



SUSTAINABILITY, EDUCATION, AND SOCIAL DEVELOPMENT: Challenges and Innovations

Aniket Swaraj
Fleur Fernandes

Sustainability, Education, and Social Development: Challenges and Innovations



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Sustainability, Education, and Social Development: Challenges and Innovations

Edited by:

Aniket Swaraj

Head of the Department and Assistant Professor, Bachelor of
Management Studies, SIES College of Commerce and Economics
(Autonomous), Sion, Mumbai

Fleur Fernandes

Assistant Professor, Bachelor of Management Studies, SIES College
of Commerce and Economics (Autonomous), Sion, Mumbai

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Preface

The book *Sustainability, Education, and Social Development: Challenges and Innovations* brings together a diverse collection of research papers that explore the critical intersections of education, social equity, environmental sustainability, and economic development. In an era marked by urgent global challenges such as climate change, social disparities, and rapid technological transformation, this volume highlights innovative approaches and pressing issues that shape the future of sustainable development through education.

The included papers cover a wide range of topics that collectively underscore the transformative power of education. They investigate how interdisciplinary learning fosters critical thinking essential for addressing complex sustainability challenges, the role of vocational training institutes (ITIs) in improving employment opportunities in Mumbai, and the importance of accessible learning environments for inclusivity and employability, particularly for visually impaired students. Other studies delve into managing food waste in India, disparities in healthcare access for cancer patients in Maharashtra, and the transition from traditional to modern teaching methods, reflecting the evolving educational landscape.

Moreover, the book addresses contemporary social and environmental concerns such as the impact of fast and slow fashion on the environment, the hidden effects of screen time on health and performance, and the digital divide's implications for equal access to education and e-commerce platforms. It also explores the broader economic and social impacts of education access, diet-related health issues, and innovative market solutions like thermo smart bottles.

This collection aligns with global efforts, such as UNESCO's Education for Sustainable Development (ESD) initiatives, which emphasize education as a key driver for empowering individuals with knowledge, skills, values, and behaviors needed for sustainable living.

By integrating environmental, social, and economic dimensions, the book reflects the holistic and interdisciplinary approach advocated for achieving the Sustainable Development Goals (SDGs), particularly SDG 4 on quality education.

Through these diverse contributions, the volume offers valuable insights into how education can be a catalyst for social innovation, equity, and sustainability, providing pathways for policy makers, educators, researchers, and practitioners committed to shaping a more inclusive and sustainable future.

ACKNOWLEDGEMENT

We are honored to present this edited volume on “**Sustainability, Education, and Social Development: Challenges and Innovations**”

First and foremost, we sincerely thank the Management, Principal, and Vice-Principal of SIES College of Commerce and Economics (Autonomous), Sion (East), Mumbai for granting us permission and supporting us in bringing this book to fruition.

We also wish to acknowledge the support of **Parab publicationd** and **Parab Publications** for providing us with the opportunity to publish this work.

We want to thank all our colleagues in the Bachelor of Management Studies department at SIES College of Commerce and Economics (Autonomous) for their valuable cooperation and assistance throughout this project.

We are truly appreciative of the contributors who shared their insightful research articles with us, placing their confidence in our efforts to produce a meaningful and thought-provoking publication.

This book represents our continued commitment to fulfilling the keen interest of our student community. The readers inspire and motivate us to create and disseminate this work.

We sincerely thank the Almighty for His guidance and blessings throughout this endeavour. Lastly, we are deeply thankful to our family members for their constant encouragement and support.

Aniket Swaraj

Fleur Fernandes

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INTERDISCIPLINARY LEARNING AND ITS ROLE IN FOSTERING CRITICAL THINKING

Fleur Mario Fernandes, Shruti Kasturi

SIES College of Commerce, Economics Sion East (Autonomous)

ABSTRACT

This paper explores into the powerful relationship between interdisciplinary learning and critical thinking, illustrating how they maintain education. Interdisciplinary learning compound diverse subjects, nurturing comprehensive problem-solving skills. Critical thinking serves as the guiding light, enabling individuals to question, analyse, and innovate by embracing varied perspective. It examines scholarly research, hypotheses, and practical guidance, unveiling how interdisciplinary learning enhances critical thinking. By amalgamating insights from studies, it emphasizes the positive impact of interdisciplinary approaches on cultivating critical thinking abilities. The paper highlight the significance of integrating diverse subjects into curricula, organizing workshops, and facilitating faculty training to equip learners for the complexities of the future. Conclusively, this paper champions interdisciplinary learning as a transformative force that readies individuals to tackle tomorrow's challenges. The findings reveal a strong consensus among participants regarding the benefits of interdisciplinary education in fostering innovative problem-solving skills and preparing individuals for the complexities of the future. Furthermore, the paper offers recommendations for integrating interdisciplinary approaches into educational settings,

Keywords: *Interdisciplinary learning, Critical thinking, Education, Problem-solving, Curriculum Integration.*

INTRODUCTION

Interdisciplinary learning serves as a gateway to an enriched educational experience, transcending the boundaries of traditional subject silos to foster holistic understanding and critical thinking. Learning new things is like exploring different lands. Sometimes, you might find that the best treasures lie where these lands meet. That's what happens with interdisciplinary learning it's like exploring where different subjects overlap to find exciting new ideas. Think of school subjects like ingredients in a recipe. Interdisciplinary learning mixes these ingredients together to create something totally new and awesome. It's when you take ideas from various subjects like science, history, art, and more and use them all at once to understand things better. Instead of just learning about science or history separately, you bring them together to solve real-life problems.

IIT Madras fosters an environment where students learn to disclose complex problems from multiple perspectives. They cultivate the essential skill of critical thinking by analysing issues comprehensively, enabling them to devise innovative and integrated solutions. This interdisciplinary background not only enhances critical thinking but also promotes flexibility and creativity, essential in navigating the complexities of our

rapidly evolving world. The success of IIT Madras' interdisciplinary model underscores the deep impact of merging diverse disciplines in education. Picture a team of superheroes interdisciplinary learning and critical thinking are a part like that. When they team up, amazing things happen. Interdisciplinary learning offers you to lots of different ways of thinking, while critical thinking helps you sort through all those ideas. Together, they make you a super learner and mastermind.

This approach not only enhances their ability to think critically but also nurtures a spirit of intellectual curiosity and inquiry. Through interdisciplinary learning, students learn to navigate ambiguity, challenge assumptions, and formulate innovative solutions a skill set imperative for success in today's dynamic and interconnected world. Thus, interdisciplinary education plays a pivotal role in nurturing the next generation of thinkers and problem solvers, empowering them to tackle real-world challenges with confidence and creativity.

LITERATURE REVIEW

1. **Marcel bassachs, dolors canabate, Teresa serra , Jordi colomer: [2020]** : This research elaborate analyzing both the sustainable development competences (with an emphasis on the capacity of the primary school students to reflect critically), and the capacity of the students to self-regulate the process of cooperation.
2. **R.T. Pithers , Rebecca Soden[2010]** According to their research this paper delves into the challenges of fostering critical thinking skills in education. It explores how not all students possess strong critical thinking abilities, and some teaching methods might obstruct their development.
3. **Walsh, Debbie; Paul, Richard W [1986]** According to their findings this paper addresses evaluating critical thinking skills, suggests changes in educational policy, emphasizes the teacher's vital role, and includes sample critical thinking questions and a dictionary for further reference.
4. **S. Chee Choy, Pau San Oo[2012]** This study attempt to show a link between deliberate thinking and its ability to prompt critical thinking. Teachers often perceive that critical thinking skills need to be taught, however research has shown that they may not know how to do this adequately.
5. **Lana Ivanitskaya , Deborah Clark , George Montgomery , Ronald Primeau [2002]** The study connects repeated exposure to interdisciplinary thought with the advancement of epistemological beliefs, improved critical thinking, metacognitive skills, and the ability to exercise interdisciplinary knowledge to diverse topics or obstacle.

NEED OF STUDY

Understanding interdisciplinary learning's impact on critical thinking is crucial. In a complex world, diverse knowledge integration enables holistic problem-solving. It cultivates adaptability and creativity for future challenges, fostering innovation and versatile skill sets. Interdisciplinary approaches prepare individuals for diverse careers,

nurturing essential problem-solving skills and empowering lifelong learning. Studying this relationship informs effective educational practices, shaping curricula and teaching methods to better equip learners for a dynamic, interconnected future. By delving into the impact of interdisciplinary learning on critical thinking, researchers and educators aim to unravel how diverse knowledge integration can lead to more holistic problem-solving.

This research not only benefits individual learners but also contributes to the advancement of society by nurturing a generation of thinkers and innovators capable of addressing the complex challenges of the 21st century.

OBJECTIVES

1. To Determine the extent to which exposure to interdisciplinary learning influences the development of critical thinking skills among students.
2. To Explore how interdisciplinary approaches are applied in practical settings to address complex, real-world challenges and foster innovative solutions.
3. To Examine the lasting effects of interdisciplinary learning on students' critical thinking abilities and their ability to apply these skills beyond academic contexts.
4. To Identify barriers and challenges encountered in integrating interdisciplinary approaches into educational settings and propose strategies to overcome them.
5. To Evaluate the efficacy of different interdisciplinary teaching methods, such as collaborative projects, workshops, and seminars, in enhancing critical thinking skills among students.

RESEARCH METHODOLOGY

This paper furnishes the information about Interdisciplinary learning and its role in fostering critical thinking. Research methodology are techniques used to identify, select, process and analyse information through the study. This research includes both the combination of primary as well as secondary sources.

Primary Data – Its obtained from the original source of information. For this method only questionnaire that is google form was used. The google form was circulated through social media such as WhatsApp and Instagram etc. The number of responses were 104 which was only limited to Mumbai.

Secondary Data -In this, the data is collected through the internet, articles and some of the various research papers.

DATA ANALYSIS

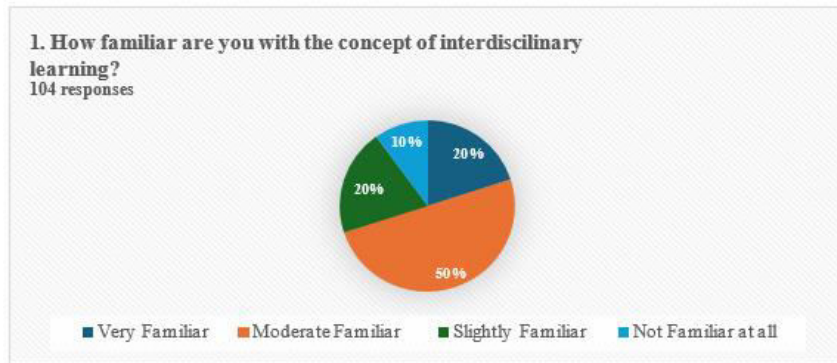


Figure 1:

The Pie Diagram shows how many people are familiar with the concept of interdisciplinary learning from the study of pie diagram that half number of people among the respondents are familiar with the concept of interdisciplinary learning that is 50% and the least number of people are not familiar with the concept of interdisciplinary learning.

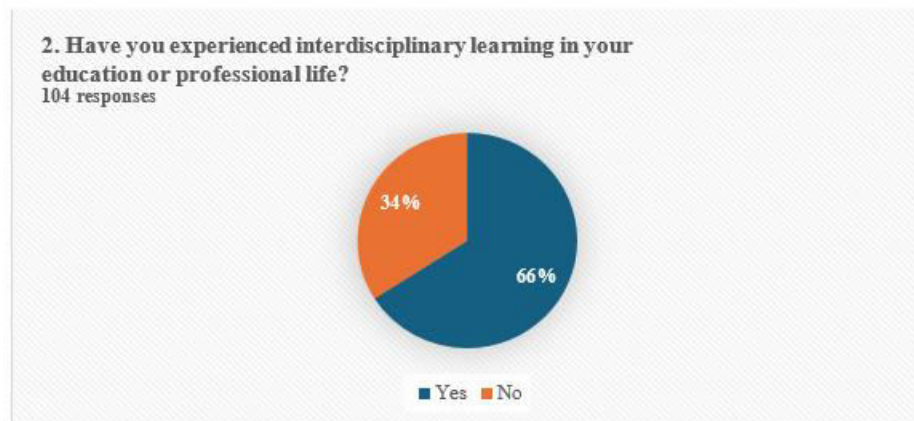


Figure 2:

The pie chart reveals that a majority of respondents, accounting for 66%, have experienced interdisciplinary learning in their education or professional life. In contrast, 34% reported no exposure to interdisciplinary learning.

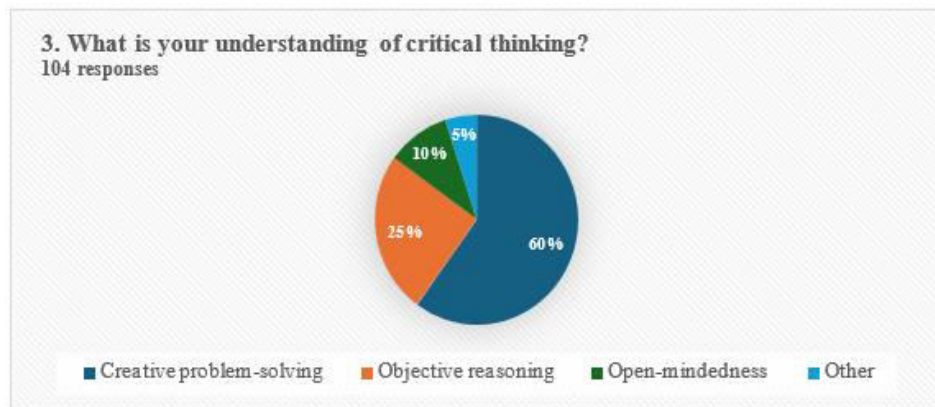


Figure 3:

The pie chart indicates that crucial thinking is predominantly characterized by creative problem-solving, constituting 60% of the respondent emphasis. Objective reasoning follows at 25%, while open-mindedness and other components contribute 10% and 5% respectively. This breakdown highlights a strong inclination towards innovative approaches in the context of critical thinking.

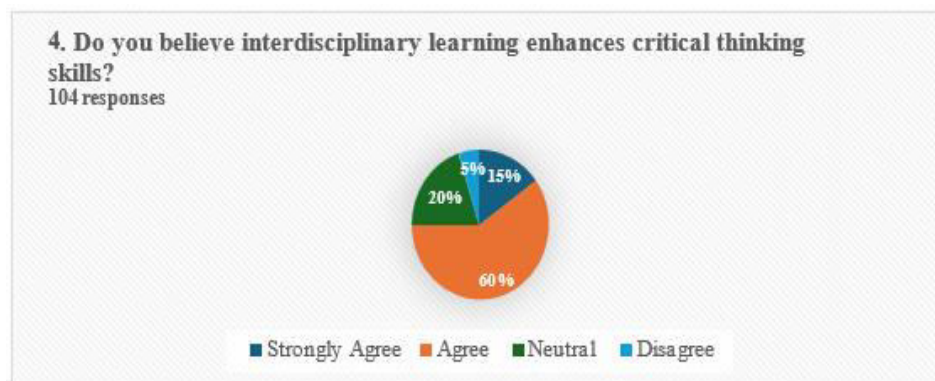


Figure 4:

The pie chart illustrates that a significant majority, comprising 75% of respondents, either strongly agree (15%) or agree (60%) that interdisciplinary learning enhances critical thinking skills. A smaller portion, 20%, remains neutral on this notion, while only 5% disagree. This indicates a prevailing belief in the positive impact of interdisciplinary learning on the development of critical thinking skills.

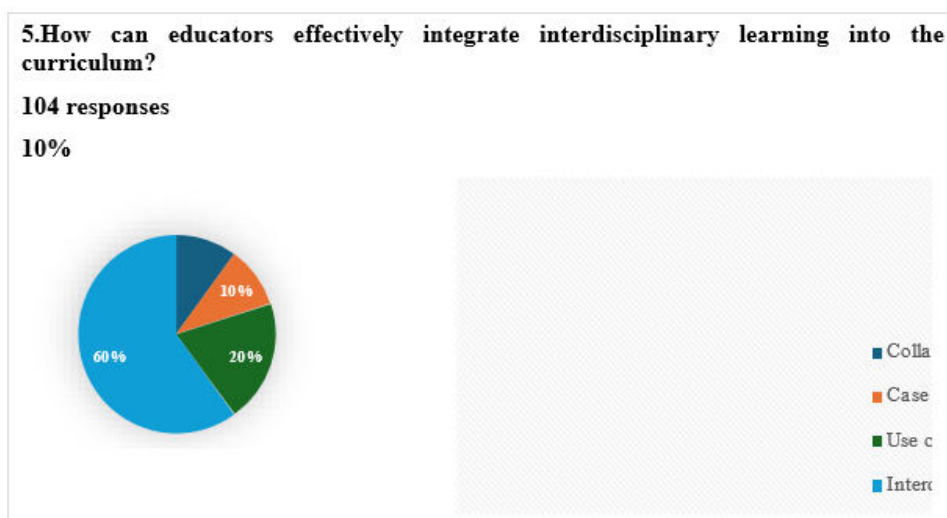


Figure 5:

The pie chart outlines strategies for effective integration of interdisciplinary learning into the curriculum. The highest percentage, 40%, emphasizes the use of technology for interdisciplinary exploration. Collaborative projects and case studies involving multiple disciplines each contribute 20%, while interdisciplinary seminars and workshops also account for 20%. This distribution highlights the importance of leveraging technology alongside collaborative and seminar-based approaches in fostering interdisciplinary education

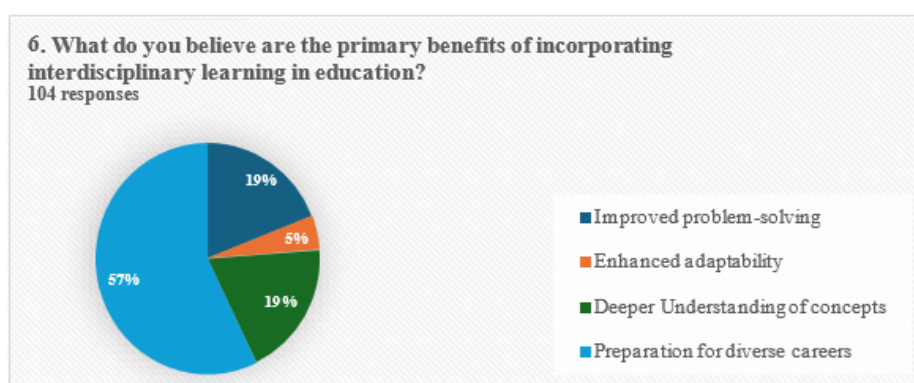


Figure 6:

The pie chart illustrates the perceived benefits of incorporating interdisciplinary learning in education. The distribution indicates a focus on deeper understanding of concepts (40%) as the primary advantage, followed by improved problem-solving (20%), preparation for diverse careers (20%), and enhanced adaptability (10%). This breakdown highlights the emphasis on gaining comprehensive knowledge and problem-solving skills through interdisciplinary education.

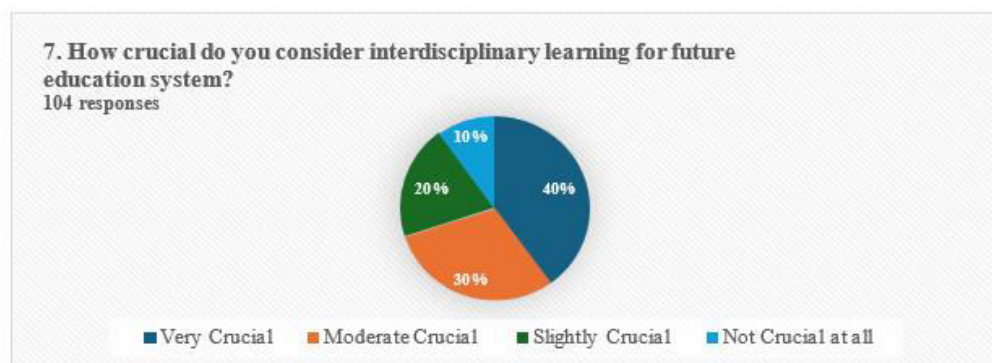


Figure 7:

The above pie chart illustrates the perceived importance of interdisciplinary learning for future education systems. The majority of respondents, constituting 40%, consider it "very crucial," followed by 30% who find it "moderately crucial." Additionally, 20% view it as "slightly crucial," while 10% express that it is "not crucial at all." This distribution underscores a notable recognition of the significance of interdisciplinary learning in shaping future educational approaches.

RECOMMENDATIONS

1. **Curriculum Integration:** Integrate interdisciplinary elements into the curriculum to expose students to diverse perspectives. This can involve collaborative projects or modules that blend concepts from various disciplines.
2. **Interdisciplinary Workshops and Seminars:** Organize workshops or seminars where experts from different fields share insights, encouraging students to explore connections between disciplines and fostering critical thinking through diverse viewpoints.
3. **Faculty Development Programs:** Offer training and development programs for educators to enhance their interdisciplinary teaching skills. Equip them with strategies to facilitate critical thinking across disciplines.
4. **Interdisciplinary Research Projects:** Encourage students to undertake interdisciplinary research projects that require them to integrate knowledge from multiple disciplines. This hands-on approach allows students to apply critical thinking skills to real-world problems.
5. **Interdisciplinary Study Abroad Programs:** Develop interdisciplinary study abroad programs that immerse students in diverse cultural and academic environments. Encourage students to engage with different cultures, languages, and academic disciplines.

CONCLUSION

Interdisciplinary learning, where different subjects mix and mingle, acts like a superpower for our thinking skills. It's not just about learning math or science separately; it's more like a big, colorful mix of ideas. This mixing makes our brains work in exciting ways, helping us become super thinkers! Imagine it as a treasure hunt where you explore different paths to find the treasure. When we learn this way, it's not just about knowing facts; it's about understanding why things happen and how they connect. It's like solving a puzzle with many pieces from different boxes.

This kind of learning boosts our critical thinking. It's like having a special toolkit filled with question marks and a flashlight that helps us see things from all angles. We learn to ask questions, think deeper, and find creative solutions to problems because we're looking at them from different points of view.

So, interdisciplinary learning is like a secret map that helps us become smarter problem-solvers. It prepares us for the real world, where challenges aren't just from one subject but need a mix of ideas to solve them. It's like having a superpower that makes us ready to tackle anything!

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A STUDY OF IMPROVING ACCESS TO EMPLOYMENT OPPORTUNITIES WITH REFERENCE TO ITIS IN MUMBAI

**Aniket Swaraj, Sana Shaikh, Amrutha Ramu, Akshay Srikant, Pritish Shetty,
Kedaara Lagiseti**

SIES College of Commerce and Economics (Autonomous)

ABSTRACT

"Blue-collar jobs are the foundation of our nation's prosperity, and vocational education is the cornerstone of building a skilled workforce." ~ Mike Rowe

Like a strong foundation supports a skyscraper, robust vocational education at Industrial Training Institutes (ITIs) is key to building a skilled workforce and driving economic growth. This study explores ways to improve job access by strengthening vocational training in Mumbai's ITIs. Despite India's large youth population, a shortage of skilled workers hinders growth. The research highlights the importance of bridging the gap between academic knowledge and practical skills, identifying key challenges and offering solutions. The findings aim to guide policymakers, educators, and industry leaders in enhancing skill development and workforce inclusion, unlocking India's youth potential for economic and societal progress.

Keywords: Vocational training, Industrial Training Institutes (ITIs), employment opportunities, skill development, India, youth population, economic growth.

INTRODUCTION

India, with 75% of its population under 35, has the highest youth population globally but one of the lowest proportions of trained youth. The focus on general education has left vocational training underemphasized, creating a skills gap in the job market. Vocational Education and Training (VET) equips individuals with practical skills across industries like mechanics, healthcare, and technology, fostering both employability and entrepreneurship. Industrial Training Institutes (ITIs) are vital to India's vocational training system, but despite government efforts, several challenges hinder their growth.

- 1. Challenges Encountered:** Both government and private ITIs face issues related to teacher qualifications, outdated equipment, and curriculum relevance. Only 15% of teachers are qualified under the CITS scheme, leading to outdated instructional methods.
- 2. Employability Issues:** Despite reforms, the employability of ITI graduates remains low due to a mismatch between skills taught and industry needs.
- 3. Job Opportunities:** Few job prospects exist for ITI graduates in semi-government sectors. Outdated curricula that fail to involve industry feedback contribute to this issue.

4. Infrastructure Challenges: The shortage of adequate infrastructure, both physical and technological, limits the scalability and effectiveness of vocational training.

India's STRIVE Project: The Skills Strengthening for Industrial Value Enhancement (STRIVE) project, a collaboration between the Government of India and the World Bank, seeks to improve skills training across 500 ITIs. The project focuses on institutional reforms, improved teaching methods, and expanding apprenticeship opportunities.

Achievements include:

- INR 2200 crore allocated for 500 ITIs and 100 industry clusters
- Female participation increased from 9.7% to 20.5%
- Rs. 647 crore disbursed to implementing agencies as of December 2023

Upgradation of ITIs Scheme: This initiative transforms ITIs into Centers of Excellence through public-private partnerships, modernizing training facilities and aligning them with industry requirements.

Achievements include:

- Rs. 3067.5 crore in interest-free loans allocated to 1227 government ITIs
- 400 ITIs upgraded under the Vocational Training Improvement Project (VTIP)

Institute Management Committees (IMCs): These committees ensure training programs align with industry needs, improving employment outcomes for graduates. Vocational education has also been integrated into mainstream education through initiatives like the Samagra Shiksha Abhiyan.

LITERATURE REVIEW

1. **Yadav, R. (2019).** The study discusses India's goal of skilling 500 million individuals by 2022, focusing on challenges faced in Maharashtra, such as inadequate vocational training and underutilization of courses.
2. **Goel, V. P. (2011).** This work examines the need for improvements in India's technical manpower through reforms in the TVET system.
3. **Kaushik, K. (2014).** The study outlines challenges like high drop-out rates and faculty shortages while highlighting government efforts to enhance vocational education.
4. **King Stubb & Kasiva (2024).** This report discusses India's legal framework for aligning vocational training with industry needs.
5. **Mathur, A., et al. (2022).** This research investigates the formal structure of vocational education in India and examines the impact of COVID-19 on technical and vocational education.

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6. **Press Information Bureau (2022).** The report highlights the Hub and Spoke Model under the Samagra Shiksha framework, integrating vocational and general education.
 7. **Sharma, D. (2024).** This report highlights government programs such as PMKVY and NAPS-2, focusing on digital platforms to bridge education and employment gaps.
 8. **NITI Aayog (2023).** This report outlines strategies to modernize ITIs and align them with industry demands.
 9. **Maitra, S., & Maitra, S. (2019).** The report details the challenges faced by ITIs, including low placement rates and limited job opportunities.
 10. **CENPAP Research and Consultancy Pvt Ltd. (2012).** This study examines ITI graduates' employability, focusing on instructor qualifications and training effectiveness.

OBJECTIVES

1. To assess the current state of employment opportunities for ITI graduates, including job availability, industry demands, and alignment with ITI curricula.
2. To identify barriers that ITI graduates face in securing employment, such as skill mismatches and market conditions.
3. To evaluate the effectiveness of existing programs and policies aimed at enhancing employment opportunities for ITI graduates.
4. Propose strategic measures to align ITIs with industry needs and enhance job market readiness for graduates.

RESEARCH METHODOLOGY

The study explores gaps in improving access to employment opportunities through Industrial Training Institutes (ITIs) in Mumbai.

