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YOUTHINK

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ASCENSION

INTERVIEWS BY:

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CONTENTS

MESSAGES

04

EDITORIAL

08

FEATURE

Obscure Odds: The Gambler's Gatsby

12

Ved Khemka and Yash Agarwal

E-Green Revolution: India's Agricultural Ascension Through Agri Stack

17

Harshit Agarwal

Dorm to Dollars: The Rise of Student Innovators and Young Entrepreneurs

23

Nikunj Saraf

Impact of Colour in Advertising

27

Megh Gupta and Ronit Sanghai

Cricket's Return to the Olympics - A Potential Game-Changer

16

Raghav Chaturvedi

Subscription Revolution

- Symphony or Cacophony?

45

Diya Agarwal

Weaving A Global Network

48

Rohit Gupta and Divyanshu Aditya

The Convergence of Digital Currencies with Artificial Intelligence: Transforming the Future of Commerce and Financial Systems

56

Mudit Bhansal and Abhinav Kedia

INTERVIEWS

Mr. Anand Kumar

62

Taken by the Editorial Board

Mr. Bhuvan Bam

65

Taken by the Editorial Board

Ms. Dhvani Bhanushali

68

Taken by the Editorial Board

Ms. Dipa Karmakar

71

Taken by the Editorial Board

Mr. Rishabh Pant

75

Taken by the Editorial Board

Ms. Shreyanka Patil

78

Taken by the Editorial Board



GUEST ARTICLES

Embracing Ascension Through Awareness	82
Abhishek Kumar and Chetna R. Parek	
Is Our Media Shaping Us?	85
Abhishek Choudhary and Vineeta Dwivedi	
Combating the Widening Digital Divide	88
Rev. Dr. Arockiasamy M.S. Selvaraj, SJ	

BEYOND

Storytelling as a Means of Promoting Tourism in India	96
Dr. Hanzala Awais and Natasha Sen	
Impact of Colour Sensory Marketing on Consumer Behaviour	104
Dr. Soma Nath and Anshika Kothari	
Analysis of Adoption of Lab-Grown Diamonds in Kolkata Background	117
Prof. Tridib Sengupta and Vinayak Khandelwal	
Opportunities and Challenges in Women-led MSMEs (Micro, Small and Medium Enterprises) - Generalizing a SWOC (Strength, Weakness, Opportunity and Challenge) Model	134
Prof. Samuel Mitra and Aashna Melwani	
Impact of ESG Score on Financial Performance of a Company: A study on Companies under SENSEX	139
Prof. Tonoy Dey and Balmukund Chaudhary	
A Study of the Relationship between the Volatility Index and the NIFTY Indices	148
Dr. Ruby Mary Notts and Tanisha Kejriwal	
Artificial Intelligence- Powered Customer Experiences: Navigating the Impact of User- Generated Content on Brand Image	156
Dr. Ruby Mary Notts and Girija Chandak	

ASCENT

A Study Report of the Audit Practitioner's Perspective on the Effect of Auditors' Independence on Earnings Manipulations	166
Dr. Soma Nath and Sinjini Chatterjee	

Beyond Metros: The Luxury Awakening in India's Tier 2 and Tier 3 Cities	174
Dr. Chandrima Banerjee and Yashika Gupta	

A Study on Urban Water Management in the Face of Water Crisis - Integrating Water Trading	181
Dr. Saptarshi Ray and Khushi Munka	

Whispers of Valor: Mapping Sustainable Employee Recognition Initiatives at Workplace in the Light of the 'AIRe Framework'	188
Dr. Joseph Kulandai and Soham Sen	

PVR-INOX: The Merger of the Multiplexes	213
Dr. Hanzala Awais and Vatsi Soni	

Artificial Intelligence (AI) in Healthcare Sector and its Potential in India and Worldwide	221
Dr. Sourav Tarafder and Sujay Chowdhury	

PRECIS

Navigating the Era of Energy Sector Reforms: India's Scoresheet of Paris Protocol Initiatives	232
Prof. Joyita Banerji and Abhiroop Guha	

Are We Ready for the Artificial Intelligence Revolution? How Technology is Redefining the Future of Work	240
Dr. Madhu Agnihotri and Anirdipta Ghosh	

The Impact of Celebrity Endorsements on Customers' Perception	247
Prof. Rebecca Gasper and Ayushi Jain	

Revolutionising Mobility: A Pilot Study into The Consumer Perception And Purchase Intention of Electric Vehicles In Kolkata	266
Prof. Priya Sen and Sahil Choudhary	

Exploring Brand Activism and Its Impact on Consumer Perception and Behaviour	278
Prof. Rebecca Gasper and Divya Singhania	

Evaluating the Factors Influencing Customer Adoption and Usage of Food Applications: Insights from Kolkata Metropolis	294
Prof. Samuel Mitra and Manya Baid	

ADVERTISEMENTS	301
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Rev. Dr. Dominic Savio, SJ

Principal

St. Xavier's College (Autonomous), Kolkata



To climb steep
hills requires a
slow pace at first,
but a steady
march leads to the
summit.



"To climb steep hills requires a slow pace at first, but a steady march leads to the summit."

St. Xavier's College (Autonomous), Kolkata, has long been a beacon of excellence, where every student embarks on a journey of self-discovery and achievement. The essence of our institution lies in nurturing the potential within each individual, guiding them through the complexities of both academic and extracurricular pursuits. Our unwavering commitment to holistic education empowers our students to rise above challenges, turning them into leaders who not only excel but also inspire others to reach greater heights.

The Xavier's Commerce Society, since its inception, has consistently demonstrated an unwavering commitment to excellence in all its endeavors. As the representative body of the Department of Commerce, it has always sought to push the boundaries of knowledge and experience, ensuring that each student embarks on a comprehensive journey of growth and discovery. Through its myriad of initiatives, the society fosters a culture of intellectual rigor, creativity, and collaboration, providing a platform for students to explore the vast landscapes of knowledge and innovation. Youthink Volume XIX is a testament to the society's relentless pursuit of intellectual discourse, innovation, and the development of a progressive mindset.

The theme of 'Ascension' for this edition of Youthink is a call to rise, to transcend the ordinary and embrace the extraordinary. It challenges us to push the boundaries of our own capabilities, to elevate our thoughts and actions, and to strive for excellence in all that we do. This theme resonates deeply with the values we uphold at St. Xavier's College (Autonomous), Kolkata, where we encourage our students to ascend beyond their limitations, to discover new heights of wisdom, and to leave an indelible mark on the world.

The successful publication of Youthink Volume XIX would not have been possible without the dedicated efforts and support of all those associated with it. I extend my deepest gratitude to Rev. Dr. Joseph Kulandai SJ, Vice Principal, Department of Commerce (Morning) and Rev. Dr. Peter Arockiam SJ, Vice Principal, Department of Commerce (Evening), along with Dr. Amitava Roy, Dean, Department of Commerce (Morning) and Dr. Soheli Ghose, Dean, Department of Commerce (Evening). Their unwavering guidance and encouragement have been instrumental in this endeavor. I also wish to acknowledge the tireless contributions of the professors on the reviewer board, whose insights and expertise have enriched this publication. A special acknowledgment is due to the Professor-in-Charge, Dr. Anulekha Banerjee, Managing Editor, Dr. Sumona Ghosh, the Editorial Board of Youthink, and the dedicated members of the Xavier's Commerce Society, whose collective efforts have brought this volume to life. Finally, to all the contributors who have shared their ideas and perspectives, your work is the foundation upon which this journal ascends.

Rev. Dr. Dominic Savio, SJ



Rev. Dr. Joseph Kulandai, SJ

Vice Principal (Morning)

St. Xavier's College (Autonomous), Kolkata



On the stage of
life, Ascension
elevates the
ordinary, revealing
the powerful
harmony between
ambition and
accomplishment.



"On the stage of life, Ascension elevates the ordinary, revealing the powerful harmony between ambition and accomplishment."

