
EDTECH ONLINE ADVERTAINMENT VIDEOS EVALUATION FOR VIEWERS ATTENTION AND ATTRACTION FROM FEEDBACKS AND FACIAL EXPRESSION THROUGH REGRESSION MODELING

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Abstract

Information & communication technology is applied for analyzing the effect and the cognition of viewers perception after viewing the full content of the advertisement of EdTech online advertisement videos [1]. The Edtech online videos advertainmentare designed attractively using audio visual presentation with graphics and animations to grab viewers' attention and build trust towards online learning platforms[2]. The EdTech online learning brought a revolutionary change in Indian education. Edtech video advertisement explainsthe one-to-one live classes with more features such as two-way audio, whiteboarding tools, video with graphics and animations. These features create perfect online platform and makes learning easy, reduces doubts, offers the best virtual knowledge. The viewers perception is evaluated through facial expression, while watching the Edtech video advertisements. In this paper, Indian EdTech video advertisement such as Byju's, Vadhatha, Extramarks and Topper is for viewers attraction and attention evaluation in the video. The video viewers react to advertisement by facial expressions and emotions weighted and created a dataset. The facial expression includes smile, eye gaze, head movement, and no movements. The feelings of viewers i collected through questionaries. The linear regression model predicts preferred learning app with feedback surveys, facial expression ratings and video content for attraction. The model predicts attractionand attention of the Byju's as highly preferred learning app, due to content in the video content such as graphics and animations.

Keywords: *EdTech online learning video advertisement, facial expression, emotions, Linear Regression*

1. Introduction

In this pandemic online learning is a new paradigm for education system using information and communication Technology[3]. Technology and education a great combination if used together with right reason and vision. The evolving architecture of education create efficiencies in online learning[4]. Online learning is more cost-efficient compared to traditional training tools such as printed manuals or in-person classes, and support new levels of standardization such as course structure, student assessment etc[5]. Online education Engage learners in an innovative way, helps understand subject easily, digest information and encourage independent learning. The online education has become a necessity of the day and a need for quality teaching with detail explanation of each subject with Nonverbal communication[6]. Human communication performed through nonverbal means to emphasize the implications of the speech includes off facial expressions and speech prosody in EdTech online learning videos[7]. EdTech evolved beyond traditional education, include many audio-visual features that make learning obtrusive and harder to ignore. Online learning videos are tailored as per the

needs of learners and transform education to address myriad challenges in an increasingly complex world[8]. The EdTech combine education with entertainment and enhance the learning experience by adding interactive elements to test the knowledge of the learner at different points in the video. Education with entertainment learning videos helps learners reduce fear in complicated subjects and autonomy in deciding own schedule to learn any subject. Online learning videos promote interest in tough subjects that learners might otherwise disregard[9]. EdTech online learning videos increase the learning capabilities and also makes recall the explanation given along with the graphics and animation shown in the videos when learners feel relaxed. These online learning features not only used to get quality and standardized education but, helps to prepare for competitive exams.

1.1 EdTech companies in India

2020 a difficult year with Covid-19 pandemic and the following lockdown make students confined to home, an urgent need for academic support to ensure school children get back on track with education. As

digital education has evolved the only way for continuous learning [10].

EdTech is a mixture of phrases – “education” and “technology”. It refers to generation designed to decorate academic effects and make education greater enticing and approachable. Now these EdTech businesses are making the online learning process simpler for school children with the intention of making education surely a thrilling learning process. Thus, EdTech companies in India are converting the Indian schooling landscape an extraordinary learning platform for children.

1.2 Objectives of the study

1. To find out the importance given in EdTech online videos for teaching the concepts and how it enriches the factual subject knowledge of each subject.
2. To know the tactics/techniques used in teaching in online learning advertisement videos to attract the viewers.
3. To analyze viewers level of awareness about the EdTech online learning videos, finding the attraction and attention towards four different EdTech video advertisements by

tracking the facial expressions and emotions.

2. Literature Review

[10]Teixeira, T., Wedel, M., & Pieters, R. (2012). study indicates how advertisers can leverage their emotion and interest towards internet video commercials. The authors assessed joy and marvel through automated facial features detection for a sample of advertisements. They assessed awareness of interest through eye monitoring and viewer retention via recording zapping behavior. This lets in exams of predictions approximately the interaction of these feelings and interpersonal interest variations at every factor in time during exposure. Marvel and pleasure efficiently listen interest and hold visitors. But, importantly, the extent rather than the speed of surprise influences attention awareness maximum, whereas the rate rather than the level of joy influences viewer retention most. The impact of pleasure is uneven, with better profits for increases than losses for decreases. The usage of these findings, the authors increase consultant emotion trajectories to support advert layout and testing.

