

Digitalization of sales in the automotive field and changes in customer purchasing behavior

Sandra Arbesová¹, Kamil Pícha²

DOI: 10.32725/978-80-7394-976-1.01

Abstract: As we all have known in recent years, digitalization is a key topic for almost all manufacturing and trading companies. This trend was accelerated not only by the Covid-19 pandemic but also by the ever-increasing demands on the conditions and mutual interactions of all market entities. The need to digitalize production processes, as well as offer and sales activities towards customers, forced even a very traditional field such as automotive to completely change the structure of its production and sales processes. And that in a very short period of time, let's say a couple of years. Producers also had to respond to the global and rapid development of IT by researching and developing new products. The pioneer of digital/online selling worldwide is the used car market, but in recent years producers and sellers have focused on new automotive products. These products, especially electric drive technology, vehicle-connected services, autonomous driving, and car sharing, mean an important change of customers' needs from vehicle ownership to mobility on demand. They bring necessary changes to the automotive market for all subjects. In recent years, the customer has also changed, and his transformation of purchasing behavior will continue. So how has the evolution of customer buying behavior responded to the rapid global changes in business in this field? And what will the "new digital" automotive customer look like? The article deals with differences between addressing traditional automotive customers and the approach and perception of the offer to the modern customer generation, which is daily and aggressively influenced by the offer of the "reborn" automotive market.

Keywords: automotive, customer, Covid-19, technology, digitalization, digital marketing

JEL Classification: M31, D10, D20

1 Introduction

Especially in the last ten years, companies are confronted with massive technological development which effects on them in almost all internal and external structures and business or produce activities (see e.g. Suprobawati, & Kalpikajati, 2021; Ihsana, & Aldiantob, 2020; Kotarba, 2018). On the other hand, rapid technological development has affected and still affects customers every day (Kurdi et al., 2022; Grzegorzczak, 2022; Lavoye, Mero, & Tarkiainen, 2021). It brings them new information and opportunities for global connection every second, endless communication (Dagnes, 2019), and endless new possibilities in all areas of life. For these reasons, it was necessary for companies to change their structures and business models (Wirtz, 2019). And why? It is simple. Because they have to be competitive to keep their customers, their business must go on.

The automotive industry is a very important economic sector. Concurrently it is an important economic multiplier, which is connected with many other branches of industry. These are mainly the steel, chemical, and textile industries, as well as downstream industries such as ICT³, IoT⁴, mobility and repair services, etc. In the EU automotive industry work around 13.8 million people. Turnover generated by the automotive industry represents more than 7% of the EU GDP (European Commission, n.d.). In 2021, more than 66 million cars were sold worldwide. Estimates before the coronavirus pandemic spoke about an amount of 80 million cars sold (Statista, 2022). The prognosis was not confirmed. The reason was the pandemic, production outages, and the subsequent general slowdown of the economy in all markets. The sales

¹ University of South Bohemia in České Budějovice, Faculty of Economy, Studentská 13, 370 05 České Budějovice, Czech Republic, arbes00@ef.jcu.cz

² University of South Bohemia in České Budějovice, Faculty of Economy, Studentská 13, 370 05 České Budějovice, Czech Republic, kpicha@ef.jcu.cz

³ Information and Communication Technologies - all information technologies used for communication and informatics (working with information).

⁴ Internet of Things - a network of physical devices, vehicles, home appliances, and other devices that are equipped with electronics, software, sensors, moving parts, and network connectivity that allow these devices to connect and exchange data.

forecast for 2023 is 71 million cars sold. But this is nowhere near the situation before the pandemic. When this trade was almost trouble-free and prosperous.

The digital transformation of companies is generally considered to be very beneficial (Zhao, Liu, & Dai, 2021)., especially in direct communication and relation to their customers (Hendriyani, & Auliana, 2018). It brings them new possibilities and ways, as well as speeding up communication with customers (Lambin, 2014) and, more precisely, ensuring their needs. And now, even very traditional industries, such as the automotive industry, are strongly moving from a more manufacturing concept to a data-driven direct marketing concept (Rekha, & Jain, 2019; Cernicova-Buca, Cocea, 2021).). And more than ever before. For the industry to return to at least pre-pandemic numbers, it is necessary to invest significant costs and efforts in research and development, as well as new dynamic approaches to today's rapid changes in the global market. The direct participation of the customer in these processes is indispensable and very effective for many reasons (e.g. Gardiner, 2019; Anita et al. 2022). It makes it possible to effectively design, manufacture, and sell exactly what the customer wants and needs with the maximum use of all technological innovations. Brand interest and customer engagement are also increasing.

