

GENERATION X, Y, AND Z PREFERENCES FOR CAR-SHARING IN DIFFERENT SITUATIONS

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Abstract

The aim of this article is to assess the influence of different generations (X, Y, and Z) on their willingness to prefer a shared car to their own car in specifically defined situations. The research was conducted from December 2021 to March 2022 and involved 741 respondents, equally distributed among the three generations analyzed. The findings of the research suggest that different generations of respondents will not have different preferences for using car-sharing in different situations. Significant differences between generations were only found in the situation where car-sharing would be preferred on the way to school or work. In other cases, no significant dependence between generations was shown. All generations of respondents can imagine using a car share more regularly during travel and entertainment, but not so much with children to clubs or when shopping and running errands at the authorities. This fact can be useful for marketers who need to discern the motives for customer participation in the sharing economy or the car-sharing segment. At the same time, marketing knowledge in connection with the sharing economy will be enhanced.

Keywords

Car sharing; Generation X; Generation Y; Generation Z; Marketing communications; Sharing economy.

Introduction

The development of technology, especially the interactive environment thanks to Web 2.0, has enabled, among other things, the emergence of the sharing economy. Its importance is growing not only locally but also globally, not only in terms of its financial volume but also in terms of the number of products that participants in the sharing economy are willing to share [1]. One of the most visible products of the sharing economy is car sharing. It has been reported that sales in this segment will reach almost USD 13 billion worldwide in 2022 and even USD 16.5 billion in 2026, of which the Czech Republic is expected to have sales of approximately USD 66 million. More than 60 million customers worldwide are expected to use car-sharing in 2026, including approximately 400,000 customers in the Czech Republic. Almost the entire volume of sales (95%) will be generated in the online environment [2]. Platforms that will mediate the sharing between the product owner and the one who needs the product in the sharing economy environment will need to know their customers in detail, their wants, needs, and concerns that will arise in relation to sharing products.

There is a wealth of information on sharing products and the sharing economy in general in academic publications and scientific articles. In the context of car sharing, for example, Turon [3] discusses the difficulties that car-sharing users may encounter from the moment they register on the platform, through the reservation of car-sharing, its use, and its return.

Chapman et al. [4], in turn, address whether car sharing will lead to a reduction in car use and hence emissions, alluding to the necessary change in behavior between those who have a car and those who will need one. Kolleck [5] also mentions the impact of car sharing on sustainability. Shared cars in conjunction with marketing are discussed, for example, by Luan et al. [6] or Liang et al. [7]. Luan et al. [6] discuss the general benefits of car-sharing and present the characteristics of a typical user of DriveNow's car-sharing service, according to which the typical car-sharing user is a male, aged 25-45, with above-average income, without children, living in the city, who uses the car-sharing service in his free time. Liang et al. [7] search for an optimal pricing mechanism for setting the price of car sharing.

The right targeting and set-up of marketing communications will be key for platforms that mediate sharing. Without a proper definition of the customer segment and mapping of their needs, the marketing communication of the platforms will not be effective [8].

Based on a study of the literature, a knowledge gap was identified where the dependence of each generation (X, Y, and Z) on their willingness to prefer a car-sharing platform to their own car in specifically defined situations was not investigated for marketing communication purposes. This article will first focus on the literature review that relates to the sharing economy and car-sharing. This is followed by a description of the research objectives and methods used. Finally, the results of this article are summarized and possible areas for further research are outlined.

1 Literature Review

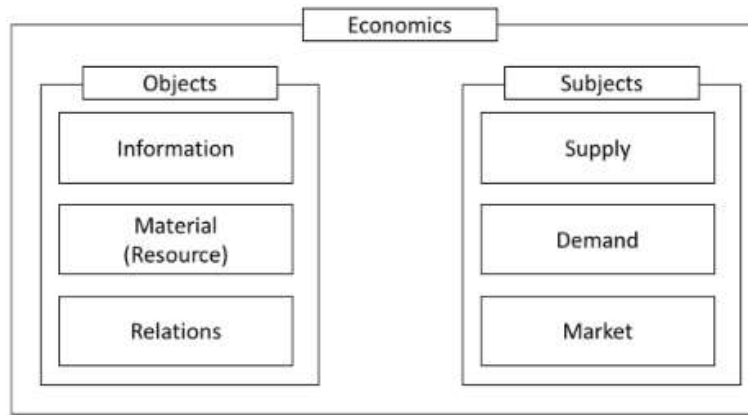
The literature review will be based on a search of academic and scientific publications on the sharing economy and car-sharing.