This pivotal juncture, rich with significance, not only reshapes our worldview but also ignites a quest for self-actualization. Through this journey of ascension, we endeavor to unravel the intricate tapestry that connects our existence to the cosmos, fostering personal growth and forging a deeper connection with the universe. In this revelation, reality unfurls its multifaceted brilliance, guiding us toward a greater purpose and a legacy worthy of admiration.

St. Xavier's College has long been a beacon of enlightenment, fostering a culture that inspires students to challenge conventions and embrace a pragmatic approach to life. Our institution remains steadfast in its commitment not just to imparting knowledge, but to shaping individuals who are equipped to navigate the complexities of the world with wisdom and grace. By offering a diverse array of opportunities, we are devoted to instilling these values in our students, with the Xavier's Commerce Society playing a vital role in this mission. The Society has been instrumental in providing platforms like Youthink, where students can voice their ideas and engage in meaningful discourse. Through this journal, we seek to cultivate a space where rationality and scientific thinking thrive, empowering our students with skills that extend far beyond the classroom.

I would like to extend my heartfelt congratulations to the Youthink Editorial Board for selecting a theme that truly encapsulates the essence of human ambition and reflects the dynamic evolution of our world. The insightful articles featured in this edition represent a diverse spectrum of thought, contributed by both students and esteemed scholars who have shared their wisdom through this journal. The balance between tradition and innovation is well captured, aligning with your theme of education in the 21st century. I also wish to express my deep appreciation for the professors and guest contributors whose work has enriched the minds of our readers, leaving an indelible mark on their intellectual journey.

The launch of Youthink: Volume XIX marks the culmination of unwavering dedication, tireless effort, and the relentless pursuit of excellence by the members of the Xavier's Commerce Society. Their commitment to pushing boundaries and setting new benchmarks in every endeavor has provided students with the platform to dream, to ascend, and to realize their full potential. It emphasizes both individual achievement and collective effort within the St. Xavier's College commerce community.

As we celebrate the nineteenth edition of this prestigious journal, I extend my best wishes to Youthink: Volume XIX. May it inspire our students to ascend beyond the confines of their academic pursuits, to explore new horizons, and to cultivate brilliance in every field they choose to venture into. It is with great pride that I commend the Xavier's Commerce Society for publishing this edition, which not only upholds the rich heritage of a Xaverian but also embodies the core values of the Department of Commerce at St. Xavier's College (Autonomous), Kolkata.

May God bless you!

Rev. Dr. Joseph Kulandai, SJ



Rev. Dr. Peter Arockiam, SJ

Vice Principal (Evening)

St. Xavier's College (Autonomous), Kolkata



The greatest glory
in living lies not in
never falling, but
in rising every
time we fall.



"The greatest glory in living lies not in never falling, but in rising every time we fall."

As we ascend the mountain of knowledge, each step brings us closer to the summit of enlightenment. The journey is arduous, filled with challenges and uncertainties, but the rewards are immeasurable. The pursuit of wisdom is a lifelong endeavor, a quest that requires unwavering dedication and an open mind.

The Xavier's Commerce Society has long been a beacon of inspiration for our students, a place where young minds can flourish and discover their true potential. Their commitment to fostering a supportive and intellectually stimulating environment has created a legacy that will endure for generations to come. Through the pages of Youthink, they offer a glimpse into the vibrant tapestry of student thought, inviting students to explore new perspectives and challenge their assumptions. This edition of Youthink has pieces that dive into real-world applications in addition to intellectual topics. The contributors provide provocative discoveries that upend our perceptions of reality, exploring the multifaceted interpretations of the happenings of the world. Students who interact with these varied viewpoints can improve their critical thinking abilities and gain a greater understanding of the complexity of modern challenges.

The launch of Youthink: Volume XIX, 'Ascension,' is a testament to the intellectual curiosity and creative spirit of our students. This volume, following in the footsteps of 'Awakening,' delves into the profound themes of growth, transformation, and the pursuit of higher consciousness. The carefully selected articles offer a rich and diverse exploration of ideas, stimulating thought and inspiring action.

As we celebrate the nineteenth edition of this journal by embarking on this journey of 'Ascension,' let us be guided by the wisdom of our predecessors and the boundless potential of our future. May this volume serve as a catalyst for personal and societal transformation, inspiring us to strive for success and embrace the infinite possibilities that lie ahead.

I would like to extend my heartiest congratulations to the Xavier's Commerce Society on releasing a publication that embodies the virtues and traditions of the Department of Commerce of St. Xavier's College (Autonomous), Kolkata, as well as the very heritage of a Xaverian. The insightful interviews and thought-provoking articles presented in this volume are a valuable resource for students and faculty alike. I hope that these pages inspire and enlighten you, offering the answers you seek and bringing peace to your thoughts.

May all your aspirations be fruitful. God Bless you all!

Rev. Dr. Peter Arockiam, SJ



Dr. Sumona Ghosh

Managing Editor

St. Xavier's College (Autonomous), Kolkata



The ascent of
humanity is the
cornerstone of
progress.



"The ascent of humanity is the cornerstone of progress."

Life presents an unending invitation to ascend—to rise above the ordinary and embrace the extraordinary essence of human potential. Across epochs, the call for elevation resonates, unveiling pathways of transformation and inspiring us to reach unparalleled heights. Ascension is not merely an act of rising, it is a pursuit of purpose, where resilience and vision converge to shape our collective destiny. This timeless endeavor of elevation is exemplified through the remarkable legacy of St. Xavier's College (Autonomous), Kolkata—a beacon of inspiration and innovation. True ascension is a shared journey, one that demands us to transcend boundaries and nurture a consciousness capable of unlocking the infinite.

The essence of ascension compels us to explore realms of deeper understanding, forging connections between knowledge and aspiration. Youthink embodies this spirit, encouraging young minds to uncover their highest potential and challenge the confines of conventional thought. By liberating ourselves from inertia and mediocrity, we cultivate an energy that drives transformation—a dynamic force that banishes limitation and propels us toward excellence.

For years, Youthink has been a canvas of boundless ideas, offering a space for reflection, discourse, and innovation. Each edition unveils new dimensions of thought, showcasing perspectives that encompass the breadth of the human experience. More than a journal, Youthink stands as a lighthouse of wisdom, guiding us through the murky waters of ignorance toward clarity, understanding, and vision. It weaves together the threads of our collective narrative, uniting voices from the past, present, and future in a harmonious pursuit of knowledge.

As we unveil Youthink Volume XIX, I extend my deepest appreciation to the professors and administration whose steadfast guidance and encouragement have been pivotal to our continued success. I commend the extraordinary dedication of the Joint Editors-in-Chief, Kaashvi Gupta and Priyanshu Prajapati, along with the entire Editorial Board of the nineteenth edition, for their tireless efforts in bringing this vision to life.

The realization of Youthink Volume XIX: Ascension owes much to the unwavering support and leadership of Rev. Dr. Dominic Savio, SJ, Principal; Rev. Dr. Joseph Kulandai, SJ, Vice Principal, Department of Commerce (Morning); and Rev. Dr. Peter Arockiam, SJ, Vice Principal, Department of Commerce (Evening). The invaluable contributions of Dr. Amitava Roy, Dean, Department of Commerce (Morning), and Dr. Soheli Ghose, Dean, Department of Commerce (Evening), have been instrumental in shaping this edition.

With immense gratitude, I look forward to the profound heights you will achieve in every sphere of life. With this enduring belief, I am honored to present Youthink Volume XIX: Ascension.

Sumona Ghosh

Dr. Sumona Ghosh



Kaashvi Gupta & Priyanshu Prajapati

Joint Editors-in-Chief

St. Xavier's College (Autonomous), Kolkata



Ascension is not about reaching a destination, but about rising continuously, unceasingly, to greater heights.



“Ascension is not about reaching a destination, but about rising continuously, unceasingly, to greater heights.”

From the depths of inertia to the soaring skies of achievement, humanity's journey has been a relentless pursuit of growth, resilience, and boundless ambition. Our world has always found ways to transcend limitations, embracing the essence of Ascension—the spirit of rising above challenges and striving for the extraordinary.

