



The Bottled Air Market in India

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Abstract

The increasing levels of air pollution have led to a growing demand for clean air. In this research paper, we have focused on fresh bottled air as a solution to combat air pollution. Our study aims at finding out the possible demand for bottled air products. We have identified Vitality Air, Kiwi air, and Himalayan Air as our main competitors, and we believe they are too expensive for Indian consumers. We intend to offer a 'Made in India' solution to reduce transportation costs and excise duty and to capture the Indian market through our product, "Praanvayu (the Indian Idea of Fresh Air Bottle)" The product will contain fresh air compressed in it for one hour, and be refillable, ensuring that it is eco-friendly and sustainable. This study employs a questionnaire method to get the results. By focusing on the Indian market, we aim to establish ourselves as a cost-effective way for suppliers to penetrate the post-acute market. Additionally, our research paper discusses the potential health benefits of using fresh bottled air, such as improved respiratory function, increased energy levels, higher concentration levels, and key factors of HDI. The findings reveal that 20.4% of respondents said they had skin infections, and 21.5 said they had lung disease & heart disease, or other health concerns. The survey shows that most respondents believe Praanvayu would be a worthwhile product, with 50% being neutral about its potential success in improving respiratory health.

Keywords: Bottled air, Air pollution, Fresh air, Healthy living, Diseases, Indian market, Consumer.

1. Introduction

The most vital component of life is air. The steady pressure that surrounds us but that we cannot see is called “air”. The swinging of the plants and trees is an example of how air may be seen to have an impact on nature. Even though we cannot see air with our eyes, we can still feel it all around us and are aware that life as we know it would not exist without it. Normally, we can survive for 10 to 50 seconds without air. What if there is no atmosphere made of air?

What if there is no atmosphere made of air? It won't happen, but we can be confident that the earth won't have enough clean air in the atmosphere in the years to come. Even now, metropolitan areas in emerging nations are beginning to experience poor air quality, which is causing a variety of health issues, most notably eye, and respiratory diseases. Humans, animals, including birds, reptiles, and even aquatic creatures, all breathe in oxygen and exhale carbon dioxide, whereas plants require carbon dioxide for photosynthesis. Our product looks like a fancy water bottle but it is more than a fancy water bottle: moreover, it will contain fresh air compressed in it for one hour. It will be refillable, which means cans won't be thrown randomly. It will have a can cover that will be designed according to trends and fashion. It won't give a puff; instead, it will supply a regular amount of air through the pipe and mask for an hour, as we see in the hospital from the oxygen cylinder to the nose. But we won't be using transparent masks and pipes; instead, they will be designed as per the needs of fashion.

Polluted air has caused numerous deaths, caused lack of concentration, reduced attention span, mutations, affected fitness, lung diseases, etc. Mainly people can get rid of this by only a way that is fresh air consumption. For those people either have to settle in a village area where there are a lot of trees, minute presence of motor vehicles, etc. For getting this luxury, not everyone can go to a rural area, as people have jobs, businesses, and all other facilities are located in town. People go once a year for refreshments for hiking, trekking, and enjoying natural scenery to hill stations, forests, base camps, mountains, far from human habitation, sea beaches, etc. Even these areas have become crowded. So, there is a lot of potential in this sector as current trends show a lot of spikes in health care and fitness.

People may not go out in polluted areas, but the air coming out air conditioners is affecting their health as well as the health of the planet as it contains ammonia gas. The idea of a fresh air bottle can provide the luxury to freshen up lungs, and sending fresh crispy, cool breezes of pure air to the brain to increase energy level, and concentration level. A long breath of fresh air can help in remaining far from many kinds of diseases as pure oxygen if circulated across the body can light up cells, helps in increasing immunity, and the merits of it go on.

