International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 04 | April - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

# A Comparative Study of Marketing Strategies Adopted by Various Edu-Tech Companies in K-12 Segment and Study of Perception and Preferences of Parents in Gujarat

**Authors**

**Keshri Sunny Balmikiprasad**, MBA Student, Parul University

**Mayank Kumar Kirtanbhai Patel** MBA Student, Parul University

Under the guidance of

**Dr. Mohit Parekh,** Assistant Professor, Parul University

## ABSTRACT

This study offers a unique perspective by centering on the decision-making process of Gujarati parents in the educational technology (edtech) sector, particularly in the western region of India. Departing from traditional research that predominantly focuses on K–12 students, this study prioritizes understanding the viewpoints and preferences of parents. It aims to uncover the myriad factors influencing Gujarati parents' choices of edtech companies for their children, including the reputation of businesses, the quality of educational materials, interactivity, cost-effectiveness, and regional or cultural influences specific to Gujarat. Moreover, the research delves into the marketing strategies employed by edtech companies in Gujarat, seeking to discern how they adapt their tactics to resonate with Gujarati parents' needs. Utilizing digital tools like Google Forms for data collection ensures efficiency and convenience, while statistical analyses validate findings. Ultimately, the study endeavors to provide fresh insights into Gujarat's edtech market dynamics, enabling companies to tailor their products and marketing strategies to better serve Gujarati parents and their children.

## Introduction

Considering its unparalleled adaptability in learning, educational technology has come to revolutionize the K–12 market. The days of education being limited to the classroom are long gone, and students can now interact with learning materials whenever it's convenient for them, whether at home or on the go. K–12 kids can access interactive lessons, instructional games, and virtual classrooms that are customized to meet their unique needs and learning styles by utilizing digital tools and resources. This introduction lays the groundwork for examining the revolutionary effects of educational technology on the K–12 market, highlighting the technology's capacity to upend conventional teaching practices, improve student engagement, and promote a more individualized approach to learning.

Prominent enterprises in the K–12 educational technology space include Byju's, Vedantu, and Physicswall. They offer interactive classes, online learning environments, and educational materials made specifically with schoolchildren's needs in mind. These businesses are well-liked by educators, parents, and students for their cutting-edge teaching strategies, individualized learning programs, and comprehensive curriculum coverage.

**Objectives**

- To identify the key marketing strategies adopted by various Ed-Tech companies in the K-12 segment in Gujarat.
- To assess the effectiveness of these marketing strategies.
- To understand the perception and preference of parents in Gujarat towards Ed-Tech companies.
- To identify the key factors that influence parents' decision-making when choosing an Ed-Tech company.
- To develop recommendations for Ed-Tech companies on how to improve their marketing strategies and reach a wider audience in Gujarat.

**Litrature review**

In August 2022, Tianyu Zhou's investigation provided a unique glimpse into the development of EdTech solutions within Chinese EdTech companies. By tapping into practitioners' experiences, the study unveiled the intricate strategies and challenges involved. Importantly, these insights have implications not only for China but also for the global EdTech community, emphasizing the innovative contributions of Chinese practitioners in shaping the future of education technology. This research serves as a valuable resource for educators, researchers, policymakers, and EdTech professionals worldwide, offering fresh perspectives on EdTech development.

Author Ben Williamson in Education Technology Seizes a Pandemic Opening. The article explores the consequences of this digital shift, including the growth of online learning and concerns about student data privacy. What makes this article unique is its critical perspective, questioning the long-term effects on equity, accessibility, and the commercialization of education. It also examines power dynamics among educational institutions, tech companies, and policymakers. Williamson's article is a valuable resource for educators, researchers, policymakers, and anyone interested in the intersection of technology and education. It encourages thoughtful discussions about the future of learning in a digital era.

Michael Veale's article, "Schools must resist big EdTech – but it won't be easy," presents a compelling argument against unchecked EdTech integration. Veale emphasizes the need to protect student privacy, address algorithmic bias, and resist commercialization. He calls for collective action and provides valuable insights for educators and policymakers concerned about the impact of EdTech in education.

Kim E. Dooley's article, "Towards a Holistic Model for the Diffusion of Educational Technology," explores the complexities of integrating technology in education. She argues for a comprehensive approach that includes pedagogy, teacher training, policy, and leadership. Dooley emphasizes the importance of aligning technology with educational goals and providing ongoing support for teachers. Her insights are valuable for those seeking effective technology adoption in education.

