than two thirds of components of transport costs are given by road transport, even though aviation and maritime sector have significant role and are likely to increase the most.

From 1990 – 2007, even though greenhouse gas emission decreased by 15%, those from transport increased by 36%. This happened despite vehicle efficiency rose, because of an increase in personal and freight transportation.

2.2.1 Europe - The MOMO Carsharing project

Governmental intervention on sharing mobility solution has focused on carsharing, as showed by the MOMO carsharing project in Europe, developed by the European Commission to:

“establish and increase carsharing as part of a new mobility culture [...] combined with alternative transport modes offers many people a more intelligent and resource-efficient transport solution than car ownership, [...] transport can be organized more rationally and more energy-efficient, [...] is market based, without restricting individual mobility [...] helps to reclaim street space in city centres for social and ecological functions by reducing parking demand – thus making our cities more attractive⁷⁷.”

⁷⁶ Cfr. European Commission website, <http://www.ec.europa.eu/>, specifically http://ec.europa.eu/clima/policies/transport/index_en.htm

⁷⁷ More Options for Energy Efficient Mobility through Car-Sharing, published on *Intelligent Energy Europe* (<http://ec.europa.eu/energy/intelligent/projects>)

It raised awareness to increase the number of European carsharing users, made recommendations to establish the service in cities where it did not exist yet.

The results accomplished were:

- 135.000 Europeans informed about carsharing;
- As a direct result, 400 people and 600 companies joined the services, and membership of participating companies increased by 95000;
- Established carsharing pilots initiated 33 short term rental points with hotels and a student union, and developed carsharing action plans for Helsinki and Bremen;
- Energy consumption of shared vehicles reduced by between 7g CO₂ per km and 25g CO₂ per km for each, also achieving a 10% reduction in fuel consumption because of driver training;
- Redaction of a review that summarizes carsharing situation in Europe, with guidelines for public authorities to assist the development of the service.

A major finding of MOMO was that awareness on carsharing is still low, both at decision makers', political stakeholders and potential partners' level, and it needs to be raised to set up a successful carsharing scheme, together with building partnerships with local public transport actors.

Features of partnerships that can be mutually beneficial can be of different kind, like shared marketing activities, combined ticketing and information sharing, and so on.

Through a final report, it was addressed that in 2009, 380.000 people were using carsharing in Europe, mostly in Germany (137.000 users).

Shared vehicles were 11900, with an average of 32 people by car in Italy⁷⁸.

⁷⁸ The State of European Carsharing Final report, MOMO carsharing
http://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/momo_car-sharing_the_state_of_european_car_sharing_en.pdf

At that time, in Italy there were eleven organisations that offered carsharing services in 31 cities, having started in Milan (the only city that had two companies operating) in 2001, and followed by Bologna and Venice the following year.

2.2.2 Italy - Libro Bianco Sulla Mobilità e i trasporti

Specifically to the Italian case, the White book about mobility and transportation in Italy (*Libro bianco sulla mobilità e i trasporti in Italia*)⁷⁹ considered with interest the *urban sprawl* phenomenon, which has to do with the fast and not ordinated growth of a urban centre, happening usually in peripheral area.

The effects of the phenomenon as it is interesting Italy are compared to those in the world, and that is believed to affect 70% of population in next 20 years.

The Eurispes Research Institute, that is active in Italy since 1982, has recorded some relevant data to conclude that it is one of the elements that is causing urban mobility congestion, and that is mainly due to the increasing private mobility solutions that is generated by the fact that there are not enough answers for the increasing mobility demand.

Coming together with private mobility, it is in fact the need for parking areas, which reduce available space for transportation means to circulate, and it contributes to congestion of urban areas, which ultimately leads to the loss of control of traffic fluxes.

In the publication, the good practice example reported is the one of London, New York and Paris, the three Western cities where most of visitors arrive in the world.

In each one of these, the governments made and brought on the decision to eliminate parking from critical public areas.

With this precaution, they succeeded in activating a virtuous circle that influenced in a positive way urban transport, making it more efficient and usable, with significant effects on money saving and on living standards in the urban centre.

⁷⁹ (2014). EURISPES. <http://eurispes.eu/content/libro-bianco-sulla-mobilit%C3%A0-e-i-trasporti-italia>

This is true mostly for the London case, having the effort targeted mostly the most commercial and hit by congestion areas in the city, and making the United Kingdom most important urban center a city even more attractive than before.

The keys to confront with and win against the urban sprawl are believed to be two: a new model to rule urban development together with a new cultural model of coexistence and integration, with the people at the center of a process at the end of which principles of a citizenship agreement are redefined.

2.2.3 Italy - Iniziativa Car Sharing

Italy was the only country in Europe in which carsharing development had been facilitated by the support of the government: *Iniziativa Car Sharing* was founded by the Ministry of Environment after his n°179/1998 decree on sustainable mobility policy, an agreement between municipalities.

It had been recognized that, in Europe, 80% of cars that are driven in the city don't travel more than one hour a day, carrying an average of 1.2 people.

With carsharing, everyone could only drive the time he needs, and someone else can use the same car.

It seemed, among all other forms of common use of a car fleet, the only one that could effectively balance the undeniable advantage brought by having a private car to move on our own.

This initiative had four goals:

- Ensure the development of Italian carsharing services in most important cities, making them a unitary network;
- Guarantee professional standards of service to drivers;
- Promote carsharing awareness all over the country;
- Ensure full interoperability among all the different local services and operators.

And the underlying considerations made to support the initiative was that:

“Carsharing is an innovative system that, in our cities, can validly represent an effective and useful alternative to current idea of mobility. Service is available 24 hours a day, reduces environmental impact of circulation, reduces costs, busts increased parking numbers and choices for the users, which will have the chance to switch from economicity of a utilitarian car to practicality of a familiar one”⁸⁰

Cities and regions left autonomy to companies, within some limits, in operational, commercial and managerial aspect, with freedom in setting price schemes and market policies, investments and decisions regarding cooperation with other companies or with local bodies.

As a result, many carsharing companies pertain to local authorities or subsidiaries of local transport operators, thus bringing some advantages, like access to restricted traffic areas and not having to pay the parking.

Moreover, publicly promoted carsharing needs to be integrated with public transport offering.

2.3 Mobility Sharing Solutions

In recent years, there has been a proliferation of services alternative to traditional vehicle ownership: renouncing to a privately owned car and instead using one belonging to a fleet of shared ones or to someone else.

There is no guarantee, however, that those using a sharing solution will give up on car ownership, an option once described as “stepping off of a diving board without knowing whether there’s any water in the pool”⁸¹.

⁸⁰ Iniziativa Car Sharing Website <http://www.icscarsharing.it/>

⁸¹ Cfr. Le Vine S., Polak J., Zolfaghari A. (2014). Carsharing. Evolution, challenges, opportunities. 22th ACEA Scientific Advisory Group Report. *Centre for transport studies, Imperial College London*. p.6.

In the previous chapter, I introduced the concept of sharing in the 21st century, as created by economic considerations, the affirmation of the concept of access over ownership and toward less will to commit in the long term or less possibility to do so.

People create communities as they unite around an ideal that they share. This ideal is different from case to case, and for example for Airbnb⁸², the *par excellence* success case in the sharing field it is:

“Help our customers bond around common ideals: being able to stay anywhere, to meet other people, to have an adventure. The focus of our marketing is on fostering the community that makes sharing possible [...] giving them opportunities to connect with people that have their same values and interests”⁸³

For mobility sharing solutions, the common ideal may simply be saving money for a ride.

The urban environment is increasingly becoming the testing ground for the application of new technologies, with the aim of reducing urban problems and increasing the living standards in the city⁸⁴.

Some studies agree on the fact that future mobility solutions may focus on optimizing and embedding technologies that allow data – gathering as well as real – time interaction with both space and other vehicles.

“It’s a marketer dream [...] telling customers that your product lets them change their identity by the hour”⁸⁵.

A current trend is toward customized solutions in mobility, and flexible processes put in place by both start-up companies and affirmed enterprises, in which they cooperate as

⁸² Airbnb is a portal through which people can publish, discover and book their stay into private accommodations around the world.

⁸³ Marc Mc Cabe, product and business development lead at Airbnb

⁸⁴ Zilvetti M., Brevi F. (2014). Moving in the Digital Era – Innovative Mobility for Responsive Urban Spaces. *The Mediated City Conference, Architecture_MPS*.

⁸⁵ Cfr. Fournier S., Eckhardt G. M., Bardhi F. (2013) Learning to Play in the New “Share Economy” Experience Case Study. *Harvard Business Review*.p. 127

incubators of innovations that take into account local needs to have a fast and proactive response and more sustainable results.⁸⁶

Room for sharing solutions in mobility is also provided by the fact that most people travel alone, and most cars are simply left unutilized for most of the day, being used for less than an hour: a single car could then satisfy multiple people needs.

The flexibility guaranteed permits the user to book a car in advance, create networks and using real-time data.

The application to the field of mobility of practices that have privileged access instead of ownership has multiple aspects, and has seen the affirmation of various practices, more or less suitable for given needs of the customers. Among recent sharing solutions in the mobility field, we find *carsharing*, *carpooling* and *ridesharing*.

Of each one of the three, I will provide an outline, as well as present a practical example of a firm which is operative in Italy.

This, to be able to give an insight of which are the alternatives that Italian customers face when are making their decisions between owning and sharing.

I will later investigate more in depth the motivations that determinate a choice, and the elements of a given solution that are evaluated when choosing.

2.3.1 Carsharing

The worldwide carsharing market today encompasses several million customers, with a fleet of some tens of thousands of vehicles.

The biggest part of this activity is concentrated in industrialised countries, even if the number of activities in less developed ones is growing.⁸⁷

As a complex and articulated phenomenon, there is not and it is not easy to give a uniquely correct definition of carsharing.

⁸⁶ M. Zilvetti, F. Brevi (2014). Moving in the Digital Era – Innovative Mobility for Responsive Urban Spaces. *The Mediated City Conference, Architecture_MPS, Ravensbourne, Woosbury University*

⁸⁷ Le Vine S., Polak J., Zolfaghari A. (2014). Carsharing. Evolution, challenges, opportunities. 22th ACEA Scientific Advisory Group Report. *Centre for transport studies, Imperial College London.*

In fact, this term is used more for historical reasons, even though it is not perfectly clear if it really describes the behavior it is meant to describe: the access to a car owned by another person or entity in exchange for a pre arranged payment.

In the time he is driving the car, the carsharing user is responsible for it, and is using it only for its exclusive benefit.

The term is usually used to identify mobility services that have some characteristics⁸⁸:

- Users are put through a pre-qualification process to verify their identity and their driving record. This is done just once, prior that he can access the service;
- The shared vehicle is driven by the user as in a traditional car hire;
- Vehicles tend to be models that are uncomplicated for users to operate, as with standard rental cars;
- Usage is billed in time increments, and only sometimes also considering the distance travelled. According to the single operator policy, there may be provisions for multiple day usage, even if generally speaking daily rates are less convenient than those for traditional car rental;
- Additionally, there may be provisions for a sign-up fee or for an annual one may be a one-time sign-up fee or an annual subscription fee;
- Usage can be both reserved in advance and casual, finding a non-reserved car on the street, also with the help of real-time information provided by mobile apps;
- Vehicles are typically available from multiple locations on the street;
- Servicing and cleaning are a carsharing company's responsibility, and is done not after each usage, but on occasional basis.

⁸⁸ Ibid.

There are different types of carsharing, all having in common some features, in addition to the fact that a number of people is benefiting from the use of the same car.

We can derive from this some great families of carsharing systems:

- *Peer-to-peer carsharing*, according to which the cars may be owned by single individuals that are their owners, and that are putting them on disposal while are not used, in exchange for an economical income⁸⁹. It has been promoted in recent times by startups belonging to a suite of online organizations providing an Internet platform that helps individuals to share their belonging⁹⁰. Access has nothing to do with joint ownership, people just get the right to use something for a limited period, and, paying for it, the only logics we can identify are economical: convenience, reciprocity, and economic exchange.⁹¹ Peer-to-peer carsharing is already available in the US with start-up firms like RelayRides and GetAround, and in France with Buzzcar and Drivy, but is not yet available in Italy, even though start-ups like Dryfe and Car2share declared they are about to launch a peer-to-peer carsharing service in a short time;
- *Free floating carsharing*: cars may be part of a fleet owned by a firm (like for Car2go case). For firm-owned fleet carsharing, fuel, insurance and all other expenses are not directly sustained by the driver, that has to pay only a registering fee (through which firms amortize fixed costs), and then a variable amount on the basis of real usage. Administrative and marketing costs should be spread over a sufficient number of cars, so there is some pressure on carsharing companies to grow in a short time, also considering high expenses involved and that the mark up practiced is not very high. To be successful, carsharing services need both the diffusion of a positive mindset toward the service, and a critical mass. One of the things that make a shared car appealing for the driver is a low rate, while

⁸⁹ Mariotti I., Beria P., Laurino A. (2013). Car sharing peer-to-peer: un'analisi empirica sulla città di Milano. *Rivista di Economia e Politica dei trasporti*.

⁹⁰ Ballus-Armet I., Shaheen S. A., Clonts K., Weinzimmer D. (2014). Peer-to-Peer Carsharing. Exploring Public Perception and Market Characteristics in the San Francisco Bay Area, California. *Transportation Research Record: Journal of the Transportation Research Board*. (2416) pp. 27-36.

⁹¹ Bardhi F., Eckhardt G. M. (2012) Access-based consumption: The Case of Car Sharing. *Journal of Consumer Research* 39 pp. 882

attracting customers is expensive and takes time, as carsharing can't be really considered a must have. On the other hand, positioning in a modern trend, becoming an easy and cheap means of travelling for young people, may prove successful.

One of the earliest European experiences with carsharing was with *Sefage* (Selbstfahrgemeinschaft), a Swiss cooperative, initially serving Zurich in 1948, that remained operative until 1998⁹².