Artists, book writers, and designers choose hill station, a silent area with fresh air to generate new ideas and discover their inner selves. An idea to put on a separate closed room for fresh air in the home, yoga centers, rehabilitation centers, malls, city centers, and office rooms can increase productivity, and creativity among employees, healthy and fit physical as well as mental health, and many more. If we see it from a business perspective, spas, and massage centers, likewise fresh air centers can be key businesses.

2. Review of Literature

The literature on bottled air cans is relatively new, as this product is a recent development in the market. Most of the available literature on this topic includes news articles, industry reports, and opinion pieces, with

few academic studies specifically focused on bottled air cans. The following is a review of some of the key literature on bottled air cans:

"Breathing Bottled Air: The Hype and Hope of Respiratory Supplements" by M.E. Baumann (2017) - This article offers a critical assessment of the bottled air market, highlighting the paucity of scientific evidence for the claimed health advantages of these products. According to the author, the promotion of bottled air may lead to unrealistic expectations and may draw attention away from more practical ways to combat air pollution.

"The Bottled Air Business Is Booming, but Is It Ethical?" by A. Shubber (2018) - The monetization of clean air and potential environmental impact are two of the ethical ramifications of the bottled air industry that are covered in this article. The author contends that the manufacturing and use of bottled air may contribute to a culture that favors individualized rather than group solutions to environmental issues.

"The Environmental Impact of Bottled Water and Bottled Air" by A. Rosen (2018) - This article contrasts the effects of bottled water and air on the environment, stressing the large carbon footprint and waste creation resulting from their manufacture and distribution. The author makes the case that using reusable alternatives, such as air purifiers and refillable water bottles, may be a more environmentally friendly option.

"Bottled Air: An Overview of the Market and its Prospects" by M. Poon and H. Kaur (2019) - In this research, the bottled air market's size, growth potential, and major players are all briefly discussed. The industry of bottled air, according to the authors, might be a good way to reduce air pollution in heavily polluted areas, but more research is needed to determine how successful these products are.

"Air Pollution and Bottled Air in China: Testing Consumer Preferences for Indoor Air Quality Improvements" by K. Yao and H. Chen (2021) - This study investigates customer preferences for bottled air in China, a polluted country. Customers are willing to pay more for bottled air items, according to the authors, indicating a potential market for these products.

Overall, the research on bottled air cans points out that even if these products could be able to reduce air pollution, there are serious environmental and financial issues that need to be resolved. To determine how well-bottled air products work to improve air quality and to look into other options for combating air pollution, more research is required.

3. Statement of Problem

Air pollution is a significant global health issue, with millions of people affected by the adverse effects of polluted air. As a result, there has been growing interest in bottled air as a potential solution to the problem. Many examples are there where products get incredible success in a foreign market but fail in the Indian markets. A Canadian company called "Vitality air Incorporated," which filters air, puts it in cans, and sells it in Delhi for Rs. 12.50 - 18.75 each breath. They sell Himalayan air, vitality air, vitality oxygen, and vitality mist under those names. Pure Kiwi Air and Vitality Air Corporation, charge more for air and oxygen bottles. This research paper aims to address the loopholes of the product and decided to modify it further to help people fight air pollution. This paper has employed different technology and services that will be cost-effective, sustainable, and eco-friendly for the Indian consumer.

4. Objectives of the study

1. To emphasize the ability of the air industry to provide clean, fresh air to segment the market for portable regeneration services. Also, for studying the possible demand for bottled air products in the Indian market
2. To contribute to the decrease in the number of deaths in a given city each year that is caused by airborne illness.
3. To study the perception of people towards bottled air products, including their willingness to pay for such products.

5. Scope of the study

Due to increasing industrialization and industrial setup due to the rising population, the bottled air market is becoming more and more popular. The average number of air pollution-related deaths in India, an industrially growing nation, increased from over 1.64 million to over 1.66 million in 2019. Asthma, early mortality, a rise in hospital admissions, and other major health impacts are caused by exposure to fine particle (PM 2.5) air pollution, which supports market expansion. Also, the market for bottled air is expected to develop due to the expansion of industrial gas consumption in the photovoltaic (PV) industry. The canned fresh air industry has existed for more than three years. Those who have previously taken action and persevered over the past three years have profited greatly. As you can see from their actual behavior: If you are willing to act and think that this is a legitimate business and not just a speculation, you can also earn from it.