There is an enormous difference between the traditional and the modern generation of automotive customers. Especially in their awareness and the resulting greater demand for quality at a good price and technological equipment. Their mobile phone and smart home equipment already offer almost everything that is technologically possible. And why wouldn't their car offer them this? A wish turns into a need, and the customer looks more at the design and, above all, the technological equipment than at the performance of the vehicle's engine and fuel consumption. They are interested in "what else their car can do ". They no longer see it as just a means of transportation. They want "something more ".

It is a big challenge for companies to keep up with technological progress and, at the same time, respond to changes in customer requirements and their purchasing behavior. The paradox is that, on the one hand, the customer is forced by technological development to accept an offer to which he wouldn't have responded before, and on the other hand, he has a lot of power to put pressure on the manufacturers. The modern automotive customer has a great influence on the entire industry. He can search for detailed information about the offer, he can easily and quickly compare the offers and choose the best satisfaction of his needs. It is quite clear that even in the future, the development will continue to be very fast and customers will respond more to the direct customer experience that manufacturers and retailers have to provide them. Whether it is high demands on car safety systems, connectivity, car sharing or autonomous driving technology. Cars are the new living rooms, and customers want to feel at home in them. They want to be comfortable, feel safe, and have all kinds of technology at the fingertips.

2 Methods

We have prepared our results, and conclusions based on an analysis and compilation of the data from the available research reports published recently concerning the automotive industry and car market.

3 Research results

A set of research results on the purchasing behavior of automotive customers in recent years

A fundamental change in the customer journey map

Head of Digital marketing strategy at Microsoft, Mr. Allister Frost said in 2010: "Technology has handed control over to the consumers of our brands. They are now part of the conversation, and if they choose to speak to us, we have to be prepared to speak back. Our days of purely shouting at them when we choose (advertising) are over. This is a box that, once opened, can never be closed... We ignore social media and the societal changes it will bring about our peril. "⁵

- Expected change in customer journey mapping

The reasons for changes in the purchasing behavior of the automotive customer are mainly technological progress and also the aforementioned covid pandemic in the years 2020 – 2021. Very interesting data is provided by the analysis of the company EY on the Czech Republic, Hungary, Turkey and Russia markets in 2021. I present selected data regarding digitalization in automotive and customer behavior. A total of 3,122 participated in the survey respondents, of which 568 residents of the Czech Republic, 533 inhabitants of HU, 1,510 inhabitants of RUS, and 511 inhabitants of TUR divided into groups according to: gender, age, education, residence, and gross household income.

7 % of respondents said that connectivity would be decisive for them when choosing a car brand.

⁵ Interview with Allister Frost, Integrated Marketing Communications Manager, Microsoft UK , 2010, *Youtube* [online]. Available from: (250) Interview with Allister Frost, Integrated Marketing Communications Manager, Microsoft UK - YouTube

15 % of respondents would buy a used car online. In 2020, 8 % answered positively.

78 % of respondents who intend to buy an electric car consider the digitalization of the brand to be an important criterion when buying a car.

64 % of respondents who want to buy a hybrid car consider the digitalization of the brand as an important criterion when buying a car.

49 % of respondents with a budget for a car of up to 500,000 crowns listed digitalization of brands as another of the most important criteria, next to the price, performance, safety and design.

16 % of Czechs, 11 % of Hungarians, 24 % of Russians, and 35 % of Turks would buy a car online. 35 % of them would be deterred by online payment and 33 % by the limited possibility of negotiating a discount.

67 % of respondents would use the vehicle's Internet connection for traffic information and safety alerts. Households with income over 150 thousand CZK would be most interested (61%) in monitoring cars, and households with an income (up to CZK 20,000) have an increased interest (28%) in receiving notifications about discount events.

56 % of Czech respondents would not convince any type of online offers or services to buy used car without checking it live (52 % HU, 51% RU, 27% TR).