In the study "Assessing the Technology Readiness of School Teachers: An Empirical Study on Measurement and Segmentation" by Masood A. Badri, Jihad Mohaidat, and Asma Al Rashedi, the authors evaluate the technology

readiness of school teachers. They use a comprehensive measurement framework, segment teachers based on their readiness, and emphasize the significance of attitudes and training in technology adoption. This research provides valuable insights for improving technology integration in education.

Jered Borup's study "Teacher Perceptions of Parental Engagement at a Cyber High School" explores how teachers perceive parental involvement in the context of online education. This research highlights the importance of parental engagement in virtual learning environments and provides practical insights for improving communication between teachers and parents in cyber high schools.

"Student Privacy in the Digital Age" by Susan G. Archambault and William H. Hannon examines the challenges of safeguarding student privacy in today's digital educational landscape. The authors emphasize the need to balance the benefits of technology with privacy protection. They discuss legal and ethical aspects and stress the responsibility of educational institutions and policymakers to ensure student data privacy. This work is essential reading for educators, administrators, and policymakers dealing with technology in education.

Britt Paris, Rebecca Reynolds, Catherine McGowan examine the "sins of omission," referring to the neglect of crucial privacy considerations in e-learning platforms. They delve into the potential consequences of such omissions for both students and institutions. This work serves as an essential resource for educators, administrators, and policymakers seeking a deeper understanding of privacy challenges in higher education's digital landscape.

"Unsung Voices of Technology in School Education: Findings Using the Constructivist Grounded Theory Approach" by V. Deepa, R. Sujatha, and Jitendra Mohan is a study that uncovers the perspectives of various stakeholders on technology in education. Using a constructivist grounded theory approach, it offers valuable insights into the multifaceted impact of technology in school settings, contributing to a deeper understanding of this complex relationship.

**Research methodology**

This research employs a cross-sectional survey methodology to delve into the utilization and preferences of Edu-Tech solutions for K-12 education among parents residing in Gujarat. Through convenient sampling, data is gathered via structured questionnaires encompassing demographic information, awareness levels regarding Edu-Tech providers, enrollment patterns, preferences, concerns, and feedback. Quantitative data undergoes statistical analysis, while qualitative responses are thematically scrutinized. Ethical protocols are strictly adhered to, ensuring participant confidentiality and informed consent. This study aims to yield novel insights into the adoption trends and preferences concerning Edu-Tech solutions within Gujarat's parental community.

**Research design**

Mixed-Methods Approach: A mixed-methods approach is employed, blending quantitative and qualitative research methods. This approach ensures a comprehensive exploration of the intricate research questions.

**Source of data**

The main source of data for this research will be an organized questionnaire sent to Gujarati parents and guardians of K–12 pupils. The distribution of this survey will occur via a number of channels, such as social media, educational networks, internet platforms, and neighborhood associations. In order to guarantee thorough coverage, both virtual and live approaches will be employed. The primary source of quantitative and qualitative data for analysis will be the survey results.

**Data Collection method**

Questionnaire Form has been Prepared and shared by different Channels to reach the diverse population of the Gujarat.

**Population**

Gujarat is a state in western India. Its population was last predicted to be approximately 63 million in 2022. It's important to recognize, nevertheless, that population estimates are liable to fluctuate owing to a variety of circumstances, such as migration, births, and deaths. to acquire the most accurate and current population data available.

**Sampling Method**

**Random Sampling**

Random sampling is a commonly used method for choosing people to participate in research. It's popular because it helps make sure the results apply to a larger group of people. But when using random sampling, it's important to think about practical things like how much time and money you have, and how easy it is to reach the people you want to study.

**Data Collection Instrument**

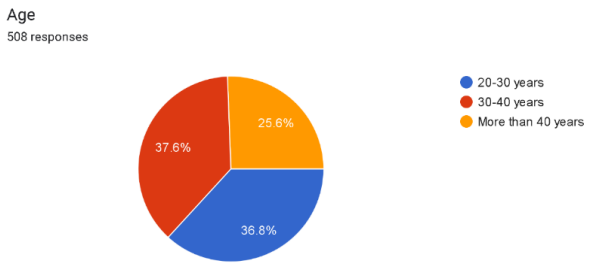
**Structured Questionnaire**

The questionnaire will contain a series of closed-ended questions intended to elicit quantitative data. It will be administered to parents, students, and educational stakeholders.