1.1 Sharing Economy

The sharing economy is “*a socio-economic system based on the sharing of resources*” [9, p. 113], which should lead to reduced production and positive environmental impacts. Its emergence is associated with the Fourth Industrial Revolution, as during the First and Second Industrial Revolutions, there was a strong emphasis on ownership. It was not until the Third Industrial Revolution that brought a gradual change in the view of ownership, which allowed the sharing economy to fully develop during the Fourth Industrial Revolution. Of course, the sharing economy itself is not new, as sharing was already taking place in the days before the Fourth Industrial Revolution, but it was only the online environment that came with the Fourth Industrial Revolution that allowed the sharing economy as we know it today to become more visible and fully-fledged [10].

The rise of the sharing economy is most visibly associated with two companies – Uber and Airbnb – that have enabled consumers to access individual's private property [11]. The sharing economy could not exist without supply, demand, and the market. In addition, information, resources, and linkages are essential to its functioning [10], as shown in Figure 1.

The market that stands between supply and demand in the sharing economy is the platform. This platform gathers resources, provides information and creates relationships between actors in the sharing economy [10]. The platform is a two-sided market, with unused assets on offer on one side and demand for them on the other. Thanks to money, the unused assets reach the demand side, i.e. both parties benefit [12]. In addition to asset owners and consumers, there are prosumers in the sharing economy market, a type of people who act on both the supply and demand side (supply one type of asset, demand another type of asset) [13].



Source: [10, p. 3].

Fig. 1: Fundamental factors of the sharing economy

1.2 Car Sharing

There is no single definition of car sharing. Car sharing can be defined as “a membership-based, self-service, short-term car access system with a network of vehicles for which members pay by time and/or distance” [14, p. 160] or “a membership program intended to offer an alternative to car ownership under which persons or entities that become members are permitted to use vehicles from a fleet on an hourly basis” [15, p. 2].

Car-sharing can take several forms. In general, car sharing is most commonly encountered in the following two forms:

- there are designated stations where you can pick up your car and where you need to return it, or
- stations are not defined, i.e., a car can be found anywhere and left anywhere (so-called free-floating car sharing) [16].

Car sharing has the biggest potential for development in densely populated urban areas, where reducing the number of cars can contribute to a better environment [17]. The typical car-sharing user is a young, educated and affluent person for whom car-sharing is a way to protect the environment, change social behavior, or simply a cost or convenience benefit [18].

2 Knowledge Gap and Research Objectives

Travel scenarios, i.e., situations where one uses a shared means of transport, have been addressed by several authors. Xu [19, p. 14-16] examines three scenarios of car-sharing use (day-time business trips and evening entertainment trips in the city center; commuting trips in off-peak time; city short-distance tourism travels). It looks at the length of car-sharing use, the area in which car-sharing takes place, and car-sharing fees. It does not examine demographic characteristics. Car sharing in terms of time, space and frequency without demographic links is also examined by Tong et al [20]. Generation Y in relation to mobility is examined by Suchanek et al [21]. They analyze consumer behavior in relation to sustainable mobility without considering travel scenarios.

The analysis of the articles showed that there is a knowledge gap, where it is not clear whether different generations of respondents prefer different travel scenarios.

The main objective of this research was to determine whether there is a relationship between the generation of respondents and the situation where they might prefer to car-share to owning a car. Four sub-objectives have been defined:

1. To determine whether there is a relationship between the generation of respondents and their willingness to prefer car-sharing when traveling to work or school.
2. To determine if there is a relationship between the generation of respondents and their willingness to prefer car-sharing when shopping and going to the office.
3. To determine if there is a relationship between the generation of respondents and their willingness to prefer car-sharing when traveling in general and when going for entertainment.
4. To determine whether there is a relationship between the generation of respondents and their willingness to prefer car-sharing when traveling with children to clubs.

The data to achieve these objectives were obtained through extensive quantitative research.

3 Data and Methodology

The quantitative research was carried out from December 2021 to March 2022 and involved a total of 794 respondents, from which respondents belonging to Generation X, Y, or Z were selected. Specifically, 741 respondents were evenly split between the three analyzed generations.