The main motive for benefiting from a carsharing service at that time was economic, as individuals who could not afford to purchase a car shared one, instead, and the business was managed manually, with vehicles deployed in off-street deposits, and based on two pillars: individual members and charge in function of both time and distance⁹³.

In the past, much of start-up companies in carsharing sector were publicly subsidized, with just a small number supported by corporations.⁹⁴

Airlines as Lufthansa and Swissair have been involved in the field with projects of carsharing, with significant savings in parking infrastructure costs (for Lufthansa, estimated around \$ 20 million⁹⁵).

Others experiments, with discontinued results, were made around Europe and United Kingdom⁹⁶.

In 2008, carsharing had grown to include about 600 cities in 18 nations and 4 continents, including emerging countries, starting in Asia in 1990s and in 2003 Australia.

It did not begin in Asia and US until late 1990s, except for two Canadian firms in 1994 and 1995, with slower expansion in Asia.

The 90s trend had been the stipulation of transnational carsharing ventures: Zipcar in US and Canada, Greenwheels in Germany and Netherlands, Cambiocar in Germany and Belgium and much more.

⁹² Harms S., Truffer B. (1998). The Emergence of a Nationwide Carsharing Cooperative in Switzerland. *SNM case study: Carsharing*.

⁹³ Ibid.

⁹⁴ Shaheen S., Sperling D., Wagner C. (1998). Carsharing in Europe and North American: Past, Present, and Future. *Transportation Quarterly*, 52 (3), 35-52.

⁹⁵ Monas. R.(1994). A Car Pool that Really Works. *Forbes* pp 108-110

⁹⁶ *Procotip* in France, 1971-1973; *Wiktat* in Netherlands, 1974-1988; *Green Cards*, UK, 1977-1984, et al.

Carsharing has underwent an evolution during the years, following that of habits and of consumption needs, and companies like French *Praxitele* adopted new technologies like smartcards, until arriving to mobile, real time information on the go.

This has increased not only the quality and speed on the service, but also traceability of usage, and has limited exposure to theft and vandalism.

Although North America had limited history with carsharing, the present situation is far more different, and the Silicon Valley has recently become the perfect field for startups to develop, and carsharing field doesn't make an exception.

The beginning of the phenomenon in the USA was in 1998 with *CarSharing Portland Inc.* in Oregon, even if precedents in North America had been seen in British Columbia and Quebec City⁹⁷. Then others so called Carsharing Organizations (CSOs) have been emerging in North America, and the market was evaluated to be worth \$400 billion in 2013, and expected to reach \$10 billion in a short time.

Right now, around 75% of US market is held by *Zipcar*, operating since 2000 and recently acquired by Avis at a premium to more than half to its share value.⁹⁸

The fleet is composed by more than 10.000 cars, with 30 different car models offered, intended to meet different customers' needs (luxury brands like Mercedes, green cars like Prius, recent partnerships with Opel and Peugeot), and more than 870000 members around the world.⁹⁹

The mission is providing the right type of car at the right moment, that customers pick up on their own (thus reducing personnel costs).

Who drives needs to have at least 21 years, have a driving licence for one year at least, and not having collected a certain number of accidents or major violations.

Zipcar has been growing at more than 100% each year, since its foundation, and has 850.000 members with on-demand access to more than 10,000 vehicles.

Annual membership costs \$60 per year or \$6 per month, with rates from \$8.25 per hour, integrated with a series of weekend discounts and a plan for occasional drivers.

⁹⁷ Brook D. (2004). Carsharing – Start Up Issues and New Operation Models. *Transportation Research Board*. Introduction.

⁹⁸ Jaishingani S., Sapru T. (2013). Avis to buy Zipcar as slow economy boosts car-share business. *Reuters*. <http://www.reuters.com/>

⁹⁹ Zipcar website <http://www.zipcar.com/>

Zipcar website reports that their members have been using their service for everything, from carrying their baby home to house relocation, that a Zipcar is reserved every six seconds.

In addition, they made a research based on Millennials, which revealed all difficulties experienced in owning a car, and that if they had other options, they would surely decrease the time spent driving.

Now, Zipcar is moving its first steps in Europe, even though the service is not yet available in Italy.

Modern carsharing systems find place in the intersection between the comfort of owning a car and the flexibility of only having it when you have a need, and charge on a per-use basis.

It is important to secure customers' loyalty, as the offer increase, by improving service or reducing the costs.

2.3.2 Car2go and Enjoy

Car2go is a subsidiary of Daimler AG, that operates in Europe with a subsidiary, *Car2go Europe GmbH*, co-owned with Europcar, the European car rental leader¹⁰⁰ that provides carsharing services in 29 cities between Europe and North America.

The company, who introduced the service in Germany in 2008, making it test by Daimler's employees.

It offers exclusively Smart Fortwo vehicles that can be rented and returned anywhere in the city.

Charges are per minute (€ 0,29), the hourly and daily rates are respectively of € 14,90 and € 59

In Italy, it is available in Rome and Milan since 2013, and recently in Florence.

You can rent one on the street or book it online 30 minutes before you need it, within the urban area delimited, or drive it outside it and put the car in *pause mode* and then drive it back into urban borders.

¹⁰⁰ Revolutionizing Mobility: car2go and Europcar extend Partnership Europe-wide (2011). In Daimler website <http://media.daimler.com>

Users have access to the system after a online registration procedure for which they need to indicate their credit card number, your data and the QR code generated by the system, and then present yourself to one of Car2gi physical offices with your driving license to receive your member card that gives the chance to open a Car2go without keys¹⁰¹.

Car2go's Smart For Two can enter into limited traffic zones, and don't pay for parking, and as soon as you enter the card you have to dial you PIN code and evaluate car conditions.

If the tank is less than 25% full, you have the chance to bring the car to approved gas stations, pay with apposite vouchers and enjoy 10 minutes of free drive.

Car2go had attracted around 110.000 users in Rome and Milan and 70.000 in Germany by November 2014¹⁰², 900.000 users totally, with a fleet of 12.000 cars, of which the 10% are totally electric.

There is a € 19 subscription fee, that is paid just once.

Enjoy offers a carsharing service that is active, like car2go, in three cities in Italy at the present moment: Rome, Milan and Florence.

It started in Milan in 2013 in Milan with 300 red Fiat 500, amounting to 644 in January 2014, and enriched by some 500L (turbodiesel common rail).

The cars are homologated for four or five passengers (500L), amounting for an additional comfort and number of occupants compared to car2go, but at the same time for a slight difference in car dimensions*.

The minute rate is of € 0,25 per minute when the car is moving, and € 0,10 when car is in pause, without ending the rental.

The daily rate is € 60, including 50 km of percurrence, over which there is an additional billing of € 0,25 per minute.

As well as car2go, access to restricted traffic zone is guaranteed, and there are no expenses for parking.

The registration is made online through Enjoy website or iOS or Android app, receiving a PIN.

The car is unlocked through the app or sms or a call on Eni telephone number.

¹⁰¹ Car2go Italian website. <http://www.car2go.com/it>

¹⁰² Daimler's car sharing business car2go to quit UK, London a challenge (2014). In <http://uk.reuters.com/>

There are some car-keepers with the job of washing, maintenance and eventual repositioning of cars left on not much used area.

Partners of the service are, among others like Eni Vodafone, Mastercard, Fiat and Cartasì¹⁰³, are Trenitalia, the Italian railroad firm, looking for great room for synergies with high speed trains, the most for car professional use.

The 500 Enjoy 500s are not owned by Enjoy, but instead rented by them from Leasys, a long time rental society owned by the Fiat group.

And, using the renters as test drivers, the 500 car product can raise awareness and sell more.¹⁰⁴

2.3.3 Ridesharing

Recently a number of dynamic ridesharing solutions have emerged.

They consist on the formation of carpooling on an as-needed basis¹⁰⁵, on very short notice and sharing with the driver more activities.

It requires the management of a large number of drivers that must be available to drive to some place with very short notice, and is suitable for everyone who has a non-planned need.

We can accumulate, thus, ridesharing to a taxi service, as it needs to be available anytime.

Is also a mobile service, and offers a new solution for mobility problems and may be cheaper and more ecological than both taxi and private cars.

Number of failures is high, because a critical mass is needed both to offer and find a ride, and some unsuccessful examples can be made correspond to cost inefficiencies, lack of use, poor service levels, usability and technological limitations¹⁰⁶.

¹⁰³ Enjoy website. <https://enjoy.eni.com/it>

¹⁰⁴ Rigatto A. (2013). Enjoy, in esclusiva Wired prova il nuovo car sharing milanese. *Wired*.

¹⁰⁵ Bonazzi R., Daolio F. (2014). Spread like a virus. A model to assess the diffusion of dynamic ridesharing services. 27th Bled eConference, eEcosystems.

¹⁰⁶ Siddiqi Z., Buliung R. (2013). Dynamic ridesharing and information and communications technology: past, present and future prospects. *Transportation Planning and Technology*.

A crucial element to be monitored is the user base, and is likely to be one the biggest elements of evaluation for huge capitals invested by venture capitalists on dynamic ridesharing startups.

It would be useful to have the information about the user base of a ridesharing service, but it is not easy to find this or other relevant metrics.

The success of the service can be addressed looking at both the diffusion of the service and analyzing the change in the structure of users' network.

A research by Bonazzi and Daolio¹⁰⁷, that tried to build a model to map the trend of adoption of ridesharing services, treating innovation like a spreading contagion and that used Google trends data as an alternative picture of the evolution of the user base, showed some peaks that couldn't be explained by the model, and that are believed to correspond to the effect of some strong marketing campaign of analysed start-up firms, Blablacar and Ouicar.

A recent ridesharing success case is Lyft, a San Francisco based *ride-sharing marketplace*¹⁰⁸.

Who needs a ride can look up for a driver through Lyft app, and everyone who owns a car can offer rides without having a specific permission, earning a donation suggested by the app itself.

A system of ratings prevents from people enjoying the service without paying.

The society behind it is Zimride, and the idea is to *design happiness into the whole experience* (J. Zimmer, co-founder of Zimride).

The system is innovative, offers cheap rates and voluntary donations, and is made more original by the fact that cars have a pair of big, fur pink moustaches on every hood.

The company found itself in no need to do consumer marketing, and not incorporating the moustaches into the logo was a deliberate choice, made to increase word of mouth, as people would wonder about why they were on.

¹⁰⁷ Bonazzi R., Daolio F. (2014). Spread like a virus. A model to assess the diffusion of dynamic ridesharing services. *27th Bled eConference, eEcosystems*.

¹⁰⁸ Delo C. (2012) Startup Watch: Car-Sharing Service Lyft Looks To Branding to Break Out From the Crowd. *Advertising Age*. 83. p.1

The drivers are screened and examined by the Department of Motor Vehicles, earn more than 20 per hour, and are encouraged to fist-bump the passengers as soon as they enter the car.

As declared by John Zimmer, the goal of Lyft is to *solve the fact that 80% of seats on the road are empty*¹⁰⁹.

Lyft services are not yet available in Italy, where one of the biggest realities in the field of ridesharing is Uber, the San Francisco based start-up company through which drivers can give paid rides.

2.3.4 Uber

Uber services are now available in four Italian cities: Rome, Genova, Turin and Milan and in 53 cities in EMEA region, in addition to the Asia Pacific and American regions.

It has been founded in 2009 and is based in San Francisco.

It recently completed a funding round that boosted firm value up to \$18,2 billion, more than Hertz's market capitalization.¹¹⁰

It is a private mobility company that connects drivers and passengers through a smartphone app. Booking a vehicle only takes some taps, and the payment is entirely electronic.

The app gives a preview of the likely fare the passenger will have to pay.

Uber also gives the chance to share the price of the ride, adding through the app other passenger, each paying a reduced commission on transaction; a message linking to your real-time position can be sent to everyone the passenger wishes to.

Recently it has announced a partnership with *Spotify*, to achieve mutual benefits (Uber has a number of users around 50 million as for November 2014¹¹¹).

Everyone can become a Uber driver, after having presented necessary documents to Uber, receiving the necessary approval, and being available only in the hours he prefers to, having the chance to use his own car.

¹⁰⁹ Ibid.

¹¹⁰ Cfr. Le Vine S., Polak J., Zolfaghari A. (2014). Carsharing. Evolution, challenges, opportunities. 22th ACEA Scientific Advisory Group Report. *Centre for transport studies, Imperial College London*

¹¹¹ Ciacci D. *Uber ora integra Spotify per scegliere quale musica ascoltare in macchina*. In Wired.it. <http://www.wired.it/>

2.3.5 Carpooling

Carpooling is the sharing of car journeys between people, travelling in the same car.

It reduces travel costs as well as the stress of driving alone, and if everyone who travel alone adopted it, the number of cars on the street would reduce significantly, with all the positive consequences that derive from it.

It usually has to do with regular trips (like going to work every day) or long way ones (finding a ride to go to a music festival), and this differentiates it from ridesharing, that has a more casual component.

As one of the biggest barriers to acceptance may be having a proof of the reliability of the driver, a feedback system is usually put in place, through which individuals can rate others, providing recommendations or not for future users.

One of the biggest realities in Italy is www.carpooling.it, an Italian platform whose motto is “Click. Travel. Save.”, that provides some options for security, like a id card based authentication system, rides dedicated to women and a booking system.

It operates through the integration of the website, a mobile app and a Facebook app.

It is part of the carpooling.com network, the biggest carpooling community in the world, which makes more than 1.4 million people move every month.

It has dedicated websites in Austria, France, Greece, Poland, Spain, Switzerland, and United Kingdom, more than 4 million subscribers and each day there are more than 750.000 chances to travel.

It is estimated that thanks to carpooling.com 1.000.000 CO₂ tons have been saved, as well as 500 million litres of fuel and millions of euros.

To integrate the service, carpooling.com also offer reasonably priced mobility options on buses, trains or plains.¹¹²

Carpooling relies on trust and coordination, and benefits from new Internet based technologies.

