

# Perceptions of Corporate Social Responsibility in the Pharmaceutical Industry after COVID-19 and Implications for Health-Conscious Tourism

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## Abstract

The paper examines the perception of Generation Z regarding the social corporate responsibility (CSR) of pharmaceutical companies after the COVID-19 pandemic, which increased health awareness. Using a structured online questionnaire conducted among students, the study sheds light on generational attitudes towards economic, social, and environmental dimensions of CSR in the pharmaceutical industry. The results show that the social dimensions, in particular good working conditions, are generally rated most favourably. CSR activities need to be supported by appropriate communication with stakeholders, with online information proving to be particularly influential for Generation Z. Furthermore, some CSR activities of the pharmaceutical industry go beyond this sector and could be reflected in health-conscious tourism.

## Introduction

The COVID-19 crisis has significantly increased the relevance of CSR (Crane & Matten, 2020). During the pandemic, the pharmaceutical industry and its CSR became the centre of global attention. Pharmaceutical companies have made a decisive contribution to the development of vaccines and thus helped to solve the global health crisis. Governments, healthcare systems, and the general public placed great trust in the pharmaceutical industry. Generation Z, who were confronted with the pandemic in their youth, were severely affected by the lockdowns and travel restrictions.

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Generation Z is often referred to as digital natives who have grown up with a concern for the environment, social issues and economic challenges. They are known for their sustainable lifestyle (Yamane & Kaneko, 2021) and are expected to shape environmentally and socially oriented business practices as customers, employees, and decision-makers in the future. Despite the increasing relevance of Generation Z, students have been considered in only a limited number of studies on CSR in the pharmaceutical industry (e.g., Volodina et al., 2009; Bruyer et al., 2016). Understanding the perceptions of Generation Z can help pharmaceutical companies adapt their CSR strategies to remain relevant in a rapidly evolving social and economic landscape.

This study aims to analyse how Generation Z perceives the CSR activities of the pharmaceutical industry after the COVID-19 pandemic and thus provide an insight into the views of the socially conscious generation on these activities. Generation Z attaches great importance to the social and environmental dimension of CSR, resulting in a higher willingness to pay, higher purchase intention, and more substantial brand value (Narayanan, 2022). Considering the growing link between CSR and health-conscious tourism, the study further explores how the pharmaceutical industry's CSR activities could be reflected in health-conscious tourism. CSR in the pharmaceutical industry contributes to improving health (Dropper & Bennett, 2015) and thus has an impact on health-conscious tourism, which became evident during the COVID-19 pandemic through vaccination programmes and travel restrictions due to vaccine hesitancy. Donations, supporting vaccination programmes, promoting health literacy and building trust by reducing environmental impact are important activities that need to be communicated to its stakeholders.

## Literature Review

The CSR concept has been extensively discussed and interpreted over the years, and various definitions have been developed (Dahlsrud, 2008). Social, environmental, and economic dimensions are often considered when assessing CSR, following the triple bottom line concept introduced by Elkington (1998). There are various indicators for measuring these three dimensions (González-Rodríguez et al., 2015). From an economic perspective, the pharmaceutical industry is a significant employer, attracting large investments, contributing to economic growth through innovation and trade, and having a positive impact on production and employment in other sectors of the economy (Ahmed et al., 2018;

Weiss et al., 2005). This illustrates that the industry operates as part of a broader economy, supporting progress across various industries. From the social perspective, the pharmaceutical industry contributes to the public health and well-being by helping to prevent and treat diseases, improve quality of life, and prolong life expectancy (Dropper & Bennett, 2015). The industry plays a role in education and raising awareness of health issues, which reinforces its social influence. From the environmental viewpoint, the pharmaceutical industry is more emission-intensive than the automotive industry (Belkhir & Elmeligi, 2019). However, awareness of environmental challenges has led companies to seek solutions, indicating that the industry is actively working to reduce its environmental footprint. There are solutions to the environmental issues of the pharmaceutical industry that focus on green practices (Smale et al., 2021; Saxena et al., 2021; Malmqvist et al., 2023).