[11]Lee, J., & Lee, M. (2011). examines the factors influencing consumer

aim to look at on line video ads, with the aid of making use of the theory of reasoned action. The mind-set toward watching online video commercials, the subjective norm, and prior frequency of watching online video ads undoubtedly have an impact on the aim to observe online video ads. Similarly, ideals held about entertainment and information effects from looking online video commercials and subjective norm have an impact on mind-set towards looking these ads.

[12]Smiley, A., Smahel, T., & Eizenman, M. (2004) evaluate driver distraction due to video signs advertising, eye fixation records had been amassed from topics who handed 4 video advertising signs, 3 at downtown intersections and one on a city limited-access highway. On average, drivers glanced on the symptoms on forty-five% of the occasions on which the symptoms have been gift. When drivers seemed, they made 1.9 glances, on average, with a median period according to glance of zero.48s. The distribution of eye fixations on intersection methods in which video symptoms were visible changed into compared with that on processes on which video signs were not visible. No large differences have been located inside the variety of glances made at

site visitor alerts or road signs. At the video method, a greater proportion of glances had been made at the speedometer and rearview mirrors. Glances have been made at brief headways and on occasion in unsafe circumstances. In the downtown area, glances at static business signs were made at larger angles and at shorter headways than became the case for video signs and symptoms. An evaluation of the outcomes with those of different studies showed that video symptoms were less possibly to be looked at than visitors' signs and symptoms (approximately 1/2 the time as opposed to in reality whenever, respectively) and that individual common glance periods and general intervals were comparable to those located for visitors' signs and symptoms in rural environments. Those results apply to specific video signs and symptoms particularly environments. Other on-road study indicates that a video joins up a curve that is close to the line of sight and visible for an extensive period is specially distracting.

[13]Rosbergen, E., Pieters, R., & Wedel, M. (1997) recommend a methodology to take a look at the effects of physical ad homes on clients' visible attention to advertising and marketing that money owed for heterogeneity in these outcomes across

purchasers. For an illustrative experiment, we reveal clients' eye movements for the duration of naturalistic exposure to a client magazine, wherein experimentally designed commercials are inserted. A latent class regression version accounting for heterogeneity across consumers through unobserved segments is used to analyze the attention movement facts in element. three client segments are diagnosed that show off awesome styles of visual attention in addition to very special profiles involvement of product, brand attitude, and advertising and marketing keep in mind. Implications for visual attention concept and for marketing research are discussed.

3. Research Methodology

Based on existing literature, the following constructs explores the outcomes. In this study Linear regression (LR) model is used to predict viewers'attention and attraction towards four different EdTech online learning video advertisement using feedback surveys and facial expression ratings. Respondents of age between 15 to 45 and above selected for study. Byju's, Vadhatha, Extra marks and Topper online learning advertisement are selected from Indian EdTech company. Each video

advertisements are divided frame by frame to track viewers'attention and attraction[14]. The viewers video likeability is rated by their facial expression towards audio-video quality, innovation, animation and graphics used in online learning video advertisement. The facial expressions include smile, eye gaze, head movement and no movement [15]. Tracking viewers overall facial expression and emotions helps measure visual attention and level of preference towards particular online learning video advertisement[16].

3.1 Limitations

In this pandemic, it is difficult to collect the questionnaire. Needs explanation for some viewers about the importance and creating awareness of EdTech online education apps. Consumes more time in capturing the viewers facial expression and emotions frame by frame while watching the EdTech learning video advertisements.

3.2 Method of Data Analyzing

Linear regression is a statistical approach that makes use of numerous explanatory variables to predict the outcome of reaction variable[17]. It finds the relationship between the explanatory (independent) variables and response (dependent) variables. The goal of this study

is to predict the following:

- How each online learning video enriches the subject knowledge.
- Technology and tactics used by each EdTech learning videos to convey the subject knowledge
- Method of articulation of subject content and ideas.
- Video quality and,
- Awareness of the EdTech online learning videos.

It is used to expect the value of a variable based on two or more different variables. The variable we expect is referred as established variable (goal or criterion variable). The variables are used to expect the value of the dependent variable are called the impartial variables (the predictor, explanatory or regressor variables), therefore provides a way to realize individual's movement reactions to dynamic stimuli[18].