6. Methodology

To study the relevance of need of bottled air in India, an online survey was conducted using a structured questionnaire method to get responses. A total of 93 participants across Indian cities like Bengaluru, Pune, Delhi, and Chennai were randomly assigned to the designed questionnaire. The online questionnaires were in form of Google forms. The Google form link was sent to respondents via e-mails, WhatsApp, and Facebook for an online survey. The link to the online survey was e-mail verified to avoid multiple responses by a single respondent. The survey was carried out in a period of 10 Am on 17th February 2023 to 5 pm on 18th March 2023. Ethical considerations are addressed, and limitations are noted, including the small sample size.

7. Limitations

- Bottled air mechanisms can be expensive to manufacture, transport, and reach out to targeted consumers which can limit accessibility and affordability for people who need them. This can also result in limited availability in certain regions.
- The concept of bottled air may not be universally accepted or understood across different cultures or regions. This could affect the demand for the product and the potential for market growth.
- The technicalities of storing air for a long duration of time, less weight, and the comfort to wear masks again after the pandemic looks quite difficult.

8. Data Analysis and Interpretation

Table 1
Age of the Respondents

Sl. No.	Age of the Respondents	Number of Respondents	Percentage
1	0-20 years	38	40.9
2	21-30 years	52	55.9
3	31-50 years	2	2.2
4	Above 50 years	1	1.1
Total		93	100

(Source: Primary Data)

Table 1 discloses the age-wise classification of respondents selected for the study. It knows that 38 respondents belonged to the age group of 0-20 years (40.9 percent) a maximum of 52 respondents (55.9 percent) belonged to the age of 21-30 years followed by 2 respondents (2.2 percent) 31-50 years and only 1 respondent (1.1 percent) come under the category of above 50 years.

Table 2
Gender of the Respondents

Sl. No.	Gender Status of The Respondents	Number of Respondents	Percentage
1.	Male	50	53.8
2.	Female	43	46.2
Total		86	100

(Source: Primary Data)

Table 2 reveals the gender-wise classification of the respondents selected for the study. It is understood that more than one-half (53.8 percent) of the respondents are male whereas 43 (46.2 percent) of the respondents are female.

Table 3
Monthly Income of Respondents

Sl. No.	Monthly income of Respondents	Number of respondents	Percentage
1.	10000-40000	50	75.8
2.	40000-60000	4	6.1
3.	Above 60000	12	18.2
Total		66	100

(Source: Primary Data)

Table 3 divulges the monthly income of the respondents. It is known that a maximum of 50 respondents (75.8 percent) belonged to the income category of 10000-40000, 6.1 percent between 40000-60000, and 12 respondents (18.2 percent) have a monthly income of 60000 and above.

Table 4

Monthly Health Spendings of Respondents

Sl. No	Monthly health spendings	Number of Respondents	Percentage
1.	1000-10000	62	70.5
2.	10001-25000	18	20.5
3.	Above 25000	8	9.1
Total		88	100

(Source: Primary Data)

Table 4 specifies the monthly health spending of respondents. It is understood that a maximum of 62 respondents (70.5 percent) spend 1000-10000, followed by 18 respondents (20.5 percent) spending 10001-25000, and only 8 respondents (9.1 percent) from the category of above 25000.