The review of CSR research in the pharmaceutical industry reveals that the focus is primarily on environmental sustainability, while the social and economic dimensions have received significantly less attention (Milanesi et al., 2020). This reflects an unequal research focus on the different dimensions of CSR. The underrepresentation of the economic dimension in research is not unique to the pharmaceutical industry. Domingo-Posada et al. (2024) found in their review of sustainability studies that the economic dimension is largely overlooked, while governance receives the most attention in research, followed by the social and environmental dimensions. Various indicators of CSR have been used in the pharmaceutical industry (Malay, 2021; Salton & Jones, 2015).

The pharmaceutical industry is indispensable to modern society, as it has a significant impact on public health and life expectancy, creates jobs, and generates revenue. The constant attention to which the industry is exposed emphasises the importance of its commitment to CSR (Bruyer et al., 2016). Indeed, the industry is under considerable pressure from various stakeholders, and it is increasingly focusing on sustainable practices and striving to strengthen its CSR efforts. Integrating CSR into strategic planning is essential after the COVID-19 pandemic and the challenges it presented.

Lee et al. (2019) found that although pharmaceutical companies carry out various CSR activities, there is not much public awareness of them; however, activities with high public preference, such as promoting public health and providing crisis relief support, can increase

awareness of the industry's CSR efforts. Effective communication is crucial for CSR (Ellerup Nielsen & Thomsen, 2018; Halkos & Nomikos, 2021; LaVan et al., 2021), as stakeholders require awareness of the company's initiatives and responsibilities. Some activities can get more attention than others. Pharmaceutical companies tend to communicate more about organisational topics, whereas the business press focuses more on social topics (Cook et al., 2018). This difference illustrates the importance of communication to ensure that CSR efforts are fully recognised and understood by all stakeholders.

As health has an impact on tourism (for instance, Gössling et al., 2020; Konstantakopoulou, 2022), tourism also has an impact on health (Fechner et al., 2023). Tourists are seeking safe destinations and reliable information about health services when traveling. Pharmacists play a crucial role in providing travel health services and offering health advice to travellers (Bhuvan et al., 2023). The importance of health in the tourism industry is evident in medical and wellness tourism, travel medicine, and health-conscious travel. Incorporating health measures into tourism planning could strengthen resilience and ensure sustainability (Cherian & Natarajamurthy, 2024). CSR is important for tourism (Nemec Rudež, 2010), and tourists are more likely to visit destinations that offer a safe environment (Metaxas et al., 2022). CSR in the pharmaceutical industry may extend beyond healthcare alone, affecting travellers' trust and mobility. It can support public health measures in many destinations, as tourists' confidence depends on the accessibility of medicines and can thus enhance travel safety and confidence, which is crucial for health-conscious tourism. Destinations that do not focus on health safety may be less attractive. This aligns with the finding that perceived health risk has a negative impact on travel behaviour and travel intentions (Hanafiah et al., 2021).

Given the numerous discussions about CSR in the pharmaceutical industry, its relevance for tourism during the COVID-19 pandemic becomes even clearer when the pharmaceutical industry, public health, and travel behaviour intersect. Although travel medicine and health-conscious tourism were already important before the COVID-19 pandemic, the pandemic has changed travel behaviour, and health-conscious services related to travel are expected to have a long-term impact (Sageena & Kumar, 2025). Indeed, the pandemic heightened awareness of travel-related risks, safe travel practices, and reliable health information for travelers. Vaccines as pharmaceutical products were essential for

travel and tourism during the COVID-19 pandemic. Vaccination has had positive effects on tourism (Zaman et al., 2021; Zhu et al., 2022; Dong et al., 2025) and has strongly influenced sentiment and willingness to travel (Lee et al., 2023). Government restrictions and requirements, as well as tourists' perceptions of safety, played a significant role in this. However, conspiracy theories about the COVID-19 vaccines emerged (e.g., Seddig et al., 2022; Ghaddar et al., 2022; Kelly, 2023), leading to vaccine skepticism and hesitancy, which in turn affected travel. Responsible communication is thus important to dispel travellers' doubts in this regard. Milionis et al. (2023) emphasise the importance of communication in relation to vaccine hesitancy. For Generation Z, it is important to convey vaccine information through appropriate communication channels (Jose, 2021) and vaccination awareness campaigns are important to prevent misinformation (Williams, 2022). In addition to the link between the pharmaceutical industry and tourism, vaccine tourism also emerged during the COVID-19 pandemic (Kaewkitipong et al., 2021), highlighting the multi-faceted link between pharmaceutical products and tourism. McCartney et al. (2022) show the relevance of interdisciplinary research and cross-sector collaboration during the COVID-19 pandemic. Vaccination and travel medicine show that the pharmaceutical industry and tourism are not as far apart as they may seem at first glance.