At Youthink, we have always championed the ideals of progress and innovation, offering a platform for the free exchange of ideas and the cultivation of intellectual rigor. With this guiding principle, we present Volume XIX, dedicated to the theme of Ascension. It represents our collective aspiration to elevate our understanding and redefine horizons in pursuit of excellence.

This year's edition is a testament to the remarkable ingenuity and passion of our student authors. Through the Feature section, they delve into transformative shifts in global dynamics, the intricacies of economic systems, and the evolving tapestry of geopolitical landscapes. Their explorations illuminate the pathways through which humanity continues to ascend.

The Beyond, Ascent, and Precis sections showcase critical analyses and insights spanning corporate strategy, technological advancements, marketing trends, international relations, and the intersection of finance and society. Together, these contributions form a cohesive narrative of academic excellence and intellectual exploration.

The Guest Articles in this edition bring forth groundbreaking perspectives on contemporary developments, enriched by the wisdom of eminent contributors. We extend our heartfelt gratitude to Abhishek Choudhary, Abhishek Kumar, Chetna Parekh and Vineeta Dwivedi for their invaluable contributions that elevate the journal's caliber.

Our Interviews section is a celebration of visionaries whose journeys epitomize the spirit of Ascension. This year, we are proud to present engaging discussions with Mr. Anand Kumar, Mr. Bhuvan Bam, Ms. Deepa Karmakar, Maj. Gen. G. D. Bakshi and Ms. Shreyanka Patil, whose stories inspire us to rise beyond boundaries and redefine what is possible.

This endeavor would not have been possible without the unwavering support and guidance of Rev. Dr. Dominic Savio, SJ, Principal, Rev. Dr. Joseph Kulandai, SJ, Vice Principal, Department of Commerce (Morning), and Rev. Dr. Peter Arockiam, SJ, Vice Principal, Department of Commerce (Evening). We also extend our gratitude to Dr. Amitava Roy, Dean, Department of Commerce (Morning), and Dr. Soheli Ghose, Dean, Department of Commerce (Evening), for their encouragement and belief in our vision.

Our sincere thanks to our Managing Editor, Dr. Sumona Ghosh, whose wisdom and leadership have been instrumental in shaping Youthink Volume XIX. I am deeply grateful for the tireless efforts of the Editorial Board - Bhavya Lakhmani, Himanshu Poddar, Maansi Chamria, Nishant Agarwal, Pratham V Shah and Sanskriti Agarwal, whose dedication and creativity have brought this journal to life.

Finally, we thank the readers, contributors, and students of St. Xavier's College for their unwavering support.

As we close the chapter on this year's edition, we are filled with gratitude. Putting together Youthink Volume XIX has been an unforgettable experience, filled with challenges, learning, and moments of pure joy. It is not just a publication—it is a reflection of our collective growth and the endless possibilities that lie ahead.

With immense pride and anticipation, we welcome you to Youthink Volume XIX: Ascension.

Kaashvi Gupta
Kaashvi Gupta

Priyanshu Prajapati
Priyanshu Prajapati



Devansh Jogani & Hemaansh Mohta

Joint Secretaries

St. Xavier's College (Autonomous), Kolkata



"The summit is what drives us, but the climb itself is what matters."

Sixteen years ago, a vision took shape—an endeavour aimed at fostering corporate acumen and nurturing the holistic growth of every Xavierian. When we first became part of this legacy on 11th November 2022, we could hardly have imagined how this journey would become a permanent chapter in our lives. What began as a collaboration among a handful of individuals from diverse backgrounds, united by the shared aspiration of publishing the Department of Commerce's annual journal, Youthink, has since evolved into a thriving institution driven by the collective efforts of its members.

The theme of Ascension, central to this year's edition of Youthink, exemplifies the essence of the Xavier's Commerce Society. It encapsulates the collective aspirations of the XCSers to rise beyond limitations and set new benchmarks for progress. Throughout our history, ascension has been a guiding principle, and this spirit resonates within each article and contribution of Youthink Volume XIX: Ascension.

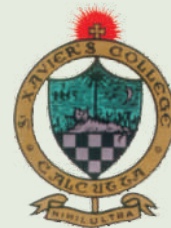
Over our two-year journey, every single day has added a new page to our chapter, reflecting our experiences, endeavors, and the memories of the bonds we have built. The six engaging and exciting events we organized are a tapestry of ideas, thoughts, sleepless nights, a fair share of arguments and disputes, and enduring friendships—woven together by a thread of passion and commitment toward this society. It is the unwavering support of 25 dedicated individuals that has shaped the present and future of this society.

The culmination of Youthink stands as a testament to the collective vision, dedication, and expertise of all those who have contributed to its creation. We express our deepest gratitude to Dr. Sumona Ghosh, the Managing Director of Youthink, whose insightful guidance and constant support have been instrumental in shaping this endeavour, and to Dr. Anulekha Banerjee, our esteemed teacher-in-charge, for her steadfast mentorship and encouragement throughout this journey. We also extend heartfelt thanks to the XCSers, whose efforts as members of the finance committee ensured the seamless execution of this project. The Editorial Board deserves our profound appreciation for their meticulous attention to detail and commitment to maintaining the journal's intellectual and creative integrity.



The summit is
what drives us,
but the climb itself
is what matters.





Finally, we owe special recognition to Kaashvi Gupta and Priyanshu Prajapati, the Editors-in-Chief, for their exceptional leadership, vision, and tireless dedication, which have elevated Youthink to new heights.

Each step in this journey has been a manifestation of the transformative power of collective effort and shared vision. Every member of this society would agree with Cesare Pavese's words: "We don't remember days; we remember moments." As we look back, we realize that every door we closed opened a new one for a fresh journey. Even as we

each walk our own paths, one enduring colour will define the portrait of our lives: black.

As we bring this edition to its culmination, we are a step closer to bidding farewell to the Xavier's Commerce Society, reflecting on the lessons learned, the bonds forged, and the moments cherished. In the words of poet William Blake: "Great things are done when men and mountains meet." With this sentiment, we proudly present to you Youthink Volume XIX: Ascension. May it inspire you to rise, evolve, and ascend to new horizons.

Devansh Jogani

Hemaansh Mohta

FEATURE

INTERVIEWS
GUEST ARTICLES
BEYOND
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PRECIS





“

The normalization of gambling culture, especially through sports, has made it more socially acceptable, particularly among young people.

”

Obscure Odds: The Gambler's Gatsby

Ved Khemka
Department of Commerce (Morning)

Yash Agarwal
Department of Commerce (Morning)

ABSTRACT

‘Defying the odds and making them even’ - a dual-edged sword that may lead one to complete the journey from poverty to payouts, or worse, from payouts to poverty. Gambling inherently encapsulates the philosophy of ‘your loss is my gain.’ Despite the social taboo and legal constraints inherently engrained within, gambling is still a source of supplementary income for several families and a source of misery for even more. Gambling in India dates back to centuries, with various mentions in epics like Mahabharata and mentions in scriptures like Rigveda. These activities have geographically transitioned over the course of the centuries, originating from royal palaces, then to casinos and social gatherings, and now to the fingertips of the common man via the advent of online betting. In this article, we aim to dissect the vast spectrum of

the factors fueling the ascent of the online gambling industry in India and we critically examine whether this surge is a bubble or if this emergence stands as a ratification of the notion that ‘the house always wins.’

KEYWORDS: Online Gambling, Addiction, Betting, Fantasy Sports, Online Casino.

‘STRAIGHT’ TO SUCCESS

Despite the poor per capita income and lack of technological upgradation prevalent in the Indian economy, online gambling has enjoyed increased popularity in India. Mentioned below are the drivers of the same:

1. Cricket-centric Culture

Cricket is, unquestionably, the most loved sport in India. Each major cricket tournament like the Indian Premier League (IPL) and Cricket World Cup are celebrated like festivals and attract gargantuan audiences both online and offline. According to an article by PlayScan, there are approximately 140 million regular bettors throughout the year and the number surges to over 340 million during the IPL season, which is over double of the usual.