¹¹² Carpooling.it and Carpooling.com websites. <http://www.carpooling.it/> and <http://www.carpooling.com/>

It has to do with finding someone who can benefit from something you already have, or on the contrary, someone who has something I can benefit from, and with trusting the person who is on the other side.

In a transaction like the one that takes place on Blablacar¹¹³ or Airbnb, two *trusted community marketplaces*, there is a *truster* that must decide whether to make a loan to a potential *trustee* or not, than then will decide if repaying him or not.

We are in the *asymmetric information* world, as a truster cannot be sure of trustee's trustworthiness. However, it is in his interest to assess it, so will look for signs of it.

He may come in the way of an opportunist, someone not trustworthy but seeming like thanks to mimic signs to deceive other people, and creating a *problem of secondary trust*¹¹⁴.

Thanks to the Internet, transaction costs of collaboration have decreased, enabling for a decentralized, collaborative and non-proprietary commons based peer production¹¹⁵.

It reaches desired effects if those leaving a feedback are independent and free from collusion.

According to some, it is an alternative to regulation, as in a world where every service is rated consumers would police misconduct themselves¹¹⁶.

In the latest years, the industrialized world has seen an increase in private vehicle ownership, that in the United States exceeded one car per licensed driver already in 2000¹¹⁷

¹¹³ Blablacar, a French start-up company founded in 2006, gives to drivers the chance to offer rides on predetermined dates and routes, to exploit free seats in the cars, and be paid by travellers, thus sharing travelling costs. On the other side, those who have to make a trip can book the ride in advance and save on other means of travelling.

¹¹⁴ Bacharach and Gambetta: instead of just looking for signs of trustworthiness, the truster must decide whether she can trust those signs; instead of just displaying signs of trustworthiness, the trustee must convince the truster that he is not mimicking them.*

¹¹⁵ Y. Benkler (2006). *The wealth of networks: how social production transforms markets and freedom*. London: Yale University Press.

¹¹⁶ Strahilevitz L. J. (2012). Less Regulation, More Reputation. *The Reputation Society*. The MIT Press, pp. 63–72.

¹¹⁷ Stopher P. (2004). Reducing road congestion: a reality check. *Transport Policy* 11, 117–131.

2.3.6 Blablacar

Blablacar is a French company that connects drivers with people travelling the same way throughout Europe.

It was founded in Paris in 2006 by Frédéric Mazzella (CEO), Francis Nappéz (CTO), and Nicolas Brusson (COO) as *Covoiturage.fr*, gaining market share as new mobility solution for millions of French, the most young ones.

At the same time, *postoinauto.it* was born in Italy, the idea of some students that had experienced shared trips abroad, especially in France and Germany.

They registered 30.000 shared car seats after one year of activity, in February 2011, and 100.000 after a further year.

It is in March 2012 that *postoinauto.it* becomes part of the French international network, now called Blablacar, the same name later given to the Italian website.

It has over a million registered drivers, makes more than half a million passengers every month move.

When a traveler is looking up for a trip on its website, it has available testimonial-based ratings available on its web site.

But, also passengers are rated, to ensure the greatest accountability, that is needed on both sides in terms of reliability, punctuality, and so on.

The particular case of women looking for car seats could raise incremental safety concerns, so the *pink trip* was introduced: a trip entirely dedicated to women, both as passengers and as drivers.

It can be used to book international trips to, and can easily account for a great saving in money than alternatives.

At the present moment, there are more than 10 million users that subscribed on Blablacar website to travel in 13 countries.

The iOS and Android app were downloaded more than 5 million times

More than 2 million people travel with Blablacar every month, and have shared more than 3 billion kilometers, saving more than € 216 million.

Around 700.000 tonnes of CO₂ were saved, travelling with on average 2.8 people per car (the average without Blablacar is 1.6 senza BlaBalCar)¹¹⁸.

2.4 Likely evolutions in the car sector and car ownership

The transportation sector is responsible for more than 50% of the total oil consumption worldwide, and of 30% of commercial energy consumption, and in addition it is the most rapidly growing sector in both aspects.

The growth experienced has been faster in the economies that have been growing at faster rates, like China, East Asia and some Latin America countries.

In the OECD it is possible to attribute all the growth that oil demand has experienced since mid 1970s transportation, and in the other part of the world the percentage is smaller, around 45%.

Since the demand for transportation services is expected to increase, the oil demand is expected to increase as well, and may be especially high in those countries with lower income levels (also for those part of the OECD).

As long as there will be no viable alternative fuels, and as long as ownership is maintained, there will be no option other than keeping on purchasing it for drivers, with the following increasing spending and CO₂ emissions¹¹⁹.

As it is imaginable, different countries will have different stock of vehicles and will experience different developments over time.¹²⁰

For instance, in Italy the number of cars per capita have increased by 4,6% in the years between 1970 and 1992, and vehicles by 4,6%.

¹¹⁸ Blablacar website. <http://www.blablacar.it/>

¹¹⁹ Dargaya J., Gately D. (1999). Income's effect on car and vehicle ownership, worldwide: 1960-2015. *Transportation Research Part A* 33 pp. 101-138

¹²⁰ Ibid.

Chapter 3

Focus on access vs. ownership dilemma in the mobility field. Is there a future for mobility sharing solutions in Italy?

3.1 Research objective

After having outlined the main differences between patterns of ownership and access, the recent evolutions in the field and in the so called *sharing economy*, I have devoted the previous chapter to an in depth analysis of the results that sharing has had in the mobility field, and the new patterns of fruition it has created.

We have seen as some scholars believe there is no future for access in the long term, as digitalization, Internet and Web 2.0 will let potentially anyone having access to potentially everything.

According to others, ownership will keep on existing as long as people feel like they are missing something if they do not physically own it.

When this reasoning is applied to the world of mobility, another element needs to be added to the picture: the fact that, in Western cultures, a car is a status symbol.

It is not clear if, even in the aftermath of the economic crisis, that made especially younger generations renounce to some of traditional steps in the path of adulthood, like purchasing a house, the car is something that can be renounced to, or if owning one is fundamental.

I will try to give an image of mobility habits in Italy, as well as how much ownership is still in place for what concerns vehicles, and how people feel about owning one. Are they completely satisfied, or do they just own it because they do not feel there are viable alternatives?

Another interesting point is to look at how much consciousness of sharing practices is in place, the perceived advantages and disadvantages, and the propensity to share the privately owned vehicle.

Not only I will look at the results generally speaking, but I will try to figure out if there are substantial differences in attitudes and behavior according to sex, geographic location or age.

I have tried to find respondents using my personal university and social networks, posting the survey on Facebook private groups where I belong since a long time and where not only I trust participants, but I believe they are in target for what concerns interest in innovation in general, and specifically to the startup world.

3.2 Previous contributes

Carsharing was the first sharing practice to gain acceptance and to become object of research and studies, which intensified after its evolutions in Europe, mostly since late 1990s.

A research that dates back in 1996, conducted by Steiner and other authors, had the aim to investigating how Austrian carshare users had changed their behavior before and after they began to user actively the service, and gave a further insight affirming that potential market was composed by 9% of Austrian households¹²¹.

The finding was that, because of carsharing adoption, household who did not own a vehicle increased the kilometers travelled by more than 100%, and the ones who already owned a vehicle reduced the distance travelled, instead.

A summary of previous researches made in Northern Europe was conducted by Shaheen, together with Sperling and Wagner¹²², which evidenced a reduction in the Netherlands of 37% and in Germany of more than 50% of kilometers travelled

¹²¹ Tal G., (2009) Evaluating the Effect of Car-Sharing: Exploring the Gap Between What We Know vs. What We Need to know and Its Effect on Optimism. *Institute of Transportation Studies University of California*.

¹²² (1998) Carsharing in Europe and North America: Past Present and Future. *Transportation Quarterly*, Vol. 52, No. 3, pp. 35–52.

In 2002, we have in San Francisco the work by Cervero¹²³, that was based on four years of analysis through surveys and travel diaries, and had the objective of understanding how and why carsharing may change a previous behavior, as well.

Still based in San Francisco, a project called *Short Term Auto Rental* (STAR) was brought on by Walb and Loudon¹²⁴ and had seen a reduction in car ownership around 12,3%.

Litman, in its 2000 *Evaluating Carsharing Benefits* concluded that the percentage of privately owned vehicles to which people were likely to renounce when approaching carsharing was around the 6%.

Katzev's research instead¹²⁵ focused on the Portland Carsharing and still arrived to the conclusion that the ones who did not own a car before increased the distance travelled, while the opposite happened for those who already did.

According to Lane¹²⁶ each shared vehicle concurred to take 23 private owned ones from the street.

Vehicle ownership reduction is as well evidenced as the most important impact of sharing practices by Millard-Ball's 2005 study¹²⁷, in addition to effects on parking demand, kilometers travelled, air quality and others.

Generally speaking the conclusions of different studies agreed on the fact that the use of a carsharing program is general accompanied by a reduction in the distance travelled (Figure 3.1)

¹²³ Cervero R., Tsai Y. S. (2002) City CarShare in San Francisco, California - Second-year travel demand and car ownership impacts. Transit Planning and Development, Management and Performance, Marketing and Fare Policy, and Capacity and Quality of Service, 2004(1887). p. 117-127.

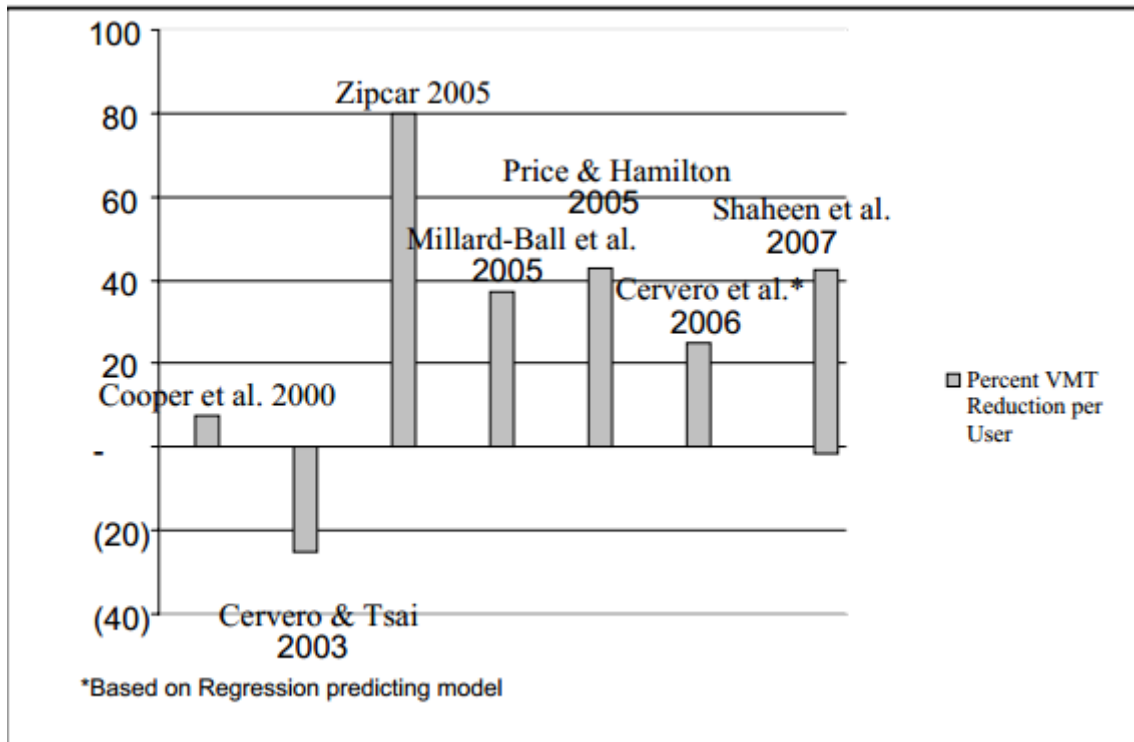
¹²⁴ (1986). Evaluation of the Short-Term Auto Rental Service in San Francisco, CA. Report submitted to the U.S. Department of Transportation

¹²⁵ Katzev R. (1999) Carsharing Portland: Review and Analysis of Its First Year. *Department of Environmental Quality*, Portland.

¹²⁶ Lane C. (2005) PhillyCarShare: First-Year Social and Mobility Impacts of Carsharing in Philadelphia. *Transportation Research Board*, 1972. Pp 158-166.

¹²⁷ Millard-Ball A., Murray G., Ter Schure J. (2006). Carsharing as a Parking Management Strategy.

Figure 3.1. Vehicle Miles Travelled per Carshare Member¹²⁸



A look at how ownership has been affected by the adoption of sharing practices has been given many times by researchers, and has been summarized by Tal, that base its report partially on the previous work of Millard-Ball.

The general conclusion is that carsharing may have an important impact on travel behavior, with a number of users for each car around 13 and 25, eliminate full ownership of from 3 to 20 cars, and reducing driving time of a percentage from 20 to 40% (Figure 3.2¹²⁹).

Figure 3.3, reports the number of vehicles replaced for each shared car.

¹²⁸ Tal G. (2009). Evaluating the Effect of Car-Sharing: Exploring the Gap Between What We Know vs. What We Need to know and Its Effect on Optimism Bias. *Institute of Transportation Studies University of California*, pp. 16-19.

¹²⁹ Ibid.

Figure 3.2. Carshare members' vehicle ownership reduction.