Table 5

Family Health Issues of Respondents

Sl. No.	Different Health Issues of Respondents	No. of Respondents	Percentage
1.	Skin Infection	19	20.4
2.	Heart Problem	11	11.8
3.	Lungs Disease	9	9.7
4.	None	53	57
5.	Others	1	1.1
Total		93	100

(Source: Primary Data)

Table 5 specifies the family health issues of the respondents. It is known that a maximum of 53 respondents (57 percent) belonged to the category of none, 20.4 percent belonged to the category of skin infection, 11.8 percent with heart problems, 9.7 percent with lung disease, and 1.1 percent with others.

Table 6

Understanding the Effectiveness of Praanvayu by Respondents

Sl. No.	Understanding the Effectiveness of Respondents	No. of Respondents	Percentage
1.	Yes	32	34.8
2.	No	10	10.9
3.	Maybe	50	54.3
Total		92	100

(Source: Primary Data)

Table 6 specifies how worth is Praanvayu by the respondents. It is known that a maximum of 50 respondents (54.3 percent) responded as maybe worthwhile, 34.8 percent responded it will be worthwhile, and 10.9 percent with no.

Table 7

The Success rate of the product in improving the respiratory system

Sl. No	Respondent's View of the Product	No. of Respondents	Percentage
1.	Strongly Disagree	5	5.4
2.	Disagree	5	5.4
3.	Neutral	46	50
4.	Agree	31	33.7
5.	Strongly Agree	5	5.4
	Total	92	100

(Source: Primary Data)

Table 7 specifies the success rate of the product in improving the respiratory system. It is known that a maximum of 46 respondents (50 percent) responded as neutral, 31 respondents responded as agree, and 5 responded as disagree.

Fig 1

Statement Rating by Respondents

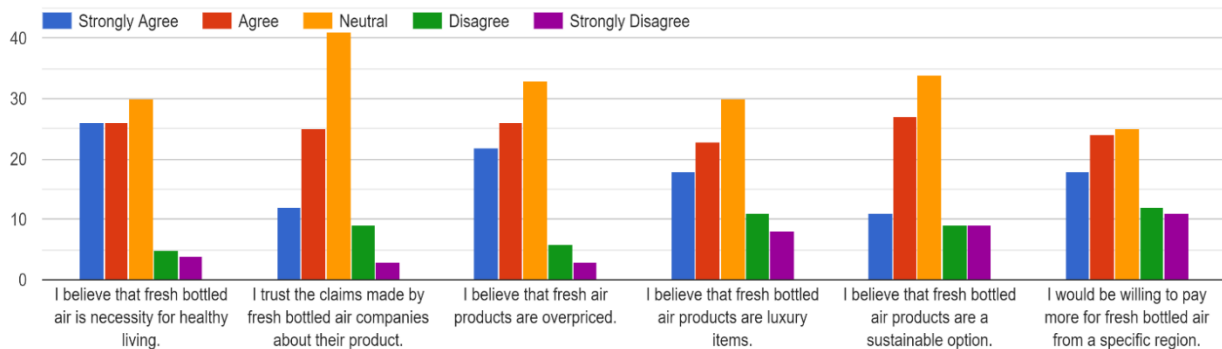


Fig 1 specifies the statement rating by respondents. The highest number of people responded as neutral followed by people agreeing with the statements, strongly agree as the third highest and disagree and strongly disagree being the lowest.

9. Findings

- The research findings reveal that out of the total respondents, 38 belonged to the age group of 0-20 years, which accounts for 40.9% of the total respondents. The majority of the respondents, which is 52 individuals or 55.9%, belong to the age group of 21-30 years. Only 2 respondents (2.2%) were between the ages of 31-50, and only 1 respondent (1.1%) was above the age of 50.