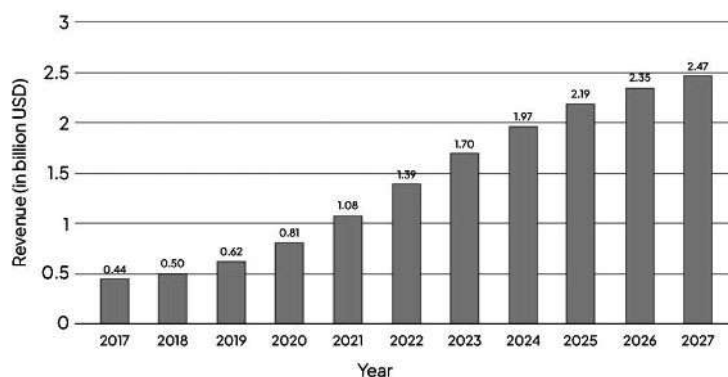


Figure 1: Estimated Revenue of the Online Sports Betting Market in India
(Source: Statista)

2. Affordable Internet and Smartphone Access

Internet costs in India are extremely low as compared to other nations. Simultaneously, India is a prominent

market for mid-range smartphones with Xiaomi and Samsung capturing a massive segment of the market. With easy access to betting platforms and applications, it has become extremely convenient for users to engage with such platforms.

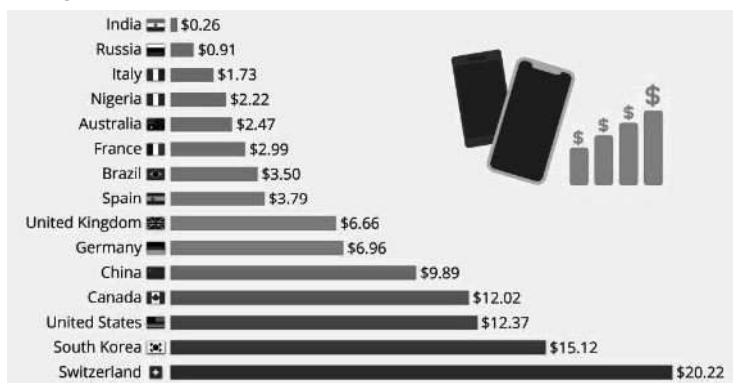


Figure 2: Average Cost of a Gigabyte of Mobile Data in Selected Countries
(Source: Cable.co.uk)

3. Pandemic Phenomenon

Due to the pandemic in 2019, most modes of entertainment had to shift from offline venues to online spheres. Now, people were able to bet sitting from the comfort of their own homes and had achieved a higher level of customization and convenience as compared to their games in physical casinos. Not to mention, not having a plethora of alternate options of recreation also added fuel to the fire.

4. United Payments Interface (UPI) Revolution

The availability of secure and seamless online payment options, including digital wallets and UPI has made it easier for users to deposit and withdraw funds, which has contributed to the growing comfort with online transactions. Online payments often involve abstract numbers and digital representations of money, which can make spending feel less tangible and immediate. This psychological distance can reduce the perceived ‘pain’ of spending, leading to more impulsive wagers.

5. Fantasy Sports Segments

Fantasy Sports platforms like Dream11 and My11Circle have positioned themselves as skill-based games, which psychologically manipulates the consumer into believing that the result is in their hand and not dependent on luck. However, contrary to the premise, there are over 2,949,120 possible combinations for selecting a team, captain, and vice-captain in such games despite excluding factors like squad size and the recently added impact player rule. This highlights the significant role of luck in team selection, despite claims of it being a game of skill. They also entice the customer by offering lucrative prizes in lumpsum for a near-nominal playing fee as compared to the potential winnings. Fantasy sports have served as an entry point for many new users into the broader online gambling space. Not to mention, the massive fan following from cricket coupled with strategic sponsorships with IPL teams and the Board of Control for Cricket in India (BCCI) have tremendously added to their customer base.

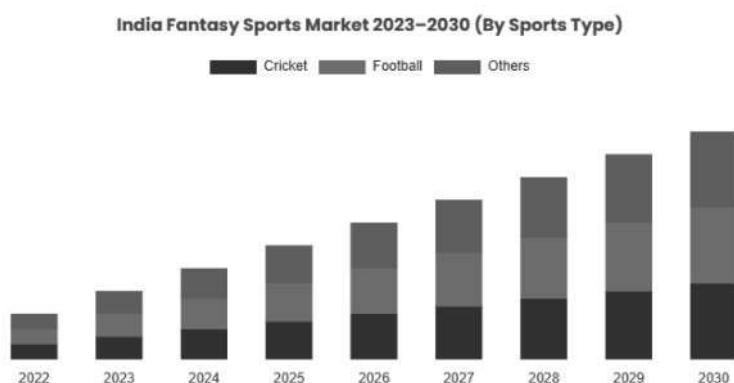


Figure 3: Predicted Market Size for Fantasy Sports
(Source: Shivaji Sirsat on LinkedIn)

6. Celebrity Endorsements

Brand endorsements have been instrumental in the growth of online betting platforms in India. Celebrities like Virat Kohli and MS Dhoni, known for their massive fan followings, have endorsed platforms like Betway and MyCircle11, respectively. These endorsements have helped normalize online

betting and attract new users. Additionally, influencers with niche followings, such as gaming streamers or micro influencers, have also played a significant role in promoting these platforms.

WAY OF THE WAGER

Online betting in India is dominated by several popular game types. Cricket betting leads, offering a variety of options such as match outcomes, spot betting, player performance, over-wise or ball-wise outcomes, and fantasy cricket. Traditional card games like Poker, Teen Patti, Blackjack, and Rummy are also widely played, blending skill and chance. Traditional casino games like roulette, slots, and dice games simulate physical experiences online. Additionally, lotteries and bingos attract participants through national and international draws, offering sizable jackpots and easy online access for ticket purchases and result tracking.

The online betting market in India is forecasted to grow at a compound annual growth rate (CAGR) of 8.8 per cent from 2023 to 2033. Fantasy sports revenue during the IPL 2023 alone reached 2,800 crore, a 24 per cent increase from 2022. In 2023, India's online gambling generated around \$2 billion, with cricket betting contributing over \$1.5 billion, or approximately 75 per cent of the total revenue. Non-cricket gambling, including online casino games like poker, blackjack, roulette, and slots, accounts for around \$500 million.

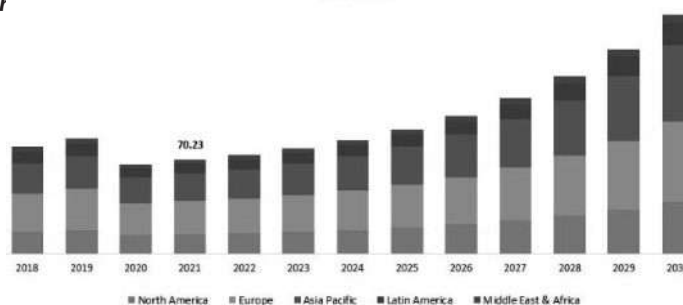


Figure 4: Estimated Sports Betting Market Size by Region in USD Billion
(Source: Polaris Market Research Analysis)

India's legislative framework allows states to establish their own laws regarding gambling, resulting in both consistencies and disparities across regions. In the Northeast, states like Sikkim and Meghalaya have developed clear legal frameworks with Sikkim's Online Gaming Act of 2008 and Meghalaya's Regulation of Gaming Act, 2021, permitting a range of online gambling activities. In the West, Goa is renowned for allowing a broad spectrum of gambling activities, both online and offline, making it a hub for gambling tourism. On the other hand, Gujarat, Maharashtra, and Rajasthan maintain stringent anti-gambling laws, strictly prohibiting most forms of betting which is, however, not enough to curb the same. The South presents a mixed landscape. Kerala is relatively liberal with respect to lotteries, but states like Tamil Nadu enforce strict bans on all forms of gambling. Karnataka experienced legal shifts, with strict regulations introduced in 2021 and then overturned in 2022, leading to a resurgence of online gambling platforms in the state. In Central India, despite legal restrictions, online gambling thrives in Uttar Pradesh and Delhi, largely due to the use of offshore platforms that operate outside local jurisdiction. The East also shows diversity. West Bengal is one of the largest official markets for online betting, particularly in poker and horse racing. In contrast, Bihar has a strong underground gambling market, where unregulated betting is widespread despite the state's strict anti-gambling laws.