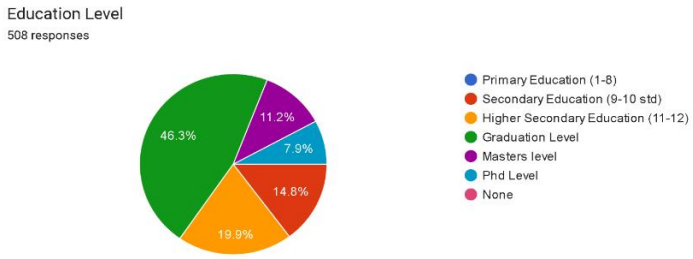
The questionnaire will encompass sections for collecting demographic information, evaluating perceptions and preferences regarding Edtech, and understanding the influence of Edtech marketing strategies.

Questions will be thoughtfully designed to cover various aspects, including awareness, usage, satisfaction, and recommendations for enhancing Edtech solutions.

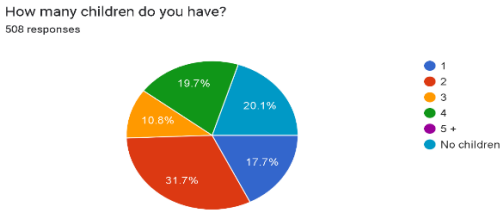
**Data analysis and interpretation**



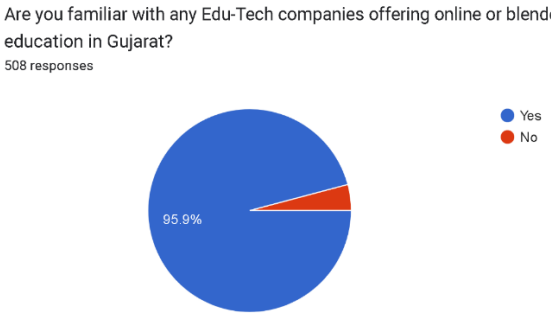

The survey findings unveil a spectrum of age demographics among respondents, shedding light on the diverse preferences of parents in Gujarat regarding K-12 Edu-tech solutions. Younger parents, inclined towards modern, interactive platforms, contrast with the middle-aged cohort, which emphasizes affordability and educational value. Meanwhile, older parents place importance on reliability and academic standards. This insight equips Edu-tech marketers to tailor strategies that resonate with the specific needs and preferences of each demographic segment in Gujarat's parental population.



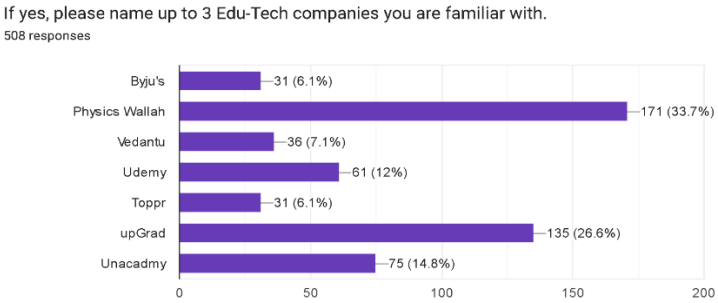

The income level data showcases a range of financial situations among respondents, with the highest percentage falling within the 2 Lakh - 3 Lakh bracket, indicating a substantial middle-income group. Other brackets, including both lower and higher income ranges, also have notable representation, reflecting the diverse financial backgrounds and preferences of parents in Gujarat regarding K-12 Edu-tech solutions.



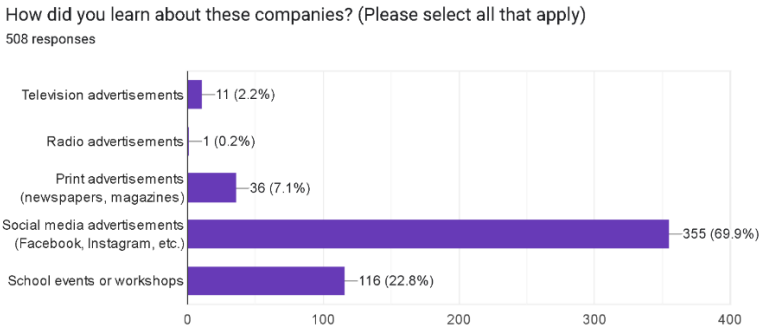

The data on the number of children respondents have reveals a range of family sizes, with the largest group having two children, followed by substantial proportions with one or four children, and a significant portion without children. This diversity sheds light on family dynamics and preferences for K-12 Edu-tech solutions among parents and individuals in Gujarat.