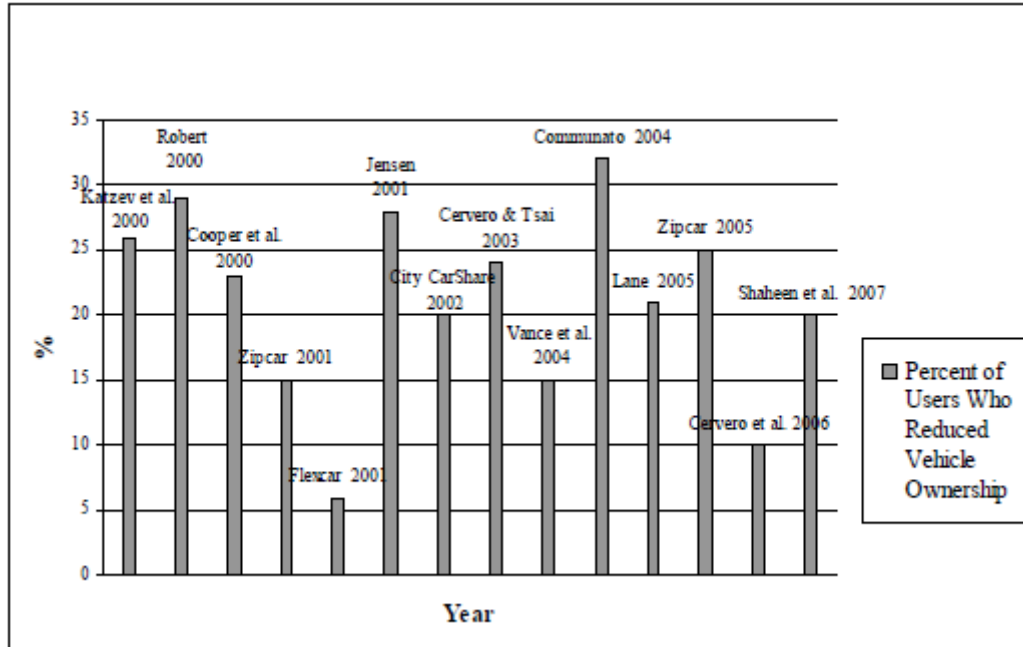
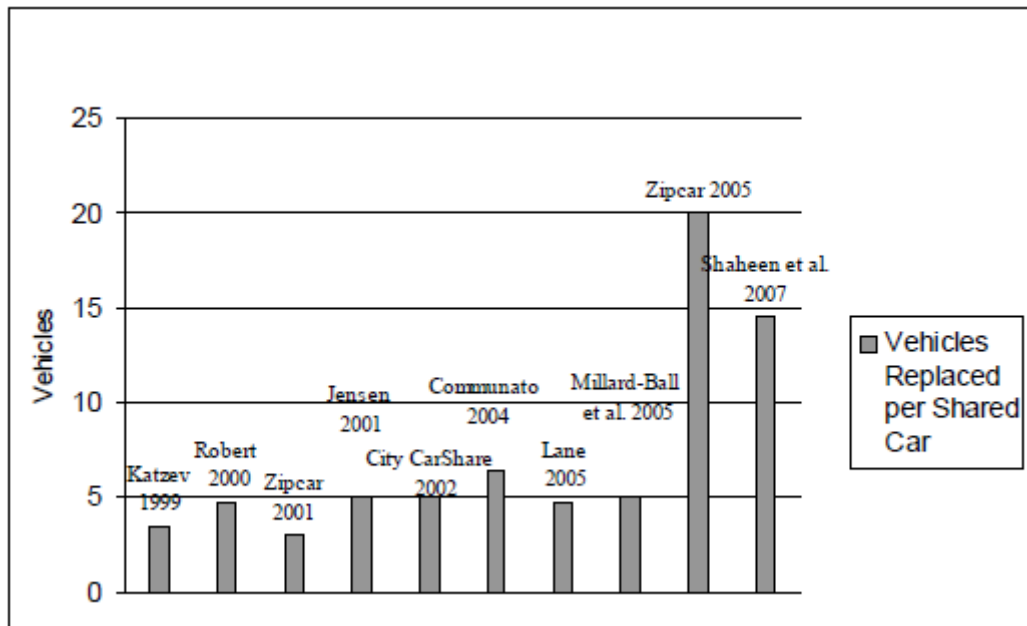


Figure 3.3. Vehicle replaced per Shared Car¹³⁰



¹³⁰ Ibid.

Much of these studies consider carsharing as a *Travel Demand Management* tool, managed to reduce kilometers travelled by changing general travel behavior. In this situation, for the purpose of my analysis, I am less interested to that, and only in the measure in which a specific behavior (owning a private vehicle) is likely to be changed.

The previous mentioned research by Jill Hennessey focused on Millennial's car buying process, but none of those studies has considered the Italian case.

3.3 The questionnaire

The questionnaire is composed by 11 compulsory questions, and by other additional ones that are presented only in case some other previous answers are given, to better investigate some given behaviors.

Specifically, those regard the necessity to move with regularity during the day, and if the respondent owns or not a private car (or is one of the principal users of one).

Moreover, some give the chance to provide a single answer (e.g. the one concerning the age of the respondent), those where I thought it was preferable to give the possibility to select multiple answers (e.g. the problems experienced when moving in urban areas), and some others gave the "other" option, to provide some answer or observation that is not explicitly given.

The first three questions were meant to assess the composition of the pool of respondents, defining the age according to five clusters, starting with 18 years old because a necessary condition was being able to drive.

Because I believe that what was relevant for my research was the deliberate choice of owning or not a car, and then using a sharing solution or not.

The following two regarded the city where respondents live¹³¹, and their sex.

¹³¹ In Italy, as mentioned, the cities that provide the highest number of sharing practices opportunities are Rome and Milan.

These two are also the cities where it was easier for me to find out respondents, but I have anyway included the chance to indicate other cities, since I found out it would be as well interesting to evaluate possible affinities or differences.

Despite of the fact that not all the respondents live in Italy (a considerable number of answers revealed Berlin as living city), all the respondents are Italian.

I believe it is important to specify that, since the focus on my research is on Italian habits and mind-sets, and in fact, I have conducted my survey in Italian.

Then, it follows the one I believe is one of the most relevant questions of the survey, and that is connected to how people feel about vehicle ownership.

Even if the chance for answering something else is provided, I have anyway presented some possible one, in a continuum from a luxury purchase to an unreasonable choice.

Then I go in depth analyzing mobility habits of respondents, asking them if they need to move around the city regularly during the day, as per the research by Ballus-Armet et al. named before.

For those providing a positive answer, more specific ones follow, regarding the reasons why they need to move, the kilometers travelled on average and the medium used to move around, if a private car, a shared one, public transportation or by foot.

As for the Ballùs-Armet, Shaheen, Clont and Weinzimmer 2014 work focused on San Francisco Bay Area in California¹³², the levels of awareness concerning sharing practices in mobility are addressed providing alternatives with increasing intensity: Never heard about it, Confused about it, and Aware of the phenomenon, I have used it at least once, I regularly use it (which I have added to have a picture of regular users).

The general opinion about them is also investigated, followed by asking if the respondent would feel comfortable about putting its own car at the disposal of other people, as in a 2010 study conducted by Shaheen, Mallery and Kingsley (*Personal Vehicle Sharing Services in North America*) in the third volume of *Research in Transportation Business and Management*. It addressed the problem of trust within carsharing model, finding out that

¹³² (2014) Ballùs-Harmet I., Shaheen S. A., Clonts K., Weinzimmer D.. Peer-to-Peer Carsharing. Exploring Public Perception and Market Characteristics in the San Francisco Bay Area, California. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2416. Pp. 27-36.

about one half of respondent were reluctant to share their personal vehicle and some of the circumstances under which they would be willing to do so.

In the survey I have added the option (as well as to leave space for additional circumstances) that the owner would drive the car himself.

Leaving open the possibility to indicate additional answers, the suggested ones are no, in any case, maybe, and yes if the income resulting would be of some relevance.

The perceived advantages and disadvantages of carsharing (the mostly used and popular among the sharing mobility solutions). Some previous studies have investigated the reasons for using carpooling and other sharing practices against those for not using them, from some of them I have considered the most relevant to provide as answers to my survey.¹³³¹³⁴

The eleventh question is dedicated to investigate the ownership patterns in Italy, starting with dividing those who do not own a private vehicle by those who entirely own one or share the ownership with other people (intuitively inside of their family).

For the ones who did not give a negative answer, three specific ones regarding ownership are then indicated.

The first one concerns how many times during the day this is used (as how many times it is started and stopped during the day, as the average kilometers travelled were already attested in a previous answer).

Then, which are the biggest issues experienced by private car owners, from traffic to accidents to an expense perceived as too high.

And, finally, car owners were requested to consider leaving ownership.

They could say they wouldn't do it in any case, or only in the case they have a valid alternative, or indicate something else.

¹³³ Li J., Embry P., Mattingly S.P., Sadabadi K. F., Rasmidatta I., Burris M. W. (2007). Who Chooses to Carpool and Why? Examination of Texas Carpoolers. *Transportation Research Record: Journal of the Transportation Research Board*. 2021. pp. 110-117.

¹³⁴ Dewan K., Ahmad I. (2007) Carpooling: A Step To Reduce Congestion (A Case Study of Delhi) *Engineering Letters* 14.

3.4 Results analysis

The online survey was administered in February 2015, and reached about 200 people through Facebook and direct mail, aimed at the most heterogeneous group as possible, and so published on innovation, university and other groups.

It was composed by 11 compulsory questions mixed between open, closed and one in which intensity of knowledge of sharing phenomenon needed to be evaluated.

The ideal sample of this study would have given a panoramic of perception of sharing practices at Italian level, well mixed at geographical and age level.

Some bias have been experienced anyway, mostly resulting from location, as living in Rome the biggest part of my contacts were around here, and for the same reason reaching people in their twenties was more probable.

147 of the respondents reported living in Rome, 24 in Milan, 13 Berlin, and the remaining in Albano, Anzio, Florence, Rostock, San Diego, Catania, London, Marino, Dubai, Bologna, Cagliari, Verona, Naples, Turin, Monza and Cagliari.

Refusals to take the survey were not registered, and a total of 96 females and 104 males were reached.

Respondents of age 40 and over were underrepresented, as accounted only for the 2% of the respondents, while the greatest part of the sample was composed by people aged between 26 and 30 (47% of total number of respondents) and between 22 and 25 (34%).

General perceptions of vehicle ownership are presented in the Figure 3.4.

The biggest part of respondents reported that for them owning a private vehicle is a fundamental need, even if the following attitude is to say that they might renounce to it.

In following figures (3.4, 3.5) the ownership perceptions are split by sex (revealing that women tend to consider it slightly more like a necessity, and men more like a comfort) and by age (evidencing that the respondents aged between 31 and 40 are those that more than others consider a private vehicle as a comfort). Instead, those between 18 and 30 see it more like a necessity.