The classification of the generations by their year of birth is based on the classification used by the Pew Research Center, i.e., the generations are defined as follows:

- Generation X: 1965 – 1980,
- Generation Y: 1981 – 1996.
- Generation Z: 1997 – 2012 [22].

All respondents were contacted via an online questionnaire to obtain more information about the participants in the sharing economy. For the purpose of this research, data from the section of the questionnaire that focused on customer preferences in terms of car sharing usage were used. Respondents were asked to identify the situations in which they would prefer to use a car-sharing service to owning a car, regardless of price. They had the following scenarios to choose from:

- travel to work/school,
- shopping and authorities travel,
- travel and entertainment,
- travel with kids to activities.

For each of these categories, respondents were asked to indicate whether they could imagine a preference for a shared car to their own car. The data collected were ordinal in nature, so it was re-coded: (1) regularly, (2) occasionally, (3) never.

To test whether there is a significant relationship between the generation of the respondents and the situation where they could prefer a shared car to their own car, the following hypotheses were defined:

H0: There is no significant relationship between the generation of respondents and the situation where they might prefer a shared car to their own car.

H1: There is a significant relationship between the generation of respondents and the situation where they might prefer a shared car to their own car.

For each category, the frequencies of the responses of each generation of respondents were found. Descriptive statistics and the Kruskal-Wallis test were used to evaluate the data due to the ordinal nature of the data analyzed.

4 Results and Discussion

The obtained data were examined for their validity and reliability. Content validity was achieved because the questionnaire was constructed based on the study of literature and similar marketing research. Reliability was evaluated using Cronbach's Alpha internal consistency coefficient, which took the value of 0.7462. The internal consistency of the obtained data can be considered sufficient, as the threshold of 0.7 was exceeded, which is crucial to confirm the reliability of the obtained data [23].

The results of the Kruskal-Wallis test and descriptive statistics are shown in Table 1.

Tab. 1: *Kruskal-Wallis test and descriptive statistics*

Generation	Indicator	Travel to work/school	Shopping and authorities travel	Travel and entertainment	Travel with kids to activities
X	Mean	2.1052	2.2510	2.0243	2.4089
	Median	2	2	2	2
	SD*	0.7360	0.6063	0.7096	0.6366
	N**	247	247	247	247
Y	Mean	1.9879	2.1984	1.8907	2.3644
	Median	2	2	2	2
	SD*	0.7296	0.7079	0.7101	0.6961
	N**	247	247	247	247
Z	Mean	2.1457	2.1741	1.9798	2.4251
	Median	2	2	2	2
	SD*	0.6889	0.6611	0.7568	0.6637
	N**	247	247	247	247
Kruskal-Wallis test P-value		0.0441	0.5059	0.1156	0.6522
Significance		S***	NS****	NS****	NS****

*standard deviation; **number; ***significant; ****non-significant.

Source: Own

Only by using car-sharing for traveling to work/school the Kruskal-Wallis H test indicated that there is a significant difference in using car-sharing for traveling to work/school between the different generations, $\chi^2(2) = 6.25$, $p = 0.0441$. In other reasons for using car-sharing the Kruskal-Wallis H test indicated that there not is a significant difference between generations ($\chi^2(2) = 1.36$, $p = 0.5059$ for shopping and authorities traveling; $\chi^2(2) = 4.32$, $p = 0.1156$ for travel and entertainment; $\chi^2(2) = 0.85$, $p = 0.6522$ for travel with kids to activities). This means that we reject hypothesis H0 for only one option of car-sharing use, namely car-sharing for traveling to school or work, where the test shows a significant difference between generations.

The Kruskal-Wallis test identified that the mean ranks are not statistically equal but the multiple comparisons do not show enough evidence for a statistical difference between any pair of groups. We used multiple comparisons. The corrected α using the Bonferroni correction method is 0.01667. You can see the results of these multiple comparisons in Table 2.