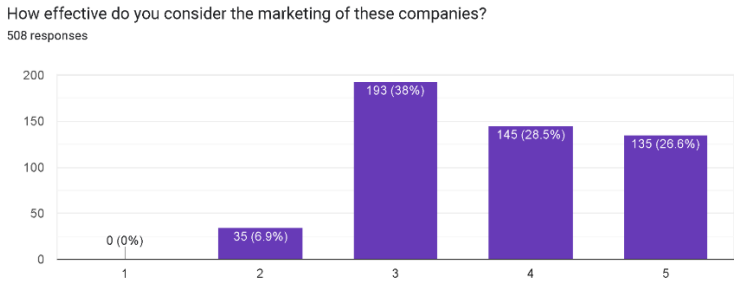

Nearly all respondents (95.6%) are acquainted with Edu-Tech companies offering online or blended learning solutions for K-12 education in Gujarat.



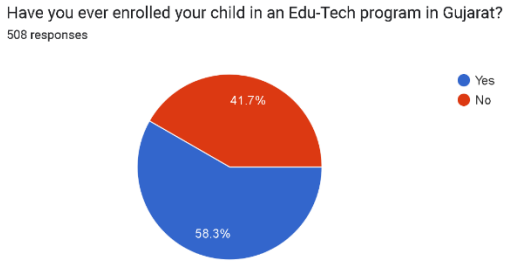

Respondents displayed familiarity with several Edu-Tech companies, with Physic Wallah leading at 33.75%, followed by Upgrade at 26.6%, Udemy at 12%, Unacademy at 14.8%, Vedantu at 7.1%, and both Byju's and Topper at 6.1%. This diverse range of recognized companies showcases the broad awareness and engagement with multiple Edu-Tech platforms among the surveyed population in Gujarat.



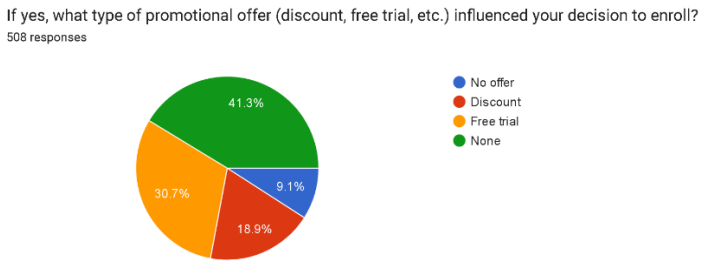
The majority of respondents (69.9%) reported discovering Edu-Tech companies through social media advertisements, followed by school events and workshops (22.8%). A smaller portion mentioned learning about these companies through print advertisements (7.1%), television advertisements (2.2%), and radio advertisements (0.2%).



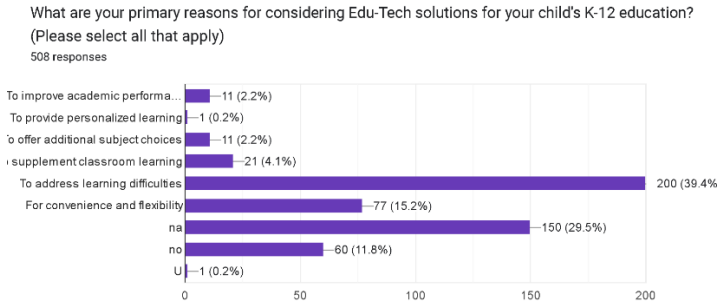

The assessment of the marketing effectiveness of these companies by respondents reflects a positive trend, with 55.1% collectively rating them as very effective (28.5%) or extremely effective (26.6%). Additionally, 38% consider them moderately effective, indicating widespread acknowledgment of their success in reaching and engaging their target audience.



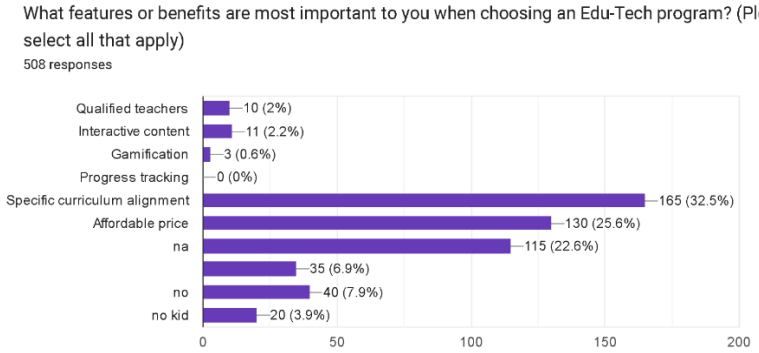

Analysis demonstrates that 58.3% of respondents have chosen to enroll their children in Edu-Tech programs within Gujarat, indicating a considerable interest in integrating educational technology into their child's learning experience. Conversely, 41.7% have not explored such programs, highlighting a significant segment that may be yet to consider or explore this educational option for their children.