Figure 3.3

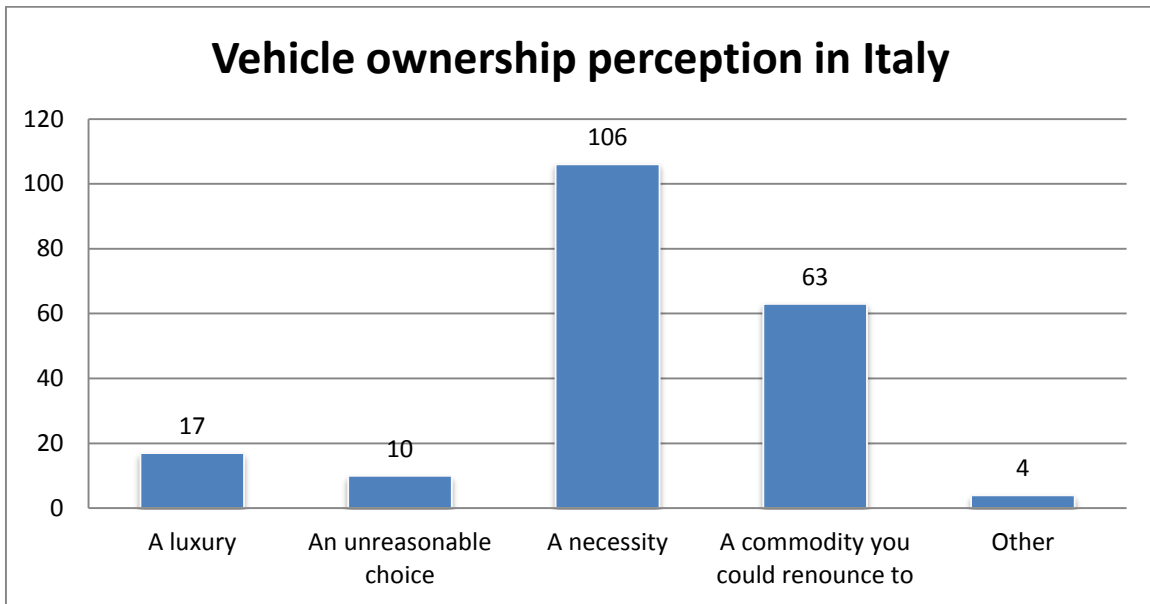


Figure 3.4

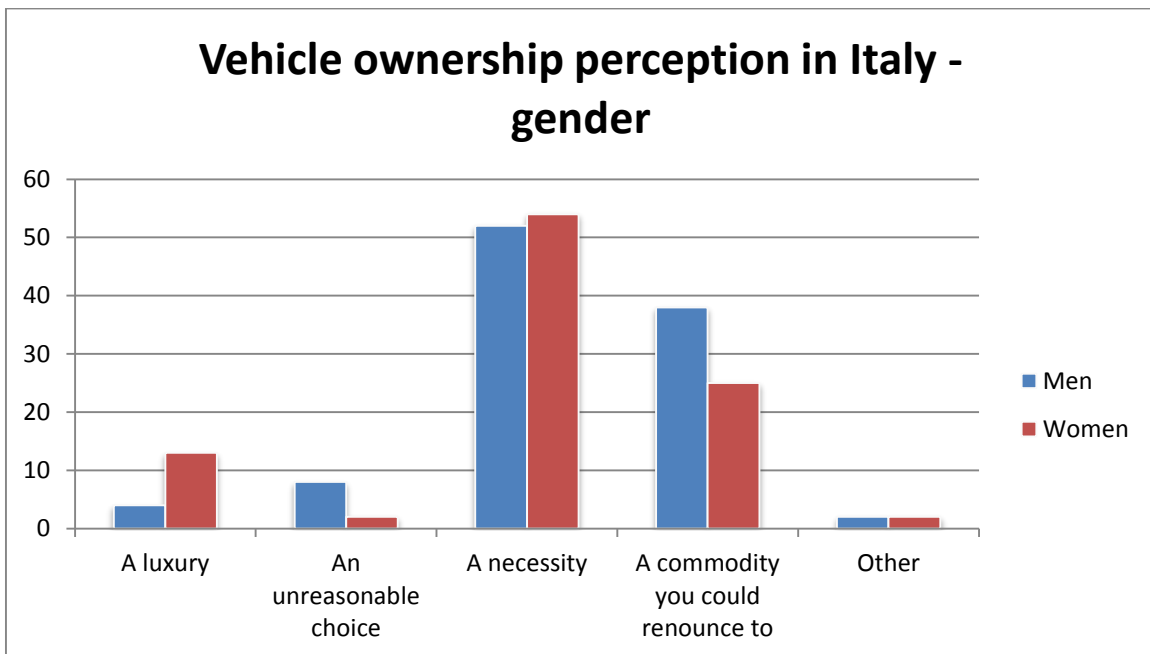
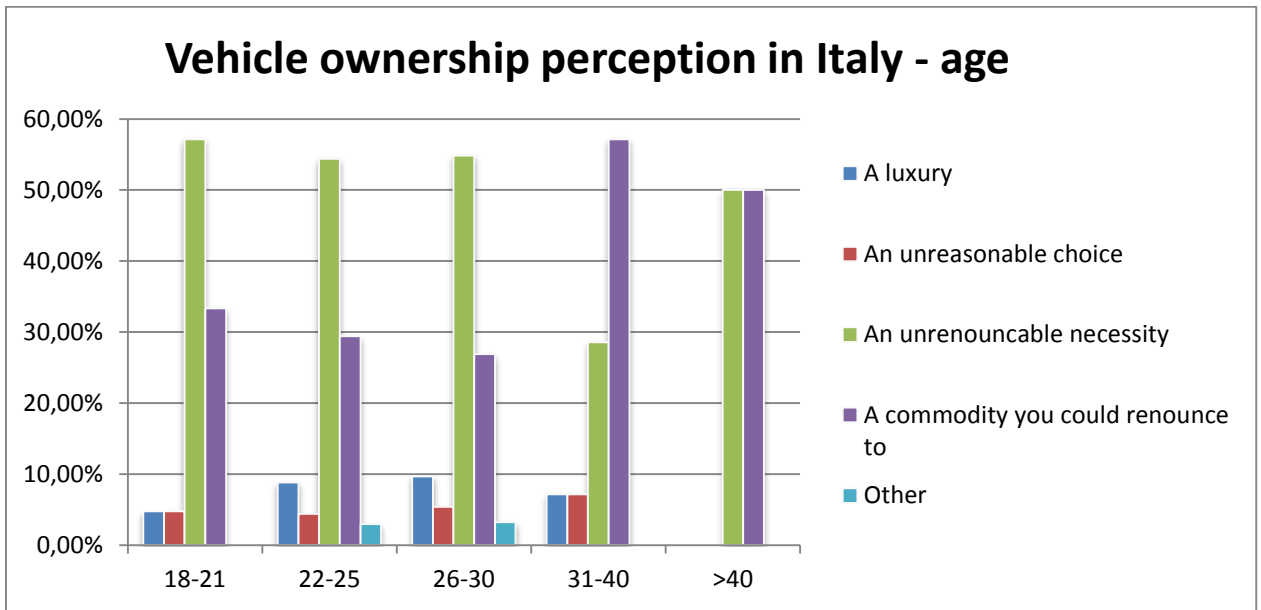
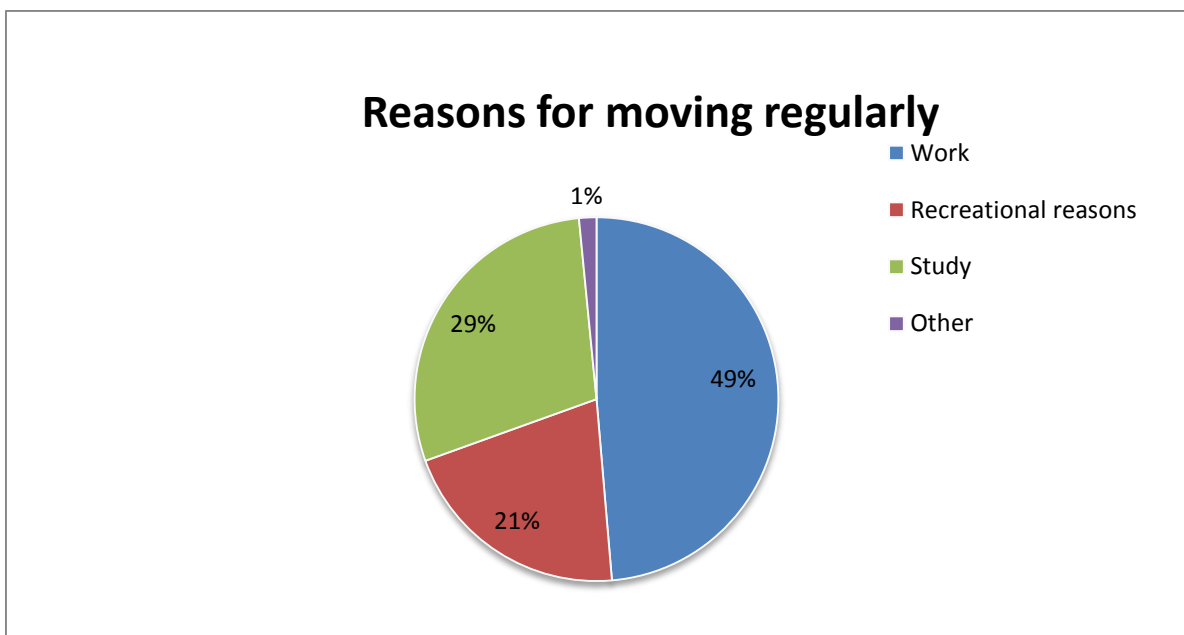


Figure 3.5



For what concerns the frequency of movement during the day, only the 14% of the respondents reported they do not need to make regular movements during the day. Of the remaining 86%, the needs are divided how explained by Figure 3.6, with work in first position, followed by study and recreational reasons

Figure 3.6



The 27% of people that need to move on regular basis travels less than 10 kilometers per day, the 39% between 10 and 20 kilometers, the 21% between 20 and 30 kilometers, and the remaining 12% more than 20 kilometers per day.

Of those, more than the 4% use a private vehicle more than four times a day, the biggest percentage, around 39%, between one and four times, the 29% less than once a day and the remaining even less.

The preferred ways for travelling those distances are illustrated in Figure 3.7, and further analyzed in Figure 3.8 and 3.9. I didn't replicate the analysis per sex as I believed the difference was not relevant for the aims of this research.

The private vehicle solution is the preferred generally speaking, followed by public transport (28%) and moving by feet (17%). Only the 5% reports using a shared solution.

The over 40s tend to use more private vehicles, as well as the 18-21 years old group. The 31-40 are those that walk more, and the 22-25 those that use more public transport. The 31-40 is also the group that already uses more shared solutions.

The area in which private vehicles are used the most is Rome, the least by Italians living in other parts of the world, that walk and use public transportation the most. The biggest percentage of shared solutions users is in Milan.

Figure 3.7

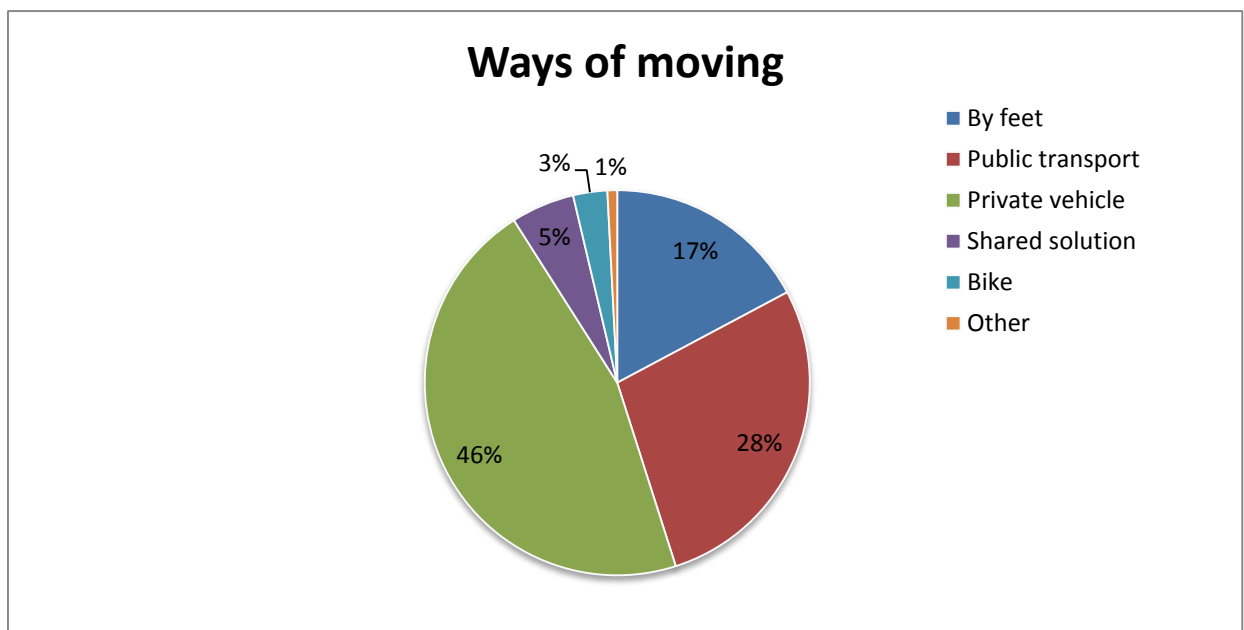


Figure 3.8

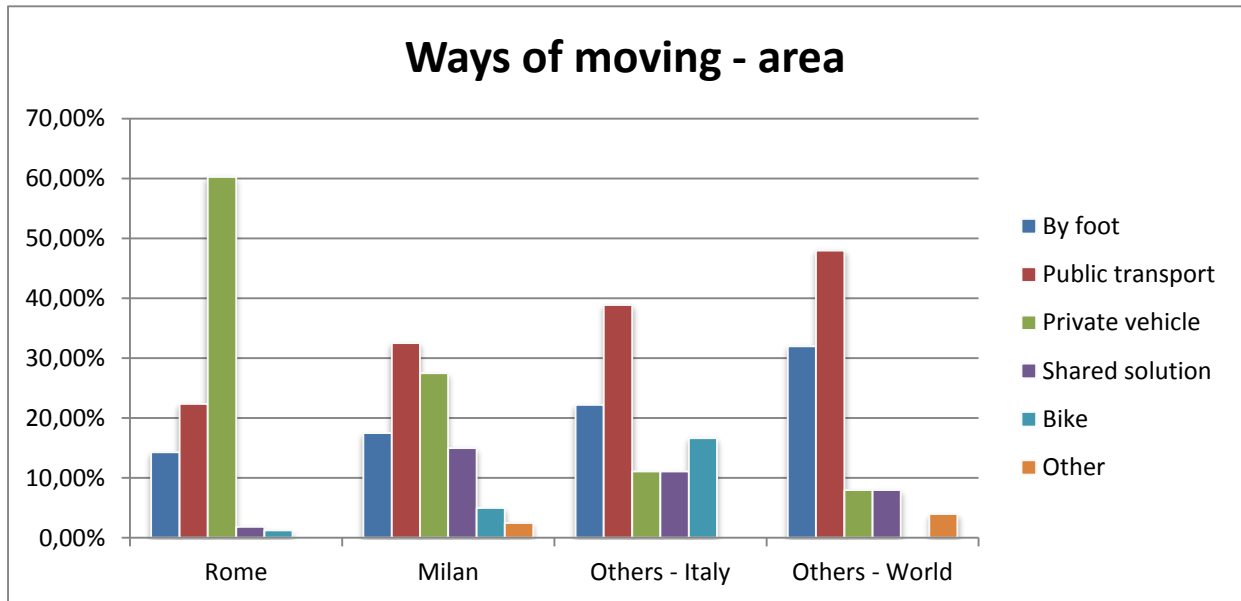
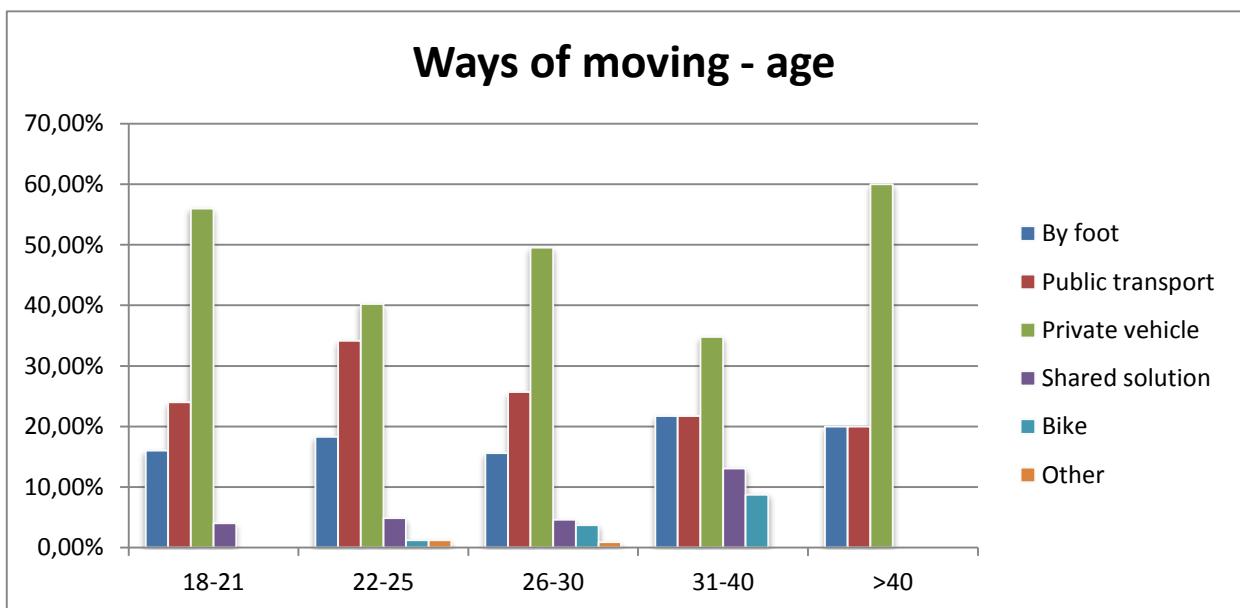


Figure 3.9



The 81% of the respondents own a vehicle, or are one of the main users of one. It is a very high percentage, anyway in line with expectations and with Italian customs and mind-set.