Data Collection

1. **Qualitative Research Surveys:** Conducted among students and faculty at selected ITIs to assess the effectiveness of vocational training.
2. **Interviews:** Held with ITI administrators, employers, and government officials to identify challenges and opportunities in enhancing employment access.

Sample Details

- **Population:** 57 ITIs in Mumbai
 - **Sample Size:** 5 ITIs
 - **Sampling Method:** Convenience Sampling, based on accessibility and participant willingness
 - **Research Type:** Descriptive
-
-

DATA ANALYSIS AND FINDINGS QUALITATIVE RESEARCH

A survey conducted among vocational training students recorded 46 responses. The survey covered topics like age, employment status, training effectiveness, relevance, and flexibility.

1. **Age:** The survey participants predominantly belong to a younger demographic, with a significant 53% aged between 22-25 years and 47% between 18-21 years.
2. **Employment Status:** The survey reveals that about 76.9% of the respondents are students. The rest is divided into two portions in which only 7.7% have completed their training and are employed while the rest 15.4% are unemployed even after completing their training.
3. **Effectiveness of ITI Courses (on a scale of 1-5):** Mumbai students' evaluation of ITI course effectiveness shows mixed results. Most ratings fall at levels 1, 2, and 3 (9.7%, 30.6%, and 41.7%), indicating varied satisfaction. Fewer students rated the courses highly at levels 4 and 5 (11.1% and 6.9%). These findings highlight the need for improvements to enhance course effectiveness.
4. **Evaluation of Current Skills as per Industry Requirements (on a scale of 1-5):** The bar graph shows a range of perceptions. While most students rated their skills at level 2, indicating moderate alignment with industry needs, others rated lower (level 1 and 3), suggesting dissatisfaction. There's minimal positive response at level 4 and 5, highlighting room for improvement.
5. **Flexibility of Vocational Training (on a scale of 1-5):** A significant portion (40%) rated flexibility at level 2 while level 1 accounts for 8.6% and 3 for 25.7%, indicating a high level of dissatisfaction with the adaptability and versatility of training programs. The limited amount of feedback with ratings of 4 and 5 suggests that there is room for improvement to reach optimal flexibility.

INTERVIEW

Interviews with students and faculty at ITI centers revealed discrepancies in their perceptions. While some faculty members claimed their training aligned with current industry trends, many students disagreed, citing outdated curricula, lack of practical sessions, and insufficient faculty knowledge. Only a small proportion of students expressed satisfaction, highlighting the need for curriculum updates, improved teaching methods, and better alignment with industry requirements.

FINDINGS

- **Employment Status:** Most respondents are still students, while a smaller portion have secured employment post-training. A significant number remain unemployed.
- **Effectiveness of ITI Courses:** Feedback varied, with some students moderately satisfied and others dissatisfied, indicating room for improvement.

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- **Relevance to Industry Requirements:** Many students felt their skills did not meet current industry demands.
 - **Flexibility of Vocational Training:** High dissatisfaction levels suggest a need for more adaptable programs, diverse course offerings, and practical training.

LIMITATIONS

1. **Limited Resources:** Time, funding, and access constraints affected the research scope.
2. **Access to Information:** Challenges in gathering comprehensive data from stakeholders.
3. **Sample Size and Representation:** Limited sample size may have restricted the generalizability of the findings.
4. **Implementation Challenges:** Practical difficulties in applying the study's recommendations.

RECOMMENDATIONS

For the Government:

- Update curricula to align with current industry standards.
- Expand apprenticeship programs for practical experience.
- Establish dedicated career services for job placement.
- Promote vocational training through awareness campaigns.

For Private ITIs:

- Collaborate with industries to meet skill demands.
- Improve instructor training and upgrade facilities.
- Develop strong placement networks.
- Implement feedback systems from alumni and employers.

For Policymakers:

- Offer incentives for private partnerships.
- Conduct regular skill gap analysis.
- Fund infrastructure modernization.
- Support entrepreneurial initiatives through microfinance and business development services.

CONCLUSION

Mumbai's ITIs are crucial for preparing youth for the workforce but require significant improvements. Updating curricula, enhancing practical training, and establishing partnerships with businesses can make programs more relevant and improve job placement rates. Strengthening infrastructure and faculty training will further enhance learning, boosting employability and contributing to the nation's economic growth.

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IMPACT OF ACCESIBLE LEARNING ENVIRONMENT ON EMPLOYABILITY AND INCLUSIVITY: A CASE OF VISUALLY IMPAIRED STUDENTS

**Aniket Swaraj, Heksy Aronraj, Devika Nair, Meghna Verma, Mohamad Shaikh
and Irshad Shaikh**

SIES College of Commerce and Economics, Sion

ABSTRACT

Inclusive education and employment opportunities for visually impaired students are vital pillars in fostering a more equitable society. However despite of many advancements the number of visually impaired students attending schools are still low. The studies conducted in the past mainly focuses on technological advancements and upgradation. Only few researchers has had emphasized on architectural development. This study highlights the impact of accessible environment on betterment of learning experience among the visually impaired students. It also looks into inclusivity and employability of visually impaired students with inclusion of better ergonomics. Not only the study identifies the problems but also proposes viable solutions. The target audience were visually impaired students and the primary data was collected by interviewing students and faculties from 5 blind schools. The research suggests various measures like inscription of patterns and designs on the wall, use of braille signage or tactile signage, planting flowers and plants that give out different smells, creating landmarks and constructing the height of walls in such a manner that produces echoes. The outcome of this research helps in inclusive education and employability among visually impaired students which helps them to not only flourish in their academic success but also their social integration and independence.

INTRODUCTION

In the realm of touch, the blind finds their vision. Among all the types of disabilities, visual impairment disability poses greater challenges compared to other disabilities. Living with visual impairment presents unique challenges, as individuals face limitations in accessing information, navigating their surrounding and engaging in daily activities.

Since, India is a country with second largest population perhaps it also has the largest population of visually impaired. In India, out of 15 million visually impaired, 3 million are of school going age [as per NAB Survey]. When a venue states that it is accessible, it often does not take into consideration the visually impaired. First and most obvious is the built environment. For students with visually impaired disability, the built environment is often a barrier to inclusion. After their primary schooling, students pursue education along with the normal kids where accessibility to the built environment becomes critical. This is where there are higher chances of students to drop education which hinder them from learning employability skills.

It is also expected that children will be eager to pursue novel tasks given that the environment is accessible. Hence it becomes vital to provide them with structured environment which helps them sense and get access to the environment. The education of blind students is directly related to their employability. A quality education helps blind students develop the skills, knowledge, and confidence they need to succeed in the workforce. This includes not only academic skills, but also the ability to use assistive technologies, develop effective communication skills, and advocate for themselves. Additionally, education can help blind students develop the soft skills that are often valued by employers, such as teamwork, problem-solving, and time management. Employability is also impacted by the availability of job opportunities and the willingness of employers to provide accommodations for blind individuals.

Creating an inclusive workplace and providing accommodations can help increase the employability of blind students, as it allows them to fully participate in the workforce. Additionally, providing support and resources for blind students during their education can help prepare them for the workforce and increase their chances of finding meaningful employment. Overall, the education of blind students and their employability are closely intertwined, and efforts to improve one can have a positive impact on the other.

Problem Statement

- Does improvement in learning environment will result in increase in employability amongst visually impaired?

When visually impaired individuals have better access to education in an environment that accommodates their needs, it can lead to increased participation and engagement in learning activities. This can result in higher levels of academic achievement and qualifications, ultimately improving their chances of securing employment

- Does improvement in ergonomics result in independency and inclusivity amongst visually impaired

When applied effectively to accommodate the needs of visually impaired individuals, it can enhance their ability to navigate and interact with their surroundings independently, thereby promoting inclusivity. by prioritizing ergonomics and designing environments with the needs of visually impaired individuals in mind, we can create more inclusive and empowering spaces that promote independence, autonomy, and equal opportunities for all.

RESEARCH GAP

1. Lack of accessible ergonomics.
2. Lack of study on accessible learning environments.
3. This study is not taken up in Mumbai.

LITERATURE REVIEW

1. Shrishti Sharma & Aastha Deshpande (2023) reviewed a study titled "The Effect of Environmentally Adaptive Interiors on Visually Impaired Students in the Schools of North-East" focusing on the impact of customized interior design on learning environment of visually impaired students. The study concludes by demonstrating the potential of design as an equalizer and proposes strategies that bring together architectural innovations and sensory considerations which would help to create an inclusive learning environment.
2. Ankita Mishra (2023) states that the study "Architecturally Programmed Schools for the Visually Impaired" addresses the intersection of architecture and inclusion to improve the learning of visually impaired students. The thesis focuses on spatial arrangement, multisensory engagement and accessibility, which leads to the academic success of visually impaired students.
3. Amira Fawzy Helmy Almaz (2022) in her research paper, "The Impact of Sensory Perception on the Standards of Internal Architecture in Educational Institutions for Visually Impaired and Blind Students", emphasizes multisensory art, which can be used to sense the surrounding environment. The main elements of the study are texture, sound, heat, aroma to define space and function, and tactile signals.
4. Tawfiq Jebri & Yang Chen (2021) reviewed research on "Architectural Strategies for Elementary School Classrooms for Students with Intellectual Disabilities" comparing architectural design requirements for elementary school classrooms for students with intellectual disabilities and students without disabilities. The study concludes with five main architectural strategies, which include furniture, adjoining toilets, colours and materials, form, lighting, ventilation and soft music.
5. A. Devi, M. Julie Therese, R. Sankar Ganesh (2020) in his research "Smart Navigation Guidance System for Visually Challenged People" focuses on the physical obstacles that limit the movement of the visually impaired. To overcome these challenges, they presented a solution - a navigation system that performs simultaneous object observation and active detection.
6. Watthanasak Jeamwatthanachai, Mike Wald and Gary Wills (2019) reviewed research on "Indoor Navigation for the Blind : Behavior and Challenges in Unfamiliar Spaces and Buildings" in which they find better use for indoor navigation and recommend better use of technologies for the visually impaired. The findings of this thesis show that navigating a space full of unknown characteristics for the first time is too difficult, which weakens their confidence in independent navigation.
7. Vikas Upadhyay and Meenakshi Balakrishnan (2019) highlight the challenge of independent mobility faced by the visually impaired in their study "Indoor Navigation Challenges for the Visually Impaired in Public Buildings". The research presents solutions such as infrastructure, including landmarks, and creates a map with added metadata.

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8. Dev Nandan Kumar, Pawan Kumar, Rawat J.S. (2017) reviewed research on "Education of the Visually Impaired in India" focusing on the right to education of the visually impaired. The research ends with the assertion of the National Disability Policy that it recommends a multidisciplinary approach to ensure their education.
 9. Chien-Yu Pan, Chin-Wen Liu, I Chiao Chung, and Po-Jen Hsu (2015) in their research "Physical Activity during Physical Activity and Leisure Time in Adolescents with and without Intellectual Disabilities" compares physical activity in adolescents with and without intellectual disabilities. The study claims that intellectually advanced children were less active than their peers.
 10. Peter-Willem Vermeersch & Ann Heylighen (2012) states that visually impaired people rely more on tactile, haptic, auditory and olfactory aspects in their study "Blindness and multi-sensoriality in architecture. The case of Carlos Mourão Pereira". The thesis concludes that architecture underscores the imperative of designing spaces that engage all senses, transcending visual-centric paradigms.

OBJECTIVES

1. To study external and internal environment.
2. To understand the impact of Environment on learning possibility among visually impaired.
3. To suggest action and measures to increase accessibility and Employability.

RESEARCH METHODOLOGY

This research is Exploratory in nature. The target audience selected as samples:

The study aims to address critical gaps in understanding the dynamics between the learning environment and blind student. It also aims to understand the Impact of accessible Learning environment on Employability.

Primary data has been collected from 5 different blind schools and home to understand the difficulties faced by them. The method of data collection was interview method. Open and close format questions were asked to the sampling frames.

The secondary data has been collected based on research work and a study of past research papers has been done.

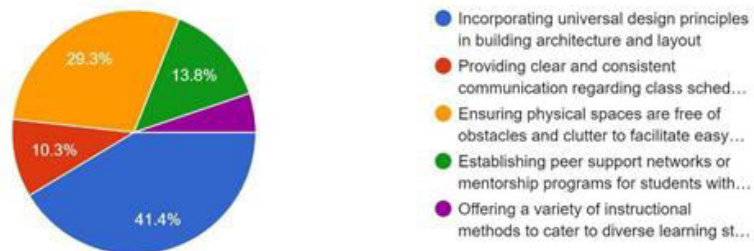
- Sample size -5 blind schools
- Target population -Blind students
- Type of sampling - Snowball sampling
- Sample survey Area-Mumbai
- Type of research -Exploratory Research

DATA FINDINGS & INTERPRETATION

The following data was collected through Google form and 59 responses were recorded. The findings and the interpretation are as follows:

In your ideal learning environment, what specific changes or features would ensure a more inclusive and accessible educational experience for all students?

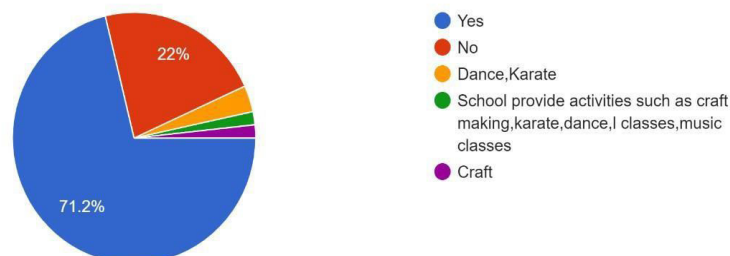
58 responses



- The survey reveals varied priorities for fostering inclusivity in learning environments. While 41.3% advocate for integrating universal design principles in architecture, 29.3% stress the removal of physical obstacles. Additionally, 13.8% prioritize peer support networks, while 10.3% emphasize clear communication on schedules, and 5.2% suggest diverse instructional methods for accommodating different learning styles.

What other co-curricular activities are provided in the school ? (Other than school, do you visit any music class, chess, etc.?)

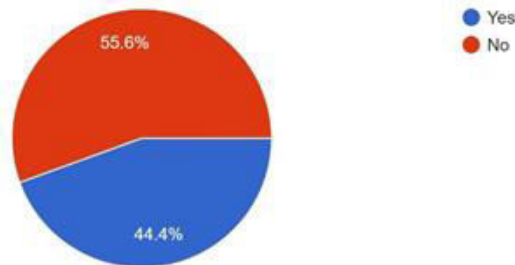
59 responses



- The survey results indicate that a majority (71.2%) of respondents engage in co-curricular activities outside of school, such as music classes, chess, etc. Only a minority (22%) do not participate in any extracurricular activities. A small percentage (3.4%) are involved in activities like dance or karate independently. Additionally, 1.7% of respondents partake in school-provided activities such as craft-making, karate, dance, and music classes, while the same percentage (1.7%) specifically engage in crafts.

Are you aware about the architectural environment designed for visually impaired people

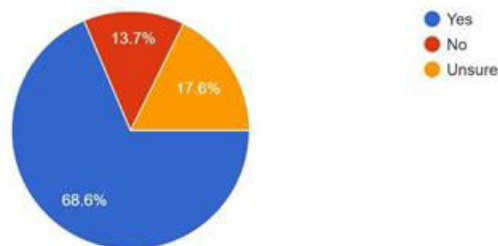
54 responses



- The survey shows that 55.6% of respondents are unaware of architectural environments designed for visually impaired individuals, while 44.4% are informed about such accommodations.
- To raise awareness, brief educational sessions in schools or communities and collaboration with local organizations can help promote understanding and support for visually impaired individuals.

During these many years, is there any factor which you feel should be changed or developed for the well-being of these students?

51 responses



- The survey data indicates that a significant majority (68.6%) of respondents feel that there are factors that should be changed or developed for the well-being of visually impaired students, while a smaller percentage (13.7%) do not perceive a need for change. Additionally, 17.6% of respondents remain unsure.
- For architectural improvements to benefit visually impaired individuals, consider incorporating eco- producing passages that utilize sustainable materials and incorporate tactile elements for navigation. Additionally, integrating fragrant flowers or plants in strategic locations can serve as sensory cues to help identify specific areas within the environment.

RESEARCH FINDINGS

1) Lack of Inclusivity Leads to Unachievable Employability Skills:

When schools and workplaces don't consider the needs of visually impaired people, they miss out on important skills needed for jobs. Without proper support like

accessible materials and teaching methods, visually impaired students struggle to learn, making it hard for them to find work later on.

2) Difficulty in Navigating Unfamiliar Places:

Visually impaired people often find it tough to get around new places because they lack things like clear signs or pathways. Without tactile markers or audible cues, it's hard for them to know where they are or where they're going, which can make them feel lost and anxious.

3) Lack of Proper Infrastructure and Outdoor Spaces:

Many streets and buildings aren't set up well for people who can't see. Sidewalks might be bumpy, and there might not be enough benches or places to rest. Without accessible parks or recreational areas, visually impaired individuals miss out on chances to relax and enjoy themselves outdoors.

4) Lack of Incorporation of Universal Design:

Buildings and products often forget about people who can't see. They might not have things like Braille signs or easy-to-use technology. By including features that everyone can use, like clear signs and simple gadgets, we can make life easier and more inclusive for visually impaired individuals.

LIMITATIONS

- 1) The data at hand stems solely from a limited survey conducted within a select few schools.
- 2) Limited resources may constrain the researcher's ability to conduct in-depth interviews, observations, or follow-up studies, impacting the depth and breadth of the research findings.
- 3) Ensuring that the sample of blind students selected from the few schools is representative of the broader population can be challenging.
- 4) The learning environment of visually impaired students, including factors such as classroom accommodations, support services, and teacher training, can vary widely across different educational settings.

CONCLUSION

Designing a learning environment that caters to the needs of blind students requires careful consideration of physical accessibility, instructional materials, and fostering a culture of inclusion. Ensuring clear pathways, Braille signage, and tactile maps aids in navigation and spatial understanding. Providing instructional materials in accessible formats such as Braille and audio enhances learning opportunities. Additionally, promoting empathy and understanding among

students, staff, and administrators fosters a supportive atmosphere where blind students feel valued and empowered to succeed.

By addressing physical barriers, offering accessible materials, and nurturing a culture of inclusion, schools can create a welcoming environment where blind students can thrive academically and socially. Tactile maps serve as invaluable tools for orientation, while accessible instructional materials ensure equal access to learning content. Through collaborative efforts and awareness-building activities, schools can cultivate an environment where blind students feel included, supported, and encouraged to reach their full potential.

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WASTE NOT, WANT NOT: ACCESS TO FOOD AND MANAGEMENT OF FOOD WASTE IN INDIA

Fleur Mario Fernandes and Samantha Robin
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

The phrase “waste not, want not” is an ideal mantra to be followed in times where differentiating between want and need has become an ever present struggle. It allows you to be mindful of your current choices will accounting for your future needs, thus killing two birds with one stone. Similarly, managing food waste applies the same principle of conservation now for steady access to food sources in the future, as proven by the survey conducted. When terms like food loss, food waste and food security are so closely interlinked, it is imperative that it be prioritized as such, putting in conscious efforts to seal a better fate for ourselves as well as future generations.

Keywords:

INTRODUCTION

India as a developing country, once under foreign rule, has seen multitude of challenges to secure a reliable supply of food. From the Bengal Famine in 1943 to the 2013 droughts in Maharashtra leading to food scarcity to the recent panic driven scarcity in the pandemic, we have seen multiple fluctuations in our supply charts. For centuries, Indian culture has been reflective of our innate respect and value for food. The Sanskrit word for food ‘bhojana’ meaning “that which is to be enjoyed holds cultural significance. Through generations of influence, it has become an integral part of one’s identity, serving as a marker for caste, region, income status and other social factors.

However, when it comes to putting said values into practice, the results are not as promising. Food waste has become an oppressive issue in the wake of modern-day needs. 70% of it comes from Indian households while food services contribute 26% & retail outlets 13%. Around 74 million tons of food are lost in India every year. The loss accounts for roughly 8% of the total 931 million tons of food waste globally, standing 2nd worldwide in terms of household wastage of food succeeded only by China.

This paper aims to focus on the impact food waste management can have on access to food, with a primary focus on these results at a household level. Considering the history behind food security in a developing country like India, it aims to propose ways to implement sustainable practices that are applicable to promote and project for a better future.

LITERATURE REVIEW

1. (Thi et al., *An overview of food waste management in developing countries: Current status and future perspective* 2015) summarizes the challenges faced, especially by developing countries, related to food waste management techniques and their application in its current condition.
2. (Tulsi Srinivas, *Exploring Indian culture through food* 2023) encapsulates the rich history behind food and how it is harmoniously intertwined with our identities as Indians.
3. (Shabanali Fami et al., *The relationship between household food waste and food security in Tehran City: The role of Urban Women in Household Management* 2021) offers a mirrored look into how these topics are discussed in another developing country such as Iran, acting as reference for progress.
4. (S. Mahendra Dev, Alakh N. Sharma, *Performance, challenges and policies, Food Security in India* 2023) studies the problem from the root, going into how efficiency on the supply side can affect access at household levels.

OBJECTIVES

- 1) To establish a relationship between food waste management and access to food in India across different demographics
- 2) To analyze existing food waste management practices in households and identify present challenges and opportunities for development
- 3) To assess various socio-economic and cultural factors affecting access to food
- 4) To contribute insights to relevant stakeholders and address issues related to the same

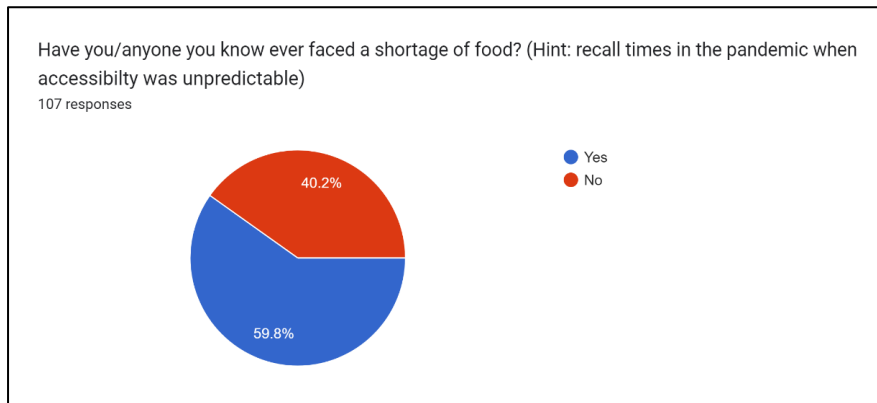
RESEARCH METHODOLOGY

For the primary data representing an average Indian household a survey was conducted online through a questionnaire consisting of targeted questions. It was circulated between 13/01/2024 to 25/01/2024 garnering 107 responses. The participants ranged from 15–60-year-olds, from diverse backgrounds.

DATA ANALYSIS AND FINDINGS

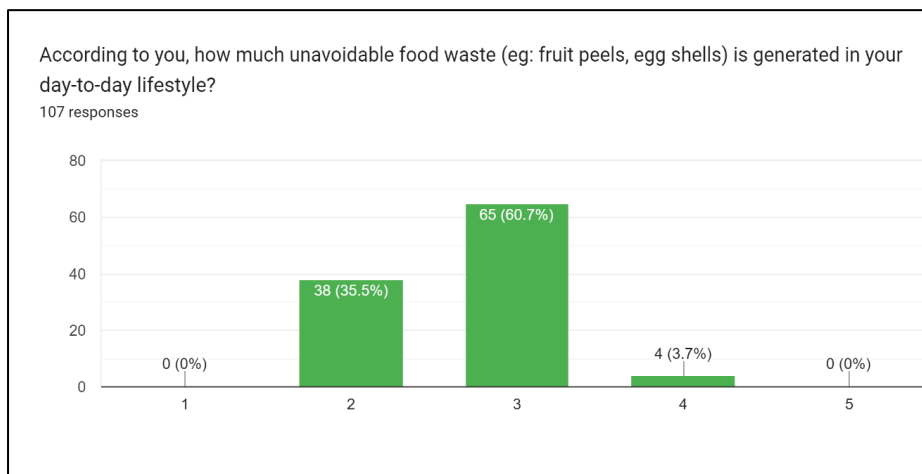
The questions asked are given below along with the charts representing the votes submitted:

1.



Food security as defined by the United Nations' Committee on World Food Security, states that "all people, at all times, have physical, social, and economic access to sufficient food". As is proven by the votes above, with a majority of 59.8% (64) for yes and the other 40.2% (43) for no.

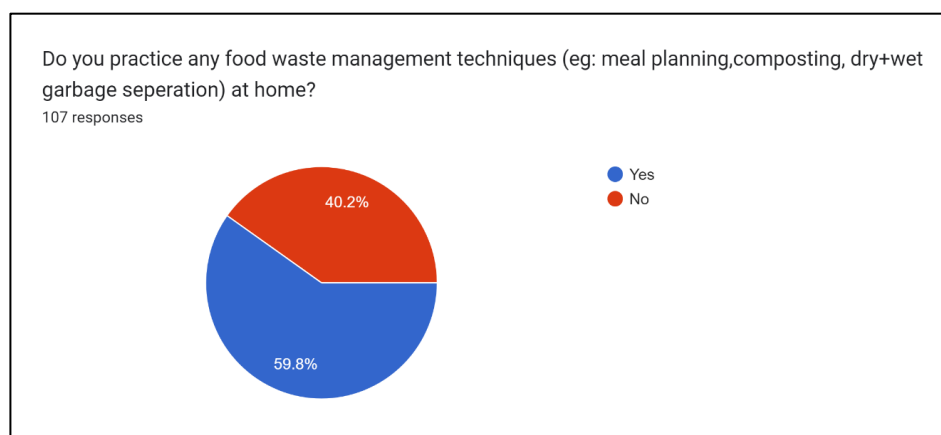
2.





Unavoidable food waste constitutes parts of food that is not edible, thus the votes lie in the middle of the graph, signifying that a moderately high amount is generated on a day-to-day basis. On the other hand, avoidable food waste is born out of negligence and unsuitable storage conditions, thus the votes are toward the lower end of the scale. An Indian household produces 68.7 million tons of food waste annually, according to the UNEP's (United Nations Environment Programme) food wastage index report i.e. about 50 kgs per person.

3.



To combat issues arising out of indifference towards basic waste management practices, the BMC is now obliged to carry out statutory duty of Solid Waste Management (SWM) under the provisions of Section 61 (C) of the MMC Act, 1888. It states that “it is now mandatory to segregate / collect the waste in three streams viz. dry waste, wet waste and Domestic Hazardous Waste (DHW)”. Despite such efforts, 40.2% (43) still voted no for the above question, confirming that a large portion of the population still pays no heed.

4.



When asked directly, a majority of votes i.e. 86% (92) out of 107 voted somewhere between no and maybe, reflecting how most people are unaware and unable to connect the odds between the advantages of food waste management and access to food. When given a simple example of statistics related to the same, all votes were converted to agree that there is a connection; exemplifying how imperative it is to be educated on such topics.

5.



As proven by these votes, the public is ready to show interest and gain access to education on how to better manage their food waste and play their part efficiently to enable greener household practices leading to a cleaner future.

RECOMMENDATIONS

Households generate such large amounts of food waste, as proven by the previous charts, therefore it is essential that efforts be made to do the following:

- a) reduce this amount through practices like meal planning, conscious buying, proper storage and care of food items, etc. to cut down avoidable waste
- b) ensure that waste being generated is treated carefully by segregating it to help in effective treatment and disposal of such waste
- c) convert the waste generate into effective by-products like manure/compost and put it to productive use, thus decreasing landfill overflows

The votes above show that a majority of people are simply uneducated on these matters, calling for a better spread of information; negligence is born out of ignorance after all.