However, on the Union level, the government does not encourage gambling which is reflected as such in the taxation laws. Gambling and windfall gains are taxed at a flat 30 per cent under Section 115BB of the Income Tax Act, with Tax Deducted at Source (TDS) applied on winnings over ₹10,000 per transaction. Thus, bookies must deduct the tax before distributing winnings. However, gambling losses cannot be set off against winnings. Let us hypothetically consider ABC Ltd., a company engaged in normal business. If ABC Ltd. incurs a loss or expense of ₹5000 and makes ₹8000 in profits, they will be taxed on ₹3000 but if ABC Ltd. incurs a loss of ₹5000 and makes ₹8000 in profits

while gambling, they are liable to pay taxes on ₹8000, thus meaning that all gains are fully taxable without any relief for losses incurred. In 2022, the online gambling sector generated ₹13,500 crore (\$1.71 billion) in revenue, with operators paying ₹3,780 crore (\$480 million) in Goods and Services Tax (GST). According to IGB, between November 2023 and April 2024, the Indian government earned ₹6,909 crore (\$823 million) from online gambling and ₹1,214 crore (\$151 million) from land-based casinos.

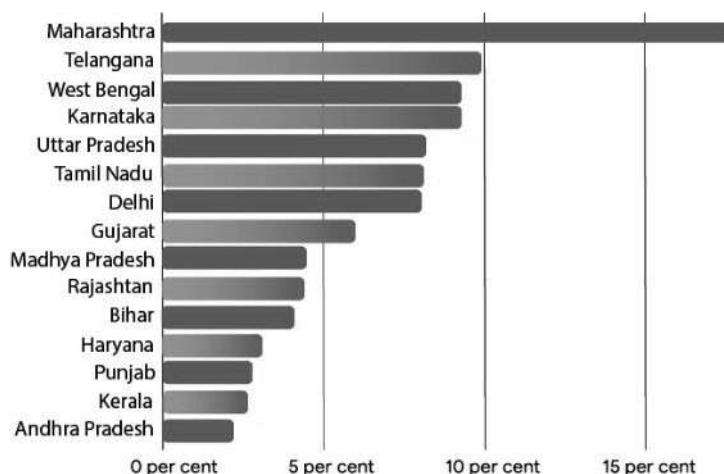


Figure 5: Share of Gambling Population State-wise
(Source: Google Analytics)

CASE STUDY: STAKE

Stake's success in India can be attributed to several key factors. Its user-friendly interface and mobile-optimized platform have made it accessible to a wide range of users, particularly those who prefer to gamble on their smartphones. The platform's diverse game offerings, including betting in various sports like cricket, football and tennis, casino games, and engaging innovations like mines and plinko, have catered to the varying preferences of Indian players. Stake has effectively collaborated with influencers like Karan Aujla and Raftaar to reach a wider audience and position itself as a 'trendy activity'. Stake also allows a minimum bet limit of ₹500 which pulls elasticity in their favour and encourages more consumers to open an account and start betting.

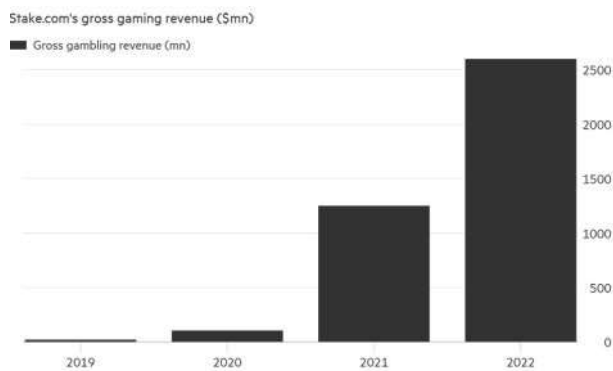


Figure 6: Stake's Recent Growth
(Source: Financial Times)

PUNCTURED PROBABILITY

Gambling addiction is a critical issue in India, affecting approximately 7 million people nationwide, as highlighted by the National Survey on Extent and Pattern of Substance Use. The rise of online gambling, projected to reach \$5 billion by 2025 (Deloitte, 2022), has exacerbated the problem, especially among youth.

Beyond individual addiction, gambling has pervasive social and economic implications. Financial losses often lead to severe debt, pushing individuals and families into a cycle of poverty. Many gamblers resort to borrowing from high-interest lenders or engaging in illegal activities to fund their habits, further deepening their financial crises. This financial strain can lead to increased rates of domestic violence and mental health disorders, as the stress of gambling-related debt affects family dynamics.

Moreover, the normalization of gambling culture, especially through sports, has made it more socially acceptable, particularly among young people. The inconsistent legal framework across states complicates efforts to regulate gambling effectively, leaving vulnerable populations unprotected. Addressing gambling addiction and its broader societal impacts

requires comprehensive policies that encompass prevention, education, and support for affected individuals and families.

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E-Green Revolution: India's Agricultural Ascension Through Agri Stack

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The success of Agri Stack hinges on the effective integration of technology and the development of robust infrastructure to support digital agriculture.



ABSTRACT

This article delves into the transformative potential of Agri Stack, a pioneering digital public infrastructure aimed at revolutionizing India's agricultural sector. Amidst the backdrop of the E-Green Revolution, Agri Stack emerges as a critical tool designed to enhance agricultural productivity, streamline processes, and uplift farmer livelihoods through the strategic integration of technology and data-driven decision-making. While the potential for economic growth is vast, it's important to acknowledge that the initiative is not without its challenges. Global trade fragmentation and price volatility are potential obstacles that could impede progress. The article explores the profound impact of Agri Stack on the Indian economy, the role of technological integration, and the necessity of capacity building, while also addressing these potential obstacles. By leveraging innovation, Agri Stack is positioned to be the cornerstone of India's agricultural ascension, contributing significantly to national and global food security.

KEYWORDS: Agri Stack, E-Green Revolution, India, Agriculture, Digital Transformation, Global Trade, Capacity Building, Farmer Income, Food Security, Precision Agriculture, Policy Frameworks.

INTRODUCTION

Agriculture remains the cornerstone of India's economy, with approximately 42.3 per cent of the population dependent on this sector, contributing 18.2 per cent to the nation's Gross Domestic Product (GDP). However, Indian agriculture is fraught with challenges such as low productivity, fragmented

landholdings, inefficient supply chains, and limited access to financial services. To address these issues, the government has introduced the 'E-Green Revolution,' a strategic initiative that underscores the urgency and importance of digital innovation in transforming the agricultural landscape. The E-Green Revolution, a modern iteration of the Green Revolution, focuses on sustainable and environmentally friendly agricultural practices, and it is within this context that the Agri Stack initiative has been developed. Central to this initiative is 'Agri Stack,' a comprehensive digital public infrastructure designed to modernize and streamline agricultural processes, enhance transparency, and boost farmer incomes.

This article investigates the role of Agri Stack as a catalyst for India's agricultural ascension, examining its potential to drive growth, innovation, and sustainability in the sector. It also discusses the risks posed by global trade fragmentation, climate change, and other external factors that could undermine these advancements and offers recommendations to overcome these challenges.

METHODOLOGY

This article employs a qualitative research approach, incorporating an extensive review of existing literature, government policy documents, and statistical data related to Agri Stack and India's agricultural sector. The analysis is enriched with insights from case studies and expert interviews to provide a nuanced understanding of the subject. The methodology also includes a comparative analysis of similar digital transformations in agriculture globally to contextualize Agri Stack within a broader international framework.

1. The Promise of Agri Stack: Enhancing Agricultural Productivity

Agri Stack represents a monumental shift in India's agricultural data collection, management, and utilization. This initiative aims to create a unified digital ecosystem that integrates various services and data streams, providing farmers with tools to enhance productivity, reduce risks, and increase incomes.