## Methods

A survey using a structured online questionnaire was conducted to collect information on the perception of CSR in the pharmaceutical industry among Generation Z, represented by the university students in Slovenia. The questionnaire was developed for this research based on the review of CSR research in the pharmaceutical industry by Vitezić (2010), Droppert and Bennett (2015), Lorenzini et al. (2018), Belkhir and Elmeli (2019), and Milanesi et al. (2020). A convenience sampling method was used, which has its limitations. Participants were invited to complete an online questionnaire anonymously via social media platforms.

The questionnaire consisted of two parts. In the first part, respondents were asked about their perception of 15 CSR items, with five items each representing the economic, social, and environmental dimensions. Respondents were asked to rate their answers on a five-point Likert-type scale (1=strongly disagree to 5=strongly agree). The questions were analysed using descriptive statistics, including frequency distribution, mean, and standard

deviation (SD). In addition, a closed question asked about the communication channels that participants considered most suitable for communicating the CSR activities of pharmaceutical companies. In the second part of the questionnaire, socio-demographic data, including gender, age, and field of study, were collected. The questionnaire was written in Slovenian and was aimed at Slovenian respondents. All questions were coded for analysis. The questionnaire was tested in a pilot test with 10 respondents. As no further improvements were required as a result of the pilot test, the results were included in the final empirical analysis. The data collection took place at the beginning of April 2025 and resulted in a total of 104 completed questionnaires, which were collected via the 1ka survey platform. The data was then downloaded for further analysis.

Table 1 presents the profile of the respondents. A total of 104 participants were included in the study. In terms of gender, the majority are female (62.5 %), while 37.5 % of the participants are male. The largest age group is between 18 and 21 years old (61.5%), followed by the 21 to 24 age group (29.8%). Although 8.7% of respondents are 25 years or older, they are still considered part of Generation Z (as their status as students suggests they are only slightly older). Looking at the respondents' field of study, pharmacy students form the largest group (34.6%), followed by economics students (17.3%), medical students (13.4 %), and law students (8.7%), while students of other disciplines make up 26 % of respondents.

**Table 1**

*Socio-demographic characteristics of respondents*

	Frequency (Percentage)
Gender	
Female	65 (62.5 %)
Male	39 (37.5 %)
Other/do not respond	0 (0 %)
Age	
18 to 21 years	64 (61.5 %)
22 to 24 years	31 (29.8 %)
25 years and older	9 (8.7 %)
Field of study	
Pharmacy	36 (34.6 %)
Medicine	14 (13.4 %)
Law	9 (8.7 %)
Economy	18 (17.3 %)
Other	27 (26 %)

Source: Authors

## Empirical Results

Table 2 provides an overview of the respondents' perception of the pharmaceutical industry's CSR, divided into economic, social, and environmental dimensions. The first five statements on the Likert-type scale relate to the economic dimension of CSR. Respondents generally agreed that pharmaceutical investment is focused on both profit and benefits for society, with stronger agreement among respondents, as indicated by the standard deviation (mean=3.7, SD=0.67). The results show that the industry is perceived as socially orientated; however, it is not perceived that companies donate a significant proportion of their revenue (mean=2.8, SD=0.73). Regarding involvement in the local community, the results are positive (mean=3.5, SD=0.86). Investment in medicines for small niche groups is slightly positive, but the high standard deviation reflects a wide range of perceptions among respondents (mean=3.3, SD=0.93). The opinions on the affordability of medicine prices are heterogeneous; however, the high standard deviation (mean=3.2, SD=1.05) suggests considerable variation in the respondents' perceptions.