CONCLUSION

Reducing food waste allows for more efficient distribution of resources, ensuring that surplus food reaches those in need. Effective management of such waste helps in minimizing economic losses, making resources available for investments in food production and distribution systems. Simultaneously, the environmental impact associated with its disposal is reduced, creating a more sustainable ecosystem for food production. Utilizing food waste for compost or as animal feed contributes to soil fertility and livestock health, ultimately boosting agricultural productivity. Thus, by optimizing the use of available resources, it contributes to overall food security, ensuring a steady and reliable food supply for communities.

Efforts to manage food waste raise awareness about consumption patterns, encouraging individuals and businesses to make informed choices and reduce overall waste. Initiatives taken often involve local communities, fostering a sense of responsibility and collaboration in ensuring equitable access to food.

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IMPACT OF DISPARITIES IN ACCESSIBILITY AND SURVIVAL WITH RESPECT TO CANCER PATIENTS IN MAHARASHTRA

**Aniket Swaraj, Sanjana Nair, Aditya Nair, Pratham Jain, Kailash Dinesh and
Khushi Jain**

Sies College of Commerce and Economics, Sion

ABSTRACT

Cancer is a significant public health concern in Maharashtra, with the second-highest number of incidences in India, accounting for around 1.21 lakh new cases in 2023. This research paper aims to explore the disparities in accessibility and survival among cancer patients in Maharashtra, focusing on understanding the challenges and identifying potential solutions.

The research objectives include identifying disparities in access to healthcare services, addressing barriers to cancer care, supporting cancer awareness, and promoting cost-effective treatment options. The literature review highlights the dynamic nature of cancer research in Maharashtra, with a growing emphasis on equitable delivery and infrastructure development.

The research methodology involves secondary research and quantitative methods, utilizing statistical analysis to interpret the data. The study focuses on the availability and distribution of cancer care facilities across urban and rural areas, as well as the impact of healthcare financing mechanisms on affordability.

The findings reveal significant disparities in access to cancer care, particularly in rural areas, and highlight the need for early detection centers and the usage of technology to improve cancer prevention and control. The research also emphasizes the importance of establishing more dedicated cancer research centers and cost-effective hospitals in Maharashtra, as well as collaborating with international institutions on cancer research.

In conclusion, this research paper provides valuable insights into the impact of disparities in accessibility and survival among cancer patients in Maharashtra. The findings underscore the need for a holistic approach to cancer care, including early detection, risk reduction, and management strategies, to address the growing cancer burden in the region.

INTRODUCTION

Cancer poses a significant health challenge in Maharashtra, India, with the state witnessing the second-highest number of cancer incidences in 2023, totaling around 1.21 lakh new cases. This research delves into the impact of disparities in accessibility and survival concerning cancer patients in Maharashtra, aiming to shed light on the challenges faced and propose solutions to enhance cancer care in the region.

The research objectives encompass identifying disparities in healthcare access, addressing barriers hindering cancer care, promoting cancer awareness, and advocating for cost-effective treatment options. Through a comprehensive literature review, the

dynamic landscape of cancer research in Maharashtra up to 2022 is explored, emphasizing the persistent disparities in healthcare services access and the crucial need for equitable delivery and infrastructure development.

As Maharashtra grapples with the burden of cancer, collaborative research efforts and innovative interventions emerge as promising avenues to bolster cancer prevention, diagnosis, and treatment outcomes across the state. This research paper seeks to bridge existing gaps in cancer care, particularly in underserved areas of Maharashtra, and delve into the impact of insurance coverage on cancer treatment affordability.

By analyzing the availability and distribution of cancer care facilities in urban and rural Maharashtra, alongside investigating the influence of healthcare financing mechanisms on treatment accessibility, this study aims to provide valuable insights into the current state of cancer care in the region. Through a combination of secondary research and quantitative methods, including statistical analysis, this research endeavors to contribute to the ongoing dialogue on enhancing cancer care delivery and outcomes in Maharashtra.

PROBLEM STATEMENT

Despite the second-highest number of cancer incidences in 2023, with around 1.21 lakh new cases in Maharashtra¹, disparities in accessibility and survival persist among cancer patients in the region. These disparities are particularly evident in rural areas, where access to cancer care facilities is limited, and early detection centers are scarce.

The literature review highlights the dynamic nature of cancer research in Maharashtra up to 2022, reflecting efforts to understand and address the multifaceted challenges posed by cancer in the region. However, disparities in access to healthcare services persist, underscoring the importance of equitable delivery and infrastructure development.

The research methodology involves secondary research and quantitative methods, utilizing statistical analysis to interpret the data. The study focuses on the availability and distribution of cancer care facilities across urban and rural areas, as well as the impact of healthcare financing mechanisms on affordability.

The findings reveal significant disparities in access to cancer care, particularly in rural areas, and highlight the need for early detection centers and the usage of technology to improve cancer prevention and control. The research also emphasizes the importance of establishing more dedicated cancer research centers and cost-effective hospitals in Maharashtra, as well as collaborating with international institutions on cancer research.

RESEARCH GAP

The research on cancer in Maharashtra has been dynamic, with a focus on understanding and addressing the multifaceted challenges posed by the disease. However, several areas remain unexplored, presenting significant research gaps:

Untouched areas of Maharashtra:

While the literature review provides insights into cancer research in Maharashtra, there is a lack of focus on specific regions within the state, particularly those with limited access to healthcare services and higher cancer incidence rates.

Insurance Coverage:

The impact of insurance coverage on cancer treatment affordability and accessibility in Maharashtra is an under-researched area. Understanding the role of insurance in cancer care can provide valuable insights into enhancing access to treatment and improving patient outcomes.

Addressing these research gaps can contribute to a more comprehensive understanding of the challenges faced by cancer patients in Maharashtra and inform the development of targeted interventions to improve accessibility, affordability, and survival outcomes.

LITERATURE REVIEW

1. The Lancet Oncology article by S. Loos et al. (2018) titled “Global patterns of cancer survival: a worldwide study of 37.5 million people” provides a comprehensive analysis of cancer survival rates across the globe. The study is based on data from 37.5 million individuals diagnosed with cancer between 2000 and 2014 in 71 countries. The authors aimed to identify global patterns and trends in cancer survival, as well as disparities between countries and regions.
2. The article “Geographic disparities in access to cancer clinical trials in India” published in the National Center for Biotechnology Information (NCBI) in 2024 discusses the unequal distribution of cancer clinical trials in India. The study found that the number of clinical trials per capita varied significantly between states, with some states having very few or no trials available. The authors suggest that this disparity is due to a lack of resources and infrastructure in certain regions, as well as a lack of awareness about clinical trials among healthcare providers and patients.
3. The article from the Times of India discusses the projected rise in the cancer burden in Maharashtra, with an 11% increase expected by 2025. This increase poses a significant health crisis in the state, emphasizing the need for proactive measures to address the growing burden of cancer. The data presented in the article highlights the importance of understanding and preparing for the anticipated rise in cancer cases to ensure adequate healthcare services and resources are in place to meet the needs of the population.
4. The article from PubMed titled “History of the Growing Burden of Cancer in India: From Antiquity to the 21st Century” provides a historical overview of cancer in India, highlighting its recognition in ancient times and its increasing burden due to epidemiological transitions, improved cancer diagnostics, and data capture. The article suggests that India’s current burden of a million incident cancers is a result of these factors and offers useful insights and lessons for developing countries in managing their increasing cancer burdens. The study by Loos et al. (2024) discussed in the search results also highlights the importance of cancer clinical trials in India

and the need for addressing geographic disparities in access to these trials. The article from the Times of India discussed in the search results highlights the projected rise in the cancer burden in Maharashtra, with an 11% increase expected by 2025, emphasizing the need for proactive measures to address the growing burden of cancer.

5. The CDC website provides information on the risk factors for breast cancer, which include being a woman and getting older, as most breast cancers are found in women who are 50 years old or older. Other factors that increase the risk of breast cancer include genetic mutations, such as changes in the BRCA1 and BRCA2 genes, reproductive history, having dense breasts, and a personal history of breast cancer or certain non-cancerous breast diseases. Additionally, research suggests that other factors such as smoking, exposure to cancer-causing chemicals, and changes in hormones due to night shift work may also increase the risk of breast cancer. It is essential to discuss ways to lower your risk and breast cancer screening with your doctor.

Research gaps in cancer research in Maharashtra include the lack of focus on specific regions within the state, particularly those with limited access to healthcare services and higher cancer incidence rates, and the impact of insurance coverage on cancer treatment affordability and accessibility. Addressing these gaps can contribute to a more comprehensive understanding of the challenges faced by cancer patients in Maharashtra and inform the development of targeted interventions to improve accessibility, affordability, and survival outcomes.

The research methodology involves secondary research and quantitative methods, utilizing statistical analysis to interpret the data. The study focuses on the availability and distribution of cancer care facilities across urban and rural areas, as well as the impact of healthcare financing mechanisms on affordability.

The findings reveal significant disparities in access to cancer care, particularly in rural areas, and highlight the need for early detection centers and the usage of technology to improve cancer prevention and control. The research also emphasizes the importance of establishing more dedicated cancer research centers and cost-effective hospitals in Maharashtra, as well as collaborating with international institutions on cancer research.

In conclusion, the literature review highlights the importance of addressing disparities in accessibility and survival among cancer patients in Maharashtra. The findings underscore the need for a holistic approach to cancer care, including early detection, risk reduction, and management strategies, to address the growing cancer burden in the region.

OBJECTIVES

- To address the Barriers faced by the affected ones.
- To identify the disparities in Cancer and it's treatment.
- To bring in cost effective treatment ways and ideas.

DATA ANALYSIS AND FINDINGS

Secondary data has been collected on the basis of research work and a study of past research papers has been done.

Universe: Population in Maharashtra

Sample Size: Cancer patients

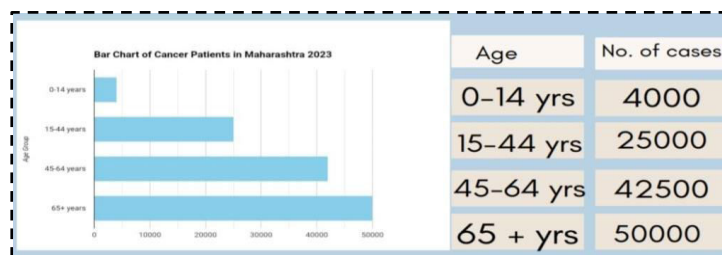
Type of Research: Secondary research

Methodology: Statistical analysis

Research Questions

- What is the availability and distribution of cancer care facilities, including hospitals, clinics, and specialized treatment centers, across urban and rural areas of Maharashtra?
- How do healthcare financing mechanisms, such as insurance coverage and out-of-pocket expenses, affect the ability of individuals in Maharashtra to afford cancer treatment?

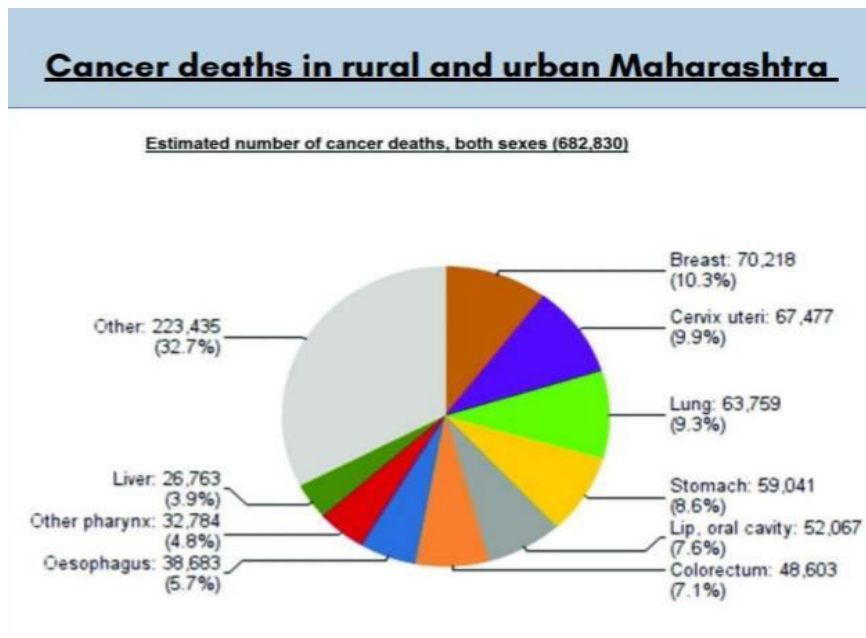
AGE WISE CANCER PATIENTS



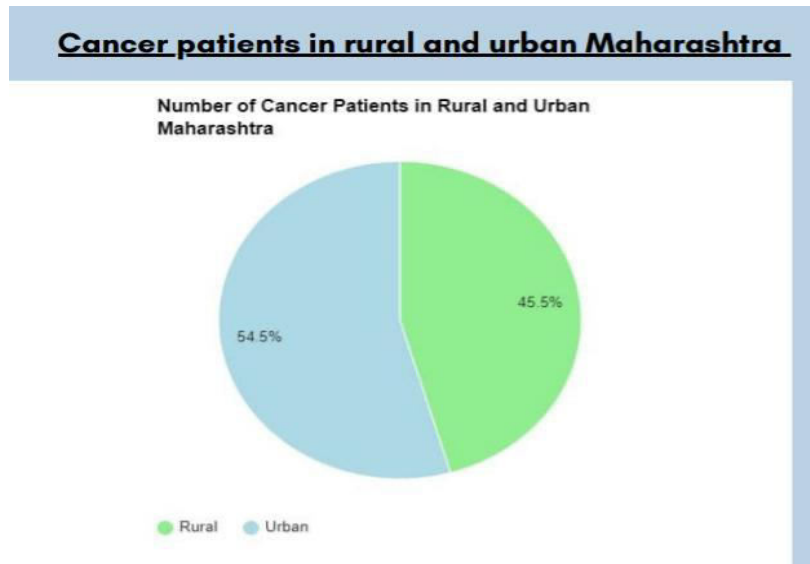
• LEADING CANCER IN MEN AND WOMEN



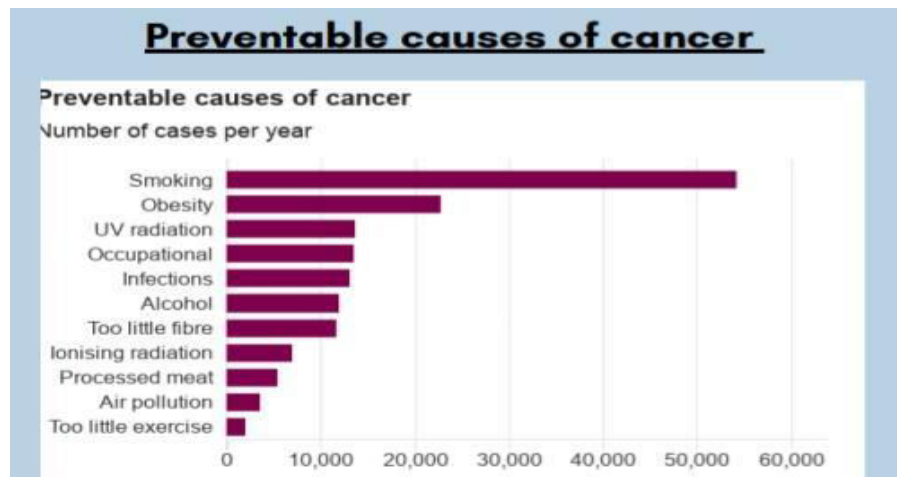
- **CANCER DEATHS**



- **DIVISION OF PATIENTS**



- **CAUSES**



CONCLUSION

In conclusion, the research underscores the pressing need to address the complex web of disparities in accessibility and survival rates among cancer patients in Maharashtra. Geographical, socioeconomic, and healthcare infrastructure-related factors significantly influence patients' outcomes, leading to unequal access to timely diagnosis, treatment, and supportive care services. These disparities disproportionately affect individuals from marginalized communities, perpetuating health inequities and widening the gap in cancer outcomes across different regions of Maharashtra. To mitigate these disparities, targeted interventions are essential, including policy initiatives to improve healthcare infrastructure in underserved areas, increase the availability of trained healthcare professionals, and provide financial support and transportation assistance to disadvantaged patients. Moreover, efforts to raise awareness about cancer prevention, early detection, and available support services are crucial to empower individuals to navigate the healthcare system effectively. Collaborative endeavors involving government agencies, healthcare providers, NGOs, and community stakeholders are pivotal to drive systemic changes and foster a more equitable healthcare system that prioritizes the needs of all cancer patients in Maharashtra. By addressing these disparities comprehensively, we can strive towards achieving better health outcomes and reducing the burden of cancer for all individuals in the region.

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- <https://timesofindia.indiatimes.com/city/nagpur/cancer-burden-projected-to-rise-11-by-2025/articleshow/86900532.cms>

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- <https://pubmed.ncbi.nlm.nih.gov/31373840/#:~:text=Cancer%20was%20rarely%20mentioned%20in,Medical%20Service%20doctors%20across%20India.>
 - https://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm

A STUDY ON TRADITIONAL TEACHING (CHALKBOARD) TO MODERN TEACHING (CHROMEBOOKS)

**Aniket Swaraj, Vaishnavi Sakthivel, Ebshiba Pillai, Subithra Subramaniam and
Kasthoori Kanthswamy**
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

The Teaching and Learning is very essential in our life. The teaching aims to explore applications of artificial intelligence and fundamental concepts in, modern society.

Traditional way of teaching is most common method and oldest form of teaching. Traditional teaching follows a structured curriculum and focuses on memorization. Traditional teaching involves a teacher delivering lectures, standing in front of the class and students used to take notes.

Modern way of teaching incorporates more interactive and engaging methods. Modern teaching may also involves multimedia resources, group discussions, activities, and experiments. Modern teaching encourages problem solving skills, critical thinking, and student's participations.

Keywords: Knowledge, Information, Teaching, Traditional method, Modern method

INTRODUCTION

Teaching is an initial stage of imparting information, skills, and knowledge. Teaching is about helping and guiding people new things and grow. Teaching is about empowering others to reach their full potential. Teaching plays an essential role in shaping minds and empowering individuals.

Teaching is about motivating, and inspiring students to grow, explore, and question. Teachers uses various strategies to explain concepts, like showing examples, talking or hands-on activities. It creates supportive and positive environment where students explore new concepts and also feels comfortable to ask questions related to the concepts.

You get to witness the success and the progress of the students as they gain confidence and knowledge because of this teaching is a rewarding profession. Teaching is a way to contribute to the betterment of community or society.

Traditional teaching method offers a familiar structure and framework for students and educators. Traditional teaching plays a significant part in many educational settings. It is the conventional method imparting information, often involving a teacher-centred approach.

Traditional teaching typically includes lectures, textbooks, and assessment. It has been the foundation of education for centuries. Traditional teaching methods emphasizes direct instructions, rote memorization, and adherence to established curricula. Its

relevance and efficacy in today's rapid evolving educational landscape have come under scrutiny. Traditional teaching have been the cornerstone of education.

Modern teaching is different from the traditional lecture style, it's all about engaging and making students learning more relevant and interactive. Modern teaching uses technology, such as online platforms, multimedia resources to enhance learning experiences. Modern teaching goal is to create an inclusive and dynamic environment for learning.

It prepares the students for the challenges of the 21st century. It focuses on personalised information. Modern teaching approach fosters the sense of motivation and ownerships in the students, they feel their abilities and interests are valued. Modern teaching equips students with the skills and also promotes lifelong learning.

Modern teaching allows students to explore their passions, creativity, innovations and to think and do out of the box. Modern teaching recognizes that each students have their unique weakness, strengths, and learning styles. Modern teaching is student-centred approach.

People or students may have different opinions on Traditional teaching and Modern teaching.

LITERATURE REVIEW

| Sr.no. | Name of the journal | Name of the author | Country | Year | Sample size | Methodology | Key finding | Source |
|--------|--|--------------------|---------|------|-------------|--|---|----------------|
| 1. | Comparative study on the effectiveness of traditional and modern teaching methods. | Yuemeng Wang | USA | 2022 | 55 | -The study reviewed existing research and likely collected data through surveys or interviews to understand the effectiveness of different teaching methods. | -New teaching methods focusing on students promote communication, motivation, and creativity. | Atlantis press |

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|----|---|--|-------|------|-----|--|---|-----------------------|
| 2. | Traditional Modern teaching methods: Advantage and disadvantages each. | BC. Viera Boumova | USA | 2008 | 90 | -To understand teaching better, we looked at how Henson sees teaching strategies. - This helps teachers teach in a way that gets the students involved and helps them learn better. | - Henson explains that teaching strategies are not just one thing but a mix of different methods and techniques. | Masaryk University |
| 3. | Using Traditional and Modern Teaching methods on the teaching process from teacher's own perspective | Inas Abbad Alessa, Susan Hussien | | 2023 | 82 | -Analytical descriptive method using papers, and journals. -Questionnaire administered to East Jerusalem school teachers. | - Teachers prefer modern teaching methods for engagement and critical thinking. - Training and resources are crucial for effective implementation. | Research Gate |
| 4. | Traditional method of teaching vs modern method of teaching -a comparative | Salma Begum | India | 2017 | 114 | -Students were split into Smartclass and traditional teaching groups for comparison. -Surveys gather feedback on Smartclass effectiveness | - Smartclass improved student performance compared to traditional | Revista.com |

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| | analysis at Bangalore Private Schools | | | | | from students and teachers. | teaching. - Students and parents were happy with Smartclass. | |
| 5. | Comparison of Impact of Traditional and Modern Teaching Methods on students' performance at Elementary School Level | Obaid Ullah, Mohammad Iqbal | Pakistan | 2020 | 50 | -Researcher watched how teachers taught using the WW method and tested students to see how well they understood the lessons. | Using the WW teaching method helped students understand science concepts better, leading to higher scores. | Global Regional Review |
| 6. | Modern teaching vs Traditional teaching – Albanian Teachers Between Challenges and Choices | Valbona Balliu | India | 2017 | 60 | -Aimed to evaluate effectiveness and usage of traditional vs modern teaching methods. -Observed teaching methods in six Elbasan schools and surveyed teachers | -There is a gap between planned and implemented teaching methods. - Teachers desire more freedom and training in modern teaching | European Journal of Multidisciplinary Studies |

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| | | | | | | | method s. | |
| 7. | Tension between Traditional and Modern teaching | Geto Aknaw Belihu | Canada | 2010 | 88 | <p>-Surveys and observations gathered insights into current practices and challenges.</p> <p>-Descriptive surveys used to assess teaching methods and obstacles to innovation in Ethiopian primary schools.</p> | <p>Ethiopian primary schools mainly use traditional lecture methods, despite policy emphasis on innovation.</p> <p>-Challenges include cultural norms, lack of resources, teacher expertise, and suitable curriculum materials.</p> | CICE Hiroshima University, Journal of International Cooperation in Education |
| 8. | Traditional and Modern Teaching analysis | T. Thenkumari, S Sudha | India | 2019 | 43 | <p>-This involved number of teachers and students from different grades.</p> <p>-Using numbers and opinions, they got better picture of works better in teaching.</p> | <p>-The study says that using modern methods compared to traditional ones, performance of students is better.</p> <p>-Teacher using method</p> | Infinite learn. com |

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| | | | | | | | s that focus on student's needs and participation, which makes students ' higher score. | |
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OBJECTIVES

- Understanding which teaching method, people prefer the most in recent times.
- Examining whether the Traditional teaching method or the Modern teaching method is useful for betterment for students.
- Determine the respective roles of students and educators in traditional and modern instructional methods.
- Investigate student inclinations towards Traditional versus Modern teaching techniques.

RESEARCH METHODOLOGY

The study aims to address the important gaps in understanding the relationship between traditional and modern teaching methods, teacher-student interactions, and student learning methods.

Primary data has been collected through a survey to investigate the impact of different teaching approaches on student learning outcomes.

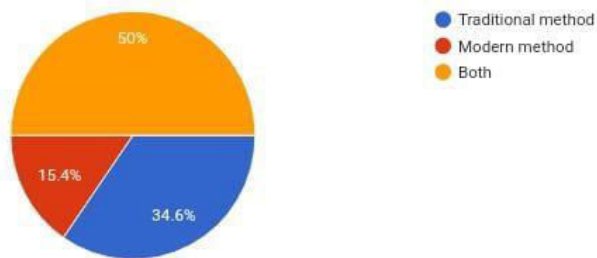
Research data has been collected based on the basis of research work and a study of past research paper has been done.

- **Sample size-** 52 respondents
- **Target population** – Student of SIES College Of Commerce and Economics
- **Type of sampling** - Convenience Sampling
- **Sample Survey Area** – Mumbai city
- **Type of research** -Descriptive Research

DATA ANALYSIS

Which educational method do you feel most familiar with or have spent the most time in ?

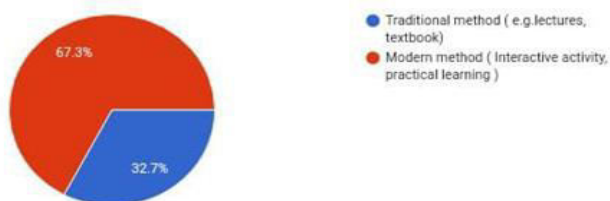
52 responses



In this 50% of students have spent most time in both the methods i.e. traditional and modern. It means that they have balanced exposure to both.

Which teaching method do you prefer for learning new things ?

52 responses



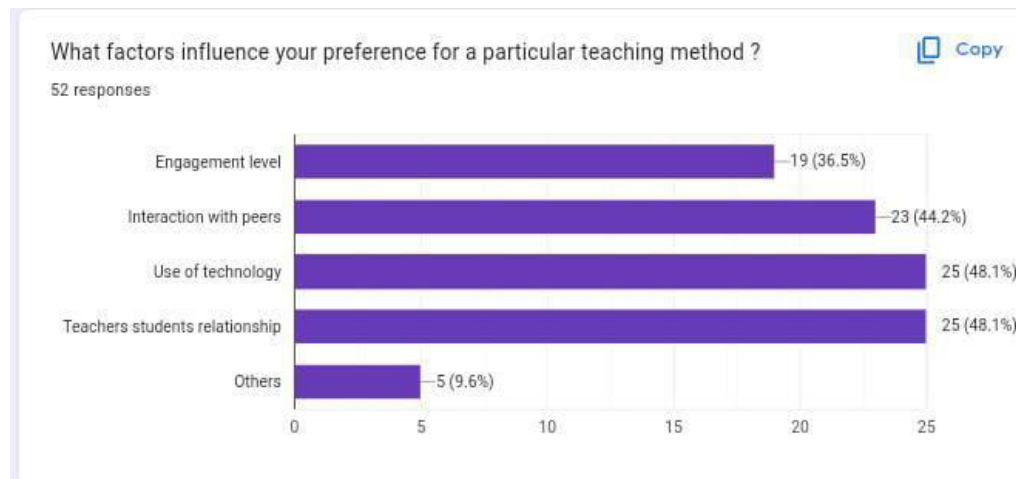
Do you believe that technology enhanced teaching methods positively impact your learning experience?