• Digital Land Records

One of the critical components of Agri Stack is the digitization of land records. Accurate and transparent land records are essential for farmers to secure loans, access government subsidies, and resolve legal disputes. Over six crore farmers are expected to benefit from this initiative, which will improve the accuracy of land records, reduce the scope for disputes, and ensure a more equitable distribution of resources.

Digitization includes linking land records with Aadhaar (India's biometric identity system) to create a robust, tamper-proof database. This will streamline the land titling process and facilitate better targeting of government subsidies and financial services. Furthermore, digitized land records can play a crucial role in disaster management, enabling quicker disbursement of compensation to affected farmers.

• Farmer Identification System (FIS)

The Farmer Identification System (FIS) is another pivotal feature of Agri Stack. FIS assigns a unique digital identity to each farmer, linked to their landholdings, crop data, and historical farming activities. This system will enable the government to precisely target agricultural schemes and subsidies, ensuring that benefits reach the intended recipients.

The introduction of FIS is expected to increase the effectiveness of subsidies and insurance payouts by 15-20 per cent, reducing the incidence of fraudulent claims and ensuring that financial aid is distributed more efficiently. Additionally, FIS will support better crop planning and monitoring by providing real-time data on cropping patterns and yields, thereby aiding in formulating more effective agricultural policies.

• Market Intelligence and Pricing Tools

Agri Stack integrates advanced market intelligence tools that provide farmers real-time data on

market prices, demand, and supply trends. By leveraging this information, farmers can make more informed decisions about when and where to sell their produce, potentially increasing their incomes by 10-15 per cent.

These tools also include predictive analytics, which can forecast price trends based on historical data and market conditions. This empowers farmers to optimize their sales strategies, reducing the risk of selling at a loss during periods of price volatility. Moreover, enhanced market access through digital platforms can help farmers bypass intermediaries, thus securing better prices for their produce.

2. Technological Integration and Enhanced Infrastructure

The success of Agri Stack hinges on the effective integration of technology and the development of robust infrastructure to support digital agriculture. This includes improving rural connectivity, promoting digital literacy among farmers, and adopting advanced agricultural technologies such as precision farming and smart irrigation systems.

• Connectivity and Digital Literacy

Rural internet penetration in India is currently around 37 per cent, which poses a significant barrier to adopting digital tools in agriculture. The BharatNet project aims to provide high-speed internet to all gram panchayats by 2025, a critical step in bridging this digital divide. However, infrastructure development alone is insufficient, there must also be a concerted effort to enhance digital literacy among farmers.

Training programs tailored to the needs of farmers should be implemented to teach them how to use digital platforms, interpret data, and apply this knowledge to their farming practices. These programs can be delivered through mobile apps, local workshops, and farmer cooperatives, ensuring that even those in the most remote areas can benefit from digital agriculture.

• Precision Agriculture and Smart Irrigation

Precision agriculture technologies, such as global positioning system (GPS)-enabled equipment, drones, and satellite imagery, are revolutionizing farming practices worldwide. In India, adopting these technologies can increase crop yields by 15-20 per cent, significantly boosting agricultural productivity. Agri Stack can facilitate precision farming by providing farmers with access to data and tools that optimize planting, fertilization, and harvesting schedules.

Smart irrigation systems, which use sensors and automated controls to optimize water usage, are particularly critical in India, where agriculture consumes about 80 per cent of the country's freshwater resources. By integrating smart irrigation with Agri Stack, farmers can reduce water usage, lower costs, and enhance the sustainability of their farming practices.

3. Challenges and Global Trade Fragmentation

While Agri Stack holds immense promise, it also faces several challenges, particularly in global trade fragmentation, geopolitical tensions, and climate change. These external factors could undermine the progress made through digital transformation and pose significant risks to India's agricultural sector.

• Impact of Global Trade Fragmentation

Global trade fragmentation, driven by geopolitical conflicts, protectionist policies, and supply chain disruptions, seriously threatens India's agricultural exports. The recent surge in global wheat prices due to conflicts in major wheat-producing regions has highlighted the vulnerability of global food supply chains. For India, which aspires to increase its agricultural exports, this fragmentation could lead to market instability, reduced export revenues, and challenges in maintaining food security.

To mitigate these risks, India must diversify its export markets, enhance trade relations with emerging

economies, and invest in domestic supply chain infrastructure. Strengthening cold storage facilities, improving transportation networks, and adopting advanced logistics technologies will be crucial in ensuring that Indian agricultural products can reach global markets promptly and efficiently.

- **Price Volatility and Farmer Resilience**

Price volatility remains one of the most significant challenges for Indian farmers. Sudden fluctuations in market prices, often driven by global events, can devastate farmers' incomes, especially for those with limited financial resources. While Agri Stack's market intelligence tools can help farmers navigate these fluctuations, there is also a need for robust policy frameworks to protect farmers from the adverse effects of market volatility.

The government should consider implementing measures such as Minimum Support Prices (MSP) for key crops, crop insurance schemes that cover a broader range of risks, and safety nets for farmers affected by price drops. Additionally, promoting contract farming and Farmer- Producer Organizations (FPOs) can provide farmers with more stable income streams and reduce their exposure to market risks.

4. BUILDING CAPACITY FOR SUSTAINABLE GROWTH

For Agri Stack to realize its full potential, there must be a concerted effort to build institutional and grassroots capacity. This involves fostering innovation, promoting research and development, and enhancing farmer education to create a sustainable and resilient agricultural sector.

- **Public-Private Partnerships (PPPs)**

Public-Private Partnerships (PPPs) are essential for driving innovation in agriculture. By leveraging the strengths of both the public and private sectors, PPPs can accelerate the development and adoption

of new digital tools and platforms. For instance, collaborations between technology companies and government agencies can lead to the creation of customized solutions tailored to the needs of Indian farmers.

These partnerships can also facilitate scaling up successful pilot projects and disseminating best practices across the country. Furthermore, PPPs can play a crucial role in mobilizing financial resources for large-scale infrastructure projects, such as expanding rural internet connectivity and developing smart irrigation systems.

- **Financial Inclusion and Empowerment**

Financial inclusion is a critical enabler of agricultural growth and development. Agri Stack can empower farmers to invest in new technologies, diversify their crops, and improve their farming practices by providing access to credit, insurance, and financial services. The Pradhan Mantri Fasal Bima Yojana (PMFBY), which has insured over five crore farmers, is a successful example of how digital tools can enhance financial inclusion and resilience in the agricultural sector.

However, to maximize the impact of financial inclusion, there must be a focus on expanding the reach of these services to the most marginalized farmers. This includes simplifying the processes for obtaining loans and insurance, reducing the cost of financial services, and promoting awareness of the benefits of financial inclusion.

- **Research and Development for Innovation**

Innovation in agriculture is essential for addressing the complex challenges of food security, climate change, and resource management. Research and development efforts should focus on developing new crop varieties that are more resilient to climate change, improving soil health, and increasing the efficiency of water and nutrient use.

Agri Stack can play a pivotal role in supporting research and development by providing

researchers with access to vast amounts of agricultural data, enabling the development of more targeted and effective solutions. Additionally, the government should establish innovation hubs and provide grants for research on precision agriculture, smart irrigation, and sustainable farming practices. Collaborations between research institutions, the private sector, and farmers will be crucial in translating research findings into practical applications.

5. Recommendations

To ensure the success of Agri Stack and maximize its impact on India's agricultural sector, the following recommendations are proposed:

- **Enhance Digital Literacy Programs**

Expanding digital literacy programs in rural areas is essential to enable farmers to utilize Agri Stack's tools and services effectively. Government and private sector initiatives should train farmers to use digital platforms, mobile applications, and data interpretation. These programs should be accessible, culturally relevant, and delivered through various channels, including mobile apps, local workshops, and farmer cooperatives.

- **Strengthen Infrastructure Development**

Investment in rural infrastructure, particularly in terms of internet connectivity and reliable power supply, is critical for the success of Agri Stack. Accelerating the completion of projects like BharatNet and ensuring uninterrupted access to electricity will provide the foundation needed for the successful implementation of Agri Stack. Additionally, improving transportation networks and cold storage facilities will enhance the efficiency of supply chains and reduce post-harvest losses.