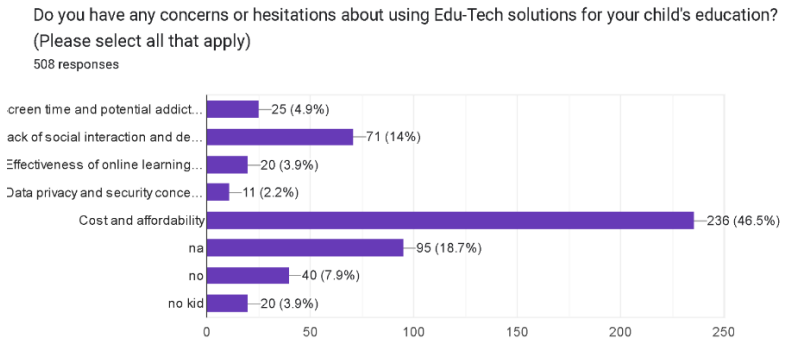

Analysis of responses reveals that 41.3% of respondents enrolled their children in Edu-Tech programs without any specific promotional offer influencing their decision. Meanwhile, 30.7% were swayed by free trials, 18.9% by discounts, and a smaller proportion, 9.1%, enrolled without any offer being a deciding factor.




Parents' motivations for considering Edu-Tech solutions for their child's K-12 education span diverse reasons, with a significant emphasis on addressing learning difficulties (39.4%) and seeking convenience and flexibility (15.2%). Other motivations include supplementing classroom learning and providing additional subject choices, highlighting the multifaceted approach parents take in enhancing their child's educational experience.

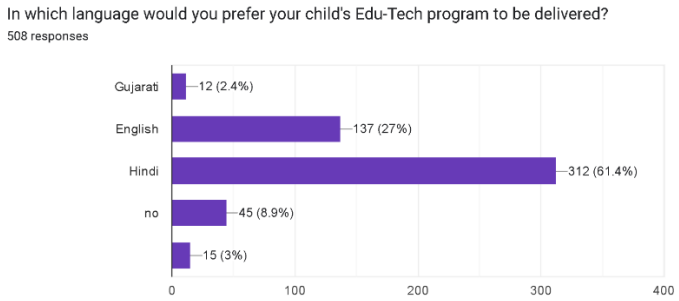



Analysis of respondent preferences highlights specific criteria when choosing an Edu-Tech program for their child's education. Notably, specific curriculum alignment (32.5%) and affordability (25.6%) emerged as primary considerations. Additionally, features such as interactive content (2.2%) and qualified teachers (2%) garnered attention. Gamification and progress tracking were less prioritized, while a variety of other features were also mentioned.

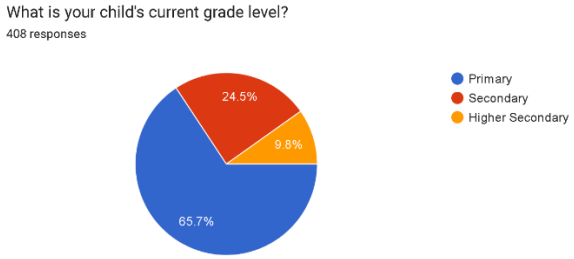



Feedback from respondents highlights various concerns regarding Edu-Tech solutions for their child's education. Cost and affordability (46.5%) emerged as the primary concern, followed by apprehensions about lack of social interaction and development (14%). Additionally, respondents expressed worries about screen time and potential

addiction (4.9%), effectiveness of online learning compared to traditional methods (3.9%), and data privacy and security concerns (2.2%).




Insights from respondents reveal distinct preferences regarding the language medium for their child's Edu-Tech program. A significant majority favor Hindi (61.4%), followed by English (27%), with a smaller percentage opting for Gujarati (2.4%). This data offers valuable guidance for Edu-Tech providers to tailor their offerings to meet the linguistic needs of parents and students in Gujarat effectively.