52 responses

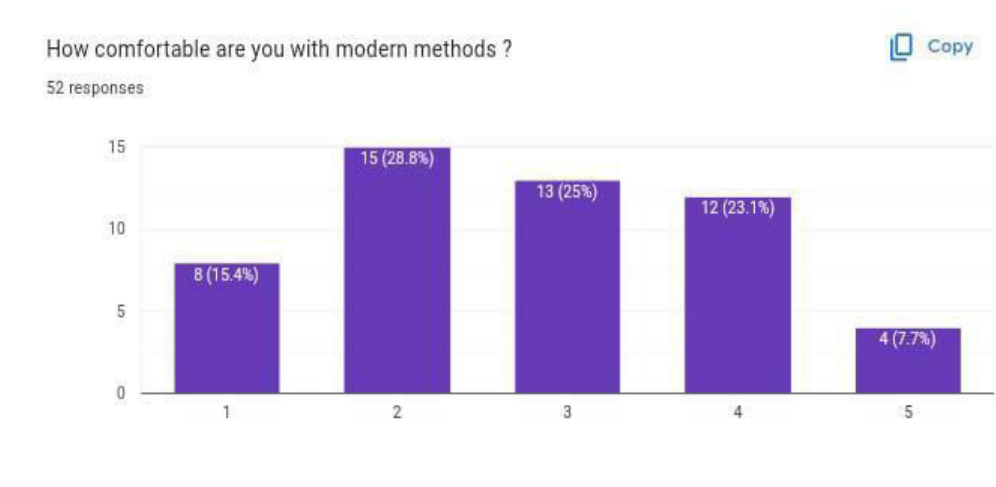


In this we come to know that majority of students prefer Modern method, as it helps to understand the concepts in a systematic manner. Yes the effectiveness depends on how well the technology enhance, come together in the teaching process and the needs of

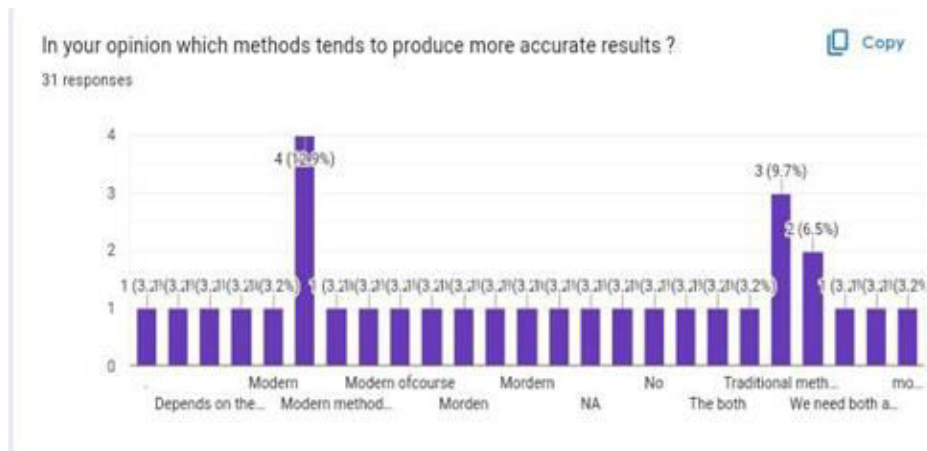
learner. The majority people believe that technology enhance teaching methods positively impact our learning experience



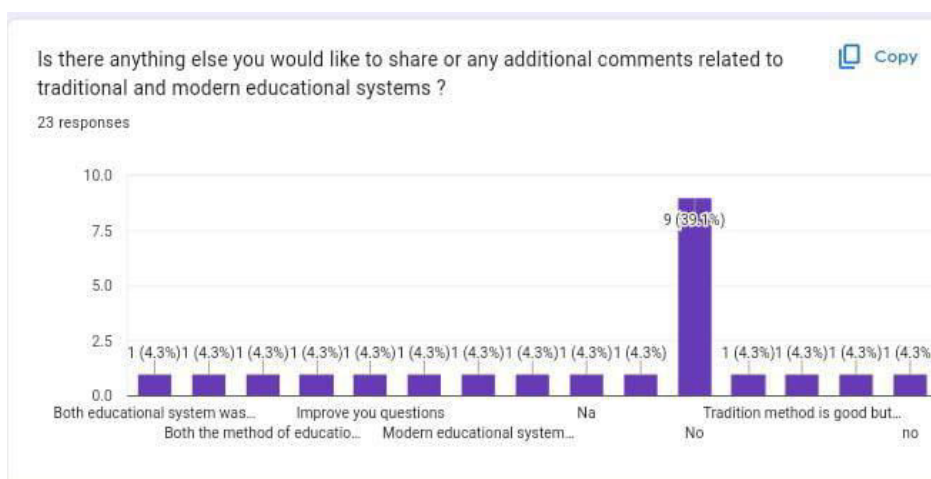
In this many students preference are ,Use of technology Teachers students relationship
Students mostly prefer the technology to learn



Most of them are very comfortable with modern methods as it gives practical knowledge and problem-solving skills



Most of the results have the great impact towards modern methods uses technology & tools, as it gives accurate result. And it helps to identify the mistakes & errors and give all the possible way to make changes.



Both education system was important in this generation for study purpose. Tradition method is good but for our generation modern method is more effective, which makes us confident to speak in crowd. And it has greater number of percentages.

CONCLUSION

In conclusion, our research overwhelmingly supports the adoption of modern teaching methods over traditional approaches. Modern teaching methods have demonstrated numerous advantages in promoting student engagement, critical thinking, and practical skill development.

Compared to traditional teaching methods, modern approaches prioritize active learning, student-centred instruction, and the integration of technology, resulting in more dynamic and interactive classrooms. These methods foster a deeper

understanding of concepts, encourage creativity and innovation, and better prepare students for success in the 21st century.

Moreover, modern teaching methods promote inclusivity and equity in education by catering to diverse learning styles and providing personalized support to all students. By leveraging technology and innovative pedagogical techniques, educators can create inclusive learning environments where every student has the opportunity to thrive.

Overall, our findings underscore the importance of embracing modern teaching methods to meet the evolving needs of students and prepare them for the challenges and opportunities of the future. By prioritizing innovation, creativity, and student-centred learning, we can empower the next generation with the skills and knowledge they need to succeed in an ever-changing world.

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A STUDY ON SCREEN TIME UNCOVERED: THE HIDDEN EFFECTS ON PERFORMANCE AND HEALTH

**Aniket Swaraj, Ayoka Barretto, Kaveri Kodal, Faiza Quraishi and
Ananya Sharma**

SIES College of Commerce and Economics

ABSTRACT

We have seen that with the growth and advancement of technology , the young generation have increased their screen time ,no matter for what they use, it certainly has ill effects which creates sedentary behavior in them.

This is not only the matter of concern for young generation but also for adults crossing their age of 30. Mostly students use the screen for gaining knowledge however, it has adversely affected mental and physical health. This research explains how the screen time can affect you and has given the ways to reduce it.

With this research people will burst their myths of the blue light and have an idea as to how can they minimize their screen time and have a cognitive performance .With this research we want to find out that how many people are facing the same health problems of by increasing their screen time.

The screen time has always been an addiction for us just like people can't stay without their cup of coffee in the same manner , they can't stay without the screen .

This has adversely affected their health in many forms. There should be a proper guidance given to the people regarding the usage of screen and how to limit it. Since the screen time has many myths that , we can't live without the technology should all be busted as all our grandparents earlier used to survive without it.

Even they wanted some means for gaining knowledge so they used to just enter the library , borrow a book and start reading it. This habit of them has helped them to concentrate more but this screen using has killed the brain as it does not utilize it more carefully. This research will give us the insights for the same.

Keywords: *Sedentary behavior, Cognitive performance , health problems, addiction*

INTRODUCTION

“ We may have to exercise discipline to use the controls we have but we are not slaves to these devices unless we allow ourselves to become so. To me, the trick is to put yourself in charge of your screens instead of allowing your screens to be in charge of you. ”

- DR. Edward Hallowell

Technology has its own pros and cons, it provides a lot of plus points as we can make use of it in diverse fields in order to get results. Smartphones , computer , television sets etc. are very beneficial to provide us information regarding various things. It keeps

us updated with the latest trends and it helps to complete the assigned tasks. Having providing us with so many benefits, people use it excessively and land up in trouble.

As they lose the track of the time, and continuously just keep glaring at the screen for so long , which gives a lot of ill effects on their health and their performance level. Here, the health is targeting both the mental as well as physical health. If we stare at the screen continuously then we will start developing mental problems like depression, anxiety , stress etc. We kill the brain capacity to think as we keep glaring at the screen which kills the attention span of the brain and then we lose retention power too. The physical health is impacted as we become obese, we become deprived of sleep.

The performance being talked about here is regarding the students academics and how does the increased use of screen time has affected them.

In this research we will see how the students and adults limit their screen time by using various techniques. We will also check as to how can people use their time productively as they will save a lot of time if they reduce their screen time significantly.

DEFINING THE PROBLEM

In this Digital era, we need to reduce the rays of the blue light which has shown a lot of harmful effects on health and performance has been linked to lower levels of physical fitness and a lot of mental health problems .

In today's digital age, we need to reduce the blue light rays that have many harmful effects. On health and performance. It has been linked to lower physical fitness and many mental health problems. The young generation who spend more time in front of screens have higher obesity rates than those who spend less time in front of screens. This lowers their self-esteem and self-esteem. Higher screen time was associated with lower academic performance because they cannot focus on learning and waste time only on screens.

LITERATURE REVIEW

| Serial no. | Journal name | Name of author | Country | Year | Key finding | Source |
|------------|---|---|-----------|------|---|----------|
| 1. | Psychological impact of screen time and green time for children and adolescents | Tassia k Oswald, Alice R. Rumbold, Sophie G , E.kedzior , Vivienne M. moore | Australia | 2020 | To describe the international literature and evidence regarding the impact of Screen time and GREEN time on psychological outcomes in children and adolescents. | plos.org |

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| 2. | Physical activity and screen time of children and adolescents before and during the covid-19 lockdown | Steffen C. E. Schmidt, Bastian Anedda, Alexander Woll | Germany | 2020 | comparing the physical activity and recreational screen time of a representative sample of 4- to 17-year-old before and during the strictest time of the first COVID-19 lockdown in Germany. | nature.com |
| 3. | Technostress from Smartphone Use and Its Impact on University Students' Sleep Quality and Academic Performance | Ni Yao, Qiong Wang | china | 2023 | study examined how smartphone use, especially compulsive use, life invasion, and information overload, cause university students' technostress and, furthermore, how technostress impact their sleep quality and academic performance | springer.com |
| 4. | Examining profiles of U.S. children's screen time and associations with academic skills | Linsah Coulanges, Heather J Bachman, Melissa Libertus, Elizabeth Votruba-Drzal | USA | 2024 | whether the educational content and contextual information about children's Screen time from time diary interviews at age 4 predicted direct assessments | Tandfonline.com |

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| | | | | | of academic skills at age five. | |
| 5. | Screen time impairs the relationship between physical fitness and academic attainment in children | Macarena M. Aguilar Felipe A. Vergara Erikson J.A. Velásquez Raquel Marina Antonio García-Hermoso | Brazil | 2015 | Excessive screen time in children has been linked to lower levels of physical fitness, which in turn can impair academic achievement. This suggests that limiting screen time may be important for promoting both physical health and academic success in children. | scielo.br |
| 6. | The association between excessive screen-time behaviors and insufficient sleep among adolescents | Philip Baiden Savarra K. Tadeo Kersley E. Peters | USA | 2017 | The study highlights a clear link between excessive screen time behaviors and insufficient sleep among adolescents, suggesting that prolonged screen exposure, especially before bedtime, disrupts sleep patterns and contributes to inadequate rest, which may have detrimental effects on their health | sciencedirect.com |

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| | | | | | and daily functioning. | |
| 7. | Screens Steal Time: How Excessive Screen Use Impacts the Lives of Young People | Dr. A. Shaji George A. S. Hovan George Dr. T. Baskar Aakifa Shahul | India | 2023 | Excessive screen use among young people negatively impacts academic performance, social relationships, physical health, and mental well-being, underscoring the need for moderation and balance in screen time habits. | puirp.com |
| 8. | Screen time and mental health in college students: Time in nature as a protective factor | Alexa Deyo , BS, Josh Wallace , BA & Katherine M. Kidwell | America | 2021 | xcessive screen time harms college students' mental health, but spending time in nature can protect against its negative effects, highlighting the importance of outdoor activities for promoting well-being. | tandfonline.com |

OBJECTIVES

1. To understand the harmful effects of using blue light excessively.
2. To see how much sleep time did people gain after reducing their screen time.
3. To check how people eventually reduce their screen time.
4. To see if students can actually increase their academic performance by eliminating one major cause.
5. To see how people increase their overall health by giving up on their screen time.

RESEARCH METHODOLOGY

The study aims to address critical gaps in understanding the dynamics between the screen time, health and performance level.

Primary data has been collected based on taking a public survey, to understand the harmful effects on health and performance of a student in his academics.

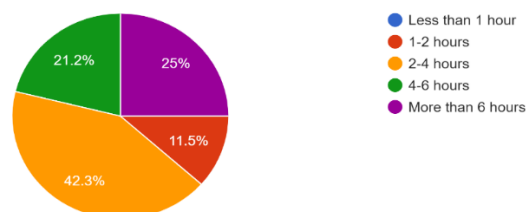
Secondary data has been collected based on research work and a study of past research papers has been done.

- **Sample size** – 52 respondents
- **Target population** – Young generation to adults (**Age Group :15 or less -above 30**)
- **Type of sampling** – Cluster Sampling
- **Sample survey area** – Mumbai city
- **Type of research** - Descriptive Research

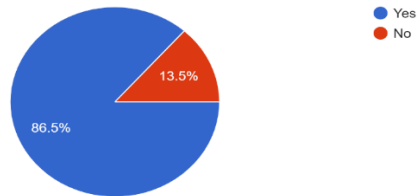
DATA ANALYSIS AND FINDINGS/RESULTS

1. Out of 52 respondents, 42.3% of them spend 2-4 hours per day on screen , followed by 25 % who spend more than 6 hours ,21.2% 4-6 hours and 11.5% spend 1-2 hours.
2. 86.5% of them have experienced physical discomfort due to excessive screen timing.
3. 73.1% of them have experienced disruptions in their sleep pattern.
4. 90.4% of them have tried to minimize their screen time by using various apps and tools.
5. 75% of them feel that their excessive screen time has affected your ability to concentrate during academic tasks.
6. 53.8% of them feel that they have noticed negative effects on their grades and academic achievements as a result of excessive screen time.

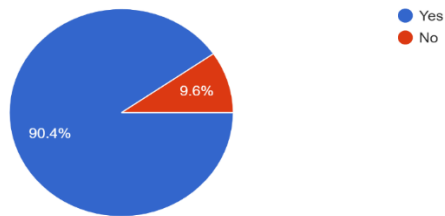
On average, how many hours per day do you spend using screens (e.g., smartphones, computers, TVs)?
52 responses



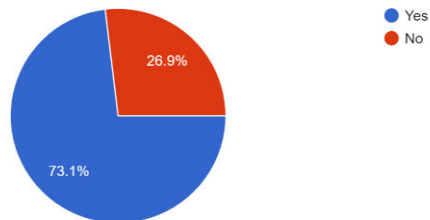
Have you experienced any physical discomfort (e.g., eyestrain, headaches) due to excessive screen use?
52 responses



Do you actively try to limit your screen time?
52 responses

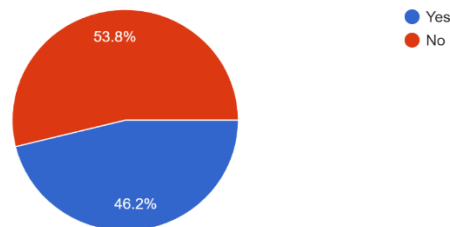


Have you noticed any disruptions in your sleep patterns as a result of screen time?
52 responses



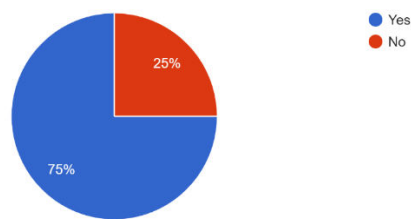
Have you noticed any negative effects on your grades or academic achievements as a result of excessive screen time?

52 responses



Do you feel that excessive screen time has affected your ability to concentrate during academic tasks (e.g., studying, taking exams)?

52 responses



CONCLUSION

Throughout this extensive research we have found that by reducing the screen time the students as well as adults have gained multiple advantages right from their sleep patterns to rise in their academic grades and over all a healthy lifestyle.

We could see that when people started using the tools to reduce the screen time they had a sound sleep pattern. They were very energetic and remained active throughout the day. We should reduce the screen time which gives us harmful effects. If we follow it rigidly then there won't be frequent headaches and eyestrains which are being experienced nowadays so frequently by the young generation. Majority of the respondents were the younger generation who complained of eye strains and downfall in their scores of academic performance.

However, by giving up on their screen time and replacing it by other activities like playing outdoors, reading a book etc. have helped them a lot as they not only are away from the harmful blue light but also saving their time and using it productively in some useful thing.

It increases their retention and concentration part which was been lost as they work double the times and make use of their brain . This increases their brain working power and enhance their knowledge.

Since there are so many advantages on reducing or rather giving up on screen time , so we should follow it and reduce the screen time .

We conclude the research with a quote:

“The less devices you have to charge, the more charge you have for your mind.”
— **Abhijit Naskar**

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A STUDY ON IMPACT OF ACCESS TO EDUCATION ON ECONOMIC DEVELOPMENT

Aniket Swaraj, Sawant Gautami and Ganesh Gayatri
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

Access to quality education plays a pivotal role in driving economic development by empowering individuals with the knowledge, skills, and capabilities necessary to succeed in the modern workforce. This paper examines the multifaceted impact of education on economic development, exploring how investments in education contribute to long-term prosperity at both the individual and societal levels.

Quality education equips individuals with the critical thinking, problem-solving, and technical skills needed to adapt to a rapidly changing global economy. By enhancing human capital, education increases productivity levels, stimulates innovation, and fosters entrepreneurship, thereby fueling economic growth and competitiveness. Moreover, educated individuals are more likely to secure higher-paying jobs, leading to increased income levels and reduced poverty rates.

Beyond its direct economic benefits, education serves as a catalyst for social mobility and equitable development. By providing equal opportunities for learning and skill development, education helps bridge socio-economic disparities and promotes inclusive growth. Additionally, educated populations are better equipped to participate in democratic processes, advocate for their rights, and contribute to social cohesion and stability.

However, despite its transformative potential, access to quality education remains unevenly distributed, particularly in marginalized communities and developing regions. Addressing barriers to education, such as inadequate infrastructure, teacher shortages, and socio-economic inequalities, is essential to harnessing the full economic potential of education.

Keywords: *Quality, education, economy, access, development*

INTRODUCTION

Education is widely recognized as a fundamental driver of economic development, playing a pivotal role in shaping the growth trajectory of nations and fostering human prosperity. Access to quality education not only empowers individuals to realize their full potential but also serves as a catalyst for sustainable economic progress. This research paper aims to explore the intricate relationship between access to quality education and economic development, examining the various mechanisms through which investments in education contribute to broader socio-economic advancement.

Quality education encompasses more than just the acquisition of basic literacy and numeracy skills; it encompasses the development of critical thinking, problem-solving abilities, and adaptability to a rapidly changing global landscape. As economies evolve

towards knowledge-based industries, the demand for skilled workers continues to rise, emphasizing the importance of education in equipping individuals with the competencies necessary to thrive in the modern workforce.

Moreover, education acts as a primary driver of innovation and technological advancement, fostering an environment conducive to entrepreneurship and economic diversification. Educated individuals are more likely to engage in research and development activities, leading to breakthrough discoveries and advancements that drive productivity gains and stimulate economic growth.

At the macroeconomic level, investments in education yield substantial returns in the form of increased labour productivity, higher incomes, and poverty reduction. Educated populations are better positioned to secure higher-paying jobs, leading to greater purchasing power and consumer spending, which, in turn, fuels aggregate demand and stimulates economic activity.

Furthermore, access to quality education promotes social mobility and reduces inequalities, laying the foundation for inclusive growth and shared prosperity. By providing equal opportunities for learning and skill development, education helps break the cycle of poverty and empowers marginalized communities to participate more fully in the economic mainstream.

Despite the undeniable benefits of education, significant disparities persist in access to quality education, particularly in developing countries and underserved communities. Addressing these disparities requires a concerted effort from policymakers to invest in education infrastructure, improve teacher quality, and implement inclusive education policies that prioritize the needs of marginalized populations.

In light of these considerations, this research paper seeks to analyse the impact of access to quality education on economic development, examining both the opportunities and challenges associated with realizing education's full potential as a driver of prosperity and progress. By elucidating the complex interplay between education and economic development, this paper aims to inform policy discussions and initiatives aimed at fostering inclusive and sustainable growth through investments in education.

LITERATURE REVIEW

| Sr no | Name of the journal | Name of the author | Country | Year | Sample size | Methodology | Key finding | Sources |
|-------|---|---|--------------------------|------|-------------|--|---|---|
| 1. | The casual impact of education on economic growth | Aghion, P.Bous tan L,Hox byC,& Vandennebusche, J. | United States of America | 2009 | 1248 | data is collected from American states such data allow us to measure education investments accurately. | found support for the hypothesis that some investments in education | American Economic review, Harvard university. |

| | | | | | | | | |
|----|--|-------------------|-------|------|-----|---|--|--|
| | | | | | | | n raise growth. | |
| 2. | Influence of Teacher Efficacy on Transformative Quality in Private Higher Educational Institutions | Gill, Seerat Kaur | India | 2021 | 670 | a quantitative methodology is employed . Research Objective 1 directs attention towards the need for redefining quality as Transformative Quality structural equation modelling is used for investigating impact of teacher efficacy on transformative quality. | The results indicate that instructional engagement of faculty can be low because of their perceptions of students ' in these private-unaided institutions being academically under-prepared. In such a scenario , faculty might not put in efforts to cultivate and enhance critical thinking skills and confidence amongst their students , thus lowering the Transformative Quality of the HEI | Thapar Institute of Engineering and Technology |

| | | | | | | | | |
|----|--|---------------------|-------|------|-----|--|--|------------------------------|
| 3. | Total quality management in institutions of higher education | Solanki, Lonu Singh | India | 2010 | 300 | For the purpose of empirical research, exploratory as well as descriptive research design is adopted. Besides observation and discussions the questionnaires comprising of 10 sections are applied for collecting facts. On these 10 sections responses are generated. There are 64 items as areas included in the questionnaire. The collected data have been analyzed in two ways; 1. Percentage Analysis, and 2. Weighted Average Analysis. | The study thus concludes that the topmost point in TQM in higher education is 'training' followed by 'research based publication' and the other priorities include, promotion of research, students activities, top management commitment and implementation. The policy implications and policy interventions are necessary to improve TQM level in institutions of higher education. | Devi Ahilya Vishwa vidyalaya |
| 4. | Access affordability equity and availability | Naveen Neeraja, | India | 2017 | 390 | The investigator followed the survey method of the descriptive | The heads of the government schools | Andhra University |

| | | | | | | | | |
|----|--|---|--------|------|-----|--|--|-----------------------------|
| | ity of resource s for quality improve ment of seconda ry educatio n a compara tive study | Gunup udi | | | | research For this investigation, the questionnaire had been considered as a suitable tool for the collection of data. | should provide proper guidanc e and counseli ng services to the students Govern ment should provide Supple mentary reading material in all subject areas | |
| 5. | How Does Educati on Quality Affect Econom ic Growth ? | Gocze k L ,Witko wska E, & Witko wski B | Poland | 2021 | 638 | Lucas model,theoritic al model,Model has been discussed and estimated frequently in the economic growth literature. followed the mainstream literature and applied the common Blundell and Bond estimator | the results are in line with earlier claims by the cited authors, it provides stronger evidenc e for the relevanc e of the quality of educatio n as it is statistic ally more robust,a nd the properti es of the applied estimato r are generall y better. As a result, applicin g the | Universi ty of Warsaw |

| | | | | | | | | |
|----|---|-----------------------|-------|------|-----|---|--|------------------------------|
| | | | | | | | alternative technique should be viewed as an important value-add of this research | |
| 6. | Need for service quality in Indian management education | Begum , Syeda Ameen a | India | 2019 | 749 | <p>The study is based on a survey of Management Faculty and final year students through a structured Questionnaire</p> <p>The respondents perceptions are measured through Likert scale on a five point basis namely- Strongly, Disagree, Neutral, Agree, Strongly Agree on SERVQUAL model RATER (Reliability, Assurance, Tangibility, Empathy and Responsiveness dimensions)</p> | <p>it is concluded that SERVQUAL MODEL can be applied in Management education. It is concluded that there is a dire need of change in the Indian Management Education. Students & Faculties are the real sufferers as their total career depends on Management education which is very substandard in quality at the</p> | Acharya Nagarjuna University |

| | | | | | | | | |
|----|---|-----------------|-------|------|-----|---|--|--|
| | | | | | | | global level | |
| 7. | Quality of Higher Education Service and its Impact on Students Perceived Value Satisfaction and Loyalty An Empirical Study of Universities of Uttarakhand | Malaviya Sanjee | India | 2020 | 539 | primary data is collected from the students studying in the Universities in the state of Uttarakhand 1. Cross Sectional Design is chosen based on descriptive methodology while trying to achieve the objectives of present study To identify the potential problems in the instrument a pilot testing has been conducted on 110 respondents The questionnaire was tested for its reliability and consistency using Cronbach's alpha statistics | The present research reveals that there is a strong impact of Career Opportunities ,Interactions and quality on students overall experience and significantly influences their loyalty towards the University. The perceived quality components have direct influence on Student Loyalty. perceived service quality impact student satisfaction indirectly through Students Perceived Value. | ICFAI University, Dehradun Uttarakhand |

| | | | | | | | | |
|----|--|--------------|-------|------|-----|--|---|---------------------|
| 8. | Educational and economic development in Nagaland_a comparative study of Kohima and Mon districts | Mathew, Saju | India | 2021 | 300 | This study is based on primary and secondary data. The primary data was collected through questionnaire sent to respondents and secondary data was collected from published and unpublished source. Multistage stratified random sampling techniques were used for data collection | it was observed that the years of education and the nature of education had a positive impact on employment and income of the people and it contributes to the development of the nation. | Nagaland University |
|----|--|--------------|-------|------|-----|--|---|---------------------|

OBJECTIVE

1. Investigate the relationship between access to quality education and economic development.
2. Identify barriers to accessing quality education, such as inadequate infrastructure, teacher shortages, socio-economic inequalities, and gender disparities.
3. Provide recommendations to policymakers, educators, and practitioners on strategies for enhancing access to quality education.
4. Investigate the long-term effects of access to quality education on economic development, human capital, economic mobility, and the sustainability of growth over time.

RESEARCH METHODOLOGY

The study aims to address critical gaps in understanding of access to education, quality education and economic development. Primary data has been collected through public survey, with the means of questionnaire to understand the impact of access to quality education on economic development.

Secondary data has been collected through the past published research papers and articles.