- **Promote Collaborative Research and Development**

Encouraging collaboration between research institutions, the private sector, and government agencies will foster innovation in agricultural technologies. Establishing innovation hubs and providing grants for research on precision agriculture, smart irrigation, and sustainable farming practices will drive long-term growth. These efforts should be supported by policies that incentivize research and development and promote the commercialization of innovative solutions.

- **Implement Robust Policy Frameworks**

The government should develop and implement policies that protect farmers from price volatility and global trade disruptions. This includes establishing MSP for key crops, enhancing crop insurance schemes to cover broader risks, and creating safety nets for farmers affected by market fluctuations. Additionally, promoting contract farming and FPOs can provide farmers with more stable income streams and reduce their exposure to market risks.

- **Facilitate Market Access and Export Diversification**

India should focus on diversifying its agricultural export markets to mitigate the risks of global trade fragmentation. Establishing trade agreements with new partners, improving logistics infrastructure, and leveraging digital platforms for market access will help Indian farmers gain better access to global markets. This will also require strengthening domestic supply chains to ensure that Indian agricultural products can reach global markets promptly and efficiently.

CONCLUSION

India's agricultural sector stands at a critical juncture, poised for a transformative journey powered by the implementation of Agri Stack. This digital infrastructure embodies the theme of ascension, representing a continuous upward trajectory toward growth, resilience, and self-discovery. While the challenges posed by global trade fragmentation, price volatility, and climate change are significant, the potential benefits of Agri Stack are immense. By integrating technology, enhancing infrastructure, and building capacity, India can improve its farmers' livelihoods and strengthen its position in the global agricultural market. The E-Green Revolution, with Agri Stack at its core, holds the promise of a brighter future for Indian agriculture, securing both national and global food security.

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Dorm to Dollars: The Rise of Student Innovators and Young Entrepreneurs

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ABSTRACT

The surge in student-led startups, bolstered by initiatives such as the Campus Fund, has led to an unprecedented rise in the presence of young entrepreneurs within the service sector. This article explores whether the rise of these startups can foster a sustainable ecosystem of innovation, job creation, and technological advancement, or if the lack of resources, mentorship, and financial experience will lead to heightened risks of failure. The article also analyzes the potential of student-led startups to reshape investment landscapes for younger professionals while assessing the challenges that come with balancing growth and sustainability in a competitive market.

KEYWORDS: Student-led Startups, Entrepreneurship, Campus Fund, Innovation Ecosystem, Job Creation, Financial Fisk, Mentorship.

INTRODUCTION

In a world where innovation knows no age, student entrepreneurs are turning dorm room dreams into billion-dollar realities, redefining the future of business and technology. More importantly, educational entrepreneurship is appealing because it is hardly undertaken as merely an academic exercise rather, it is the birth of potential businesses that will one day be industry beasts. Forbes India once quoted, 'From Dorm Rooms to Boardrooms: How Student Entrepreneurs are Changing the Game' and this change is evidently visible in recent times.

The Campus Fund, a nursing venture program, devotes at least 25 per cent of its investments to student-dependent ventures and provides backup and legitimacy to the young entrepreneurs' endeavours. However, with the already existing student companies come the questions of sustainability, whether it is possible to raise the funds needed for growth and nourish an entrepreneurial ecosystem within itself, or will one run into constraints and power, hence increased chances of business failure and vulnerability to economic fluctuation. In this paper, the author looks at the encapsulating

Student-led
companies play a
crucial role in
creating job
opportunities,
particularly in the
service sector.

nature of the concept of student entrepreneurship which is both a boon and a curse.

THE EMERGENCE OF STUDENT-LED STARTUPS

A Growing Force Driven by technology including cloud computing, social networks, and e-commerce, students are venturing into business owing to the fact that they do not require large amounts of money to set up and expand. Of the students' establishment of businesses in the service industry, 72 per cent understand technology, which they view as barrier-free from businesses.

The role of higher education is understood as aiming to foster entrepreneurial spirit in students by offering small-business incubation schemes and mentorship programmes, business creation lessons and so forth. The Campus Fund, a student-led venture capital, has been quite instrumental in managing the equity and providing seed capital for such startups. In 2015, approximately 250 student startups were active in India. By 2023, this number had grown to over 5,000, representing a 20-fold increase over 8 years. The average age of a startup founder in India has decreased from 32 years in 2015 to 27 years in 2023, thus indicating a shift towards younger entrepreneurs.

CASE STUDY

Let us take the example of Shriya Patel, a University of California student who has implemented an artificial intelligence (AI) -based mental wellness tool from her dorm, and within three years her company raised 1 million dollars in investments, employed 50 plus people and was utilized by clients from all over the world (Patel, 2021). However, these accounts of success are no longer considered outliers, evidence of the increasing number of students who want to make a difference while enrolled in school is observed.

STUDENT-LED STARTUPS: CATALYSTS FOR INNOVATION IN INDIA

In India, student entrepreneurs have been able to flourish since about 2016 due to government programs like Startup India and the support of the finest educational institutions like Indian Institutes of Technology (IITs) and Indian Institutes of Management

(IIMs). Ratan Tata once said, 'Young entrepreneurs will make a difference in the Indian ecosystem by building new businesses that create wealth and employment.' Supporters have even embraced measures like the National Initiative for Developing and Harnessing Innovations (NIDHI) and the Atal Innovation Mission that provide funding, incubation and mentorship. Thus, start-ups in the areas of fintech, ed-tech, health-care et al. have come up which comprise approximately half of all the student-led startups.

The Campus Fund provides seed funding, but many

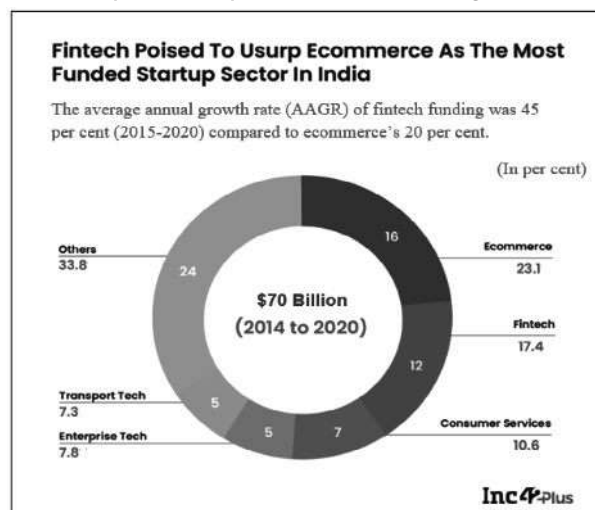


Figure 1: Fintech Poised to Usurp Ecommerce as the Most Funded Startup Sector
(Source: Inc42 Plus)

companies still need more investments for meaningful prospects. Acquiring venture capital can be challenging, especially for students without established connections. Competition for funds has increased, with venture capitalists being reluctant to finance startups with no proven history. A TechCrunch survey in 2023 revealed that only 18 per cent of student-led startups receive Series A funding, while 35 per cent receive similar financial assistance.

POTENTIAL BENEFITS: EMPLOYMENT OPPORTUNITIES AND STRENGTHENING ECONOMIES

Student-led companies play a crucial role in creating job opportunities, particularly in the service sector. The US Administration and Spain support self-employed SMEs that account for over 70 per cent of global

employment. By continuing to develop, student-led companies can significantly contribute to reducing youth unemployment which currently stands at 14.4 per cent.

Student-oriented companies, such as Stanford's 'Green Bytes' are innovative and focused on cutting-edge technologies like AI, blockchain, and biotechnologies. These startups offer fresh perspectives on age-old issues, addressing issues that grown businesses may overlook. The Campus Fund, which supports student-based entrepreneurial activities, attracts more investors and resources, leading to greater expansion of early success stories of young entrepreneurs. These ventures, like 'Green Bytes' use analytical data to reduce food waste and address environmental challenges, making investments in young people more appealing.

Student businesses can attract global funding, particularly targeting younger individuals to nurture their wealth-generating potential. Funds like the Campus Fund can help these young entrepreneur stories advance by attracting more investors and resources, leading to greater expansion and growth in their entrepreneurial stories. As of 2023, student-led startups have created over 150,000 jobs in India, a significant increase from 10,000 jobs in 2015. On average, each student-run startup creates between 5-10 direct jobs in its first two years of operation.