From respondent feedback, it appears that the majority of their children (65.7%) are currently enrolled in primary school, while 24.5% are in secondary school, and 9.8% are in higher secondary. These diverse grade levels among children reflect the varied educational journeys within the surveyed population.

**Data Analysis**

Hypothesis: 1

Null Hypothesis (H0): There is no correlation between parents familiarity with Edu-Tech companies and their likelihood of enrolling their children in Edu-Tech programs.

Alternative Hypothesis (H1): Parents familiarity with Edu-Tech companies is positively correlated with their likelihood of enrolling their children in Edu-Tech programs.

Calculate Correlation Coefficient

The Correlation between these two variable are 0.245470.

By performing the T.Test we get the P-value 4.20269E-51

If p-value > 0.05: Reject the null hypothesis

p-value < 0.05: Fail to reject the null hypothesis.

We get the p-value 4.20269 which is more than 0.05 hence, we will reject the null hypothesis.

Null Hypotheesis (H0): There is no correlation between parents familiarity with Edu-Tech companies and their likelihood of enrolling their children in Edu-Tech programs.

And accept the Alternative Hypotheesis (H1): Parents familiarity with Edu-Tech companies is positively correlated with their likelihood of enrolling their children in Edu-Tech programs.

**Hypothesis: 2**

Null Hypothesis (H0): There is no significant relationship between parents' perception of marketing effectiveness and their enrollment decisions in Edu-Tech programs.

Alternative Hypothesis (H1): There is a significant relationship between parents' perception of marketing effectiveness and their enrollment decisions in Edu-Tech programs.

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.144749 |
| R Square | 0.020952 |
| Adjusted R Square | 0.019017 |
| Standard Error | 0.488887 |
| Observations | 508 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 2.588 | 2.588 | 10.829 | 0.001 |
| Residual | 506 | 120.939 | 0.239 | | |
| Total | 507 | 123.528 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |
|---|---|---|---|---|
| Intercept | 0.294 | 0.090 | 3.250 | 0.0012 |
| How effective do you consider the marketing of these companies? | 0.077 | 0.023 | 3.291 | 0.0011 |

| *Lower 95%* | *Upper 95%* | *Lower 95.0%* | *Upper 95.0%* |
|---|---|---|---|
| 0.116 | 0.471 | 0.116 | 0.471 |
| 0.031 | 0.123 | 0.031 | 0.123 |

We have performed a regression analysis using the independent variable, y (parents' opinions on the efficacy of EdTech businesses' marketing methods), and the dependent variable, X (parents' enrollment of their children in the edtech program).

Consequently, we discovered that the p-value is below the significance level of 0.05. Therefore, the idea of a null hypothesis will be rejected.

**Hypothesis: 3**

- Null Hypothesis (H0): There is no significant relationship between parental income levels and the likelihood of enrolling their child in an Edu-Tech program in Gujarat.
- Alternative Hypothesis (H1): There is a significant relationship between parental income levels and the likelihood of enrolling their child in an Edu-Tech program in Gujarat.

| Observed value | | | |
|---|---|---|---|
| Income level | enrolled | not Enrolled | Total |
| 1 Lakh - 2 Lakh | 0 | 20 | 20 |
| 2 lakh - 3 Lakh | 56 | 120 | 176 |
| 3 Lakh - 4 Lakh | 90 | 32 | 122 |
| 4 Lakh - 5 Lakh | 30 | 40 | 70 |
| 5 Lakh + | 120 | 0 | 120 |
| Total | 296 | 212 | 508 |

| Expected value |
|---|

| Income level | enrolled | not Enrolled |
|---|---|---|
| 1 Lakh - 2 Lakh | 11.65 | 8.35 |
| 2 lakh - 3 Lakh | 102.55 | 73.45 |
| 3 Lakh - 4 Lakh | 71.09 | 50.91 |
| 4 Lakh - 5 Lakh | 40.79 | 29.21 |
| 5 Lakh + | 69.92 | 50.08 |

$(O-E)^2/E$

| Income level | enrolled | not Enrolled |
|---|---|---|
| 1 Lakh - 2 Lakh | 11.65 | 16.27 |
| 2 lakh - 3 Lakh | 21.13 | 29.50 |
| 3 Lakh - 4 Lakh | 5.03 | 7.03 |
| 4 Lakh - 5 Lakh | 2.85 | 3.98 |
| 5 Lakh + | 35.87 | 50.08 |

| | |
|---|---|
| **$X^2$** | **183.40** |
| **df** | **4** |
| **p-value** | **1.38775E-38** |
| | **1.38775E-38** |

As seen above that the p-value is 1.3877 which is more than significance levels ($\alpha$=0.05).