- It is evident from the research that a majority of the respondents, comprising 53.8 percent, were male, while the remaining 46.2 percent were female.
- The study shows that a maximum of 50 respondents (75.8 percent) belonged to the income category of 10000-40000, 6.1 percent between 40000-60000, and 12 respondents (18.2 percent) have a monthly income of 60000 and above.
- The data reveals that a maximum of 62 respondents (70.5 percent) spent between 1000-10000, followed by 18 respondents (20.5 percent) who spent between 10001-25000, and only 8 respondents (9.1 percent) who spent above 25000.
- The study shows the following facts in terms of health conditions, the majority of the respondents, that is, 53 individuals (57 percent), did not report any health problems. However, 20.4 percent of the respondents reported skin infections, 11.8 percent had heart problems, 9.7 percent had lung disease, and 1.1 percent had other health issues.
- The majority of respondents, that is, 50 individuals (54.3 percent), responded that Praanvayu (the Indian Idea of fresh air bottle) may be worthwhile, while 34.8 percent of respondents believed that it would be worthwhile, and 10.9 percent of respondents were not in favor of it.
- The data also discloses about the product's success rate in improving respiratory health, 46 respondents (50 percent) were neutral, while 31 respondents agreed that it could be successful, and only 5 respondents disagreed.
- The survey also shows that the highest number of respondents were neutral, followed by those who agreed with the statements, with strongly agree being the third highest response, and disagree and strongly disagree being the least common in Fig.1.

10. Suggestions

The results of the current study suggest that wealthy consumers who can afford luxury can spend money on this product and use its services. However, it is important to be aware of the study's limitations, including the fact that the sample size was quite small and the survey population's age ranged from 20 to 30 years old. A future study might make use of objective metrics for social media usage and involve a bigger, more varied sample to overcome these constraints. While the current study concentrated on college students, future studies may examine persons from various age groups and communities. Researchers can apply the product testing approach in the future by putting the product in consumers' hands so they can see, feel, and use it before drawing conclusions. Future studies may look into if using fresh air bottles benefits employees, rehab facilities, and college students' physical and emotional well-being.

11. Conclusion

Bottled fresh air has emerged as a distinct market trend, particularly in countries such as China and India where air pollution is a significant issue. Companies like Vitality Air, Kiwi air, and Himalayan Air have already started selling canned natural air to Indian consumers in response to the country's growing demand for clean air, creating the potential for competitors to expand into the industry at a higher price. As a result of spotting the flaws in the current product, Praanvayu (the Indian idea of fresh air bottle), a modified product, produces refillable cans that reduce environmental waste and supply air through a pipe and mask for an hour that is intended for regular breathing, making it more accessible and useful for the general public. Together with medicinal systems and air purifiers, the suggested product provides a unique mixture of top suppliers to create an enormous variety of product solutions for fighting air pollution at an individual level and contamination issues faced by the general population. Praanvayu (the Indian idea of fresh air bottles) can enter the post-acute market by utilizing the made-in-India strategy to establish an efficient channel of distribution that is both affordable and cost-effective. Offering a healthy and clean atmosphere in the healthcare sector is Praanvayu (the Indian idea of fresh air bottles)'s main goal. Overall, fresh bottled air has a lot of potential advantages, and with the correct marketing, it may become a popular product in India and elsewhere.

References:

1. Cui, H., Chen, X., Yang, Q., & Chen, J. (2021). A portable air purifier using bottled air for improving indoor air quality. *Building and Environment*, 200, 107988.
2. Díaz-Robles, L. A., & Vera-López, F. (2021). Impact of using bottled air on indoor air quality: A field study. *Science of the Total Environment*, 769, 145414.
3. Fuentes-León, G., Giraldo, N., & Riaño-Rojas, J. (2019). Evaluation of a portable air purifier using bottled air on indoor air quality in a rural community in Colombia. *Journal of Environmental Science and Health, Part A*, 54(13), 1233-1241.
4. Huang, X., Li, J., Yu, Y., & Gao, J. (2018). Performance evaluation of a novel air purifier using bottled air. *Aerosol and Air Quality Research*, 18(12), 2967-2975.
5. Jia, Y., Zheng, J., Huang, J., Hu, L., Wang, J., Chen, G., & Shen, H. (2019). A study on the feasibility of using bottled air in air purifiers. *Building and Environment*, 156, 338-347.
6. Jin, Y., Kim, H., & Kim, J. (2021). Evaluation of personal air purifiers using bottled air in a simulated office environment. *Building and Environment*, 200, 107973.