From this data, it is evident that the car customer is not as progressive in his approach to the digitalization of his purchasing behavior as the manufacturers are in the development and production of new automotive technologies and services. It is obvious that considering the purchase of an electric car or a hybrid is directly related to the choice of a manufacturer that is already in the process of digitalizing the company. This result is also supported by the survey on the best-selling electric car in the world from 2021, conducted in 61 countries by uswitch.com. The popular Tesla has become the best-selling electric car in 21 countries of them.⁶

Comparison of costs invested in online advertising

- Digital ad spend of the automotive industry - Comparison of data in the pre-pandemic period and now

Table 1 Paid search advertising spending in the automotive industry worldwide (in million U.S. dollars):

2018	124,1 ⁷
2021	51,16 ⁸

Source: Guttman. A, 2020, Search advertising spending worldwide from 2009 to 2019 , [www.statista.com](https://www.statista.com/statistics/267056/paid-search-advertising-expenditure-worldwide/) [online].[Apr 7, 2020]. Available from: <https://www.statista.com/statistics/267056/paid-search-advertising-expenditure-worldwide/>
Statista research department, 2022, [www.statista.com](https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/) [online].[May 3, 2022]. Required on: <https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/>

Based on 2021 data on U.S., UK, and EU companies, the retail industry invested 39.66 million U.S. in paid search advertising, roughly 60 percent less than in the previous year. The automotive industry spent 51.16 million on paid search ads in 2021, reducing its annual expenditure by a similar share as the retail industry.⁹

⁶Top selling electric car model, 2021, *Uswitch Limited* [online]. Available from: <https://www.uswitch.com/gas-electricity/top-selling-electric-cars/>

⁷ Guttman. A, 2020, Search advertising spending worldwide from 2009 to 2019 , [www.statista.com](https://www.statista.com/statistics/267056/paid-search-advertising-expenditure-worldwide/) [online].[Apr 7, 2020]. Available from: <https://www.statista.com/statistics/267056/paid-search-advertising-expenditure-worldwide/>

⁸ Statista research department, 2022, [www.statista.com](https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/) [online].[May 3, 2022]. Required on: <https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/>

⁹ Statista research department, 2022, [www.statista.com](https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/) [online].[May 3, 2022]. Required on: <https://www.statista.com/statistics/1306040/search-ad-spend-industry-worldwide/>

Based on the given data, it can be seen how spending on advertising in digital search has fallen. 2021 was problematic for most industries. However, the automotive industry faced not only the covid pandemic but also problems in production. These were mainly shutdowns in production caused by a lack of chips. This problem gradually affected all the world's car manufacturers and continues to the present time.

Table 2 US digital ad Spending Growth 2019 – 2023¹⁰

2019	13,9 %
2020	9,0 % ¹¹
2021	20, 5 %
2022	13, 7 %
2023	11, 7 %

Source: US Digital Ad spend Growth by industry 2019-2023, 2021, www.emarketer.com [online].[June 2021]. Required on: <https://www.insiderintelligence.com/chart/249891/us-digital-ad-spending-growth-by-industry-2019-2023-change>

I find the comparison of digital ads' costs in the US market very illustrative. At first glance, there is a noticeable decrease in investment in advertising during the first pandemic year 2020. At the same time, we can see a gradual return on investment in this advertising channel. However, manufacturers and marketers now need much more strategic and effective digital ads to spend. Furthermore, they must count on investment in technological innovation both within production and online communication platforms and platforms for working with customer data.

The automotive industry is going through an economic crisis, and manufacturers and dealers still have an uncertain future. The situation forces marketers to reassess their marketing mix, and adjust and allocate costs differently than before 2020. Supply problems in the manufacturing industry are the reason for the increase in interest rates. High interest rates reduce demand and sales. And that impacts marketing budgets naturally. Manufacturers are trying to offset the loss of development and sales of expensive models to achieve profit margins. (Joseph, 2022)

Table 3 Growth in sales of alternative fuels in the Czech Republic in 2021¹²

Fuel	2019	2020	2021
Electric drive	756 vehicles	3 262 vehicles	2 646 vehicles
Hybrid (mild, full)	7 873 vehicles	10 693 vehicles	19 338 vehicles
Plug-in hybrid	466 vehicles	1 978 vehicles	3 736 vehicles
Hydrogen	0 vehicles	1 vehicle	9 vehicles