Hence we will not reject the Null Hypothesis. We will Accept the Null Hypothesis (H0), There is no significant relationship between parental income levels and the likelihood of enrolling their child in an Edu-Tech program in Gujarat.

**Hypothesis: 4**

Null hypothesis (H0): There is no association between parents' education levels and their consideration of Edu-Tech solutions.

Alternative hypothesis (H1): Parents with higher education levels are more inclined to consider Edu-Tech solutions for their children's K-12 education.

Chi-Square Test.

| Observed(O) | | | |
|---|---|---|---|
| Education Level | Enrolled | Not Enrolled | Total |
| Primary Education (1-8) | 1 | 1 | 2 |
| Secondary Education (9-10 std) | 19 | 55 | 74 |
| Higher Secondary Education (11-12) | 61 | 40 | 101 |
| Graduation Level | 138 | 95 | 233 |
| Masters level | 35 | 22 | 57 |
| Phd Level | 38 | 0 | 38 |
| None | 2 | 1 | 3 |
| Total | 294 | 214 | 508 |

| Expected(E) | | |
|---|---|---|
| Education Level | Enrolled | Not Enrolled |
| Primary Education (1-8) | 1.16 | 0.84 |
| Secondary Education (9-10 std) | 42.83 | 31.17 |
| Higher Secondary Education (11-12) | 58.45 | 42.55 |
| Graduation Level | 134.85 | 98.15 |
| Masters level | 32.99 | 24.01 |
| Phd Level | 21.99 | 16.01 |
| None | 1.74 | 1.26 |

| (O-E)2/E | | |
|---|---|---|
| Education Level | Enrolled | Not Enrolled |
| Primary Education (1-8) | 0.02 | 0.03 |
| Secondary Education (9-10 std) | 13.26 | 18.21 |
| Higher Secondary Education (11-12) | 0.11 | 0.15 |
| Graduation Level | 0.07 | 0.10 |
| Masters level | 0.12 | 0.17 |
| Phd Level | 11.65 | 16.01 |
| None | 0.04 | 0.06 |

| | |
|---|---|
| X2 | 60.00 |
| df | 6 |
| P-value | 4.494E-11 |

After Performing the Chi-Square Test We got the p-value 0.00000000003225 which is Less than the significance level (0.05). Hence we fail to reject the null hypothesis, we will accept the null hypothesis (H0) There is no association between parents' education levels and their consideration of Edu-Tech solutions.

**Hypothesis: 5**

Null hypothesis (H0): There is no relationship between awareness of Edu-Tech companies and perceptions of their marketing effectiveness.

Alternative hypothesis (H1): Higher awareness of Edu-Tech companies is associated with more positive perceptions of their marketing effectiveness.

Chi-Square Test:

| Observed (O) | | | | | | |
|---|---|---|---|---|---|---|
| | Effectiveness | | | | | |
| Familiar | Not Effective | Less Effective | Neutral | Effective | Very Effective | Total |
| Yes | 1 | 15 | 191 | 115 | 128 | 450 |
| No | 0 | 1 | 35 | 15 | 7 | 58 |
| Total | 1 | 16 | 226 | 130 | 135 | 508 |

| Expected (E) | | | | | |
|---|---|---|---|---|---|
| | Effectiveness | | | | |
| Familiar | Not Effective | Less Effective | Neutral | Effective | Very Effective |
| Yes | 0.89 | 14.17 | 200.20 | 115.16 | 119.59 |
| No | 0.11 | 1.83 | 25.80 | 14.84 | 15.41 |

| (O-E)2/E | | | | | |
|---|---|---|---|---|---|
| | Effectiveness | | | | |
| Familiar | Not Effective | Less Effective | Neutral | Effective | Very Effective |
| Yes | 0.01 | 0.05 | 0.42 | 0.00 | 0.59 |
| No | 0.11 | 0.37 | 3.28 | 0.00 | 4.59 |

| | |
|---|---|
| X2 | 9.44 |
| df | 4 |
| P-Value | 0.051036647 |

After Performing The Chi Square Test we get the P-value 0.05103. Which is More than the significance level (0.05). Hence we will reject the Null Hypothesis and select the Alternative hypothesis. Alternative Hypothesis (H1) Higher awareness of Edu-Tech companies is associated with more positive perceptions of their marketing effectiveness.