- Sample size- 100 respondents

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- Target population- current students and past students from Maharashtra state
 - Type of sampling -Cluster sampling
 - Sample survey area-Maharashtra
 - Type of research-Descriptive research
 - Improved teacher training and recruitment of skilled teachers

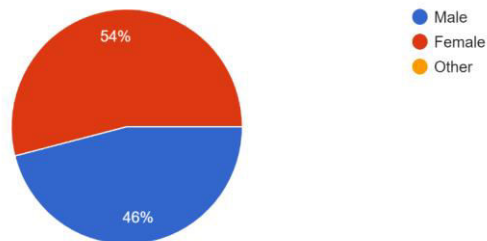
DATA ANALYSIS/RESULT

Data was collected through google forms and 100 responses were collected, from the survey following data was found-

- Out of total 100 respondents, 54% were female and 46% were male
- 61% of the total sample population were in age group 18-25,18% were of age group 25-35, 12% belonged to age group 35 and above , remaining 9% were below 18years of age.
- Among 100 respondents surveyed, the distribution comprised 63 students, 20 individuals employed, 11 unemployed participants, and the remaining 6 retirees.
- According to the survey majority of respondents had access to education while 15 respondents did not had access to quality education.
- Majority of respondents found the quality of education to be good ,followed by respondents who found quality of education to be excellent
- According to the survey , one of the primary barrier to accessing quality education was high cost of education , followed by poor quality of teaching,distance to educational institutions and lack of schools
- As per the statistics of the survey majority of respondents perceived that economic development is slowly improving.
- Out of total 100 respondents 70% found education as important factor in driving economic growth ,this implies that improved and quality education aids economic development
- 60% respondents agreed that there exists a relation between education levels and economic prosperity, remaining 14% responded negatively and 26% were unsure
- 55% of the respondents believe that individuals with higher level of education generally have better employment opportunities
- Out of total respondents 62% have experienced difference in income based on level of education,19% responded with no, remaining respondents were unsure.
- 67% of respondents have agreed that government should prioritize investment in education for economic development, while 27% were neutral and remaining 6% disagreed with above statement

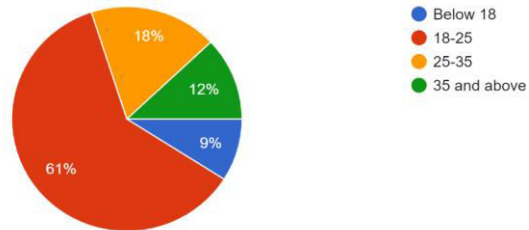
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- According to the survey 40 respondents agree that access to quality education has influenced economic opportunities , 33 respondents strongly agree ,20 responded as neutral,3 respondents disagree while 4 respondents have expressed strong disagreement with above statement. Respondents have suggested the following policies/initiatives that would improve access to quality education-
 - Use of technology to improve quality of education
 - Reduce cost of education
 - Free education
 - Health environment and infrastructure facility
 - Establish good Quality schools in rural areas
 - Teacher training programmes
 - Promotion of education of girl child
 - Emphasis on teaching skills to students
 - Compulsory schooling for each child till standard eight
 - Improved education policies
 - Emphasis on mental health of students

Gender
100 responses



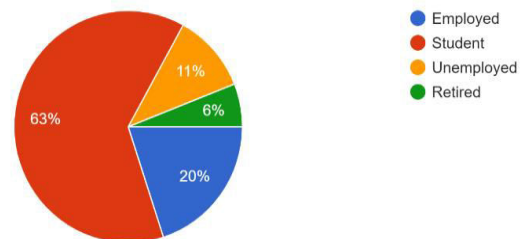
Age

100 responses



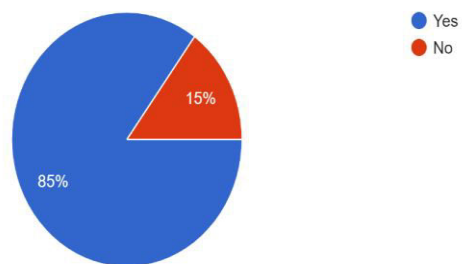
Employment status

100 responses



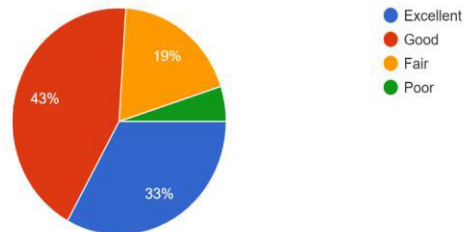
Do you have/had access to quality education in your locality?

100 responses



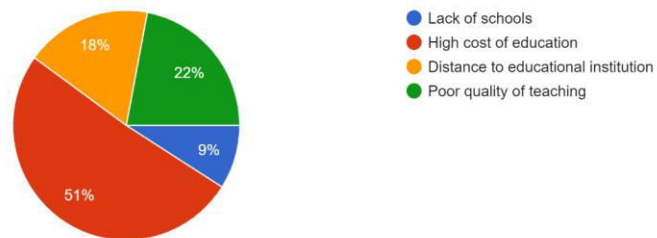
If yes, how would you rate the quality of education available?

100 responses



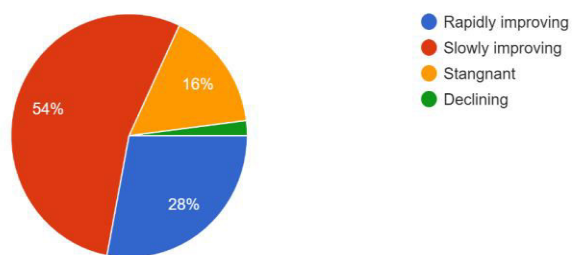
If no, what are the primary barriers to accessing quality education?

100 responses

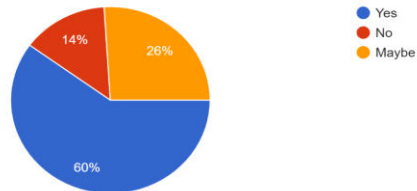


How do you perceive economic development in your community?

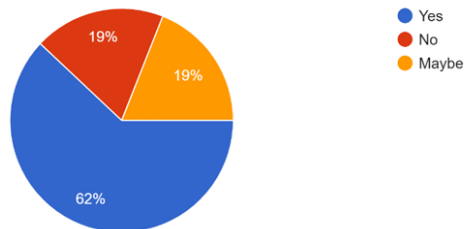
100 responses



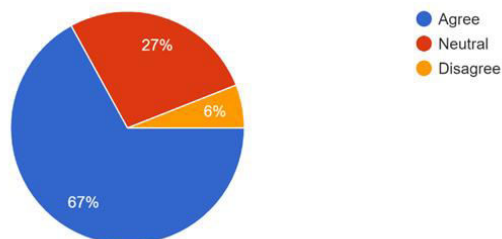
Have you observed any correlation between education levels and economic prosperity in your community?
100 responses



Have you experienced a difference in income based on your level of education?
100 responses

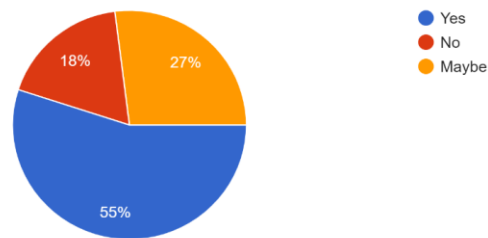


Do you think governments should prioritize investment in education for economic development?
100 responses



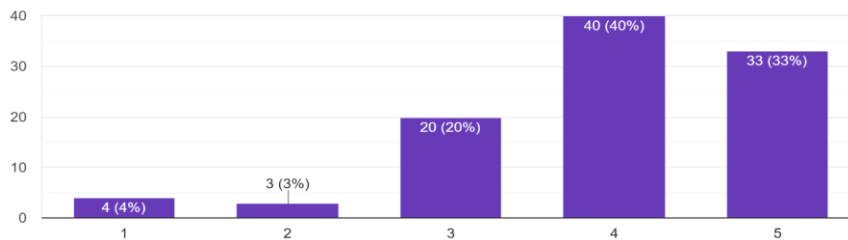
Do you believe that individuals with higher levels of education generally have better employment opportunities?

100 responses



On a scale of 1 to 5 How has access to quality education influenced your own economic opportunities?

100 responses



CONCLUSION

The research underscores the critical importance of access to quality education in driving economic development and prosperity. Addressing barriers to education and implementing evidence-based policies and initiatives are essential steps toward ensuring inclusive and sustainable growth. This study provides insightful observations regarding the relationship between access to quality education and its influence on economic development. Analyzing responses from a diverse sample, we unearthed persistent challenges despite advancements in educational accessibility. Issues such as the high cost of education and concerns over teaching quality remain barriers to equitable access, necessitating targeted interventions to enhance affordability and standards. Moreover, the research highlights the unanimous acknowledgment among respondents of education's pivotal role in driving economic growth. Education emerges as a transformative force, enabling personal advancement, expanding employment opportunities, and elevating income prospects. The study also emphasizes the imperative of governmental prioritization and investment in education. A significant portion of respondents advocate for policies aimed at enhancing educational infrastructure, refining teacher training programs, and ensuring financial accessibility. This consensus underscores the crucial role of state intervention in fostering

educational advancement. Furthermore, respondents' policy recommendations reflect a holistic approach to addressing educational challenges. Suggestions encompass leveraging technology, reducing financial burdens, promoting free education, and bolstering infrastructure. These proposals underscore the multifaceted strategies required to surmount barriers to quality education effectively. In conclusion, this research underscores the indispensable role of education as a catalyst for economic development. By addressing barriers and implementing evidence-based policies, societies can foster inclusive growth, empower individuals, and cultivate resilient economies prepared to confront future challenges.

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STUDY ON FAST FASHION AND SLOW FASHION & IT'S IMPACT ON ENVIRONMENT

Aniket Swaraj, Sanketh Kumar Gadilingappa Kuruba

SIES College of Commerce and Economics (Autonomous)

ABSTRACT

In this modern era of fast changing clothing style, it is important to maintain sustainability. Spending a lot on the clothing and then discarding the costly clothes would be a waste of resources including materials, labour, and other resources. Another advantage is the resources can be utilised to the maximum leading to a positive impact on the environment, making it a sustainable planet. Therefore, slow fashion brands need to be promoted but on the other hand with the fast-moving fashion comes its own advantages. The major impact of the fast fashion brands falls on the economic growth of the country.

Keywords: Environment, fast fashion, sustainability, youth, slow fashion, resources, economy, analysis, consumer behaviour, initiative, price, trendiness, brand reputation

OBJECTIVES

1. To Examine The Evolution Of Fast Fashion & It's Impact On Consumer Behavior And Industry Practices.
2. To Analyse The Impact Of Fast Fashion And Slow Fashion On Environment.
3. To Study The Impact Of Fast Fashion And Slow Fashion On The Growth Of Economy.
4. To investigate ways in which the government, business, and industry initiatives may lessen the harm that fast fashion causes to the environment and promote environmentally friendly practices in the fashion sector.

INTRODUCTION

Fashion being an important factor in the presentation of one self's presentation. It is considered is an art form that allows individuals use to express themselves through clothing and accessories. Fashion is a constantly evolving industry that is influenced by cultural, social, and economic factor. People use dressing and accessories as a mode to convey to the world how up-to-date they are. Fashion is a general term which mainly focuses on clothing but can also applied to any way of behaving, writing, or performing. Youth being the fashion leaders, have a big task to stay up with the changing trends and fashion as it causes peer pressure on them. Also, in a country like India which is full of traditions, culture and rich heritage the cultural upbringing and society play a major role in deciding the clothing and the fashion flowing in the country. Fashion can have a great impact on the self confidence of an individual and therefore it should be promoted. Fashion being an emerging sector in India is influencing the economy of India to a great extent. Western fashion coming into India, has given more options for Indian consumers. Along with the fashion, comes the

concept of fast fashion and slow fashion which is also derived from the western countries.

Fast fashion

Fast fashion is the term used to describe clothing designs that move quickly from the catwalk to stores to take advantage of trends. The collections are often based on styles presented at fashion week runway shows or worn by celebrities. It allows mainstream consumers to purchase the hot new look or the next big thing at an affordable price. India is a country where Bollywood industry is one of the major industries. It has a high influence on the clothing styles of the Indians since ages and it happens to be the same situation even today. Bollywood contribution towards to the fast-moving fashion is of major consideration. With the upcoming social media platforms as well, the youth is forced to move towards fast moving fashion as repetitive clothing has become a sign of disgrace of them. Fast fashion became common because of cheaper, speedier manufacturing and shipping methods, an increase in consumers' appetite for up-to-date styles and the increase in consumer purchasing power to indulger these instant gratification desires. Fast fashion also helps the country to become economically strong.

Slow fashion

Slow fashion being the completely opposite of the fast fashion can be called as the traditional fashion or the sustainable fashion which has been into existence in our country for years. Clothing essentially is considered to be the basic need of human but with the increasing purchasing power of the citizens it is no more just a basic need. To make a single thread it takes a long procedure also a lot of resources and efforts. Slow moving fashion is helpful to the environment. In layman's term slow fashion is the continuation of sustainable fashion. It is directly concerned with ethical issues in the fashion industry. With the increasing awareness of environmental issues slow fashion has been given more importance. The actual origin of the term is dated back in 2007 which happened by accident. It led to a wave of change across the fashion industry in the last decade or two.

Need of the study

Making the planet a better place for the future generation is our responsibility and for that we need to optimize the use of the available resources. Fashion being an important aspect of the environment needs to be sustainable. Youth being the fashion leaders of the country have a significant impact on the industry. Therefore, their preference & thinking are vital enough. It is also important to spread awareness about the rising trend of fast-moving fashion as many people follow it but are least aware of the actual term. The financial condition of individuals, the environmental knowledge and the sense of responsibility towards the society among the consumers all contribute towards their decision while purchasing. Understanding consumer behaviour is significant. Unintentionally how the youth is driven towards fast fashion has to be brought into the attention of the people.

RESEARCH METHODOLOGY

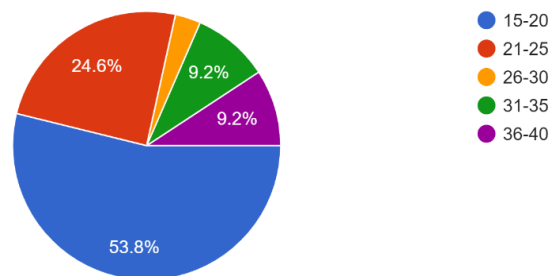
For conducting any research, two options are available namely, Primary Method & Secondary Method. Primary Methodology is the most trusted, as well as old method for conducting research. In this method raw or organic data is given more importance. By preparing a questionnaire for the target audience or the sample size the responses are collected from them and based on it the conclusions are drawn. On the other hand, conducting secondary research is much easier as already conducted researches are used for drawing conclusions. For this Research Project, Primary Methodology has been adopted making the drawn conclusions more relevant and authentic. A sample size of 65 has been concentrated on.

DATA ANALYSIS

1.Age Group

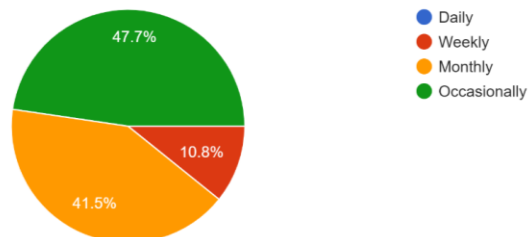
Fashion has no age hence sample size included ranges from teens to people in their 40s. The trend setters or the fashion forefronts are of course the teens and so the responses collected by them contribute the most.

AGE GROUP
65 responses



2. How often do you purchase clothing items?

How often do you purchase clothing items?
65 responses

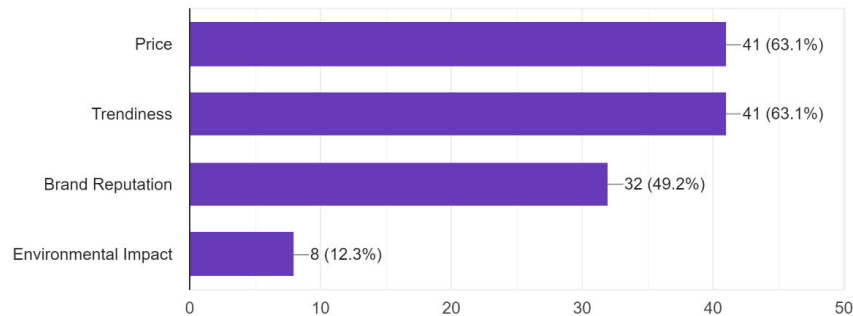


It is clearly seen that no one from the sample buys clothes every day, which is pretty obvious. 40% of the people buy clothes on monthly basis whereas half of the people buy clothes occasionally. It is practically impossible for anyone to buy goods on a daily basis especially for youth since they barely have any source of income.

3. What factors influence your decision to buy clothing?

What factors influence your decision to buy clothing?

65 responses

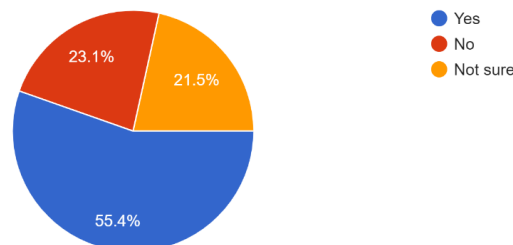


When it comes to fashion, trendiness is always the prime factor affecting the decision of the consumer. The second influencing factor is the pricing, as India is considered as a price sensitive market. With the growing purchasing power and the cluttered market of brands, people tend to take brands into consideration as well as can be seen in the study. Lastly, people are considerate towards the environmental impact which is a saddening part yet the reality.

4. Have you noticed any changes in your shopping habits due to the availability of fast fashion?

Have you noticed any changes in your shopping habits due to the availability of fast fashion?

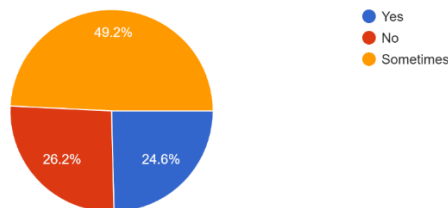
65 responses



Though some people might not be aware of the term 'Fast fashion' still it's impact on the consumer behaviour can be seen as more than half of the people consider it to have an impact on the shopping habits. On the other hand, nearly 24% believes there's no impact. Another approach to it is that fashion is subjective to people and hence around 23% of the people aren't sure about the same.

5. Do you actively seek out environment friendly clothing options (e.g., slow fashion, sustainable brands)?

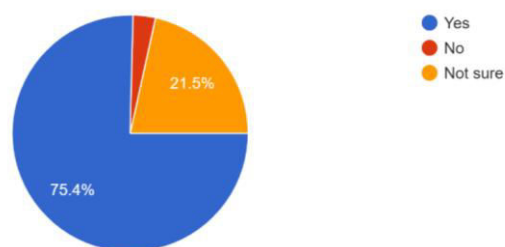
Do you actively seek out environment friendly clothing options (e.g., slow fashion, sustainable brands)?
65 responses



It can be clearly seen that only 24% consider environment friendly options, while the majority only pay attention to it only sometimes. Only 1/4th of the people pays no attention towards the environmental impact. However, it can be expected that there will be a rise seen in the people considering environmental impact in the coming future.

6. Do you think the fast fashion industry has contributed to economic growth?

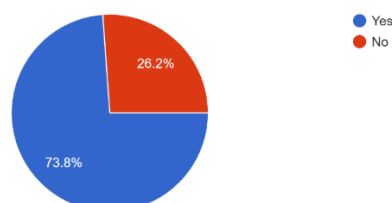
Do you think the fast fashion industry has contributed to economic growth?
65 responses



Fast fashion industry leads to people buying clothes more frequently leading to increase in the spending which ultimately helps government fasten the economic growth of the country. And the pie also shows that majority of our respondents feel the same. Only a negligible portion says there's no contribution. While the remaining aren't sure.

7. Are you willing to pay more for ethically produced clothing items?

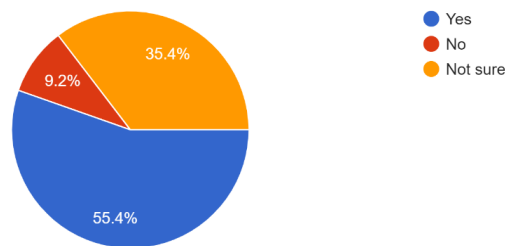
Are you willing to pay more for ethically produced clothing items?
65 responses



It is very pleasing to see that nearly 2/3rd of the population does consider ethical procedures for manufacturing more important than the pricing. While the remaining population still considers pricing as an important factor while purchasing.

8. Do you believe slow fashion can have a positive impact on local economies?

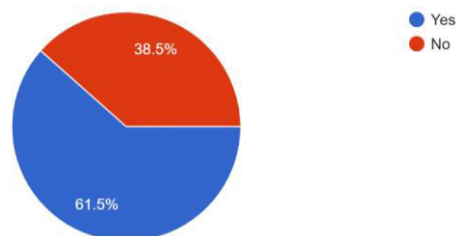
Do you believe slow fashion can have a positive impact on local economies?
65 responses



As can be seen in the graph more than half of the population believe there's positive impact on local economies. Whereas about 10% aren't sure about the impact. The remaining chunk believes to have no impact or may be negative impact.

9. Are you aware of any industry initiatives aimed at promoting sustainability in the fashion sector?

Are you aware of any industry initiatives aimed at promoting sustainability in the fashion sector?
65 responses

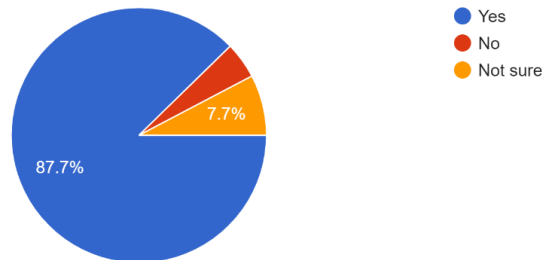


Sustainability in this awareness driven age is of great importance and hence fashion industry too takes initiatives for promotion of sustainability. These initiatives are not hidden by majority of the people as can be clearly seen in the pie.

10. Do you think consumers have the power to influence the fashion industry's environmental practices?

Do you think consumers have the power to influence the fashion industry's environmental practices?

65 responses

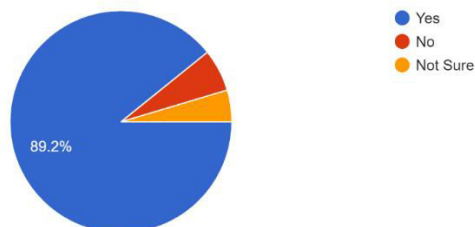


Consumer is the king as said always, definitely has the power to influence any industry's environmental practices can be concluded as more than 80% of the people believe it. About 8% are unaware and unsure. While the remaining feel consumers can't influence.

11. Would you like to see more transparency from fashion brands regarding their production processes and environmental impact?

Would you like to see more transparency from fashion brands regarding their production processes and environmental impact?

65 responses



Transparency is an attractive marketing tool for any brand and hence can be seen that most of the people demand transparency. For some people only the end products matter and hence a small portion of the population don't ask for the same. While others remain unsure.

CONCLUSION

Fast fashion seems to have a great influence on the trends of fashion followed by the youth. While slow fashion seems to be more attractive to customers since it promotes sustainability. With each of the fashion trends comes it's own advantages and disadvantages. Fast fashion when seen from the positive side, has a positive impact on the economic growth of the country. Also, people with lower income can be benefited as clothes are available at affordable or cheap prices. On the other side, fast fashion can be dangerous of the environment as it can be under utilisation of resources. Slow and steady wins the race always is proven since ages. And in the era where changes have become need of an hour slow fashion still stands strong as it is sustainable.

However fast fashion is a big competition since slow fashion products are not pocket friendly for consumers most of the time. Also, repetitiveness is not what consumers seek these days. But the other side of the coin is that, sustainability is promoted by slow fashion brands. Purpose driven brands are well looked after by the consumers who value environmental impact more than money. Both these types of fashion trends need to be present in the market, as both benefit the citizens in some way.

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TO STUDY THE SCOPE OF JOURNEY THROUGH LOOKING GLASS IN TOURISM: WITH TRAVELER- CENTRIC PERSPECTIVE

Aniket Swaraj, Hiral Chitroda, Sanskruti Khupkar, Priya Kokku
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

This research explores the application of Augmented Reality (AR) and Virtual Reality (VR) technology in the travel industry, focusing on addressing traveler challenges and improving customer experiences. Through a mixed-methods

approach utilizing primary and secondary data, including surveys and literature reviews, the study investigates the potential impact of AR VR solutions on enhancing travel agency services.

Key demographic samples, including students, businesspersons, professionals, employees, homemakers, and neighbors, provide insights into traveler preferences and awareness of AR VR technology. The findings highlight the feasibility and desirability of integrating AR VR technology in the travel and tourism sector, ultimately enhancing customer engagement and satisfaction while driving business growth for travel agencies.

Keywords: *AR VR technology, travel industry, tourism, traveler experiences, customer engagement, travel agency services.*

INTRODUCTION

Augmented reality (AR) and Virtual Reality (VR) technologies, the pioneers of modern times are today utilized in every industry, from communication to the automobile, military, and tourism sectors. Although they were first focused on entertainment, they have now expanded to other industries. The concept of "journey through the looking glass" refers to the immersive experiences offered by AR and VR technologies, enabling travelers to explore destinations virtually before or during their trips. As these technologies continue to advance, understanding their scope in enhancing tourist experiences becomes crucial for the tourism industry.

AR has the capability to overlay digital information onto the physical world can revolutionize navigation, provide context-rich educational content, and overcome

language barriers through real-time translation features. VR allows for immersive planning and exploration, offering virtual tours that provide a sense of presence in distant locations and making travel accessible to those with physical limitations or other barriers to conventional travel. These technologies empower travelers to make informed choices, journey planning, and promise richer, more engaging cultural

experiences that could not only democratize access to travel but also deepen the appreciation of global heritage.

Despite the growing popularity of AR and VR in tourism, there is a lack of comprehensive research focusing on the traveler-centric perspective. Many studies have explored the technical aspects and potential benefits of these technologies, but few have investigated how travelers perceive and interact with AR and VR during their journeys. Thus, there is a need to examine the scope of the "journey through looking glass" from the perspective of travelers to better understand its implications for the tourism industry.

The topic is highly relevant due to the increasing importance of experiential tourism and the rapid advancements in AR and VR technologies. Understanding how travellers engage with these technologies can help tourism stakeholders, including destinations, tour operators, and technology developers, design more immersive and tailored experiences. Additionally, insights gained from this research can inform marketing strategies and destination management practices to meet the evolving needs and preferences of modern travelers.

This research paper delves into the scope of AR and VR in tourism, focusing on the traveler's perspective to understand how these technologies enhance travel experiences. The integration of AR and VR in tourism has evolved from mere novelty to a cornerstone of interactive travel experiences. Studies have shown that these technologies can significantly enhance user engagement and intent, influencing travel behaviour and environmental awareness.