Statements relating to the social dimension received average ratings between 3.4 and 3.8, which indicates a rather positive perception. The highest rating was awarded for the perception of good working conditions (mean=3.8; SD=0.76). Respondents are therefore generally of the opinion that pharmaceutical companies offer good working conditions, which is also reflected in the industry's public image. The measures taken in times of crisis (mean=3.7; SD=0.97) are generally perceived positively; however, the high standard deviation is likely due to different personal experiences with the pandemic. The promotion of a healthy lifestyle (mean=3.6; SD=0.94) is perceived positively; however, respondents' opinions vary, as it can be interpreted differently. Contributions to improving social well-being (mean=3.6; SD=0.84) and efforts to improve health literacy (mean=3.4; SD=0.86) are rated positively, with somewhat widespread perception among respondents.

The environmental dimension received lower ratings. Within this dimension, investments in green innovation received the highest rating (mean=3.5, SD=0.82), with respondents' perceptions varying moderately, as some recognise environmentally oriented investments. In contrast, others are less aware of these projects.

Activities to promote environmental awareness (mean=3.2, SD=0.84) are rated slightly above the mean, with a moderate standard deviation, suggesting that respondents have different perceptions, probably due to different experiences with environmental campaigns.

Funding for environmental projects (mean=3.1, SD=0.69) is rated close to average, suggesting that financial support for environmental projects is not particularly recognised, and opinions do not vary widely.

Environmentally friendly packaging (mean=3.0, SD=0.89) received a neutral rating, indicating that it is not perceived as particularly effective in terms of CSR. As sustainability issues, such as waste reduction, become increasingly important to Generation Z, these initiatives are emerging as strategically significant. However, the standard deviation shows the dispersion of the responses. The statement about the low impact of the pharmaceutical industry on pollution received the lowest average rating (mean=2.7, SD=0.88).

**Table 2**

*Frequency distribution, mean values, and standard deviation of the CSR items*

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)	Mean	SD
The investments of pharmaceutical companies are oriented towards both profit and long-term benefit for society.	0 (0%)	7 (7%)	25 (24%)	67 (64%)	5 (5%)	3.7	0.67
Pharmaceutical companies donate a significant portion of their revenue.	4 (4%)	27 (26%)	57 (55%)	16 (15%)	0 (0%)	2.8	0.73
Pharmaceutical companies include the local community in their operations, development, employment.	1 (1%)	14 (13%)	31 (30%)	50 (48%)	8 (8%)	3.5	0.86
Pharmaceutical companies invest significantly in medicines for small, specific groups of people.	3 (3%)	17 (16%)	35 (34%)	42 (40%)	7 (7%)	3.3	0.93
Prices for medicines are generally affordable.	8 (8%)	20 (19%)	20 (19%)	52 (50%)	4 (4%)	3.2	1.05
Pharmaceutical companies ensure good working conditions for their employees.	0 (0%)	4 (4%)	32 (31%)	51 (49%)	17 (16%)	3.8	0.76
Pharmaceutical companies promote a healthy lifestyle.	4 (4%)	9 (9%)	21 (20%)	57 (55%)	12 (12%)	3.6	0.94
Pharmaceutical companies contribute to the improvement of social well-being.	3 (3%)	7 (7%)	30 (29%)	56 (54%)	8 (8%)	3.6	0.84
In times of crisis (pandemics, natural disasters), pharmaceutical companies act in the public interest.	3 (3%)	10 (10%)	19 (18%)	53 (51%)	18 (17%)	3.7	0.97
Pharmaceutical companies invest in projects to improve public health literacy.	2 (2%)	15 (14%)	36 (35%)	46 (44%)	5 (5%)	3.4	0.86
Pharmaceutical companies invest in green innovations.	1 (1%)	12 (12%)	34 (33%)	50 (48%)	7 (7%)	3.5	0.82

**Continuation of Table 2***Frequency distribution, mean values, and standard deviation of the CSR items*

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)	Mean	SD
The production of pharmaceutical companies has little impact on environmental pollution.	7 (7%)	38 (37%)	40 (39%)	15 (15%)	2 (2%)	2.7	0.88
Medicines are supplied in environmentally friendly packaging.	3 (3%)	29 (28%)	38 (37%)	32 (31%)	2 (2%)	3.0	0.89
Pharmaceutical companies provide significant funding for environmental protection projects.	2 (2%)	13 (13%)	60 (58%)	29 (28%)	0 (0%)	3.1	0.69
Pharmaceutical companies raise awareness about the importance of environmental protection for society and health.	3 (3%)	16 (15%)	44 (42%)	38 (37%)	3 (3%)	3.2	0.84