The split of ownership by sex, age and geographic area follows in Figures 3.10, 3.11, 3.12. Females appear to be in dominant position, as well as the over 40 and people living in Rome and in other parts of Italy except for Milan. The age range between 31 and 40 has a

percentage of vehicle ownership around the 70%, the highest, followed by 18-21 that, even if we can imagine do not directly own a car, have anyway one at their disposal.

Figure 3.10

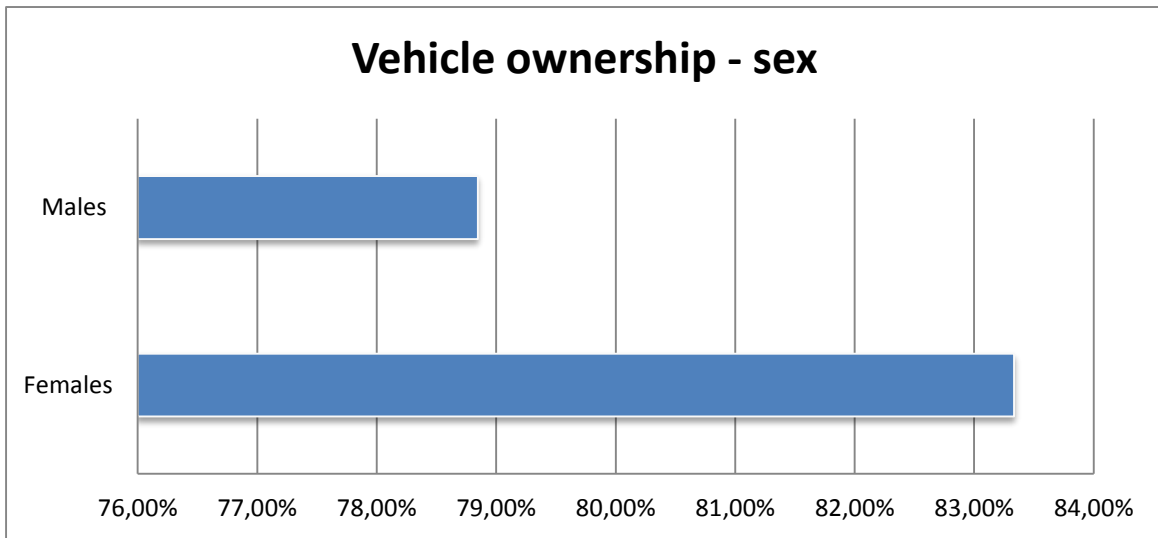


Figure 3.11

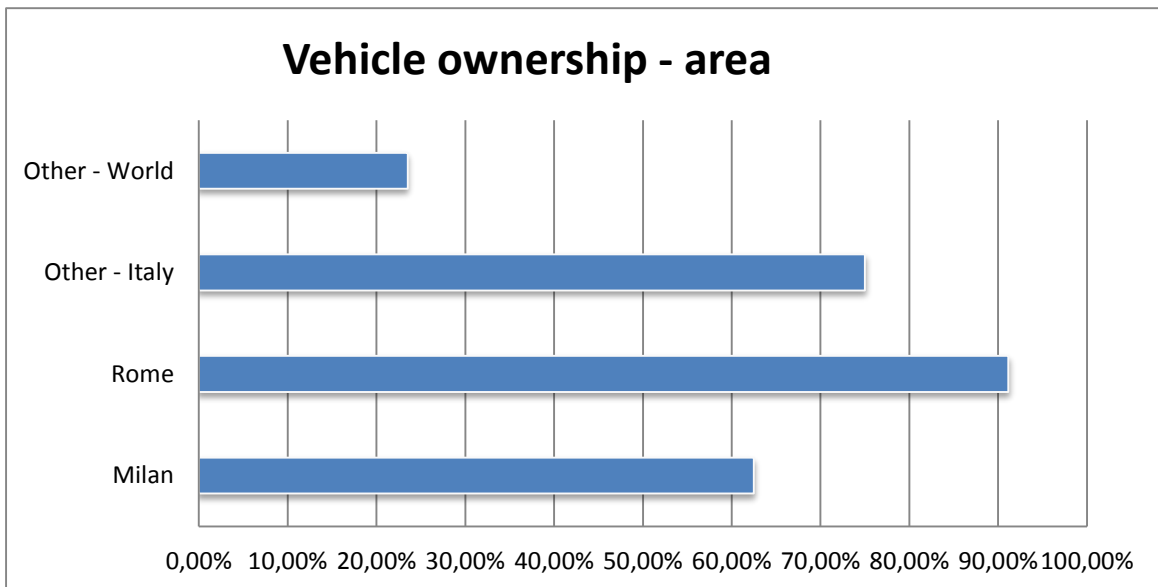
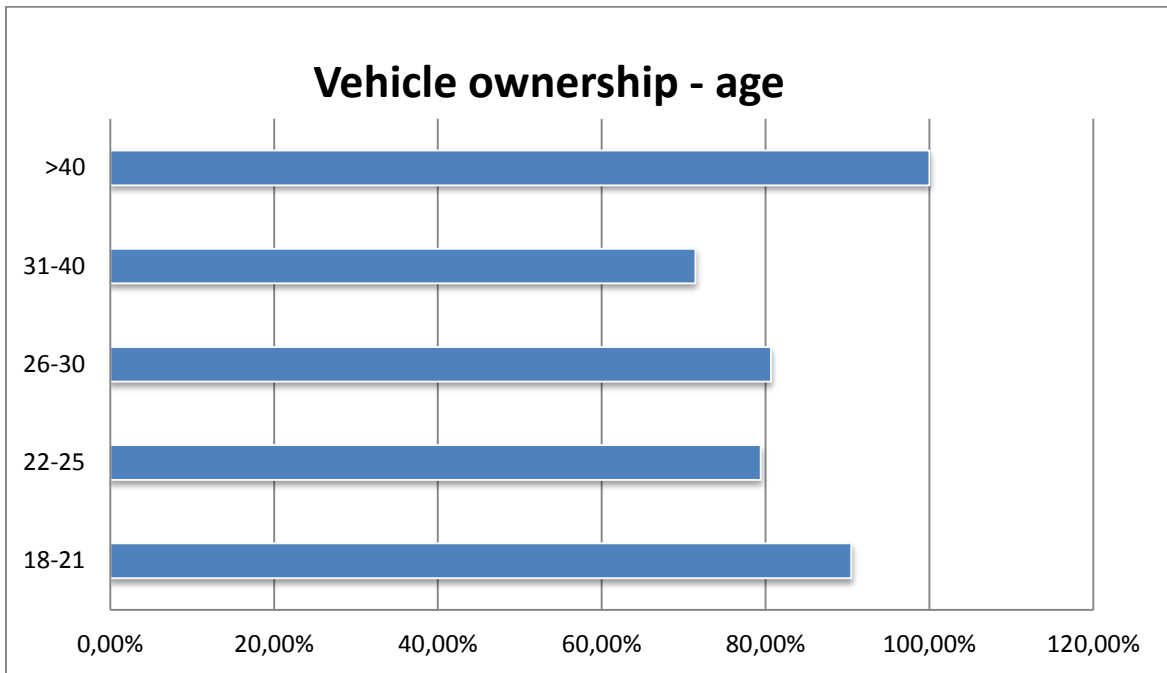
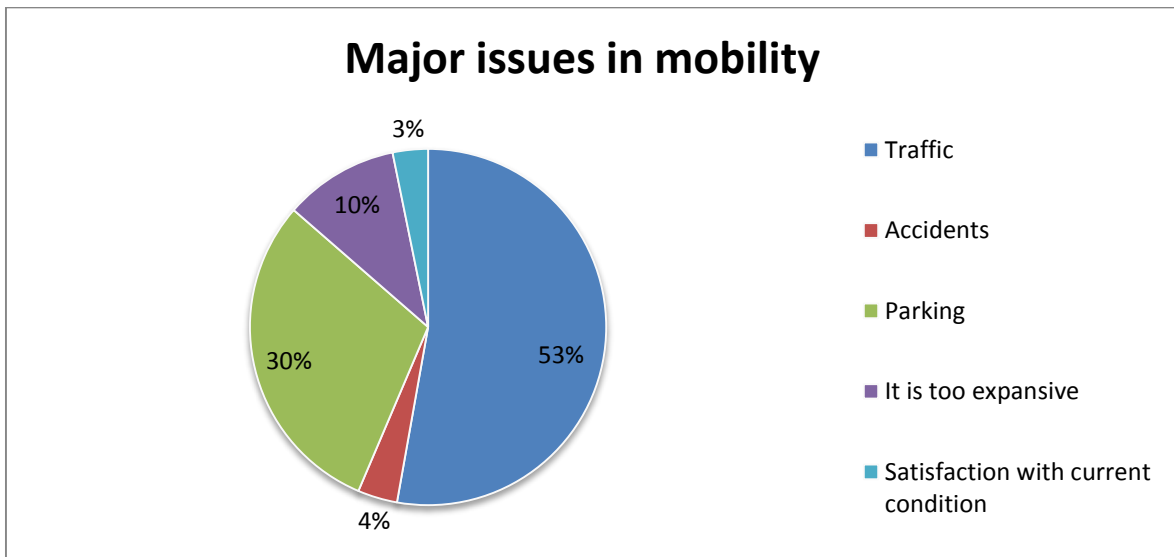


Figure 3.12



For what concerns moving in urban areas with a private owned vehicles, the biggest challenges are connected with traffic and parking. Interestingly, only the 3% of those who move with a private vehicle affirm that they are satisfied with current arrangement.

Figure 3.13



Considering that, we can have a look at the propension of respondents to give up on vehicle ownership.

I believe it is interesting that almost a half of private vehicle owners would eventually give up on ownership, if they had a valid alternative.

A quarter, says instead they would never renounce to a private vehicle (Figure 3.14).

There are not great differences between genders, beyond the three attitudes.

There are instead some according to the age of respondents, as a bigger percentage of over 40 are categorical in saying they would never give up on ownership, while the 31-40 years old appear to be more open to the possibility.

Figure 3.14

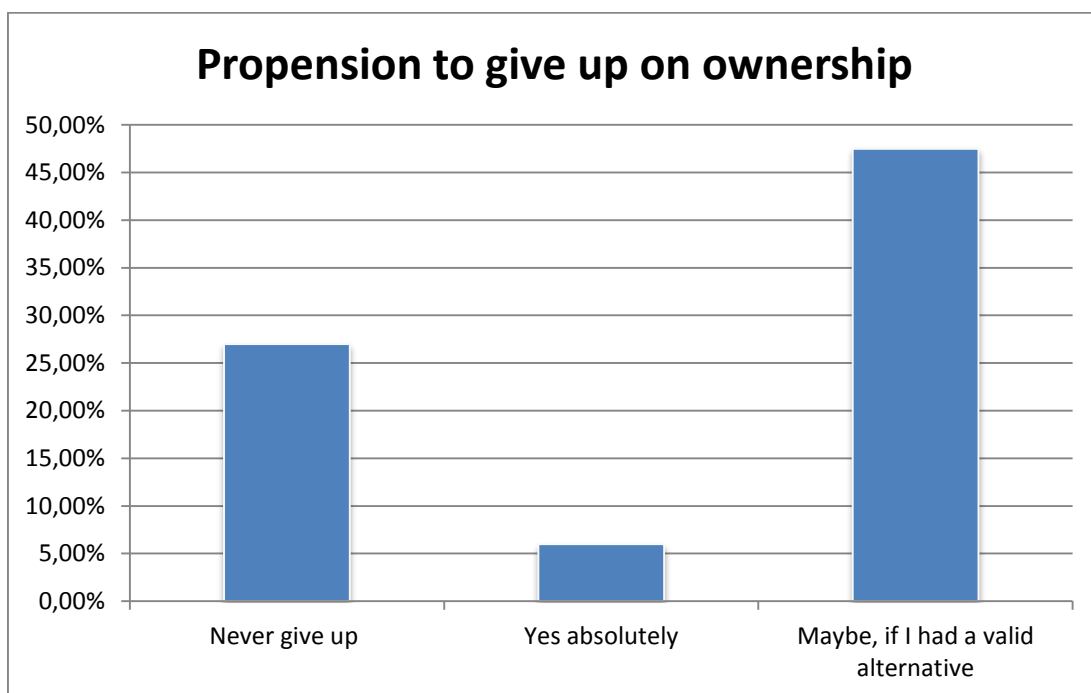
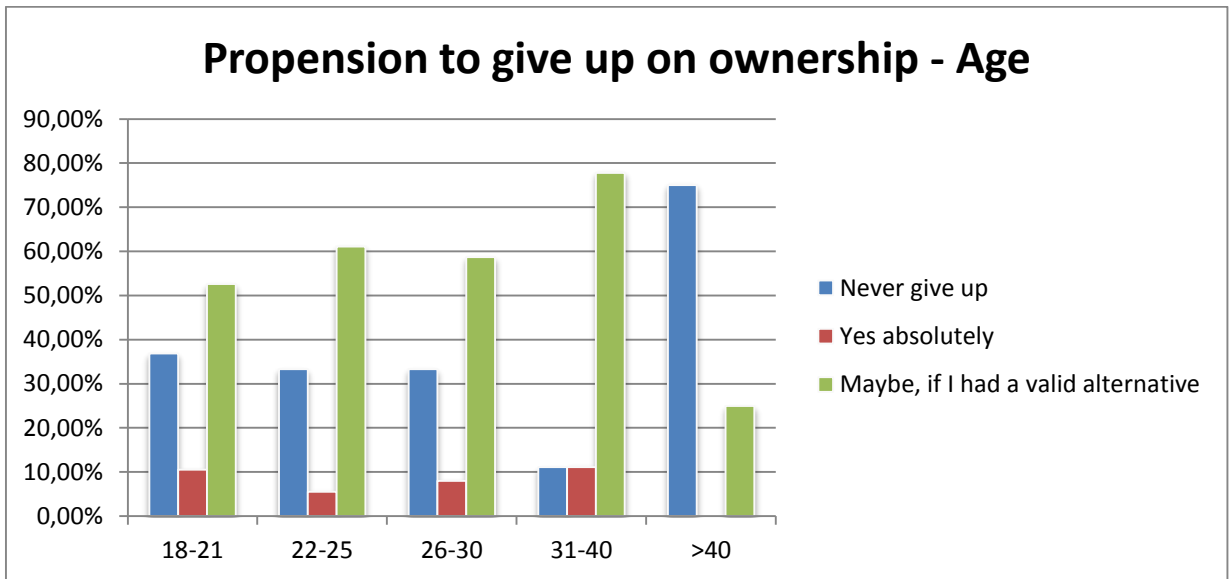