LITERATURE REVIEW

| Sr. | Name of journal | Name of author | Counties | Year | Sample size | Methodology | Research gap |
|-----|---------------------------|-----------------|----------|------|-------------|---|--------------------------------|
| 1 | Smart tourism: antecedent | Manisha Paliwal | India | 2020 | 500 | The use of the Elaboration Likelihood Model | The lack of studies in Tourism |

| | | | | | | | |
|--|----------------------------------|--|--------|------|--|--|---|
| | s to Indian traveller's decision | Nishita Chatradhi Archana Singh Ramkrishna Dikkatwar | Canada | 2020 | | (ELM) as the most suitable model for the study, with all the required variables for analysis identified through a robust literature review. The study conducted quantitative | utilizing the Likelihood model, with no previous studies using the Likelihood Model in India. The study aimed to fill this gap by applying the ELM in the tourism industry in |
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| | | | | | | research through a survey using Likelihood Model scales and included Structural Equation Modelling (SEM) to test the model during the Covid-19 pandemic. | India, particularly during the Covid-19 disruption. |
| 2 | Antecedent | Pankaj | India | 2 | 339 | Involved a | The |
| | s of | Vishwakar | | 0 | | quantitative | outcomes |
| | Adoption of | ma | | 1 | | approach to test | may not be |
| | Virtual | | | 9 | | the hypothesized | generalize |
| | Reality in | Srabanti | | | | model related to | d for other |
| | Experiencing | Mukherjee | | | | virtual reality (VR) | regions |
| | Destination | Biplab | | | | adoption in | outside of |
| | : A Study | Datta | | | | experiencing | India, and |
| | on the | | | | | destinations | future |
| | Indian | | | | | among Indian | research |
| | Consumers | | | | | consumers. | could |
| | | | | | | | consider |
| | | | | | | | users who |
| | | | | | | | do not |
| | | | | | | | have prior |
| | | | | | | | knowledge |
| | | | | | | | of VR. |
| 3 | VR the | RyanYung | Austral | 2 | 216 | Included | The need |
| | world: | | ia | 0 | | within-subjects | for |
| | Experiment | Catheryn | | 2 | | experiments, | substantive |
| | ing with | Khoo- | | 0 | | repeated | theory-bas |
| | emotion | Lattimore | | | | measures ANOVA, | ed VR |
| | and | | | | | post-hoc analysis | research to |
| | presence | Leigh | | | | with Bonferroni | bridge the |

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| | for tourism | EllenPotter | | | | correction, | gaps in |
| | marketi ng | | | | | Pearson | tourism |
| | | | | | | correlation, and | literature, |
| | | | | | | Multiple | particularly |
| | | | | | | Regression | in exploring |
| | | | | | | Analysis. | how VR |
| | | | | | | | affects behavioral intention. |
| 4 | Inovation s in Tourism Industry & Develop me nt Using Augment ed Reality (AR), Virtual Reality (VR). | Pavan Kumar Katkuri Archana Mantri Srilakshmi Anireddy | India | 2 0 1 9 | - | Analyzing scientific and technical aspects of developing mobile AR applications in smart tourism to provide necessary information about destinations and attractions. The study emphasizes the importance of user requirements in developing AR applications to attract tourists and addresses technological limitations in end-user adaptation. | The need for mobile AR application s in smart tourism to address the technologic al limitations in end-user adaptation. This highlights the importance of further research in developing AR application |

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| | | | | | | | experience |
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| 5 | The | Nyoman Sri | Bali , | 2 | 13 | Involved primary | identified in |
| | practices of | Subawa | Indone | 0 | | and secondary | the study is |
| | virtual | | sia | 2 | | data reported | related to |
| | reality | Ni Wayan | | 0 | | narratively. A | the factors |
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| | in the | i | | | | approach was | VRM |
| | tourism | | | | | applied, which | practice in |
| | sector, a | I. Putu | | | | included observing | Bali. |
| | case study | Astawa | | | | the use of the | |
| | of Bali, | | | | | internet in | |
| | Indonesia | Christantius | | | | marketing tourism | |
| | | Dwiatmadja | | | | products. Data | |
| | | | | | | collection | |
| | | Ni Putu | | | | techniques | |
| | | Intan | | | | included in-depth | |
| | | Permatasar | | | | interviews and | |
| | | i | | | | online observations. The informants were selected using purposive sampling based on specific criteria. | |

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|---|--|-----------------------------------|----------------|------|--|---|--|
| 6 | The Augmented Reality Marketing: A Merger of Marketing and Technology in Tourism | Sumesh S. Dadwal Azizul Hassan | United Kingdom | 2015 | 13 people, including marketing travel agents, government officials, tour guides, tourism object managers, souvenir shops, hotel owners, restaurants, travel entrepreneurs, and tourists. | Encompassed primary and secondary data reported narratively. It applied a Netnography approach, which involved observing the use of the internet in marketing tourism products. | To the need for further study on the factors affecting Virtual Reality Marketing (VRM) practice in Bali, particularly in the tourism sector, to strengthen the readiness of tourism elements and infrastructure involved in VRM. |
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|---|---|---|---------|------|----|---|---|
| 7 | Augmented Reality in the travel industry: A perspective on how modern technology can fit consumer's needs in the service industry | Barbara Keller Rainer Schmidt Michael Möhring Christian R. Bayer | Germany | 2015 | 10 | A qualitative research approach, specifically guideline-based personal interviews with 10 students to gather their opinions on traveling and the use of AR in booking holidays. | On the limitations of the small sample size of German young people and the need for broader samples with diverse socio-demographic factors for future research. |
|---|---|---|---------|------|----|---|---|

RESEARCH METHODOLOGY

The study aims to address critical gaps in understanding the dynamics between AR VR technology, travelers behaviors, and travel agency interactions.

Primary data collection involved conducting a public survey to gauge the perception and expectations of tourists regarding the integration of AR VR technology in the travel and tourism industry.

Secondary data was gathered through extensive literature review and analysis of past research studies pertinent to AR VR technology and its applications in the travel sector.

- **Sample size:** 101 respondents
- **Target population:** Tourists including Students, Business persons, Professionals, Employees, Homemakers, Neighbors from Mumbai city
- **Type of sampling:** Simple Random Sampling
- **Sample survey area:** Mumbai city
- **Type of research:** Applied research

OBJECTIVES

1. To investigate the current usage and awareness of AR and VR technologies among travelers in the tourism industry.
2. To explore travelers' perceptions and experiences with AR and VR applications in enhancing their tourism experiences.
3. To identify key factors influencing travelers' adoption and acceptance of AR and VR technologies in tourism.

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-
4. To assess the potential impacts of AR and VR on traveler satisfaction, destination loyalty, and revisit intentions.
 5. To provide recommendations for tourism stakeholders on leveraging AR and VR to enhance the traveler experience and destination competitiveness.

DATA ANALYSIS AND FINDINGS/RESULTS:

Data was collected through google forms and 101 responses were collected. From survey the following data was found

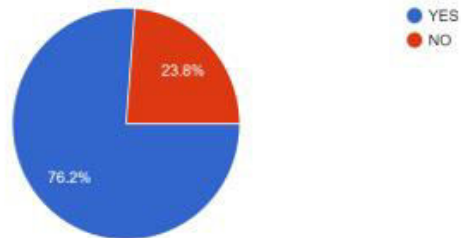
- The survey says that a majority of the respondents have experienced AR (Augmented reality) and VR (Virtual Reality), with 76.2% responding "YES and 23.8% responding " NO". This Indicates a significant majority of participants have prior experience with AR and VR technologies
- According to the survey the preferences of respondents regarding industries where they desire AR and VR experiences, with tourism ranking highest at 64.4%. This data suggests a significant demand for immersive technologies in the tourism sector from a traveler-centric perspective, indicating an opportunity for the tourism industry to enhance customer experiences through the integration of AR and VR technologies.
- The majority of the respondent encounters challenges while utilizing the services of a travel agency, with itinerary planning being the most prevalent issue at 46.8%. Other significant concerns include hidden costs (37.7%), lack of personalization (41.6%), and failure to fulfill expectations (35.1%). This data underscores the importance of addressing these pain points to enhance the traveler experience within the tourism industry.
- 44 respondents' i.e (47.3%) think that AR and VR technologies can alleviate the challenges faced while traveling with the assistance of a travel agency, and only 9 respondents i.e (9.7%) are skeptical about the potential of these technologies.

This data suggests considerable optimism among travelers regarding the efficacy of AR and VR in resolving their travel-related concerns. For the tourism industry, this underscores an opportunity to leverage immersive technologies to meet traveler needs and enhance overall satisfaction with their services.

- Most of the responded choose the option that they want to experience AR and VR technologies in the tourism industry. This overwhelming positive inclination toward AR and VR in tourism highlights a significant opportunity for the industry to leverage immersive technologies to enhance traveler experiences, increase engagement, and potentially attract more visitors.

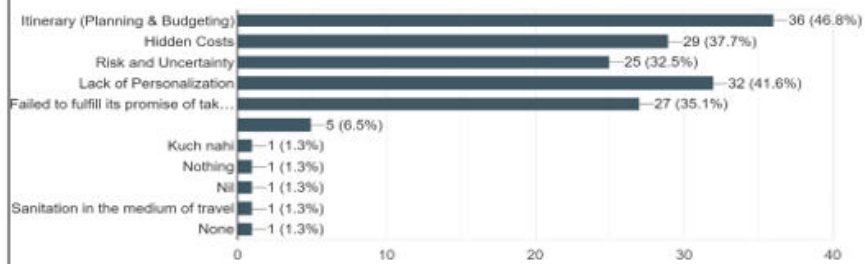
Have you ever experienced AR (Augmented Reality) and VR (Virtual Reality)?

101 responses



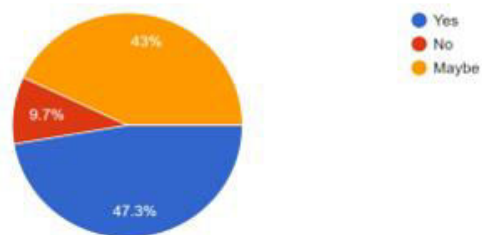
If yes, what problems did you face when you traveled with the help of a travel agency? (Select all that apply)

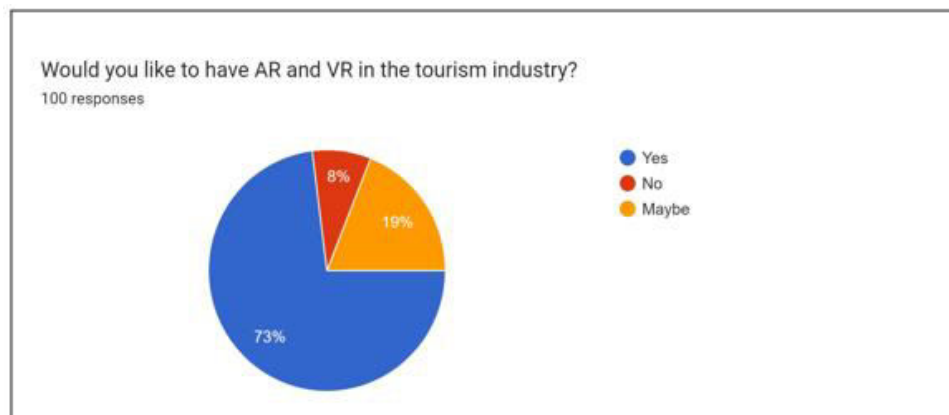
77 responses



Do you think AR and VR can solve the problems you faced while traveling with the help of a travel agency?

93 responses





CONCLUSION

AR (Augmented reality) and VR (Virtual reality) are poised to revolutionize the tourism industry, offering travelers unprecedented levels of engagement and interaction with travel destinations. As these technologies continue to evolve, it is crucial to remain attuned to their impact and potential. Our research illuminates the profound impact that AR and VR technologies can have on the travel and tourism industry. Throughout our study, several pivotal insights have emerged.

Firstly, we uncovered a burgeoning market ripe for exploration within AR and VR technologies, marked by their exponential growth and increasing accessibility to consumers.

Secondly, our findings vividly illustrate how the integration of AR and VR platforms can catalyze growth and innovation within the tourism sector, by offering travelers unparalleled immersive experiences and interactive engagements.

In essence, we firmly believe that AR and VR represent more than just technological advancements; they signify a paradigm shift in how we perceive and experience travel. As we navigate towards the future, strategic investments and collaborations within the industry will be crucial in harnessing the full potential of these

transformative technologies, ultimately reshaping the landscape of travel and tourism for generations to come.

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A STUDY ON ADDRESSING THE DIGITAL DIVIDE: ENSURING EQUAL ACCESS TO ONLINE EDUCATION/E-COMMERCE PLATFORMS

Aniket Swaraj, Aditya Hathi, Ashwini Anandakrishnan and Krishna Sharma
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

Addressing the digital divide to ensure equal access to online education and business resources is a multifaceted challenge that goes beyond mere access to technology. The digital divide encompasses disparities in access to digital infrastructure, internet connectivity, and the development of key skills necessary to effectively utilize online resources.

As the COVID-19 pandemic has underscored, reliance on online platforms for education and commerce has surged, exacerbating existing disparities. This divide is evident in the unequal access to online learning and educational resources, creating a gap between those with and without access to necessary tools for education

The digital divide not only pertains to physical access to technology but also extends to differences in internet skills and usage, further emphasizing the need to address inequalities in these areas

To address the digital divide effectively, strategies need to encompass not only access to technology but also considerations of digital equity, particularly in higher education settings

Addressing the digital divide to ensure equal access to online education and business resources requires a holistic approach that considers not only technological access but also digital literacy, skills development, and broader societal implications. By examining key challenges and proposing viable solutions, we can pave the way towards a more inclusive digital future.

Keywords: E-commerce, digital, internet, equality, divide, education, accessibility

INTRODUCTION

The digital divide has been a longstanding issue, but the COVID-19 pandemic has exacerbated this gap, particularly in the realm of online education and e-commerce platforms. Studies have shown that limited access to the internet and information and communication technologies has widened the digital divide, especially impacting educational systems (Sabeghi et al., 2021). This lack of access to online resources and specialized knowledge has made it challenging for individuals to fully participate in online learning and e-commerce activities. The divide is not only limited to access but also extends to the quality of service provided by e-commerce websites, influencing user satisfaction and potentially affecting their engagement with online platforms (Sharma & Lijuan, 2015).

Research indicates that the digital divide is not uniform across different demographics, with urban populations facing challenges due to inadequate internet access, further highlighting the disparities in online activities during crises like the COVID-19 pandemic (Iftikhar et al., 2023). Moreover, the divide extends beyond education to impact various sectors, such as agriculture, where the use of advanced digital technologies may widen the gap if not accessible to all due to cost and specialized skill requirements.

Efforts to bridge the digital divide have been proposed, emphasizing the importance of policy initiatives to ensure equitable access to technology and online platforms. Leveraging mobile phones and boosting access to digital technologies, particularly among marginalized groups like women, has been identified as a powerful tool to promote empowerment and sustainable development goals.

In conclusion, addressing the digital divide to ensure equal access to online education and e-commerce platforms is crucial for promoting inclusivity and reducing disparities. Policy interventions, technological advancements, and a focus on improving access and service quality are essential steps in bridging this gap and fostering a more equitable digital landscape.

LITERATURE REVIEW

| Sr No . | Name of Journal | Name of author | Countr y | Year | Sample size | Methodology | Key finding | Source |
|---------|--|--|----------|------|-------------|--|---|--------|
| 1. | Journal of Online Learning and Teaching (JOLT) | Randall E Osborne, Paul nmi Kriese, John Davis | USA | 2005 | N/A | Experimental and Quasi-Experimental Designs, Survey Research, Mixed-Methods Research | Effectiveness of Online Learning, Technology Integration, Student Engagement and Motivation, Online Learning Experiences of Diverse Populations | |
| 2. | Overcoming the digital divide through electron | Sajda Qureshi | INDIA | 2007 | N/A | To establish the relationships between these factors, a review is carried out of | While the growth of the Internet is opening | |

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|----|--|--------------------------------|-----|------|-----|--|---|---|
| | ic commerce: Harness ing opportu nities in IT for Develop ment | | | | | what is known about the relationship between e- commerce and development. These descriptions are then categorized into concepts and relationships between these concepts. Finally, this will result in the development of a conceptual model that is triangulated against vignettes and illustrates the relationships discovered through the literature review. | new opportu nities for e- commerce, the digital divide keeps the poorest nations from reaping the benefits of e- commerce. This paper has illustrat ed how informat ion technolo gies bring about develop ment and how e- commerce has the potentia l to bridge the digital divide by providin g new opportu nities for develop ment. | |
| 3. | Bridgin g the Digital Divide: Strategi es for Equal Access to | Smith, J. & Johnson K | USA | 2020 | N/A | This literature review employed a systematic search strategy to identify relevant studies from | Effectiv e strategie s for promoti ng digital inclusio n in | Journal of Educati onal Technol ogy & Society |

| | | | | | | | | |
|----|------------------------------|-------|-------------|------|-----|---|--|---------------------|
| | Online Education | | | | | <p>databases such as PubMed, ERIC, and Google Scholar. Keywords such as "digital divide," "online education," and "equal access" were used to retrieve articles published between 2010 and 2020. Inclusion criteria included studies focusing on strategies to address the digital divide in online education. Data were extracted and synthesized to identify key themes and recommendations for promoting equal access.</p> | <p>education include providing access to affordable technology, offering digital literacy training, and fostering community partnerships. Tailoring interventions to meet the specific needs of underserved populations is essential for addressing the digital divide. Government policies and funding initiatives play a crucial role in supporting digital inclusion efforts in educational settings.</p> | |
| 4. | Digital Inclusion Initiative | Kim B | SOUTH KOREA | 2018 | N/A | <p>This literature review followed a systematic</p> | <p>Digital inclusion initiative</p> | Information Systems |

| | | | | | | | | |
|--|--|--|--|--|--|--|--|----------|
| | es: A Review of Strategies and Interventions | | | | | <p>approach to identify and analyze strategies and interventions aimed at addressing the digital divide. A comprehensive search of academic databases, including IEEE Xplore, ACM Digital Library, and ScienceDirect, was conducted. Keywords such as "digital divide," "digital inclusion," "online education," and "e-commerce" were used to retrieve relevant studies. Inclusion criteria encompassed articles published between 2010 and 2018 that examined digital inclusion initiatives. Data were synthesized thematically to identify common strategies and interventions.</p> | <p>es encompass a wide range of strategies, including providing access to technology, offering digital skills training, and promoting community engagement. Successful interventions often involve collaboration among government agencies, nonprofit organizations, and private sector partners. Tailoring interventions to the specific needs of underserved populations is essential for addressi</p> | Research |
|--|--|--|--|--|--|--|--|----------|

| | | | | | | | | |
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| | | | | | | | ng the digital divide effectively. Evaluating the impact of digital inclusion initiatives requires robust measurement frameworks and longitudinal studies to track outcomes over time. | |
| 5. | Ensuring Digital Equity: A Systematic Review of Policies and Interventions | Chen L | CHINA | 2019 | N/A | This systematic review examined policies and interventions aimed at ensuring digital equity, including equal access to online education and e-commerce platforms. A systematic search of academic databases, such as Scopus, Web of Science, and ProQuest, was conducted. Keywords such as "digital equity," "online learning," "e-commerce access," and | Government policies play a crucial role in promoting digital equity by addressing infrastructure gaps, providing funding for digital inclusion initiatives, and regulating internet service providers. Interventions | Journal of Information Science |

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| | | | | | | <p>"policy interventions" were used to identify relevant studies published between 2010 and 2019. Inclusion criteria encompassed articles examining policies and interventions to promote digital equity. Data were synthesized thematically to identify key policy recommendations and intervention strategies.</p> | <p>aimed at improving digital literacy skills and providing access to affordable technology are essential for ensuring equal participation in online education and e-commerce. Collaboration among stakeholders, including government agencies, educational institutions, and community organizations, is necessary for implementing effective digital equity initiatives. Continuous monitoring and evaluation of digital</p> | |
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| | | | | | | | equity policies and interventions are needed to assess their impact and identify areas for improvement. | |
| 6. | Moderating effect of the Digital Divide of E-commerce | Javier A. Sanchez-Torres | COLUMBIA | 2019 | 937 | Data was collected by sending questionnaires to different university students in the country. The only condition to be fulfilled was that every individual participating in the survey had made an electronic purchase through the internet | The more difficult it is to access the technical and physical infrastructure to support the higher electronic purchase –that is, the greater the presence of the digital divide – the less will be the motivation that exerts the facilitating conditions on ease of use and intention of behaviour in e-commerce. | International Journal of Social Economics |

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|----|--|--|-------|------|--------|---|--|--|
| 7. | Digital divide and access to online education: new evidence from Tamil Nadu, India | K.Jafar | INDIA | 2023 | 13,749 | Data was collected by Telephonic survey method from the key informants like parents and heads of families to ensure better response rate. Nonlinear panel regression model, with binary dependent variable, in a generic panel regression model to analyse the determinants of access to online education during the time of COVID-19 was used. | The results from nonlinear panel i.e. Conditional fixed-effects logistic regression, show low access to online education for urban and rural households who faced job loss during the pandemic. The digital divide and differences in access to digital infrastructure need to be addressed by systematic and focused interventions. | Journal of Social and Economic Development |
| 8. | Addressing the Digital Divide: Access and Use of Technology in Education | Arfa Afzal, Saima Khan, Sana Daud, Zahoor Ahmad, Ayesha Butt | UAE | 2023 | 400 | A structured questionnaire was developed to collect quantitative data on various aspects related to access and use | The implications of the digital divide are far-reaching, as it affects students | Journal of Social Sciences Review |

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| | | | | | | of technology in education. In-person surveys are conducted at selected schools, and online surveys are distributed to reach a wider audience of students from diverse backgrounds. Descriptive statistics were used to summarize the data | ' ability to engage with digital resources and participate in online learning platforms. | |
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OBJECTIVES

- Examining divide between digital education, non – digital education and e-commerce platforms
- Investigating online education platforms along with e-commerce platforms
- Understanding how the divide affects different age groups.
- Understanding barriers in accessing online education and e-commerce

RESEARCH METHODOLOGY

The study aims to address critical gaps in understanding the dynamics in ensuring equal access to online education and e-commerce platforms.

Primary data has been collected based on taking a public survey, to understand the effect of division in the provision of online education and e-commerce platforms

Secondary data has been collected based on research work and a study of past research papers has been done.

- **Sample size** - 106 respondents
- **Sample survey area** – Mumbai
- **Target population** – Students and Adults
- **Type of sampling** – Simple Random
- **Type of research** - Descriptive Research Methodology

DATA ANALYSIS AND FINDINGS/RESULTS

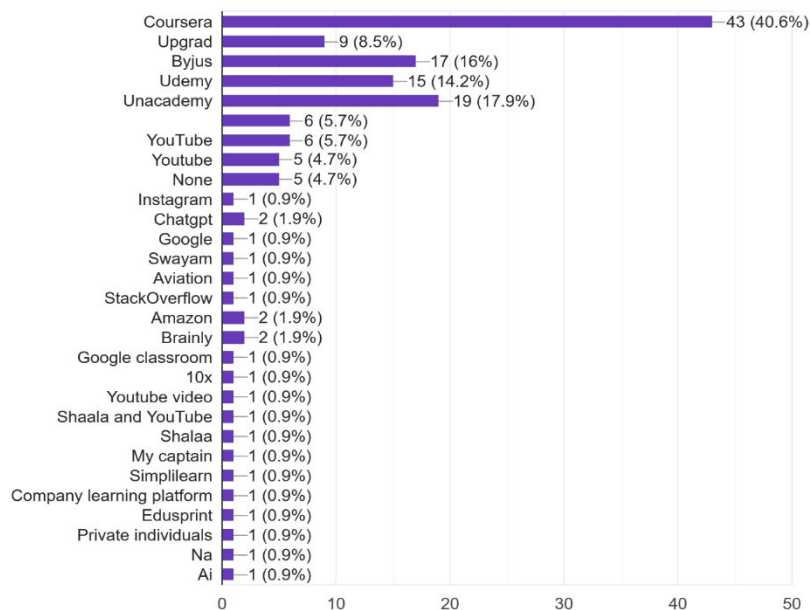
Data was collected thorough google forms and 106 responses were collected. From the survey the following data was found-

-
-
1. Most of the samples were from the age group 18 to 25 that constitutes of 65.1%, followed by people with age less than 18 that is 17.9%, followed by people with age more than 35 constituting of 13.2%
 2. The most responses were collected from samples that were students that is 78.3% followed by 14.2% employed people
 3. We tried to maintain a significant balance between the gender of our samples that is 55.7% male and 44.3% females. This makes us understand that we can get samples from different perspectives
 4. Most of the samples have used online digital platforms for the purpose of education or for doing e-commerce with a magnificent stake of 87.7% and only 12.3% have never used or rarely used e-commerce
 5. Most of our samples use online learning platforms or e-commerce only once in a month (30.2%) and once in a week (28.3%), followed by people using it every day with a stake of 20.8%, and then we also have samples that use once in 2 weeks (10.4%) followed by people who very rarely use it or do not use it at all (10.3%)
 6. Our respondents provided us with the platforms which we did not even mention as an option, this shows how engrossed they were with our data collection process
 7. Coursera is widely used by our respondents with 40.6%, Unacademy 17.9%, Byjus 16%, Udemy 15%, Upgrad 9% and many more
 8. Most of our respondents that is 47.2% have their college incorporated online teaching through digital platforms in their academic structure, many of our respondents are even unaware about the technological upgradation in their colleges
 9. Most of the respondent's college/educational institution/ corporates use MS Teams (46.2%), Zoom (22.6%), Google Meet (20.8%)
 10. 44% Of the respondents face barriers in accessing online education/e-commerce platforms due to limited internet infrastructure being the most dominant in the barriers faced
 11. 41.5% of the respondents mentioned that they rarely face any connectivity issues when using the digital platforms which shows the quality of infrastructure in Mumbai city. However, 32.1% also mention that they face connectivity issues weekly
 12. 50% Respondents agree that the geographical location affects the ability to access online platforms which brings in the point that rural areas with low connectivity do not use the digital platforms as much and infrastructure needs must be developed for them to have access to more online services

13. 28.3% of the respondents believe that there are not sufficient initiatives in place to bridge the digital divide and ensure equal access to online education and e-commerce opportunities and 35.8% believe contrarily of the same while the remaining are not sure of the initiatives if any to bridge the gap

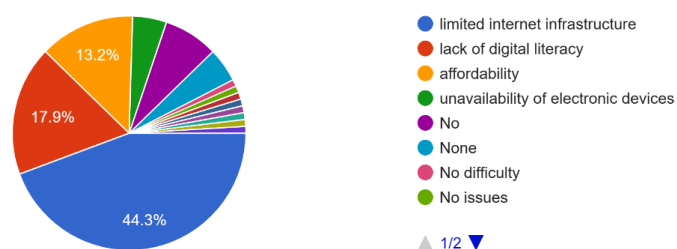
Which platforms do you use the most

106 responses



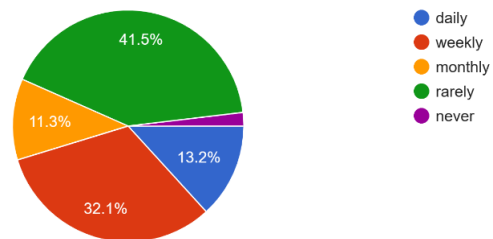
Do you face any barriers in accessing online education/ e-commerce platforms?

106 responses



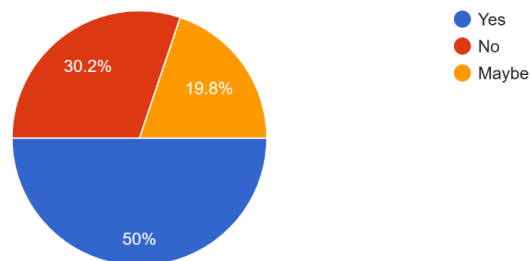
How frequently do you encounter challenges like slow internet speed or limited connectivity when accessing online resources?

106 responses



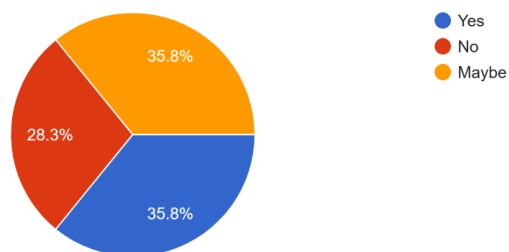
Do you think the geographical location affects your ability to access online platforms?