*Source: Authors*

Additionally, the survey asked about the most suitable communication channels for CSR activities of pharmaceutical companies. Social media is identified as the most suitable channel by 50 respondents (48.1%), followed by company websites by 45 respondents (43.3%). On the other hand, traditional media such as newspapers and magazines are perceived as the most suitable only by 5 respondents (4.8 %), and events by 4 respondents (3.8%). The results suggest that Generation Z, known for their digital fluency and orientation towards instant access to information, expects CSR activities to be communicated via fast and easily accessible online platforms. For pharmaceutical companies seeking to engage Generation Z, a robust online presence is crucial for communicating social responsibility and fostering trust.

## Discussion

When comparing the perceptions of the three dimensions of CSR in the pharmaceutical industry from the perspective of the younger generation, the social dimension generally received slightly higher ratings than the economic and environmental dimensions. The economic dimension reveals some positive perceptions, with a focus on the long-term benefits for society and the local community. The affordability of medicines is perceived very differently by respondents (as reflected in the highest standard deviation). These differences of opinion may be due to the fact that in many parts of the

world, the cost of medicines is high, and even in developed economies, public health insurance often does not fully cover all medicines. Regarding the social dimension, ensuring good working conditions and responsiveness in times of crisis received the most positive responses. The high rating of labour conditions is particularly noteworthy as Volodina et al. (2009) also found that students perceive CSR in the pharmaceutical industry primarily through employment policies. Moreover, this positive perception aligns with Droppert and Bennett (2015), who argue that the CSR of pharmaceutical companies is important for recruitment, employee satisfaction, and improving population health, among other reasons. Respondents perceived the environmental dimension as the weakest dimension. The average rating of environmentally friendly packaging presents opportunities for innovative packaging solutions in the pharmaceutical industry, as Lorenzini et al. (2018) note. A negative perception of environmental pollution was identified, consistent with a study by Belkhir and Elmeligi (2019) that found the pharmaceutical industry to be environmentally unfriendly. This points to a perceived gap in the environmental dimension. CSR activities can lead not only to a reduction in pollution but also to enhanced environmental sustainability and preservation. However, investment in green innovation received a positive and the highest rating among environmental items, indicating that respondents recognise the pharmaceutical industry's commitment to this area.

The relatively high standard deviation in responses for some CSR activities suggests that perceptions differ among respondents, and that improved communication through appropriate channels about these activities would effectively address this issue for this generation. It is important to integrate digital and fast communication strategies into CSR and use social media platforms and websites to raise awareness of these activities. CSR efforts cannot be recognised if they are not communicated with the right messages and through the right channels. The importance of CSR communication by pharmaceutical companies is also emphasised by Cook et al. (2018). Trustworthy communication about CSR activities, education, health improvement, and environmental improvement is important in shaping and strengthening perceptions among Generation Z.

Although this study focuses on the pharmaceutical industry, the perceptions that Generation Z attributes to CSR may have broader implications. Respondents' perception shows that the social dimension can make a strong contribution to health-conscious tourism by taking action in times of crisis, which can lead to greater confidence in health safety measures when travelling. This is important as Lee et al. (2019) found that supporting crisis relief can raise awareness of the pharmaceutical industry's CSR efforts. In fact, the COVID-19 pandemic has highlighted the role of pharmaceutical companies in reopening borders and restoring travel when vaccination became crucial for travel. Indeed, limited access to vaccines slower the tourism recovery from the COVID-19 pandemic in some parts of the world (Dube, 2022). Improving well-being, promoting healthy lifestyles, and enhancing health literacy, which may indirectly contribute to safer environments and increase travellers' confidence, are positively rated. As vaccination is crucial for tourism in specific destinations and during health crises, CSR initiatives by the pharmaceutical industry can strengthen relationships with the tourism industry by working with tourism stakeholders and supporting community health initiatives, while at the same time building greater trust in pharmaceutical products. This is particularly important after the COVID-19 pandemic, when conspiracy theories and misinformation led to widespread doubts about vaccines. In terms of perceptions of the economic dimension, donations that can support the health-orientated development of destinations may have limited impact on destination attractiveness, while initiatives that promote long-term benefits for society and local engagement, which are strongly perceived by Generation Z, can have a more decisive role in increasing the destination attractiveness. From an environmental perspective, it