**Findings**

- Numerous marketing tactics were recognized, such as social media campaigns, school alliances, online advertising, and word-of-mouth recommendations.
- The correlation analysis showed a moderate positive link between parental awareness and the possibility of enrolling their children in Ed-Tech programs, even if these marketing methods have helped to raise parental knowledge of Ed-Tech enterprises. The correlation's strength was constrained, though.
- The study revealed parental attitudes and choices about Ed-Tech companies and showed that online learning solutions are becoming more popular in Gujarat for K-12 education. Companies that provide interactive material, individualized learning experiences, and tutoring services are preferred by parents.
- The study determined that a number of criteria, such as the caliber of instructional materials, the company's reputation, cost, and referrals from educational institutions or other parents, influenced parents' choice of an Ed-Tech provider. Particular curriculum alignment and affordable products have the biggest influence on decisions.
- As a recommendation for Edtech companies in Gujarat this study says to invest on social media marketing rather then traditional ways. And the free trial is a factor to drive the consumers toward product usage as Indians are the emotional buyers they believe in quality and trial of the product before buying it.
- The Biggest concern about the ed tech programme is cost of affordability so to have maximum parents enrolment of kids to this programme.
- Most parents in Gujarat think twice before selecting Ed Tech to help their kids with their learning challenges.
- Higher educated parents does not means that they enroll their child in Edtech Courses.
- Higher Awarness of an Ed-Tech Companies means A positive Perceptions in parents mind.

**Conclusion**

- In conclusion, our research sheds light on important parental viewpoints and successful Edtech company marketing tactics. Providing free trials and high-quality educational materials can increase course acceptance and build brand confidence. In today's changing digital market, giving digital advertising priority over traditional approaches is essential since it offers a more focused strategy for audience engagement. Adopting these tactics sets up Edtech companies for long-term success and expansion in the cutthroat field of educational technology.

- Edtech firms might deliberately make use of this information gap in their marketing efforts, as parents may not always be fully aware of the difficulties their children face in their academic pursuits. In order to appeal to parents looking for answers for their children's academic challenges, these companies frequently target specific pain spots in their marketing, such as the shortcomings of traditional learning methods or the need for individualized attention. By tackling these issues head-on, Edtech companies hope to establish themselves as practical solutions to students' problems, which will eventually lead to increased enrollment and increased market share.

- Parents in Gujarat generally believe that traditional methods of instruction are more effective for their children than online learning. On the other hand, the COVID-19 epidemic changed things significantly. Government regulations and educational institution closures resulted in a sharp increase in demand for the Edtech sector. During this time, parents who had been cautious at first started using online learning platforms more and more to make sure their kids' educations continued. This change emphasizes how much outside influences affect parents' opinions and how quickly the educational technology industry adapts to meet changing demands.

**Bibliography**

- Archambault, S. G. (2021). Student privacy in the digital age. *BYU Educ. & LJ*, 1.
- Badri, M. A., Mohaidat, J., & Al Rashedi, A. (2013). Technology Readiness of School Teachers-An Empirical Study of Measurement and Segmentation. *Ind. Eng. Manag*, *2*(4).
- Borup, J. (2016). Teacher perceptions of parent engagement at a cyber high school. *Journal of Research on Technology in Education*, *48*(2), 67-83.
- Deepa, V., Sujatha, R., & Mohan, J. (2022). Unsung voices of technology in school education-findings using the constructivist grounded theory approach. *Smart Learning Environments*, *9*(1), 1.
- Dooley, K. E. (1999).
- Dooley, K. E. (1999). Towards a holistic model for the diffusion of educational technologies: An integrative review of educational innovation studies. *Journal of Educational Technology & Society*, *2*(4), 35-45.
- Paris, B., Reynolds, R., & McGowan, C. (2022). Sins of omission: Critical informatics perspectives on privacy in e-learning systems in higher education. *Journal of the Association for Information Science and Technology*, *73*(5), 708-725.
- Williamson, B. (2017). Learning in the 'platform society': Disassembling an educational data assemblage. *Research in Education*, *98*(1), 59-82.
- Williamson, B. (2021). Education technology seizes a pandemic opening. *Current History*, *120*(822), 15-20.

Zhou, T. (2022). *How is EdTech made? An investigation of practitioners' constructions of EdTech in Chinese EdTech companies* (Doctoral dissertation, University of Oxford).