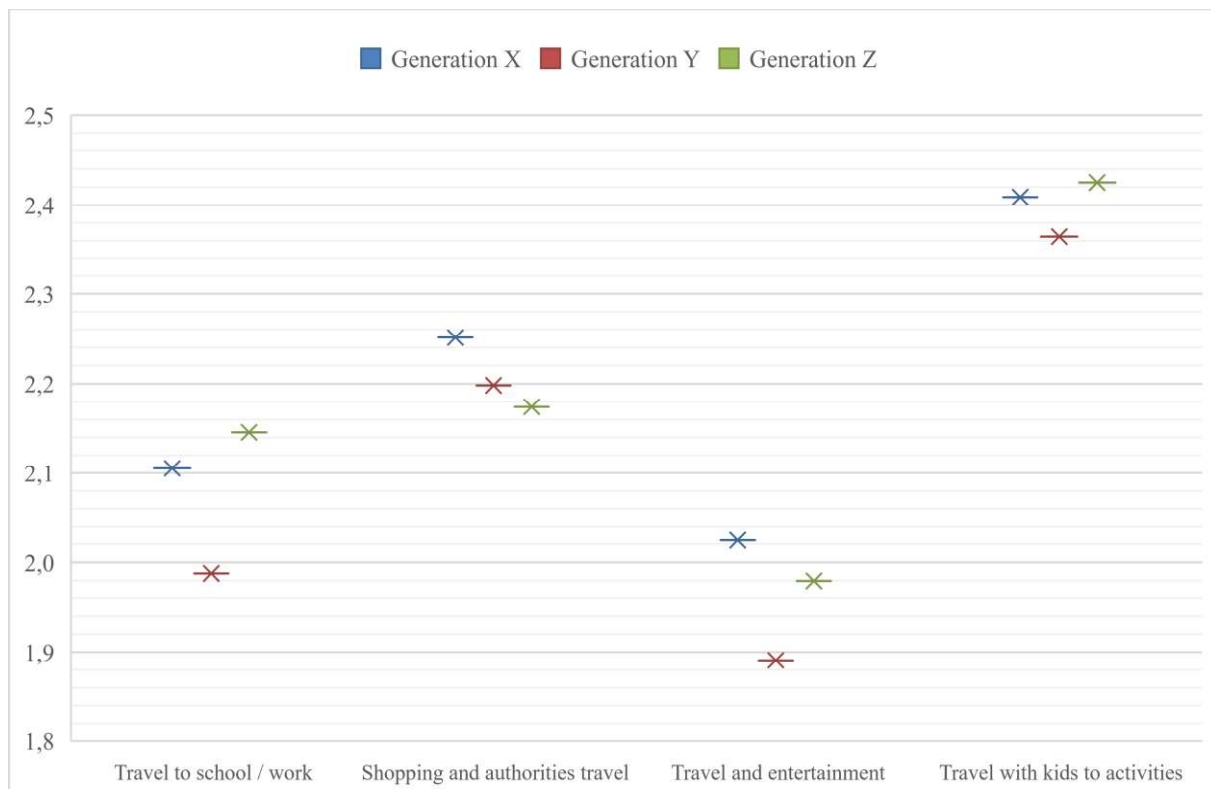
Tab. 2: Multiple comparisons (*p*-values)

Generations	Travel to work/school	Shopping and authorities travel	Travel and entertainment	Travel with kids to activities
X and Y	0.0689	x	x	x
X and Z	0.5656	x	x	x
Y and Z	0.0167	x	x	x

Source: Own

Table 2 shows that there is the biggest difference between Generations Y and Z when it comes to using a car-share to travel to work or school. For the other two groups, there was no significant difference between the generations of respondents.

We sorted the data according to their mean values. In Figure 2 it is possible to see in which situations different generations prefer car sharing.



Source: Own

Fig. 2: Mean comparison by generation and preferred situation

Figure 2 shows that car-sharing will be most preferred to owning a car by Generation Y for travel and entertainment, followed by Generation Z in the same case. On the other hand, Generation Z will least prefer a shared car to their own car when traveling with their children to clubs.

Conclusion

The sharing economy represents an economic trend that is attracting attention in many countries around the world. It is generally acknowledged that the sharing economy will have an impact on the functioning of many areas. For example, when traveling, people do not need to use the accommodation services of official accommodation establishments or car rental companies. Experts are evaluating this trend from many angles, with evaluations from a marketing point of view being less frequent. By studying the literature and scientific

publications, it has been found that the sharing economy in the context of marketing communication has scientific potential, which this article has decided to exploit.