presents an opportunity for pharmaceutical companies to enhance their impact by reducing pollution, engaging in environmental protection projects, and developing sustainable logistics. Such initiatives could attract health-conscious tourists and reinforce the positioning of health-conscious tourism as a distinct segment. These observations suggest that CSR activities, as perceived by Generation Z in the pharmaceutical sector, can, at the level of the study's extended implications, support the development of tourism that prioritizes sustainability, safety, and health, including vaccinations, especially during times of crisis. Taken together, some CSR activities of pharmaceutical companies have implications for tourism, particularly in the post-COVID-19 era, while others are more industry-specific.

## Conclusion

This study sheds light on how Generation Z perceives CSR in the pharmaceutical industry after the COVID-19 health crisis, when vaccination and quick response were crucial. Understanding post-pandemic perceptions of Generation Z is crucial, as these views reveal attitudes that will shape future societal expectations. There is a need for targeted digital communication strategies on CSR to foster trust and engagement among younger stakeholders. Moreover, the study underscores the importance of cross-industry CSR, as initiatives in one industry, such as health and sustainability efforts in the pharmaceutical industry, can have far-reaching implications for tourism.

From a management perspective, the study emphasises two important priorities. Firstly, there is still considerable room for improvement in some CSR activities that are perceived as average or below average. Secondly, it emphasises the importance of prioritising online communication that highlights CSR efforts, for example, by organising virtual events, especially in areas where the impact is not immediately visible. Thirdly, the pharmaceutical industry's CSR activities could involve tourism stakeholders in designing programmes to promote healthcare and safe travel through cross-sector collaboration.

Future studies could expand the scope by including other generations and comparing the differences in perceptions between them. In addition, cross-country comparative studies would provide valuable insights into cultural and other differences. Future research could increase understanding of the relevance of CSR of the pharmaceutical industry beyond healthcare and shed

light on the role of these activities in shaping health-conscious travel behaviour.

The study has some limitations that must be considered. The sample is modest and limited to Slovenian students, although the CSR activities involve a variety of stakeholders. A convenience sample is used due to its practical advantages. Nevertheless, the results provide an

initial insight into the topic, but further research with larger samples and more robust sampling methods would be welcome to confirm the results. As a dispersion of perceptions was found among the respondents regarding some CSR elements, it would be appropriate to conduct further analyses to determine whether these differences are influenced by the respondents' field of study or other underlying factors.

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## Percepcije družbene odgovornosti farmacevtske dejavnosti po pandemiji Covida-19 in implikacije za zdravstveno naravnani turizem

### Izvleček

Članek preučuje doživetje generacije Z glede družbene odgovornosti v farmacevtski dejavnosti po pandemiji COVID-19, ki je povečala ozaveščenost o zdravju. S pomočjo strukturiranega spletnega vprašalnika, izvedenega med študenti, raziskava osvetljuje stališča generacije Z do ekonomskih, socialnih in okoljskih vidikov družbene odgovornosti v farmacevtskih podjetjih. Rezultati kažejo, da so socialni vidiki družbene odgovornosti, zlasti zagotavljanje dobrih delovnih pogojev, na splošno ocenjeni najbolj pozitivno. Aktivnosti družbene odgovornosti morajo biti podprte z ustrezno komunikacijo s ključnimi deležniki, pri čemer se za generacijo Z kaže za posebej vplivno spletno komuniciranje. Poleg tega nekatere aktivnosti družbene odgovornosti v farmacevtski industriji presegajo okvir te dejavnosti in se lahko odrazijo v zdravstvenem naravnem turizmu.

**Ključne besede:** družbena odgovornost podjetij, generacija Z, farmacevtska dejavnost, turizem