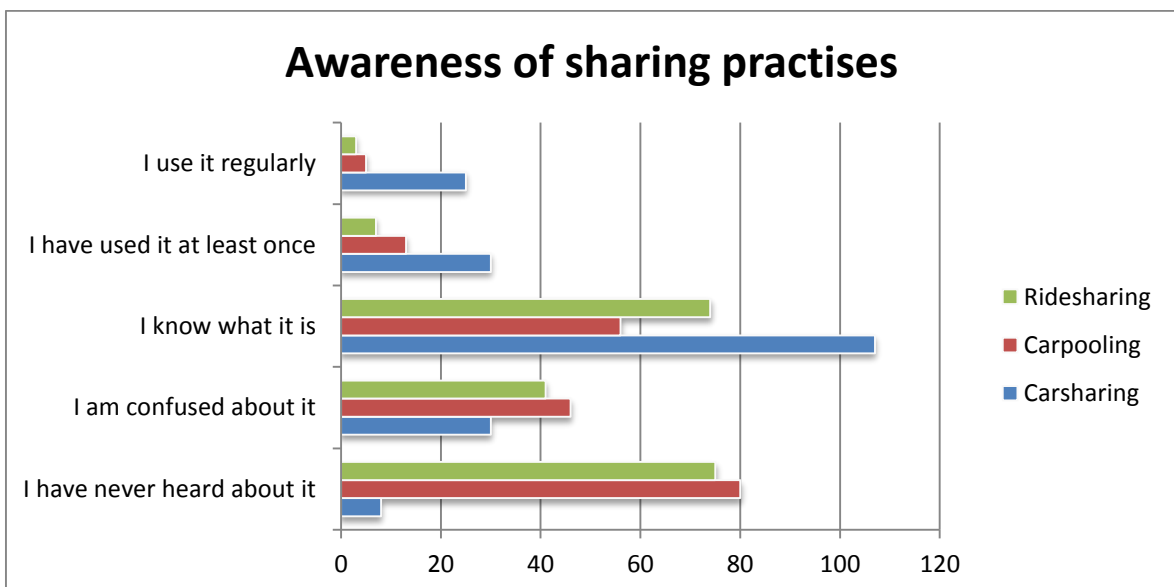
Figure 3.15



Following questions regard the awareness of sharing practices (Figure 3.16).

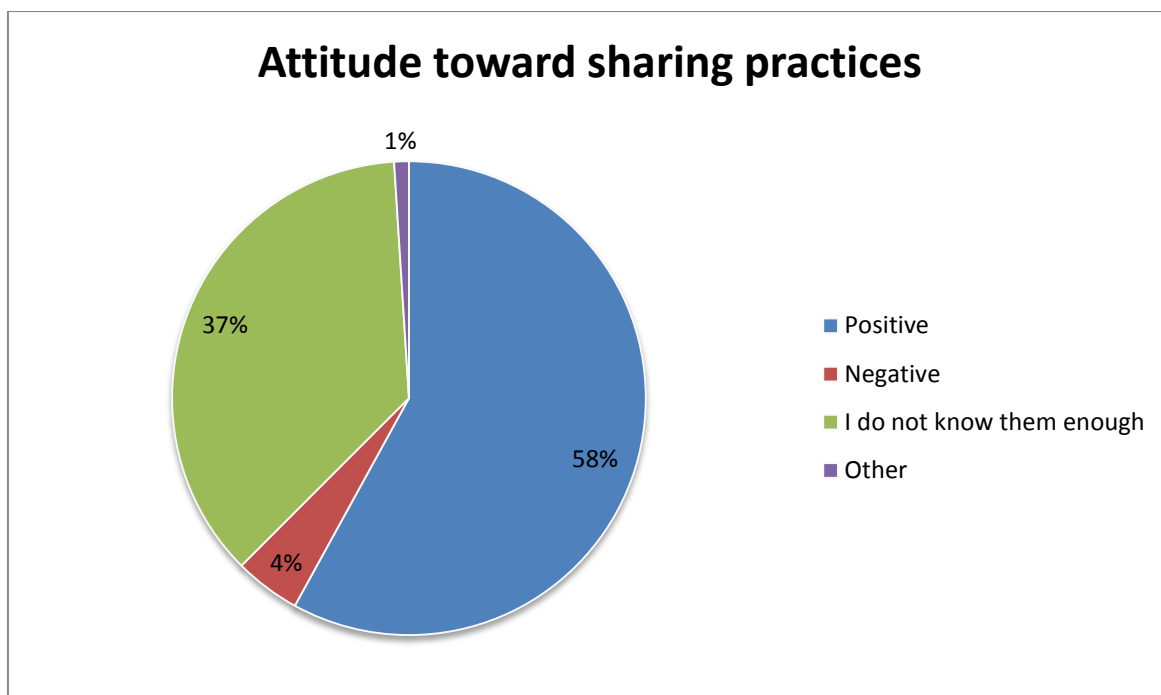
Carsharing is the practice with bigger awareness, and the one that they used, or use with regularity, the most. Carpooling generates greater confusion and less awareness, but has been used more than ridesharing. Ridesharing is instead the one used less, even if a there is a considerable percentage of respondents that reported to know what it is about. We can conclude that only for Carsharing the awareness overcomes the ignorance of the unsureness about the phenomenon.

Figure 3.16



General opinion toward the services is anyway positive for more than a half of respondents (Figure 3.17) and negative for about a third.

Figure 3.17



Issues impeding massive adoption of the service are then likely to exist.

As previous literature suggested, trust issues may be worth an investigation (Figure 3.18). Evidence from the survey reveals that 32% of respondents wouldn't put their car at disposal of others in any case. The 27% affirms it's open to the possibility, and the 23% would accept to do so, but only if he would drive (so the trust issue regards the capacity of driving of other people). Propensity showed by Italians is greatest in Milan and in other Italian cities, if compared with Rome and foreign countries, among females and those aged between 22 and 40 (Figure 3.19).

Figure 3.18

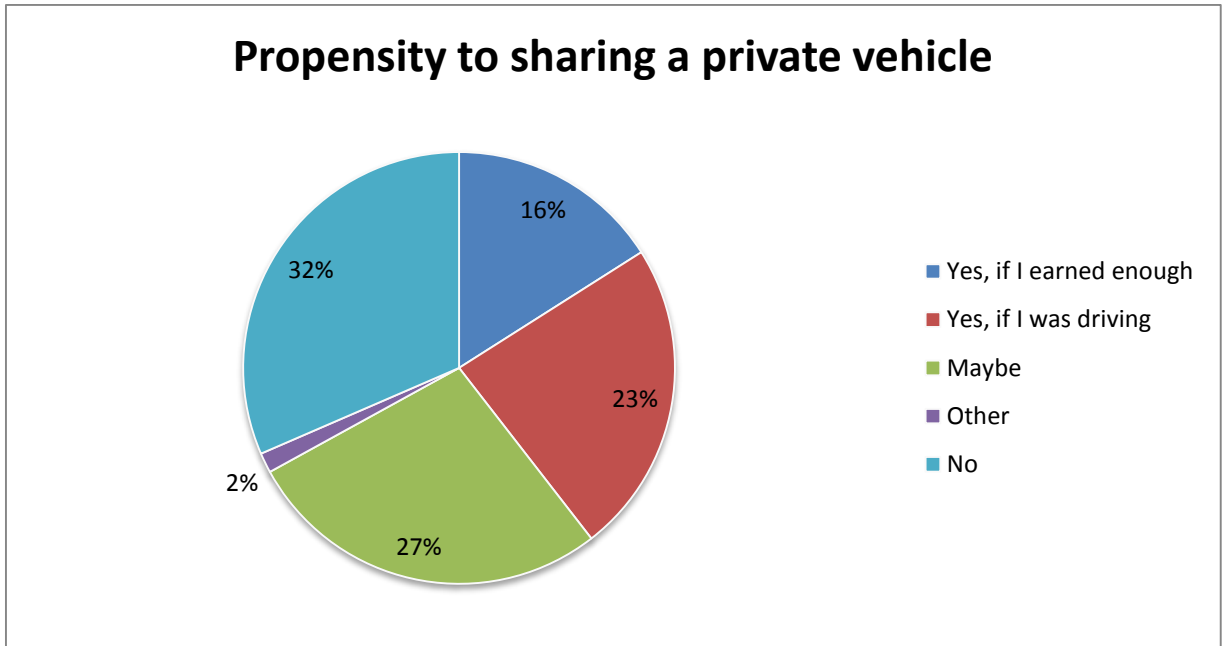
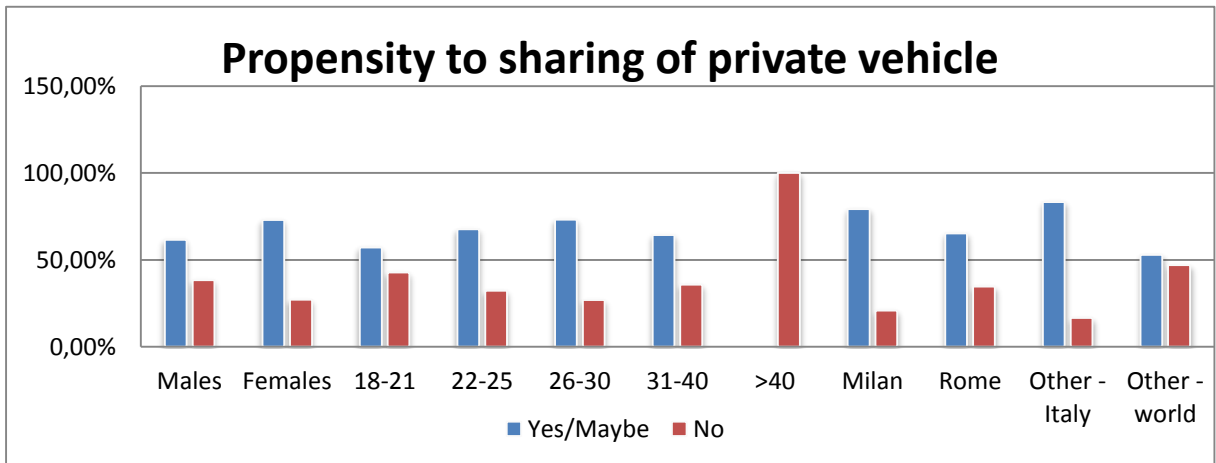


Figure 3.19



The last two questions deal with the greatest perceived advantages and disadvantages of sharing practices. For what concerns the advantages, (Figure 3.20) the most named is that they allow for cost savings, followed by entering into restricted traffic zones and the convenience in parking. The 11% affirms one of the advantages would be renouncing to ownership, as many as those who reveal environmental concerns.

In Milan, the concerns about money are the most evident, and in the rest of the world instead the idea of renouncing to a car is more valued, followed by the other parts of Italy, that is where there are more concerns about the environment and entering into restricted zones (Figure 3.21).

Over 40 years old respondents (Figure 3.22) value more savings and entering into private zones in percentage terms, while the 31-40 do so with parking and the 26-30 are more interest in savings.