The main objective of this research was to find out whether there is a relationship between the generation of respondents and the situation where they might prefer a car-sharing service to owning a car. The research, which took place in the Czech Republic from December 2021 to March 2022 and involved 741 respondents, evenly divided between the three generations analyzed (X, Y, Z), showed that there is no significant relationship between the respondents' generation and the situation where they might prefer a shared car to their owned car. A significant relationship between the generations in the situation where they would prefer a shared car to their own was only confirmed for the use of a shared car when traveling to work or school. This significant relationship was found between Generations Y and Z. This means that platforms setting up marketing communications do not need to significantly address the targeting of marketing communications to a specific group of respondents in the case of marketing communications for car-sharing offers but need to focus on the marketing message as such.

It is worth mentioning that there are limiting factors to this article. In particular, the fact that this is not a representative survey, and the findings cannot be generalized is essential.

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PREFERENCE SPOTŘEBITELŮ PŘI VYUŽÍVÁNÍ SDÍLENÝCH AUT

Cílem tohoto článku je posoudit vliv jednotlivých generací (X, Y, Z) potenciálních zákazníků sdílené ekonomiky na jejich ochotu preferovat sdílené auto oproti autu vlastnímu v konkrétních definovaných situacích. Výzkum probíhal od prosince 2021 do března 2022 a zúčastnilo se ho 741 respondentů, kteří byli rovnoměrně rozděleni mezi všechny tři analyzované generace. Závěry výzkumu naznačují, že jednotlivé generace respondentů nebudou mít odlišné preference využívat sdílené auto v různých situacích. Všechny generace respondentů si dokážou více představit používat sdílené auto pravidelně během cestování a zábavy, ale už ne tolik s dětmi na kroužky, nebo při cestách do práce či školy. Tato skutečnost může být využitelná marketingovými odborníky, kteří potřebují rozklíčovat motivy pro účast zákazníků ve sdílené ekonomice, resp. v segmentu sdílených aut.

VERBRAUCHERPRÄFERENZEN FÜR CARSHARING

Das Ziel dieses Beitrags ist es, den Einfluss verschiedener Generationen (X, Y, Z) von potenziellen Sharing-Economy-Kunden auf ihre Bereitschaft zu untersuchen, in bestimmten Situationen ein gemeinsam genutztes Auto einem eigenen Auto vorzuziehen. Die Untersuchung wurde von Dezember 2021 bis März 2022 durchgeführt und umfasste 741 Befragte, die gleichmäßig auf die drei untersuchten Generationen verteilt waren. Die Ergebnisse der Studie deuten darauf hin, dass die verschiedenen Generationen der Befragten keine unterschiedlichen Präferenzen für die Nutzung von Carsharing in verschiedenen Situationen haben. Alle befragten Generationen können sich eher vorstellen, ein Carsharing regelmäßig für Reisen und Vergnügungen zu nutzen, weniger jedoch, wenn sie ihre Kinder zu Spielgruppen bringen oder zur Arbeit oder zur Schule fahren. Diese Tatsache kann für Vermarkter nützlich sein, die die Motive für die Teilnahme von Kunden an der Sharing Economy oder dem Carsharing-Segment erkennen müssen.

PREFERENCJE KONSUMENTÓW DOTYCZĄCE KORZYSTANIA ZE WSPÓLDZIELONYCH SAMOCHODÓW

Celem niniejszego opracowania jest ocena wpływu różnych pokoleń (X, Y, Z) potencjalnych klientów ekonomii współdzielenia na ich skłonność do preferowania samochodu współdzielonego od własnego pojazdu w określonych konkretnie sytuacjach. Badania przeprowadzono w okresie od grudnia 2021 do marca 2022 roku. Wzięło w nim udział 741 respondentów, którzy byli równomiernie rozdzieleni do trzech analizowanych pokoleń. Wyniki badań wskazują, że poszczególne pokolenia respondentów nie będą miały odmiennych preferencji co do korzystania z samochodu współdzielonego w różnych sytuacjach. Wszystkie pokolenia respondentów bardziej potrafią sobie wyobrazić regularne korzystanie z samochodu współdzielonego w ramach podróży i rozrywki, natomiast już nie w takim stopniu z dziećmi dowożonymi na kółka zainteresowań czy do celów dojazdu do pracy czy szkoły. Fakt ten mogą wykorzystać eksperci od marketingu, którzy potrzebują rozpoznać motywy uczestniczenia klientów w ekonomii współdzielenia lub w segmencie współdzielonych samochodów.