4. Data Analysis and Results

This study aims to find out EdTech Online learning video importance and effectiveness in this pandemic by evaluating viewers attention, attraction and awareness regarding EdTech learning video

advertisement. The learning app advertisements includes of Byju's, Vadhatha, Extramarks and Topper. The viewers perception and reaction evaluated through facial expression and emotions made while watching the EdTech online learning video advertisements. The facial expression includes smile, eye gaze, head movement, and no movements. The emotions of viewers are evaluated by the responses given in survey determines the level of interest and preference towards different EdTech learning videos. Video advertising is one of the most popular ways to reach online viewers. People pay attention a bit longer for video-based advertisement. The EdTech learning app video's length are mostly 30 seconds where advertisers have more time to demonstrate and pull target audiences towards their brand.

Figure 1 and 2 explains the demography of the respondents. The age and gender alone taken from demography segment. 71.2% respondents are male and 25% are females and rest of the respondents prefer not to answer.

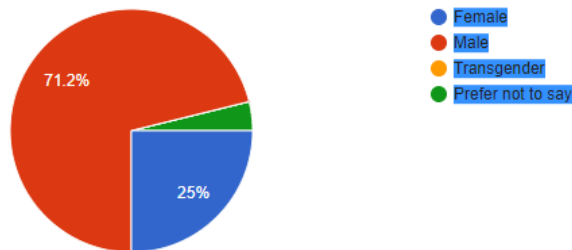


Figure 1. Demography (gender)

Figure 2 showed that 75% of the respondents are in the age group of 15-25 years, 13.5% of the respondents are between 35 to 45 age group, 11.5% of respondents are between 25-35 age group and whereas 45 years above respondents did not answer.

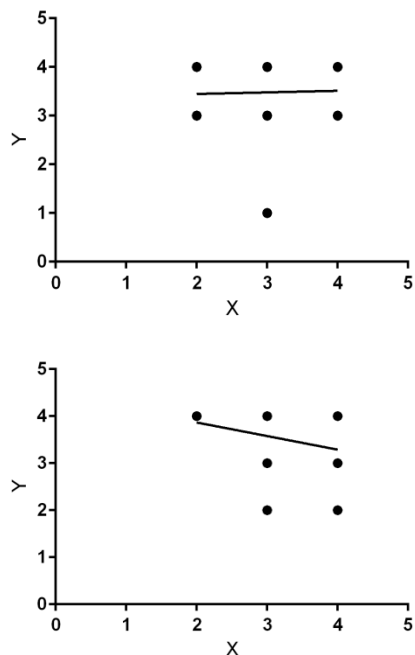


Figure 1(a) Demography (gender)

From Figure 1(a) it is inferred that male

shows much attention towards watching the EdTech video advertisement than females. Many previous researchers have found that male brains tend to be attracted to things that are analytical (sports scores) and visual and have lower attention spans than women. while female brains focus more onverbal and nonverbal communication (a stimulating conversation). women experience an increased ability to concentrate than man. But in this study males are the majority viewers of the EdTech companies' advertisement. Hence it is evident that male also have the patience in watching the 30 second video advertisement and got attracted towards the techniques and tactics used in the video advertisement and agreed that they prefer Byju's as the best online learning video compared to other given EdTech companies in this study.

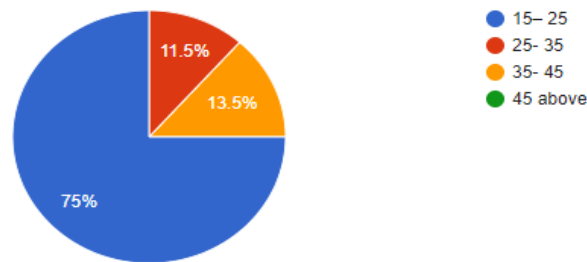


Figure 2. Demography (Age)

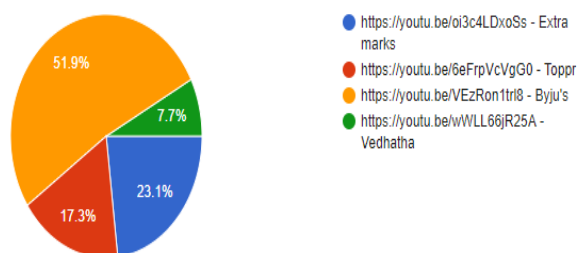


Figure 3. EdTech App Advertisement Preference

Videoadvertising is more likely to remember the content and remember the brand. From Figure 3, 51.9% respondents revealed that they like only Byju's learning app advertisement compared to other three because of its high adaptability, engaging, effective and enjoyable learning process. The advertisement highlights the increasing preference for online learning with strong learner-centric message and focuses on making learning more visual and contextual, rather than just theoretical. It helps to understand and embrace the advantages of tech-enabled learning and creates awareness among viewers about the evolving learning habits at home.