106 responses



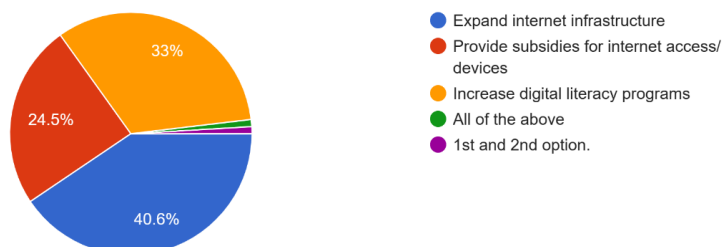
Do you think there are sufficient initiatives in place to bridge the digital divide and ensure equal access to online education and e-commerce opportunities?

106 responses



What suggestions do you have for improving accessibility to online resources for individuals facing barriers due to the digital divide?

106 responses



CONCLUSION

In conclusion, addressing the digital divide and ensuring equal access to online education and e-commerce platforms are imperative for fostering inclusive and equitable opportunities in the digital age.

Throughout this research paper, we have explored the multifaceted nature of the digital divide, examining its impact on educational attainment, economic participation, and social inclusion.

We have identified various barriers contributing to the digital divide, including limited internet access, lack of digital literacy skills, and financial constraints. However, amidst these challenges, our research has also highlighted strategies like providing affordable internet access, offering digital skills training, and fostering community partnerships in promoting digital inclusion and empowering underserved populations which have been incorporated by the suggestions given by our respondents during the research work.

As we move forward, it is essential to prioritize digital equity as a fundamental component of social justice and economic development. we have underscored the importance of collaborative efforts among governments, educational institutions, businesses, and civil society organizations in implementing effective solutions.

Policymakers, educators, and industry leaders must remain committed to addressing the root causes of the digital divide and implementing sustainable interventions. In conclusion, by embracing innovation, fostering collaboration, and championing inclusivity, we can bridge the digital divide and build a more equitable future for all.

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STUDY ON MARKET POTENTIAL AND VIABILITY OF THERMO SMART BOTTLE

Aniket Swaraj, Adil sayyed, Saniha middey, Arshia Batey and Harsh upadhyay
SIES College of Commerce and Economics

• ABSTRACT

Thermo smart water bottles represent a fusion of traditional hydration instrument with our modern day cutting edge Technology it integrates many of our modern day technological features into a traditional hydration vessel features such as Hydration tracking, Hydration Alert, App connectivity etc. The bottle also features Insulation properties to keep beverages or water according to room temperature, hot or cold it also promotes sustainable habits by reducing the use of plastic bottles.

• INTRODUCTION

"Pure water is the world's first and foremost Medicine"

-Rabindranath tagore

We live in an era where health and fitness is given paramount importance and intersection of Technology in health and fitness has seen tremendous amount of growth one such innovation is a thermo smart water bottle it is a hydration vessel infused with modern day cutting edge Technology to revolutionize our day to day hydration habits the product is designed for our day to day hydration needs while leveraging smart features to know their realtime data and insights about individuals hydration habits

This research delves into various features and what are the opinions of the consumer about the product through this we aim to give you insights in the field of health promotion, Technology, and product innovation and Insights on how further this product can be developed.

LITERATURE REVIEW:

| Serial no | Name of the journal/article | Name of the author | year | Key findings |
|-----------|--|--------------------|------|--|
| 1 | SmartStuff: A case study of a smart water bottle | Email jovanov | 2016 | he rapid growth of Internet of Things (IoT) and miniature wearable biosensors have generated new opportunities for personalized eHealth and Health services. Smart objects |

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| | | | | equipped with physiological sensors can provide robust monitoring of activities of daily living and context for wearable physiological sensors |
| 2 | GROW | Gul kaner,ugur genc,salih berk dincer,deniz erdogan | 2023 | Water is an essential nutrient for human health. However, individuals may ignore drinking enough water due to the rush of everyday life. We present Grow, a conceptual smart bottle prototype designed to encourage users to drink water regularly. |
| 3 | Revolutionizing Wellness: The IoT Smart Bottle for Health Monitoring | Lavanya dalavai | 2024 | Intelligent and health-focused IoT project designed to monitor and provide information about the contents of a bottle, such as temperature and water level. This system utilizes a DHT11 sensor for temperature monitoring, an ultrasonic sensor for water level |

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| | | | | detection, and an LCD to display real-time information. |
| 4 | IoT Based - Automatic Smart Water Level Management Bottle | Nishith chowdary | 2023 | The paper explores to develop a smart water level management tank based on Internet of Things (IoT) technology. The main goal of the project is to create a smart bottle capable of automatically monitoring the water level and alerting the user when the water level is low. |
| 5 | A smart water bottle for new seniors | Tai hwa lee,sung yeon kim,dong heui seou | 2015 | All respondents were aware of the benefits of water consumption.most respondents were consuming water for health but none of them were knowledgeable about the health benefits |
| 6 | IoT Based Smart Water Bottle | Kavya MS | 2023 | The origin of life is water, and harmonious water consumption is essential for the proper functioning of mortal organs. But with busy schedules of |

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| | | | | <p>humans and endless distractions, it's hard to flash back to drink enough water by the humans. So, in order to make a healthy water drinking habit, it's important to track our water input every day. The Smart Interactive Water Bottle conception combines technology with a abecedarian health need – proper hydration.</p> |
| 7 | Smart Bottle BLE Integration | Joshua M Rizzolo | 2024 | <p>n 1975, four percent of children aged five to nineteen were categorized as overweight or obese. As of 2016, this figure climbed above 18 percent [1]. Researchers at California Polytechnic State University San Luis Obispo (Cal Poly) want to investigate the effect of overeating in early childhood on later childhood obesity.</p> |

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| 8 | Monitoring fluid intake by commercially available smart water bottles | Rachel Kohen, Atena Roshan Roshan Fekr, Geoff fernie | 2022 | Fluid intake is important to prevent dehydration and reduce recurrent kidney stones. There has been a trend in recent years to develop tools to monitor fluid intake using “smart” products such as smart bottles. Several commercial smart bottles are available, mainly targeting health-conscious adults. |
|---|---|--|------|--|

- **OBJECTIVES**

1. To Find the market potential of thermo smart water bottle and the trend of the hydration habits of the consumer
2. Understanding consumer preferences on temperature of drinking water and other beverages
3. What more features customer wants in a smart water bottle
4. To give consumer key insights for developing excellent hydration habit

- **RESEARCH METHODOLOGY**

This study aims to find the potential Market and Viability of Thermo smart bottle and consumer preferences on additional features that could be developed in it Primary data has been collected based on taking a public survey to understand the hydration habits of the consumer.

Secondary Data has been collected on the basis of several research work and a study of research papers that has been published in the past

- **Sample Size:** 34 respondents
- **Target Population:** Health and fitness enthusiast
- **Research Type:** Market Research Statistical tools used for Data interpretation: Bar graph and linear graph

• ANALYSIS AND INTERPRETATION

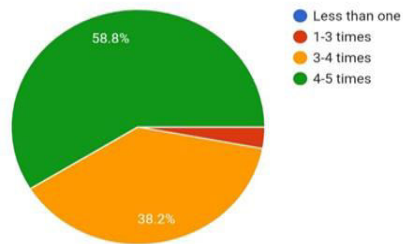
Data was collected through a Google form and 34 responses were collected. From the survey following data has been collected:

- Majority of the respondents drinks water 4-5 times per day 58.8% and 38.2% drinking 3-4 times per day and just 2.9% drinking 1 time per day this trend shows that a hydration vessel with hydration alert technology such as thermo smart bottle will not only help people who have a good hydration habits but it will also help those who forgets to drink adequate water daily
- For most of the respondents the temperature of their beverage is an important factor with 17.6% respondents consider this factor as very Important and 41.2% people consider it slightly important and 32.4% consider it as moderately important and for 8.8% respondents the factor of temperature is not important at all
- The survey shows us how many respondents are interested in a hydration bottle that keeps hydration tracking, App connectivity, Hydration Alert system with 61.8% respondents interested in such a product and only 38.2% respondents not interested in such a product
- The survey furthermore give us insights on what features are consumer exactly looking for and interested in Features such as hydration tracking, Temperature monitoring, Design/Aesthetics, App connectivity, Leak proof design with respondents selecting Temperature monitoring and Hydration tracking as the most important feature with both getting 38.2% respectively votes and Leak proof design with 17.6% and Design with 5.9% respondent selecting it this shows that for majority of respondents Design doesn't play a significant role while using smart bottle temperature monitoring and Hydration tracking should be given primary importance
- This study also show how much other factors such as price, Brand value, Temperature capabilities are important to consumer on a scale of 1-5 with 38.2% respondents picking 3, 29.4% picking 4, 23.5% picking 5, 2.9% picking 2 and 5.9% picking one this shows that price has brand reputation do play a significant role on the minds of the consumer
- The Survey also give us insights on how many people owns a thermo smart bottle with very less people owning it shows a great market potential without much competition with just 20.6% respondents owning one Marketing, Advertisement, Promotion could potentially create awareness about the product cutting edge features and create a Market for the product
- In the survey respondents were also asked what new features they want in the product features like purification, bluetooth connectivity, respondents also suggest that price must be low and the product should be made of materials that are long lasting

How often do you drink water throughout the day?

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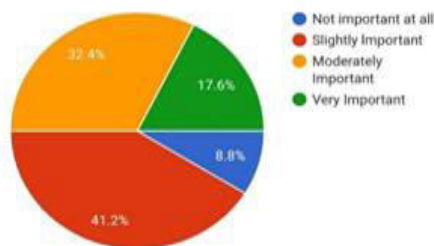
34 responses



How important is the ability to regulate temperature of your beverages in a water bottle to you?

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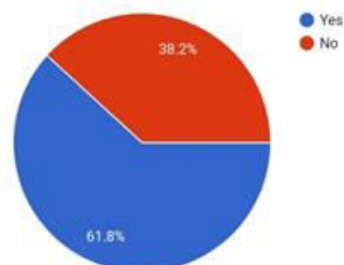
34 responses



Would you be interested in a smart water bottle that can regulate it's temperature?

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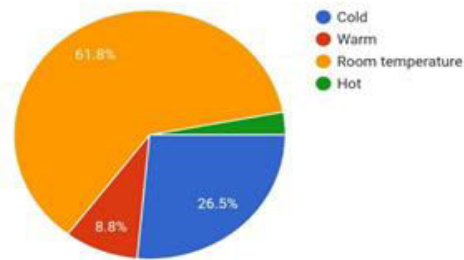
34 responses



What temperature you prefer your beverage at?

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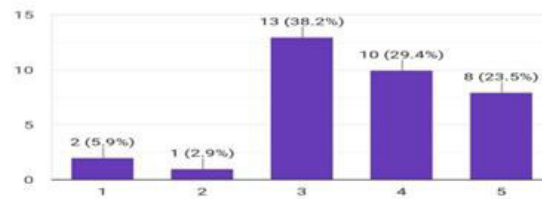
34 responses



How important are the following factors when considering purchasing a thermo smart water bottle (Price, Brand reputation, Temperature capabilities, Design)

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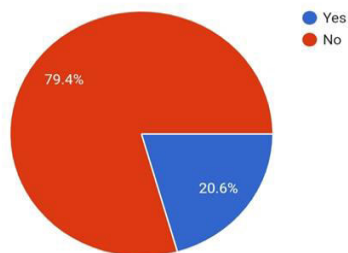
34 responses



Do you own a thermo smart water bottle?

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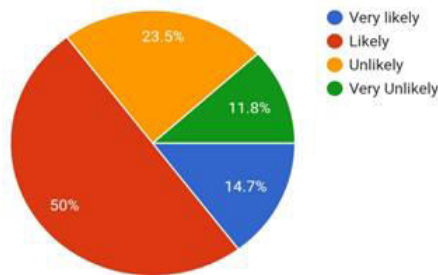
34 responses



How likely are you to recommend a thermo smart bottle to your friends and family?



34 responses



• CONCLUSION

Through this extensive research we come to a conclusion that implementation of a thermo smart bottle in one's day to day life can significantly improve hydration habits of a individual by alerting him/her to drink adequate water throughout the day through this study we have explored the efficiency and potential benefits of thermo smart bottle in keeping the desired temperature of your beverage over extended periods majority of time individuals are unable to drink their beverage with desired temperature for example in a chilly morning coffee cannot be kept hot for a longer period of time or in a hot summer cold drinks can't be cold for extensive periods at such a time thermo smart bottle can be of great use as this bottles are integrated with temperature control mechanisms such as electrical cooling and Insulated walls which ensures that beverages remain at their desired temperature

Furthermore, our study suggests that thermo smart bottles may have a positive impact on overall hydration levels and drinking behavior. By maintaining beverages at the desired temperature and enhancing the drinking experience, thermo smart bottles can encourage users to consume more fluids throughout the day. Proper hydration is essential for maintaining optimal health and well-being, and thermo smart bottles provide a convenient and enjoyable means of achieving adequate fluid intake.

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- https://www.researchgate.net/publication/378299268_Revolutionizing_Wellness_The_IoT_Smart_Bottle_for_Health_Monitoring

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 - https://www.researchgate.net/publication/377010140_IoT_Based_Smart_Water_Bottle
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A STUDY ON IMPACT OF WESTERN DIET INCREASING OBESITY

Aniket Swaraj, Kanak Sersia, Anurama Iyer, Jyoti Yadav and Amay Patankar
SIES College of Commerce and Economics (Autonomous)

ABSTRACT

The prevalence of obesity has become a global health challenge, largely due to the widespread adoption of the Western diet, characterized by high consumption of processed foods, sugars, and unhealthy fats. This paper explores the intricate relationship between the Western diet and obesity, highlighting its obesogenic nature and societal influences. Through a literature review, it examines various studies elucidating the adverse effects of the Western diet on health, including gut dysbiosis, metabolic diseases, and increased cancer risk. A research methodology involving surveys in Mumbai, India, reveals a concerning trend of emotional eating and inadequate physical activity contributing to obesity. The findings underscore the urgent need for comprehensive interventions promoting healthier dietary habits, education, and environmental changes to combat the obesity epidemic effectively. The survey, conducted via Google Forms among 113 participants, adds empirical evidence to the conclusion, emphasizing the imperative for immediate action in addressing the impact of the Western diet on public health.

Keywords: Western Diet, obesity, processed foods, consumption of fats, sugar, disease, health, consumption

INTRODUCTION

In recent decades, the global prevalence of obesity has reached alarming proportions, emerging as one of the most pressing public health challenges of the 21st century. Concurrently, the adoption of the Western diet pattern, characterized by high consumption of processed foods, refined sugars, and saturated fats, has become increasingly prevalent worldwide. This introduction aims to explore the intricate relationship between the Western diet and the escalating rates of obesity, shedding light on the multifaceted factors driving this complex phenomenon. The Western diet, often synonymous with the modern industrialized food system, represents a departure from traditional dietary patterns characterized by a diverse array of minimally processed whole foods. Instead, it emphasizes the consumption of energy-dense, nutrient-poor foods, including fast food, sugary beverages, packaged snacks, and convenience meals. This dietary shift has been fueled by rapid urbanization, globalization, changing food production and distribution systems, and pervasive marketing of unhealthy foods.

One of the primary mechanisms through which the Western diet contributes to obesity is its inherently obesogenic nature. High in calories, sugars, and fats, yet deficient in essential vitamins, minerals, and dietary fibers, this dietary pattern promotes excessive energy intake while failing to satisfy nutritional needs. Consequently, individuals consuming a Western diet are more prone to overnutrition, characterized by excessive calorie consumption, and undernutrition, marked by inadequate intake of essential

nutrients. Moreover, the hyperpalatability and convenience of processed foods make them particularly conducive to overeating and weight gain. The ubiquity of fast food outlets, vending machines, and ready-to-eat meals in Western societies further facilitates the easy access and affordability of calorie-dense, nutrient-poor options, fostering a culture of convenience-driven consumption.

Beyond its physiological impact, the Western diet also influences eating behaviors and food preferences through psychological and sociocultural mechanisms. Certain components of processed foods, such as sugars and fats, have been shown to trigger addictive responses in the brain, leading to cravings, compulsive eating, and loss of control over food intake. Additionally, cultural norms, social influences, and marketing strategies perpetuate the normalization and desirability of Western dietary patterns, shaping individuals' food choices and dietary habits .

As the prevalence of obesity continues to rise unabated, understanding the role of the Western diet in driving this epidemic is paramount for developing effective preventive and therapeutic interventions. By elucidating the intricate interplay between dietary factors, environmental influences, and individual behaviors, policymakers, healthcare professionals, and communities can work collaboratively to promote healthier eating patterns, mitigate the adverse effects of the Western diet, and combat the obesity crisis on a global scale.

LITERATURE REVIEW

| Title | Author | Country | Year | Key Findings |
|--|---|---------|------|--|
| Western Diet as A vast problem of 21st Century | Lika Lavrelashvili Mariam Tsanalskenishvili Luzia Gabunia | Georgia | 2023 | The Western diet, high in fat, salt, and sugar, contributes to global obesity and related health issues like inflammation and gut dysbiosis. Treatment options include medications like metformin for asthma and statins for lipid control, but a holistic approach emphasizing healthy lifestyles and nutrition regulation is crucial |
| Intake of foods high in saturated fats, vegetarian dietary pattern, and sociodemographic | Jacksaint Saintila Percy G Ruiz Mamani Cristian Ramos-Vera | France | 2024 | Peruvian university students showed a positive association between saturated fat intake and body |

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| characteristics associated with body weight in Peruvian university students | Antonio Serpa Barrientos | | | weight, while a vegetarian dietary pattern correlated inversely with weight. |
| Diet and physical activity in the treatment of obesity - current knowledge | Kinga Brzuszkiewicz Arkadiusz Grunwald Gracjan Rudzinski Kinga Pozarowska | Poland | 2022 | 1. Effective obesity treatments include calorie restriction and various diets like Mediterranean, but side effects may occur, such as kidney stones with high-protein diets. 2.) Regular physical activity, alongside balanced, low-calorie diets, is crucial, aiming to improve quality of life for individuals with obesity. |
| Diet and Obesity-Induced Methylglyoxal Production and Links to Metabolic Disease | Carlos Hernandez Castillo Sarah Shuck | USA | 2021 | Obesity in the US at 42.4% is a national epidemic influenced by factors like socioeconomic status and diet, particularly the consumption of a Western diet high in processed foods and sugar. |
| Western Diet Gut dysbiosis and metabolic diseases. Are they Linked? | Kristina B. Martinez Vanessa Leone | | 2017 | 1. Eating a lot of fatty foods changes the bacteria in our guts, depending on the type and amount of fat. 2. When we suddenly change our diets, it quickly affects the bacteria in our guts, which could help us find ways to prevent or |

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| | | | | treat obesity. |
| A Brief Perspective on Lost Traditional Grains and Food Habits of Indians | Isha Sharma Inderpreet Dhaliwal Priyanka Bijalwan Vinod Kumar Yadav | India | 2020 | 1. Clinicians need to create personalized, balanced meal plans blending traditional and Western foods for Asian Indian patients to tackle chronic diseases effectively. 2. Governments should shape policies to encourage healthier food choices to combat chronic diseases on a broader scale. |
| Acrylamide exposure in obesity enhances mammary Epithelial DNA Damage via the activity of its metabolite, glycidamide and increased oxidative stress. | Brenna Walton Lisa Arendt | USA | 2024 | Key Findings: 1. Obesity raises breast cancer risk, and a chemical called acrylamide, found in certain cooked foods, might make it worse. 2. Acrylamide can damage DNA in breast cells, especially in obese conditions, by turning into a harmful substance and causing oxidative stress, possibly increasing the risk of breast cancer. |
| Obesity and the Western diet: how we Got here. | Varundeep Rakhra, DO, Suguni Loku Galappaththy, MD, Sheetal Bulchandani, MD & Peminda K. Cabandugama, MD | USA | 2020 | 1. The Western diet's link to obesity and chronic diseases like diabetes and cardiovascular issues. |

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| | | | | 2. It stresses the urgency of dietary changes, particularly during the COVID-19 pandemic, and how adopting healthier eating habits can mitigate risks related to obesity, cognitive function, fertility, and reproductive health. |
| Global Impacts of Western Diet and Its Effects on Metabolism and Health: A Narrative Review | Vicente Javier Clemente- Suarez Ana Isabel Beltrán-Velasco, Laura Redondo-Flórez, Alexandra Martín-Rodríguez, José Francisco Tornero-Aguilera | Spain | 2023 | 1. The Western diet's low intake of essential nutrients from fruits, vegetables, and whole grains correlates with heightened risks of obesity, type 2 diabetes, cardiovascular disease, and specific cancers. 2. Increased consumption of processed foods in the Western diet disrupts the gut microbiome, leading to dysbiosis, compromised intestinal health, systemic inflammation, and impaired immune function. |
| Origins and evolution of the Western diet: health implications for the 21st century. | Cordain Loren Eaton S Boyd Sebastian Anthony Mann Neil Lindeberg Staffan Watkins Bruce A O'Keefe James H | | 2023 | 1) Modern lifestyles clash with our ancient biology, possibly causing many modern diseases. 2) Changes in diet |

| | | | | |
|--|----------------------|--|--|--|
| | Brand-Miller Janette | | | since ancient times have altered seven key nutritional factors, potentially contributing to health issues. |
|--|----------------------|--|--|--|

OBJECTIVES

1. Understanding consumer perception regarding western diet and their views with regards to whether is it beneficial or not .
2. Examining if there is maximum awareness about the "increasing rate of obesity "in people mainly in youths of today.
3. Understanding the consumption pattern of the people and developing an idea regarding their lifestyle.
4. Developing strategies to reduce the intake of western diet and focusing more on the importance and healthy outcomes after consumption of a traditional diet.

RESEARCH METHODOLOGY

This survey aims to study the impact on how western diet is influencing the consumption pattern of people and leading to an increase in obesity problems.

Primary data has been collected through a survey of people in all age groups by providing them a questionnaire based on Google forms and understanding their views regarding their lifestyle and consumption pattern.

Secondary Data has been collected by referring to some websites and browsing through past research papers.

Sample Size - 113

Target population - People of All age group

Type of sampling - Simple Random sampling

Sample Survey Area - Mumbai City

Type of research - Descriptive research

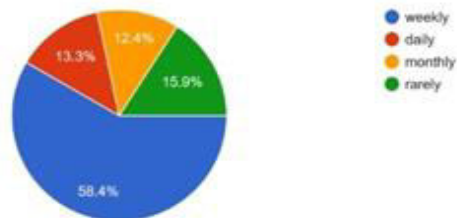
DATA ANALYSIS /FINDINGS

INTERPRETATION

After a thorough analysis of the data received, the interpretation states that emotional behaviour of people is affected due to consumption pattern of processed foods on a weekly basis without making much engagement in physical activity, which can ultimately lead to obesity.

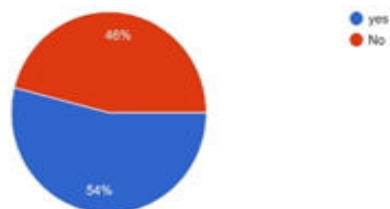
How frequently do you consume processed foods?

113 responses



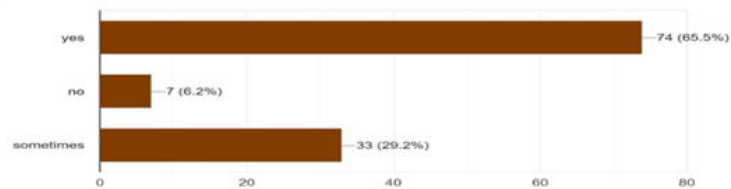
Do you tend to eat in response to emotional triggers such as stress, boredom, or sadness.

113 responses



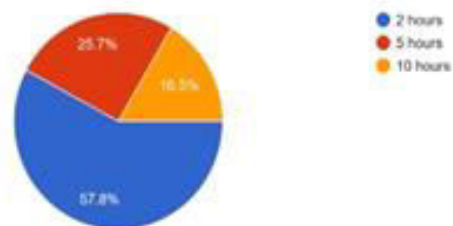
Do you prioritize whole foods in your regular diet? (fruits, vegetables etc..)

113 responses



How many hours per week do you engage in moderate to vigorous physical activity?

109 responses



- On a total we have received 113 responses in all out of which 57.5% of the people are males and 42.5% are females.
- Data was collected through conducting a survey by circulating google forms

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-
- The first pie chart shows consumption pattern of processed foods on timely basis. Majority of people consume it on weekly basis.
 - The second pie chart aims on prioritizing whole foods in the regular diet , majority of people make sure they consume it regularly (65.5%)
 - The third pie chart shows eating habits relating to the behaviour of an individual. Majority of people rely on their emotional nature to consume western diet (54%)
 - The last pie chart shows about the engagement of physical activity on an overall basis with respect to hours. Majority of people engage themselves for nearly 2 hours per week.

CONCLUSION

The data collected clearly indicates that the Western diet, characterized by the frequent consumption of processed foods high in sugars and unhealthy fats, is a key contributor to the increasing prevalence of obesity. Despite a high level of awareness regarding the health risks associated with such dietary habits, a significant portion of the population continues to consume these foods regularly. This gap between knowledge and behavior underscores the need for comprehensive education and interventions aimed at promoting healthier eating habits. Encouraging individuals to prioritize whole foods, such as fruits, vegetables, and whole grains, can help manage blood sugar levels and reduce the risk of developing diabetes. Improving the availability and accessibility of healthy food options in local communities is also crucial in supporting individuals in making informed dietary choices.

Moreover, addressing the influence of food marketing and advertisements, particularly those promoting Western-style foods high in sugars and unhealthy fats, is essential. Empowering individuals to read food labels and make conscious decisions about their diet can further contribute to reducing the impact of the Western diet on diabetes prevalence.

In conclusion, combating the rise of diabetes requires a multi-faceted approach that includes education, environmental changes, and individual empowerment to make healthier dietary choices and reduce reliance on the detrimental aspects of the Western diet.

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THE CRUCIAL LINK: ETHICAL PRACTICES AND QUALITY IN BUSINESS OPERATIONS

Fleur Mario Fernandes and Kashvi Shetty

SIES College of Commerce and Economics (Autonomous)

ABSTRACT

This research paper examines the crucial role that ethical practices play in maintaining and enhancing the quality of business operations. Ethical behaviour in the business operations is required not only for building trust and reputation but also for fostering a sustainable and strong business environment. The paper delves into the various aspects of ethical practices that directly impact the quality of business operations and also the ethical conduct in upholding standards of excellence and integrity within organizations. Through a comprehensive review of literature, case studies, and empirical evidence, this paper aims to provide insights into the tangible benefits of ethical practices in ensuring high-quality business operations.

Keywords: *Maintaining, Enhancing, Quality, Ethical practices, trust, reputation*

INTRODUCTION

In an era where corporate responsibility and integrity are under increasing scrutiny, the connection between ethics and business operations is more vital than ever. By examining the intersection of ethics and operational excellence, this paper aims to explain the multifaceted impacts of ethical conduct on organizational performance, stakeholder relationships, and long-term sustainability. In essence, ethical behaviour is not merely a set of guidelines to be followed but a fundamental ethos that underlies the fabric of organizational culture and governance. One of the fundamental reasons why ethical practices are indispensable for maintaining quality in business operations is their role in fostering trust and credibility. When organizations prioritize ethical conduct, they demonstrate a commitment to transparency, accountability, and integrity, thereby engendering trust among stakeholders and enhancing the credibility of their operations. Furthermore, ethical practices play a crucial role in ensuring regulatory compliance and risk management within organizations. By prioritizing ethical practices in organizations they can cultivate a culture of excellence that not only enhances stakeholder trust but also drives innovation, regulatory compliance, and long-term value creation.