Figure 3.20

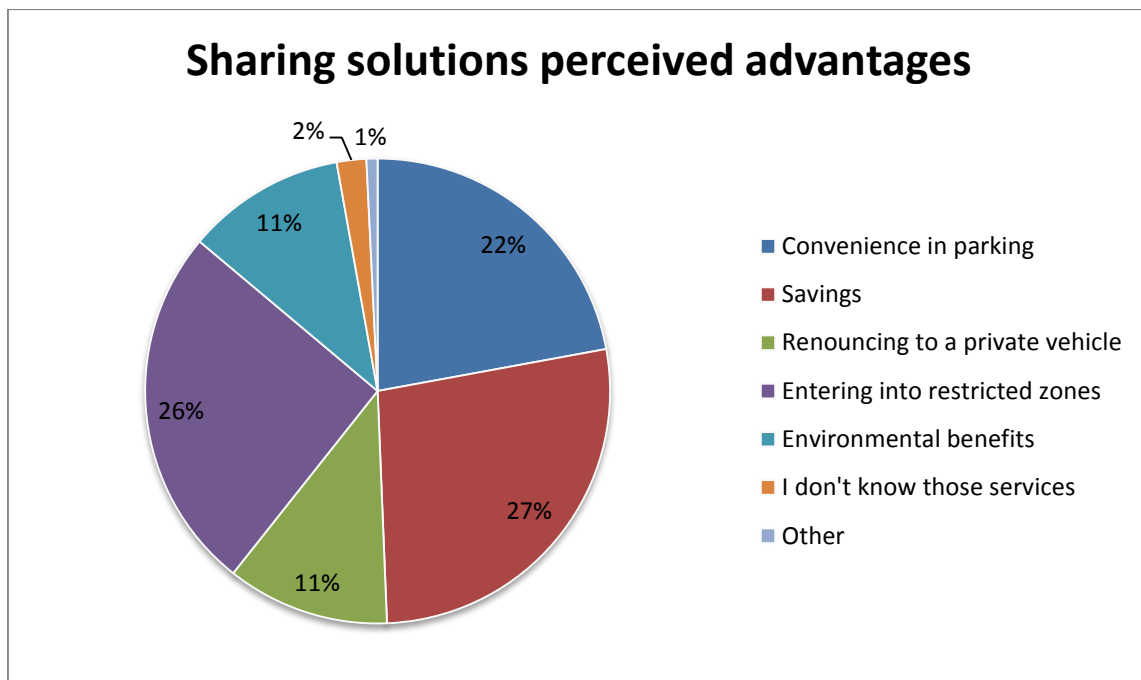


Figure 3.21

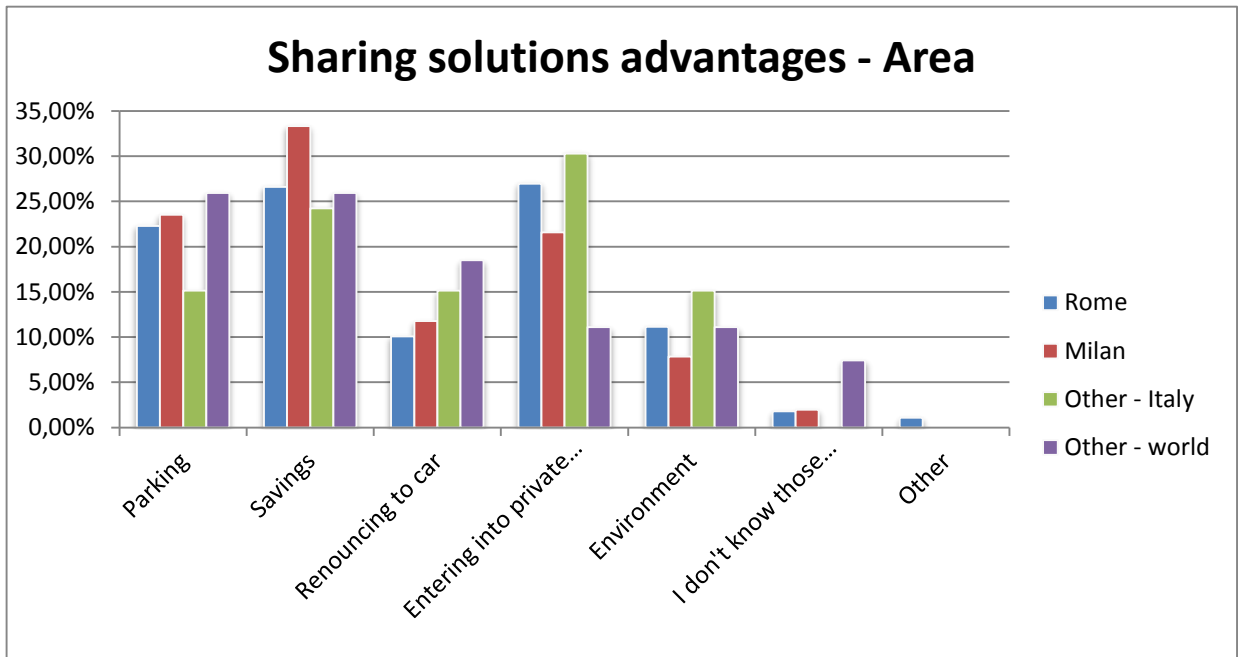
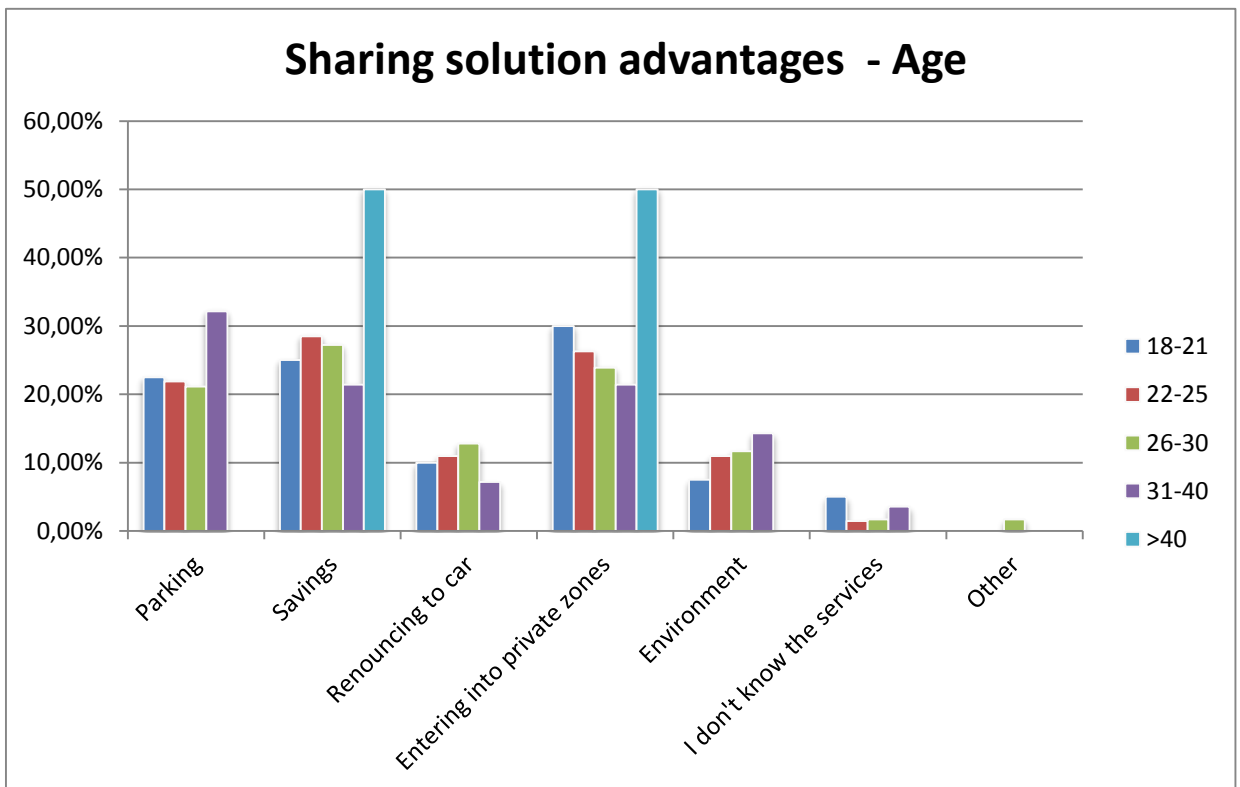


Figure 3.22

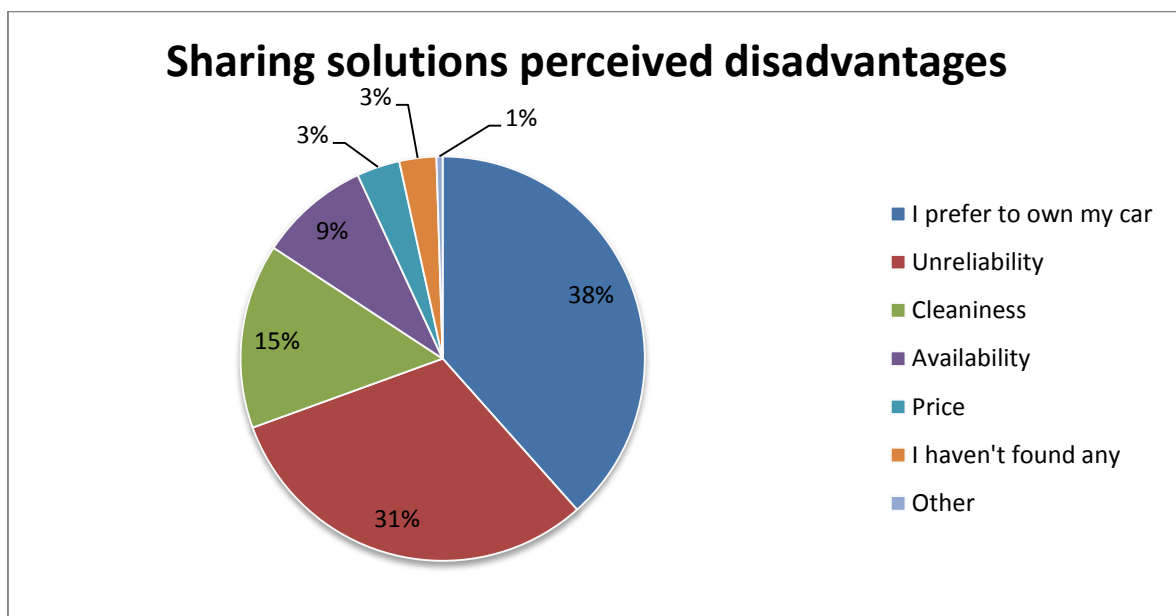


For what concerns disadvantages, instead, those are represented in Figure 3.23.

The most named is the preference for ownership of a car, which for the purpose of this research is quite relevant.

It doesn't have to do with a specific feature of sharing solutions, in fact, but just with an affirmed mind-set. It is instead interesting that a 3% didn't find any issue at all, and that 9% has concerns about availability, one of classical issues for a service when it has not yet reached a critical mass, but that can be easily overcome as more users enter into the market.

Figure 3.23



Conclusion

I started my analysis with a general definition of both access and ownership, and gradually I deepened the subjects of sharing, and examined in depth the field of mobility.

What appears evident, is that companies, as well as single users, cannot avoid considering sharing and its effects in providing access. In fact, it has already changed or everyday lives and the way company operate in the competitive context. They cannot afford ignoring what is happening around them, or they will end up succumbing.

The picture I presented, is for certain the beginning of a broader phenomenon, that will increase its grip on the market and in our everyday lives, as well. As I mentioned, currently, 260 collaborative platforms exist in Italy, and previous researches evidenced that an average of 13% Italians has ever tried out a sharing service, and that four over ten have declared to be skeptical about sharing economy.

The first percentage may seem very small, especially in light of the fact that in the USA it rises up to 52%, but I believe it is not of small relevance, especially if we consider that the

biggest trials have been in the field of mobility and accommodations. In addition, owning a car and a house, are between the two myths for Italian people.

However, things have changed, and are likely to change even more. We have had a look at the evolutions of sharing in numerous fields of life, affecting newest (but not only) generations. And we have been wondering if ownership will give way to access, in the future.

Anyway, I believe that asking a question like “where is the future, in access or in ownership?” would not be the right way to confront the problem.

This may not really be a one or another choice, but instead account for some innovations and positive changes.

As we had a deeper insight into the dynamics that regulate the field of mobility, we can conclude that here, innovations can have a huge range of actions, both because it is experiencing a significant growth, and because it is not working perfectly.

We have seen the numerous issues regarding it in detail, and that the survey revealed that those satisfied for how it works are only the 3%.

This has relevant implications, as people that are satisfied with the status quo would have no reasons for changing their behavior.

Moreover, looking at contributes from authors in different years and referring to different world areas, we have found an agreement on the conclusion that sharing a vehicle reduces the kilometers travelled.

Another easy to make conclusion is that it decreases expenses to be sustained, and then, more carshare may mean less pollution, traffic, and then less discomforts, in addition to cost savings, if compared to private vehicle ownership.

The general perception of ownership of a vehicle in Italy is still of something you cannot renounce to, but we should not stop to this conclusion.

This, because it is worth noticing that the following statement is “something you can renounce to”.

Looking at the results more specifically, I can further conclude that men are those who could renounce more easily.

Therefore, if we should build the “typical sharing solution user”, his first feature would be being a male. This is also confirmed giving a look at vehicle ownership (interesting 78% males and 84% females).

The second, would be having an age between 31 and 40 years old, also according to the analysis of ways of moving by age, while private vehicle use is concentrated between less than 21 years old and over 40.

The 31-40 years old are the ones that own less vehicles (around 60%), and the over 40 the most (100% of the respondents). They are also the ones more bend toward sharing their own vehicle.

The first reason that comes to mind, is that in Italy, people tend to begin living by themselves after 30 years old and to have their own job. We can imagine, then, that they will buy a car by their own, and will be no more using their parents’ one. And this expense is carefully considered.

Italians are also a population that moves from home to go to work, in primis, and then for other reasons.

The survey reported a 60% of respondents travelling an average of 20 kilometers per day, still largely relying on private means of travel, mostly in Rome.

Public transport and walk have been “discovered” especially by Italians living abroad, and sharing practices have their best use in Milan by now.

Concluding, the largest part of private vehicle owners are not satisfied with current status of things. Half of those who own a vehicle would give up, if they had an alternative.

Therefore, the fact sharing solutions are not yet widespread in Italy needs to be accounted to other issues, not in the fact that they do not solve a real problem. And, one of them will surely be the lack of a widespread knowledge, even if the general opinion is positive.

Another one, the skepticism that still exists toward sharing generally speaking, for trust issue.

The perception toward sharing practices is then generally positive, ownership is still eradicated in the measure in which for a 40 years old person it just does not come to the mind not having a private owned vehicle, they are just not accustomed to the idea.

But, for younger generations, especially for young people in their 30s, there is greater consciousness of alternative, and a more careful consideration of expenses to be sustained.

A deeper knowledge of alternatives needs to affirm in Italy, and this will probably happen as the user base increases, resolving the issue perceived by many: the lack of enough cars at disposal.

It is not guaranteed that vehicle ownership will completely disappear in Italy, and if this would happen it would certainly take decades, but according to my research I believe there is for sure room for sharing mobility options to gain acceptance and increase their grip on the market.

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