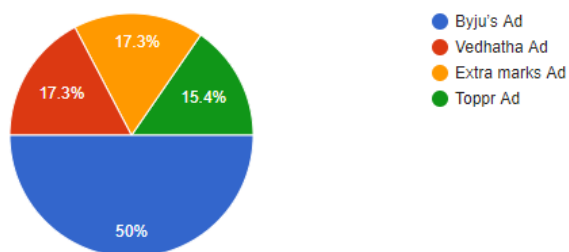


Figure 4 Attracting Features in App Advertisement

The goal of any video advertising is to keep the viewer interested. The best video ads convey lots of information in a short time with more appealing content to connect with the viewers. The relatable app advertisement makes viewer hooked and urge them to watch the entire ad. From Figure 4, it is inferred that 50% respondents agree that Byju's online learning advertisement app is most attractive compared to other three EdTech online learning apps advertisement. The animation and graphic presentation make the app more attractive with tech-infused interactive learning. The background music, camera angles and dialogue with fun and relevant cartoon and motion-tracked graphics make the content lively and learning easy.

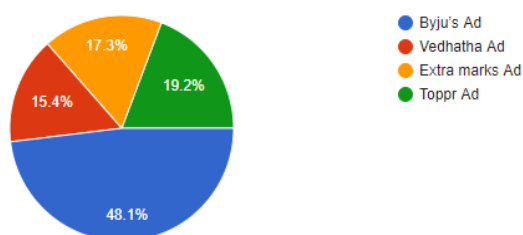


Figure 5 Apps to Recommend

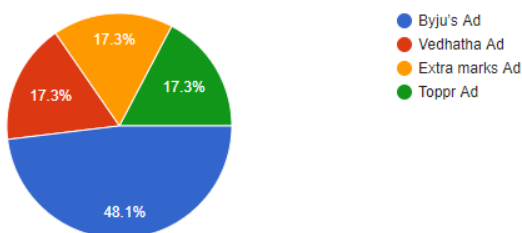


Figure 6. Best Animation Effects

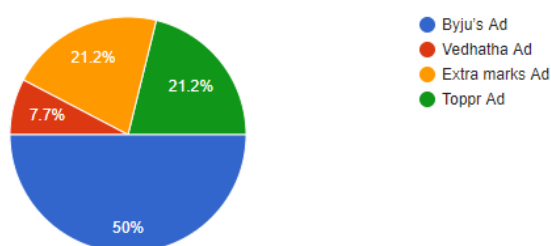


Figure 7 Explain concepts and themes

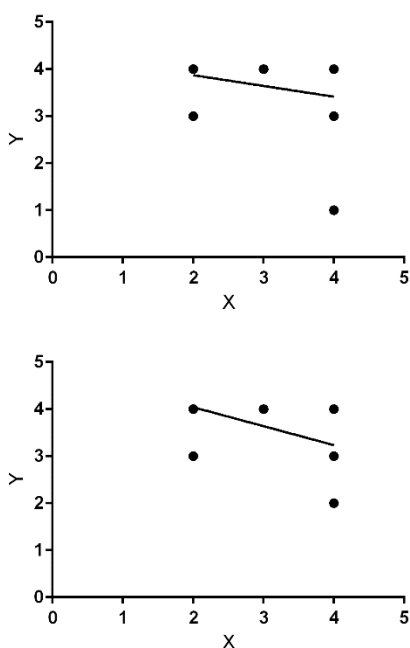


Figure 6 (a) explain about viewers feedback regarding the Animation effects used in EdTech learning video advertisement. Online learning video offers a user-friendly tools and features, the animation make learning more fun in demonstrating the concept is a true way to get learners engaged in gaining knowledge even complicated concepts and themes.

The EdTech advertisements are designed to attract the viewers and show how products fit a person's lifestyle and needs. It offers original content with animations and interactive simulations that help learners grasp things easily and in fun way. The advertisement helps creating awareness or recognition about the brand and attract the prospective learners. Figure 5, predicts that by watching the advertisement videos of the EdTech companies, 48.1% respondents prefer Byju's online learning video the most and agrees that they will recommend to others compared to other three learning videos. 19.2% respondent's preference are towards the Topper online learning video, 17.3% respondents for Extramarks and 15.4% for Vedhatha online learning video.