LITERATURE REVIEW

- ❖ Ethical workplace conduct, including fair employment practices, transparency, and ethical leadership, has been consistently linked to increased employee morale and commitment (Brown & Mitchell, 2010). Research by Treviño and Nelson (2016) highlights that organizations fostering a culture of integrity and ethical decision-making not only enhance employee satisfaction but also create an environment conducive to innovation and high-performance levels.

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- ❖ The relationship between ethical practices and customer trust is a recurring theme in the literature. Studies by Maignan and Ferrell (2004) and Singhapakdi et al. (2013) demonstrate that businesses engaging in truthful marketing, fair pricing, and responsible customer data management are more likely to build and maintain customer trust. Ethical customer relationships, coupled with the quality of products or services, create a strong foundation for customer satisfaction and loyalty, contributing to sustained business success (Laczniak & Murphy, 2006).
 - ❖ Cross-cultural and global perspectives on ethical practices further enrich the literature. Research by Schwartz (2012) explores cultural variations in ethical values and their impact on business conduct, emphasizing the need for businesses to navigate diverse ethical landscapes. Additionally, studies on global business ethics underscore the importance of ethical considerations in cross-border operations, acknowledging that adherence to ethical standards is crucial for maintaining quality across diverse markets (Donaldson & Dunfee, 1999).

RESEARCH OBJECTIVE

The primary objective of this research is to systematically investigate and analyze the importance of ethical practices in maintaining and enhancing the quality of business operations. The study aims to achieve the following specific objectives:

- Investigate the relationship between ethical workplace practices, including fair employment policies, transparency, and ethical leadership, and their influence on employee morale, commitment, and overall organizational culture.
- Assess the impact of ethical lapses on organizational reputation, customer trust, and long-term sustainability.
- Evaluate the effectiveness of regulatory frameworks and industry standards in promoting ethical behaviour and maintaining quality standards.
- Investigate the role of ethical decision-making processes in ensuring consistent adherence to quality standards.

RESEARCH METHODOLOGY

In this research paper there's a combination of both primary data as well as secondary data. The primary data is in the form of Google forms where in the responses are collected from students as well as the working class people. Questions are formulated to understand the integration of ethical practices into quality management processes, perceptions of ethical leadership, organizational culture, and the impact of ethical lapses on quality and reputation. Secondary data for this study was acquired from a number of research papers, journals and articles.

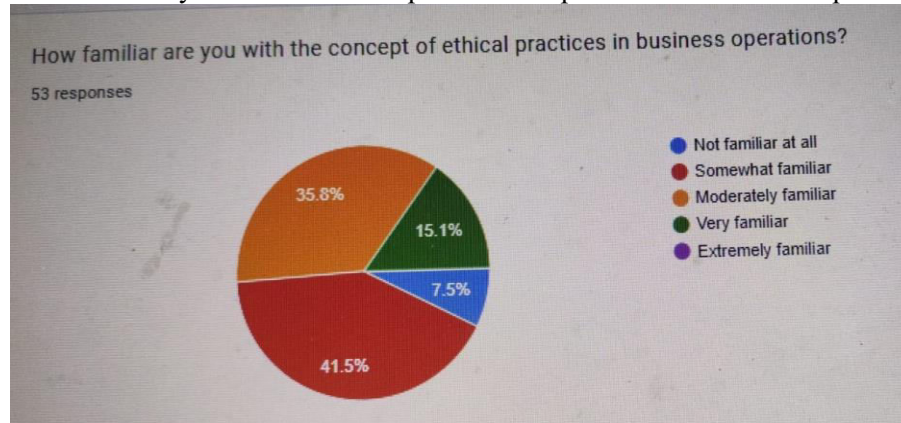
Research Design: Survey Research

Sampling Unit: 18-45+

Sample Size: 53

Findings and Interpretations

How familiar are you with the concept of ethical practices in business operations?

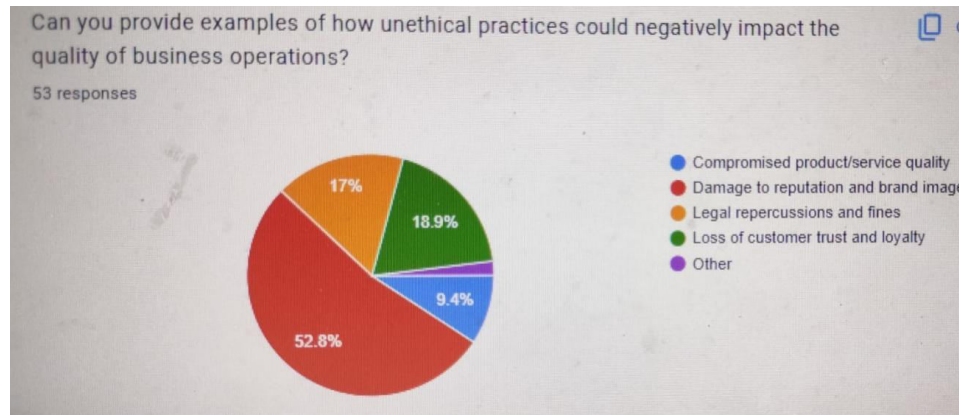


With 41.5% of respondents indicating that they are somewhat familiar, and an additional 35.8% expressing moderate familiarity, it suggests that a majority of individuals have some understanding of ethical practices within business contexts. Moreover, the fact that 15.1% reported being very familiar underscores a notable level of awareness and comprehension among a sizable portion of the surveyed population. However, it is noteworthy that 7.5% of respondents admitted to not being familiar with the concept at all, indicating that there is still a minority segment that may require further education or awareness initiatives regarding ethical practices in business operations.



A resounding 66% of respondents emphasized that ethical practices play a pivotal role in enhancing customer trust and loyalty.. Additionally, 47.2% of respondents highlighted the importance of ethical practices in mitigating risks and potential legal issues, recognizing that adherence to ethical standards can help safeguard against regulatory violations, lawsuits, and reputational damage. Furthermore, 54.7% of participants underscored the impact of ethical practices in fostering a positive

organizational culture, where integrity, transparency, and accountability are valued and prioritized. Moreover, 49.1% of respondents acknowledged that ethical practices are integral to long-term sustainability and reputation management.

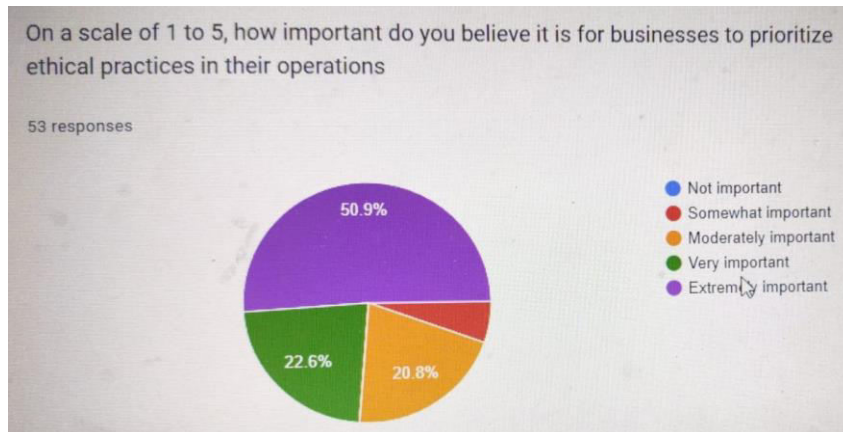


52.8% of respondents citing damage to reputation and brand image as a primary concern. Furthermore, 18.9% of participants expressed apprehension about the loss of customer trust and loyalty resulting from unethical practices. Moreover, 17% of respondents highlighted the legal repercussions and fines associated with unethical behaviour. Violations of ethical standards can lead to legal scrutiny, regulatory penalties, and costly litigation, posing significant financial and operational risks to businesses. Additionally, 9.4% of participants pointed out the potential compromise of product or service quality stemming from unethical practices.



Notably, a significant portion, accounting for 52.8% of respondents, advocated for implementing a comprehensive approach encompassing all of the above strategies. Additionally, 22.6% of participants emphasized the value of regular training sessions on ethical conduct. Furthermore, 13.2% of respondents highlighted the importance of incorporating ethical considerations into decision-making processes. Moreover, 7.5% of participants supported the idea of conducting ethical audits or assessments. These evaluations help identify areas of ethical risk and opportunities for improvement,

enabling organizations to proactively address ethical challenges and enhance accountability. Lastly, 3.8% of respondents underscored the significance of implementing whistle blower protection policies.



A substantial majority, comprising 50.9% of participants, firmly advocated for the highest level of importance, rating it as "extremely important" on a scale of 1 to 5. Additionally, 22.6% of respondents expressed a strong belief in the significance of ethical practices, rating them as "very important," further reinforcing the prevailing sentiment regarding the critical role of ethics in business operations. Furthermore, 20.8% of participants regarded ethical prioritization as "moderately important," reflecting a significant acknowledgment of its relevance, albeit with a somewhat lesser degree of urgency. Lastly, 5.7% of respondents considered ethical practices to be "somewhat important," indicating a minority perspective that still recognized the value of ethics but may not prioritize them as highly.

Value Addition

The importance of ethical practices in maintaining quality within business operations cannot be overstated, as it serves as a cornerstone for organizational success, reputation, and sustainability. Ethical conduct not only fosters trust and loyalty among stakeholders but also enhances operational efficiency, risk management, and long-term viability. By prioritizing ethical principles in decision-making processes and daily operations, businesses can cultivate a culture of integrity, transparency, and accountability. This, in turn, promotes employee engagement, customer satisfaction, and stakeholder confidence, leading to enhanced brand reputation and competitive advantage. Moreover, ethical practices mitigate the risk of legal repercussions, regulatory violations, and reputational damage, safeguarding the organization's financial performance and market standing. Overall, ethical practices are essential not only for ensuring quality in products and services but also for fostering a positive organizational culture, driving innovation, and building enduring relationships with stakeholders. Thus, businesses that prioritize ethical conduct demonstrate a commitment to responsible corporate citizenship and position themselves for sustained success in an increasingly complex and interconnected global marketplace.

CONCLUSION

In conclusion, the importance of ethical practices for maintaining quality in business operations is unequivocal. Ethical conduct serves as the foundation upon which organizations build trust, integrity, and long-term success. Through adherence to ethical principles, businesses can enhance their reputation, mitigate risks, and foster a positive organizational culture. The findings from this research underscore the critical role of ethical practices in driving quality management initiatives and ensuring stakeholder satisfaction. By prioritizing ethical considerations in decision-making processes, businesses can not only uphold quality standards but also contribute to the greater good of society. As businesses navigate an increasingly complex and interconnected global landscape, ethical practices emerge as a fundamental driver of competitiveness, sustainability, and resilience. Therefore, it is imperative for organizations to integrate ethical considerations into their operational frameworks, fostering a culture of integrity and responsibility that extends throughout the entire value chain. Ultimately, businesses that prioritize ethical practices not only enhance their bottom line but also contribute to a more ethical and sustainable future for all stakeholders.

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A STUDY ON THE ROLE OF TECHNOLOGY IN ENHANCING TRANSPARENCY AND ACCOUNTABILITY WITHIN EDUCATIONAL INSTITUTIONS

**Aniket Swaraj, Kushal Mehta, Darshan Miskeen, Chinmayi Pawaskar and
Rhea Bhat**

SIES College of Commerce and Economics (Autonomous)

ABSTRACT

The transformative role of technology in enhancing transparency and accountability within educational institutions. It highlights the importance of transparency in fostering trust and collaboration among stakeholders by providing access to timely and accurate information. Through digital platforms like learning management systems and administrative tools, institutions can streamline processes and facilitate communication with stakeholders via various channels such as websites and social media. Additionally, technology enables institutions to track key performance indicators and involve stakeholders in decision-making processes through online forums and electronic voting systems. Despite the potential benefits, challenges such as data privacy concerns and technological barriers need addressing to ensure equitable access and integrity in educational systems. Overall, technology holds promise in revolutionizing governance structures and promoting positive change in education, but careful attention must be paid to address associated challenges and risks.

Keywords: Technology, transparency, accountability, data privacy, stakeholders.

INTRODUCTION

In the digital age, where information flows freely and accountability is paramount, educational institutions find themselves navigating a complex landscape where traditional models of governance are being challenged and reshaped. Central to this evolution is the role of technology, which has emerged as a powerful catalyst for enhancing transparency and accountability within educational settings. This introduction sets the stage for a comprehensive exploration of how technology is transforming the educational landscape, shaping governance structures, communication channels, and accountability mechanisms.

Education has long been regarded as a cornerstone of society, serving as a pathway to knowledge, opportunity, and social mobility. However, as educational institutions grapple with increasing demands for transparency and accountability, they must adapt to the realities of the digital age. With the proliferation of digital technologies, educational institutions are confronted with both opportunities and challenges in ensuring transparency and accountability in their operations.

At the heart of this discussion is the concept of transparency, which refers to the openness and accessibility of information within an organization. In educational institutions, transparency is essential for building trust, fostering collaboration, and

ensuring that stakeholders have access to accurate and timely information. By providing stakeholders with insights into decision-making processes, resource allocation, and performance metrics, transparency enhances accountability and encourages responsible governance.

Technology plays a pivotal role in facilitating transparency within educational institutions. Digital platforms and tools enable real-time access to data, documents, and processes, allowing stakeholders to stay informed and engaged. For example, learning management systems (LMS) provide students with access to course materials, grades, and feedback, while also enabling instructors to track student progress and assess learning outcomes. Similarly, administrative systems streamline processes such as admissions, registration, and financial aid, enhancing transparency and efficiency.

Moreover, technology enables educational institutions to communicate transparently with stakeholders through various channels, including websites, social media, and mobile apps. These platforms facilitate the dissemination of information about institutional policies, programs, and initiatives, ensuring that stakeholders are kept informed about important developments. By leveraging technology to enhance communication, educational institutions can build trust, strengthen relationships, and promote accountability.

In addition to promoting transparency, technology also plays a key role in enhancing accountability within educational institutions. Accountability refers to the obligation of individuals and organizations to take responsibility for their actions, decisions, and outcomes. In the context of education, accountability encompasses a wide range of dimensions, including academic performance, financial management, and ethical conduct.

Technology enables educational institutions to track and monitor key performance indicators, allowing stakeholders to assess progress and hold institutions accountable for their performance. For example, data analytics tools can analyse student outcomes, faculty productivity, and institutional effectiveness, providing insights that inform decision-making and resource allocation. Similarly, financial management systems track expenditures, revenues, and budgets, enabling stakeholders to evaluate the financial health and stewardship of educational institutions.

Furthermore, technology facilitates greater transparency and accountability in governance processes within educational institutions. Digital platforms and tools enable stakeholders to participate in decision-making processes, provide feedback, and hold leaders accountable for their actions. For example, online forums, surveys, and town hall meetings allow students, faculty, and staff to voice their opinions and concerns, shaping institutional policies and priorities. Similarly, electronic voting systems enable stakeholders to participate in elections and governance processes, ensuring that decisions are made democratically and transparently.

However, despite the promises of technology, there are also challenges and risks associated with its use in promoting transparency and accountability within educational institutions. Data privacy concerns, digital divides, and technological barriers can hinder access to information and participation, exacerbating inequalities and disenfranchising marginalized groups. Moreover, ethical considerations such as data manipulation, algorithmic bias, and cybersecurity threats must be carefully addressed to ensure the integrity and trustworthiness of technological systems.

In conclusion, technology has the potential to revolutionize transparency and accountability within educational institutions, empowering stakeholders to access information, participate in decision-making, and hold institutions accountable for their actions. By leveraging digital platforms and tools, educational institutions can build trust, strengthen relationships, and promote responsible governance in the digital age. However, to realize the full potential of technology, it is essential to address challenges such as data privacy, digital divides, and ethical considerations, ensuring that technology serves as a force for positive change in education.

LITERATURE REVIEW

| Serial No | Name of journal | Name of author | Country | Year | Sample size | Methodology | Key finding | Source |
|-----------|---|-----------------|---------|------|-------------|---|---|---|
| ❖ | Journal of Educational Technology & Society | R. P. Pathak | INDIA | 2012 | 200 | Mixed-Methods: Surveys and interviews were conducted to gather data on technology usage and perceptions among educators and students. The objective was to understand the impact of technology on transparency and accountability measures within educational institutions. | Implementation of technology-enhanced transparency tools led to increased accountability measures | Pearson Education India |
| ❖ | Computers & Education | Chin-Chung Tsai | Taiwan | 2017 | 189 | Quantitative: A large-scale survey was administered to educators to assess the adoption of technology tools and their relationship with transparency practices. The study aimed to identify patterns and correlations | Technology adoption correlated with improved transparency practices in educational institutions | Elsevier, sciencedirect.com |

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| | | | | | | between technology use and transparency initiatives | | |
| ❖ | Educational Technology Research and Development | Phuong Dzung Pho | AUSTRIA | 2008 | 230 | Qualitative: In-depth interviews and focus group discussions were conducted with school administrators and staff to explore their experiences with technology integration. The study sought to uncover the underlying mechanisms through which technology enhances institutional transparency. | Integration of technology-facilitated better communication, enhancing institutional transparency | Sage Journals. |
| ❖ | International Journal of Educational Development using Technology. | Stephen P Heyneman | United States of America | 2022 | 250 | Mixed-Methods: Both quantitative surveys and qualitative interviews were employed to capture a comprehensive picture of technology usage and its effects on transparency efforts. The research aimed to understand the nuances of technology-driven transparency initiatives within schools. | Implementation of digital platforms enhanced stakeholder engagement, promoting transparency | Elsevier. |
| 5 | Journal of Information Technology Education: Research | Dr Donna Jean Satterlee | US | 1998 | 150 | Case Study: A detailed case study approach was adopted to investigate the implementation of specific technology platforms in educational institutions. The study focused on understanding how these platforms impacted | Implementation of digital platforms enhanced stakeholder engagement, promoting transparency | Informing Science Institute |

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|---|------------------------------------|----------------------------------|---------------|------|-----|---|--|--|
| | | | | | | transparency and stakeholder engagement. | | |
| 6 | Educational Researcher | S.S. Chandra, R.K. Sharma | INDIA | 2004 | 517 | Quantitative: Utilizing a mixed-methods approach, this study employed surveys, observations, and document analysis to assess the impact of technology integration on resource allocation transparency in schools. The research aimed to quantify the relationship between technology use and transparency outcomes. | Technology integration led to greater transparency in resource allocation in educational settings | Atlantic Publishers & Dist |
| 7 | Technology, Knowledge and Learning | Joan Hughes | United States | 2005 | 350 | Qualitative: Semi-structured interviews and participant observations were conducted to explore how technology-enabled data collection tools were utilized in educational institutions. The study aimed to understand the process and challenges of implementing technology-driven transparency initiatives. | Technology-enabled data collection facilitated monitoring, enhancing accountability | Society for Information Technology & Teacher Education |
| 8 | Journal of Learning Analytics | Philipp Leitner | Middle East | 2017 | 101 | Quantitative: Using learning analytics data, this study analysed student interactions with educational technology platforms to assess their impact on transparency. The methodology aimed to | Increased student engagement with technology tools was associated with greater transparency in educational processes, highlighting the potential of learning | Springer Link |

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| | | | | | | identify patterns in student behaviour and their relationship with institutional transparency efforts. | analytics for promoting accountability. | |
|--|--|--|--|--|--|--|---|--|

OBJECTIVES

1. Assess the current level of transparency and accountability within educational institutions.
2. Evaluate the potential benefits and challenges of implementing technological growth in educational institutions.
3. Examine the perceptions and attitudes of students towards technology-driven transparency and accountability measures.
4. Assess the impact of technology implementation on improving overall governance and decision-making processes within educational institutions.
5. Identify risks due to the implementation of technologies.

RESEARCH METHODOLOGY

- Primary data has been collected based on taking a public survey, to understand technology in enhancing transparency and accountability within educational institutions.
- Secondary data has been collected on the basis of research work and a study of past research papers has been done.

Sample size - 51 respondents

Target population – Undergraduate Students from Mumbai city

Type of sampling – Cluster Sampling

Sample survey area – Mumbai city

Type of research - Descriptive Research

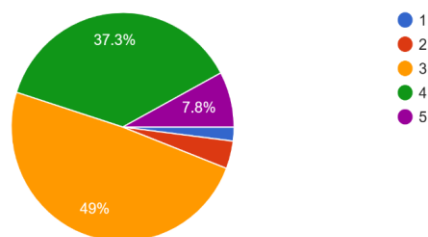
DATA ANALYSIS/FINDINGS AND RESULTS

The data to understand the role of technology in enhancing transparency and accountability within educational institutions was collected with the help of google forms and a total of 51 responses were collected. From the survey the following data was found:

- The findings of the role of technology is based on institutions such as SIES Colleges, Atlas University, SVKM, etc.
- The respondents in the age group of 15 to 20 are 84.9% and the age group of 21-25 are 15.1% of the total survey.

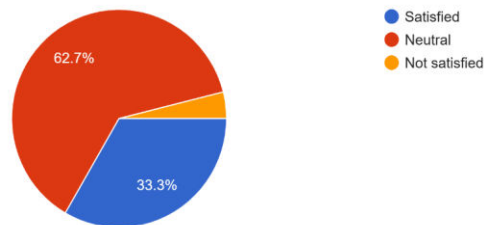
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- 49% of the participants of the survey have rated their institution's transparency and accountability to 3 and 37.3% of participants have rated 4.
 - 62.7% of participants have rated for neutral regarding availability and accessibility of the academic information provided by their respected institution and 33.3% have voted for satisfied.
 - According to the survey, the respondents believe that the institution effectively tracks and communicates the academic progress and performance of the students.
 - In terms of sound data privacy 49% of participants have responded with maybe and 41.2% have responded with yes whereas 9.8% have responded with no regarding their respective institutions.
 - 60.8% have benefited from the technology used by their institution whereas 19.6% have not benefited and 19.6% responded with maybe.
 - When asked about the institution's overall transparency and accountability in governance and decision-making process 35.3% were satisfied, 56.9% were neutral and 7.8% were not satisfied.
 - With the implementation of robust data management systems, institutions can ensure the transparent documentation of academic, financial, and administrative processes, enabling stakeholders to monitor operations and hold decision-makers accountable.

How transparent and accountable do you think the technology used by your educational institution is ? (Rate from 1-5)
51 responses



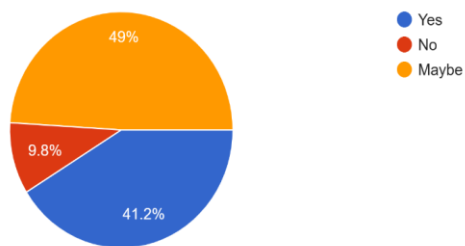
How satisfied are you with the availability and accessibility of academic information (e.g., course syllabi, grading criteria) provided by the institution?

51 responses



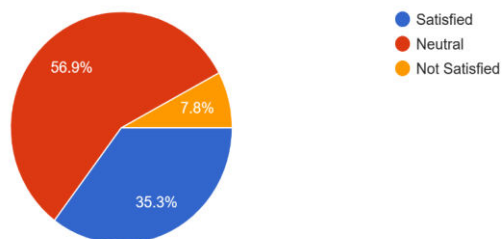
Do you think that your educational institution is sound in terms of data privacy?

51 responses



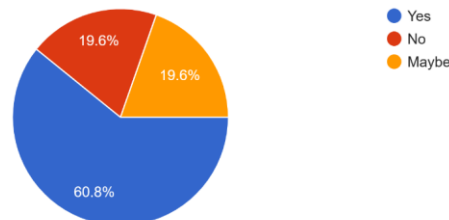
How satisfied are you with the institution's overall transparency and accountability in governance and decision-making processes?

51 responses



Have you benefitted with the technology used by your institution ?

51 responses



CONCLUSION

In conclusion, most of the students benefit from the institution's technology whereas some face issues with adapting the technology so, institutes can work on creating awareness regarding the advantages and use age of technology. Technology stands as a transformative force in bolstering transparency and accountability within educational institutions. Through digital innovations, educational stakeholders are empowered to access, analyse, and disseminate information more efficiently than ever before. By implementing robust data management systems, institutions can ensure the transparent documentation of academic, financial, and administrative processes, enabling stakeholders to monitor operations and hold decision-makers accountable.

Furthermore, technology facilitates real-time tracking of student progress, attendance, and performance metrics, providing educators with valuable insights to tailor instruction and support interventions where needed. This transparency in academic assessment fosters a culture of accountability among educators and administrators, who are compelled to uphold rigorous standards and demonstrate tangible progress in student outcomes.

Moreover, digital communication platforms bridge the gap between stakeholders, facilitating open dialogue and collaboration. Students, parents, faculty, and administrators can easily communicate concerns, share feedback, and participate in decision-making processes, thereby fostering a sense of ownership and accountability within the educational community.

As educational institutions increasingly embrace technology, it is imperative to prioritize data privacy and security measures to safeguard sensitive information and maintain trust among stakeholders. Additionally, ongoing training and support are essential to ensure that all members of the educational community can effectively utilize technology to promote transparency and accountability.

In essence, the integration of technology into educational practices not only enhances operational efficiency but also cultivates a culture of transparency, accountability, and continuous improvement. As we continue to harness the power of technology in education, it is essential to remain vigilant in leveraging these tools to promote equity, access, and excellence for all learners.

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ABOUT THE AUTHORS



Aniket Swaraj is an Industry Professional and Academician with 15+ years of experience. He is Phd Scholar and currently employed as an Head of the Department and Assistant Professor of Bachelor of Management Studies at SIES College of Commerce and Economics (Autonomous), Sion, Mumbai. He is an Content creator and Instructor in a U.S. based company which provides Online education to professionals. Globally 3000+ learners have benefited from his online course. He is an approved faculty for Master of Management Studies under University of Mumbai, Maharashtra. His qualifications include Master of Philosophy (Business Management), Master of Personnel Management, B.Sc. (Chemistry), LLB, Diploma in HRM from NMIMS, UGC - NET (Personnel Management). His areas of teaching and research include Business and Labour laws, Strategic Management, Entrepreneurship Management, Research Methodology. He received Best Research Paper award in an International Conference for his research paper titled 'Digital Amnesia'. he has published 30+ research papers, including works in ABDC and UGC CARE listed journals of High repute. he has been invited as a guest speaker for POSH and Labour reforms in various workshops and conferences. He has trained various companies across different sectors such as IT, manufacturing, and educational institutions. He specializes in POSH training which includes awareness training, capacity building and audit & reporting.



Fleur Fernandes is an Academician and Researcher with 10 years of experience in Academics, and 2+ years as Industry and Company Research Analyst at Centre for Monitoring Indian Economy (CMIE). She is currently employed as an Assistant Professor and Research Scholar at SIES College of Commerce and Economics (Autonomous), Sion, Mumbai. She is an approved faculty for Master of Management Studies under University of Mumbai, Maharashtra. Her qualifications include Master of Management Studies (Finance), B.Com. (Banking and Insurance), NET-JRF and SET. Her areas of teaching and research include Corporate Finance, Financial Markets, International Finance, Financial Services, Wealth Management, Entrepreneurship, Business Environment, Sustainability, Internships and Employability. She received three Best Research Paper honours. She has published 24 research papers, including works in ABDC and UGC CARE. She was awarded Minor Research Project grant of Rs.27,000 by University of Mumbai for the topic. "A study of effectiveness of Internships in enhancing employability of Commerce and Management students of University of Mumbai". She also won CIMA Campus Culture Excellence Award 2022 - Global Bronze by AICPA & CIMA. She has been invited as a guest speaker for various seminars. She can be reached at dsouzafleur@gmail.com. ORCID ID: 0000-0002-3100-8211



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