7. Kim, S. J., Kim, J. J., & Lee, S. Y. (2019). Effects of the use of bottled air on indoor air quality and human health. *Indoor and Built Environment*, 28(4), 522-531.
8. Li, C., Li, J., Chen, Y., Li, Y., Li, Y., & Li, W. (2020). Evaluation of the efficacy of bottled air in reducing indoor exposure to PM_{2.5} during a severe haze episode. *Journal of Hazardous Materials*, 381, 120925.
9. Li, J., Li, Y., Liu, W., & Li, C. (2019). Evaluation of the effectiveness of bottled air in reducing exposure to PM_{2.5} during haze episodes in Beijing. *Science of the Total Environment*, 659, 1368-1376.
10. Wang, Q., Chen, X., & Chen, J. (2019). Performance analysis of a portable air purifier using bottled air. *Journal of Environmental Sciences*, 75, 207-216.
11. Kim, S. J., Kim, J. J., & Lee, S. Y. (2019). Effects of the use of bottled air on indoor air quality and human health. *Indoor and Built Environment*, 28(4), 522-531.
12. Leung, D. Y. C., & Wang, X. (2017). Bottled air from Canada: a critical review. *Atmospheric Environment*, 166, 352-357.
13. Li, J., Li, Y., Liu, W., & Li, C. (2019). Evaluation of the effectiveness of bottled air in reducing exposure to PM_{2.5} during haze episodes in Beijing. *Science of the Total Environment*, 659, 1368-1376.
14. Lippmann, M., & Chen, L. C. (2015). Health effects of air pollution. *New England Journal of Medicine*, 372(23), 2327-2337.
15. Loh, M. M., & Tan, S. S. (2018). Bottled air and personal air purifiers: an innovative approach to reducing indoor particulate matter. *Journal of Occupational and Environmental Hygiene*, 15(10), 783-790.
16. Martuzzi, M., & Mitis, F. (2019). Air quality and health. European Environment Agency.
17. Morawska, L., & Cao, J. (2018). Airborne particles in indoor environment of homes, schools, offices and aged care facilities: the main routes of exposure. *Environment International*, 108, 75-83.
18. Sanderson, K. (2018). Can bottled air help to fight air pollution? BBC News. <https://www.bbc.com/news/business-45655736>
19. Shao, D., Ma, X., Wang, Y., Liu, L., & Jiang, G. (2017). Effects of bottled air on personal exposure to fine particulate matter (PM_{2.5}) in Shanghai, China. *Science of the Total Environment*, 601-602, 1809-1816.
20. WHO. (2018). Ambient air pollution: Health impacts. World Health Organization.

21. Yang, Y., Huang, J., Fan, H., Wang, J., & Qiao, L. (2019). Research on the application of bottled air in air purifiers. *Journal of Environmental Health Science and Engineering*, 17(2), 451-459.
22. Chen, X., Wang, Q., & Chen, J. (2020). Application of Bottled Air in Air Purification: A Mini Review. *Aerosol and Air Quality Research*, 20(1), 1-11.
23. Chung, Y. C., Lee, C. H., & Li, W. J. (2019). Investigation of air quality improvement in a small space by a portable air purifier using bottled air. *Aerosol and Air Quality Research*, 19(3), 531-539.
24. Guo, R., Xu, S., & Liu, H. (2018). Study on a novel air purifier based on bottled air. *Aerosol and Air Quality Research*, 18(9), 2426-2434.
25. Huang, X., Li, J., Yu, Y., & Gao, J. (2018). Performance evaluation of a novel air purifier using bottled air. *Aerosol and Air Quality Research*, 18(12), 2967-2975.