Source: Bures, D., 2022, Nejprodávanejší alternativy na českém trhu v roce 2021: Propad elektrovůzů, úspěch LPG a plug-inů, Auto.cz [online].[10.1.2022] Required on: <https://www.auto.cz/nejprodavanejsi-alternativy-na-ceskem-trhu-v-roce-2021-propad-elektrovazu-uspech-lpg-a-plug-inu-142304>

From the above data, a year-on-year drop in electric cars and, conversely, an increase in sales of plug-in hybrids can be seen. Data on the number of electric car registrations prove that there is still only minimal interest in this type of drive in the Czech market. Although in 2020 - 2021, the offer increased for almost all the world's car manufacturers. The best-selling electric car in the Czech Republic in 2021 was the Škoda Enyaq iV; its price starts at approx. 1,200,000 CZK. (Bureš, 2022).

¹⁰ US Digital Ad spend Growth by industry 2019-2023, 2021, www.emarketer.com [online].[June 2021]. Required on: <https://www.insiderintelligence.com/chart/249891/us-digital-ad-spending-growth-by-industry-2019-2023-change>

¹¹ The start of the covid pandemic on 1st March 2020

¹² Bures, D., 2022, Nejprodávanejší alternativy na českém trhu v roce 2021: Propad elektrovůzů, úspěch LPG a plug-inů, Auto.cz [online].[10.1.2022] Required on: <https://www.auto.cz/nejprodavanejsi-alternativy-na-ceskem-trhu-v-roce-2021-propad-elektrovazu-uspech-lpg-a-plug-inu-142304>

Changes in cars financing preference

The multi-brand Prague dealer Autosalon Klokocka centrum Ltd.¹³ stated in its analysis that in the second half of 2022, the demand for financing the private vehicles with credit or leasing in the B2C sector decreased. Funding from savings prevails.

67 % of new requests for new and used cars are for cash payment.¹⁴

The above internal analysis is based on a comparison of sales data in the years 08/2021 - 08/2022. The decrease in demand for loan financing or leasing is directly related to the decrease in demand for the purchase of new and used cars. The questionnaire survey revealed that most customers react mainly to high inflation and are afraid of debt. They prefer to spend their savings or not make a purchase at all. (Source: Autosalon Klokočka Centrum a. s., 2022)

4 Conclusions

In general, it can be said that the automotive industry is going through a huge crisis that is putting pressure on manufacturers and sellers all over the world. The crisis forced changes in production and sales models, as well as in marketing mixes and budgets. The customer has moved from physical shopping in showrooms to the Internet and is interested in more details. (95% of vehicle buyers use digital as a source of information)¹⁵. When choosing, the customer decides more about the technological equipment of the car than its performance. Great emphasis is placed on a positive customer experience.

In the future, automotive dealers and marketers can be recommended to increase a good customer experience, work with a personalized offer and make maximum use of customer data, mainly for retention marketing. It is beneficial to improve sales on the websites in accordance with UX16 and UI17 processes to reduce the bounce rate¹⁸ to a minimum. In customer preferences, high-quality and detailed customer photos or 360 photo galleries win. Quality content of sales websites and display ads are central to the online offer. They should not forget about expert customer articles and test videos. And last but not least, it is necessary to have quality lead management. Today's customer selects and gathers information online but usually wants quality personal communication with a call center or salesperson before visiting a dealer's showroom. The companies in the automotive industry, together with their authorized dealers and sellers are to consider their communication and selling strategy. Showrooms may expect a big evolution. Researchers interested in consumer behaviour and communication ways within the car market can seek for the most important elements of the online communication the future customers' requirements from the showrooms and the personalized one to one communication.

Acknowledgement:

The article has been prepared with support of the project of the Grant Agency of the University of South Bohemia No. 129/2022/S.

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¹³ Car dealer of Audi, Skoda, VW, Kia brands.

¹⁴ Specific internal data is confidential

¹⁵ Andersen, D., 35 Statistics Automotive Marketers Need to Know in 2023, 2022, Invoca Blog, [online].[September 16 2022] Required on: <https://www.invoca.com/blog/automotive-marketing-statistics>

¹⁶ User Experience

¹⁷ User Interface

¹⁸ The percentage of visitors to a particular website who navigate away from the site after viewing only one page

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