Animation plays a pivotal role in reaching learners effectively and it simplifies things and provide several types of learning modules within a single video, an excellent method for introducing new concepts and make learner to

stay for more extended periods by explaining the concepts much quicker with entertainment. Figure 6 & 7 are interdependent as it conveys that with the help of animation and graphics used in the teaching process, help learners understand even difficult subject concepts and themes easily. Figure 6 elicits that 17.3% respondents prefer Topper, Extramarks and Vethatha online learning video among the four EdTech learning video advertisement. Whereas, 48.1% respondents say that Byju's online learning advertisement video has best animation and graphics effects, helps to learn particular difficult concept in an easily understandable manner and also may motivate the weak learner towards the subject. Figure 7 also justifies the same as 50% respondents agreed that Byju's online learning video advertisement helps to understand the concepts of the subject clearly compared to other three online learning videos.

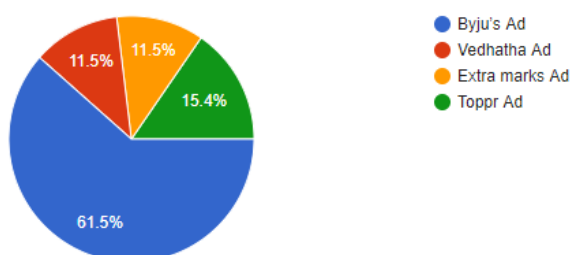


Figure 8. App users

No secret that EdTech online learning videos help learners to learn subjects in different ways. Some are more visual learners while others may rely on auditory cues or other senses. Online learning video can appeal to many different types of learners and go at own pace and value independent study. The advantages of watching the EdTech learning video advertisement help learners to decide to go with preferred learning videos for attaining future goals in learning. Figure 8 gives information about (EdTech learning videos used in this study) the users of online learning videos in their circles (friends/Relatives etc.). It shows that 61.5% respondents are already using Byju's online learning video and Topper users are in the second place of 15.4% respondents. 11.5% respondents say that some are using Vethatha and Extra marks in their known circles.

4.1 Implication of the Study

Online learning platform make education system more conducive through information and communication technology. Technology used in EdTech online learning videos adds visual experience by incorporating animations that can be used interactively for effective learning and communication. Online learning gives greater

amount of motivation, highly individualized learning, and self-discipline than a classroom-based learning. The EdTechOnline learning involves setting learners own goals, tracking progress and meeting deadlines by offering discussion forums and one-on-one support.

5. Conclusion

The pandemic has affected educational systems worldwide and now the educational reform is higher than it ever was, increases the presence of technology in childrens' life[18]. The technology and education (EdTech) promote treasured academic content material helps establishment and people gain from it as online learning is interactive and innovative and reflect to suit the need and expectations of learners and it supplement the classroom learning[19]. EdTech learning platforms apply techniques like one to one live class, versatile learning video substance, gamification, and immersion technology to change the manner in which children learn[20]. Learning through EdTech learning videos have its importance as the concepts and themes are been clearly explained with the help of graphics and animations which

can be easily grasped by the learners and helps to enrich the factual subject knowledge. The online learning videos assist in learning the topics that are complex, such as step-by-step procedures, problem solving or science and math formulas. These features create a more engaging sensory experience in learners just by seeing and hearing the concept being taught than using print materials alone. Learners can even replay any subject lessons many times whenever and wherever they are needed. Learners are encouraged to delve deeper into the lesson and foster a deeper understanding of subject by mind mapping techniques[21]. Mind map is a tactical aid for studying related ideas and concepts and gradually bring learner to the central idea. The concepts and themes are simplified using cartoon-based animation style capture the attention of learners and help better relate to the learning topic. Good animated online learning makes learning more fun and engaging[22]. This study helps to analyses the level of awareness along with attraction and attention of viewers towards EdTech online learning videos by capturing their facial expression and emotions[23]. The facial expression and emotion are weighted based on their likability towards different frames of the videos of four different EdTech learning

video advertisement. The viewer of four EdTech company advertisement preferred Byju's online learning advertisement video has best animation and graphics effects, helps to learn particular difficult concept in an easily understandable manner and also may motivate the weak learners towards the subject[25].The viewers agreed the importance of online learning videos in the current situationand opines that online learning videos open up opportunities for the weaker socio-economic communities who have limited access to learning resources and exposethem to new perspectives[26]. The learning resources and ideas they receive will not be limited to the number of heads in one classroom. Though learning online has its strength but it distracts to search untoward in weband may lead to lose interest in classroom learning.Above all,overstimulation due to excessive screen timemay lead to emotion dysregulation and reduction insleep[27].If used responsibly, EdTech learning videos can be a most powerful tool to improve the education.

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