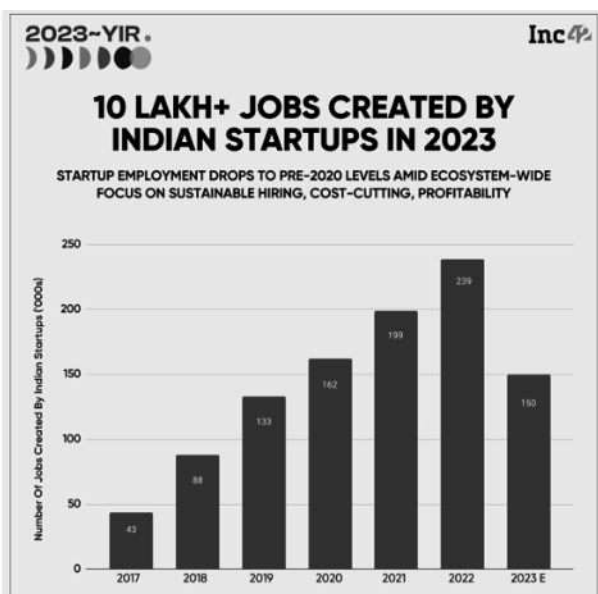


Figure 2: Jobs Created by Indian Startups in 2023
(Source: Department for Promotion of Industry and Internal Trade, Inc42 Calculations)

CHALLENGES: LACK OF EXPERIENCE, MENTORSHIP, AND FINANCIAL RESOURCES

Student-led enterprises face challenges, particularly in terms of lack of experience and operational, financial, and managerial skills. Research shows that over 60 per cent of firms initiated by students fail or shut down after three years due to inadequate financial reach and business models, as reported by the National Startup Foundation in 2022.

In addition, the growth in new businesses has created pressure on mentorship capabilities. More often than not, experienced entrepreneurs and innovators are overstretched and cannot give adequate information to these budding student businesses. This is a big drawback as without guidance, poor judgments might be made, especially in product innovation, marketing, and expanding the business.

The Campus Fund provides seed funding, but many companies still need more investments for meaningful prospects. Acquiring venture capital can be challenging, especially for students without established connections. Competition for funds has increased, with venture capitalists being reluctant to finance startups with no proven history. A TechCrunch survey in 2023 revealed that only 18 per cent of student-led startups receive Series A funding, while 35 per cent receive similar financial assistance.

THE ROLE OF ECOSYSTEMS AND GOVERNMENT INITIATIVES

Governments and educational institutions are crucial in fostering student-led enterprises. Universities can support student development through policy measures that foster innovation. Singapore's Startup SG offers grants, equity finance, and mentorship programs for young entrepreneurs, while India's National Entrepreneurship Network offers training programs to develop entrepreneurial skills like marketing management and leadership among student entrepreneurs. Between 2015 and 2023, the total funding raised by student-led startups increased from \$5 million in 2015 to \$500 million in 2023. The Indian government's Startup India Seed Fund Scheme (SISFS) provides up to 500 thousand (approximately \$60,000) in seed funding to early-stage startups, benefiting many student founders.

But the pressure on resources both financial and human is palpable. As more students join the startup arena, there is a need for governments, universities and the private sector to work together to develop more robust funding strategies and enhance mentorship options. One such initiative is the Young Entrepreneurs Initiative (YEI) in Europe, which provides a full spectrum of assisting student startups by linking them with mentors and investors (European Commission, 2023).

some of the deficits created by inadequate knowledge and leadership.

CONCLUSION

The development of student innovators and young entrepreneurs signals a significant shift in the service industry. With the correct support structures in place, such as the Campus Fund, government regulations, and

mentorship programs, student-led enterprises have the ability to drive job creation, technical innovation, and economic growth. However, without careful preparation and a solid business strategy, these firms risk becoming financially unstable and failing at a higher rate.

The route from dorm to cash is fraught with both chances and challenges. For student-led enterprises to survive, a collaborative ecosystem that fosters creativity while offering financial and mentoring resources is required. With the appropriate balance, this new crop of entrepreneurs could emerge as

tomorrow's corporate leaders.

Milestone Alert: Indian Startup Funding Crosses \$150 Billion Mark

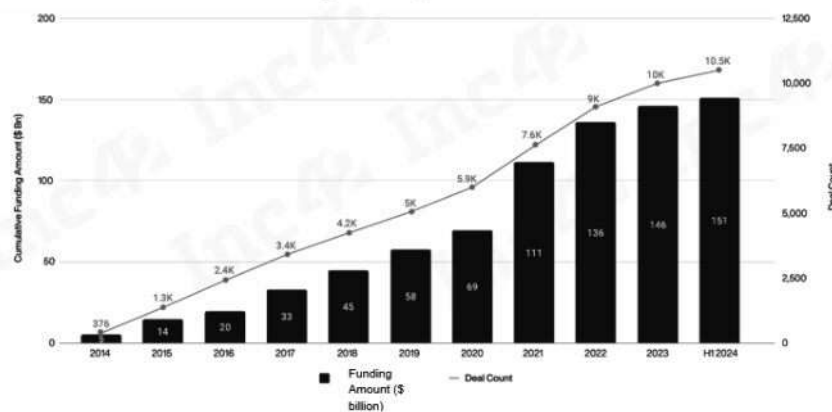


Figure 3: Indian Startup Funding Crosses \$150 Billion
(Source: Inc42)

FUTURE OUTLOOK: SUSTAINABLE GROWTH OR OVERCROWDED MARKET?

On its part, the emergence of student commercial ventures has capacity to revolutionize the entrepreneurship sector. With the advent of the Campus Fund and the increasing interest of venture capitalists, the future outlook appears bright for young entrepreneurs. Since every new venture has been associated with certain risk factors within the corporate climate it is important that the issues of resource scarcity, absence of mentoring and poor success rates of student businesses are addressed for the sake of sustainability.

One solution would be to lower the age requirement for accessing financial literacy programs preventing young entrepreneurs from making mistakes with their money. In addition, creating more acquainted spaces where students may engage with mentors, investors, and other professionals within the industry would also help with

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“

Among 180 respondents, 41 per cent associate brown with chocolate, 27.6 per cent with coffee, and 24.3 per cent with wood, while only 7.1 per cent to leather.

”

Impact of Colour in Advertising

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ABSTRACT

The primary goal of marketing campaigns is to establish a brand presence and drive product purchases. Colour is a key visual element in advertisements, evoking emotions, shaping perceptions, differentiating brands, enhancing memorability, and fostering customer loyalty.

Research shows that colour significantly influences purchasing decisions by appealing to both psychological and emotional factors, often forming subconscious judgments within seconds. Modern advertisers strategically use colour in logos, packaging, and other elements to capture attention and stay relevant.

Choosing the right colour is essential, though responses vary by gender, culture, and experience. Marketers must understand these nuances to design impactful campaigns. This study explores how consumers perceive colour in marketing and how it influences their buying decisions.

LITERATURE REVIEW

1. Labrecque and Milne, in their study, 'Exciting Red and Competent Blue: The Importance of Colour in Marketing', found that brand logo colours increase recognition by up to 80 per cent. (Labrecque and Milne, 2011)
2. Bottomley and Doyle, in their research paper, 'The Interactive Effects of Colours and Products on Perceptions of Brand Logo Appropriateness', found that logos are perceived as more appropriate when the colours align with the product. (Bottomley and Doyle, 2006)
3. Jin, Yoon and Lee, in their paper 'The Influence of Brand Colour Identity on Brand Association and Loyalty', demonstrate that consistent use of brand colours strengthens associations and loyalty. (Jin, Yoon, and Lee, 2019)
4. Elliot and Maier, in their study 'Colour Psychology: Effects of Perceiving Colour on Psychological Functioning in Humans', demonstrated that cultural differences affect how colours impact marketing, suggesting marketers should consider these when choosing campaign colours. (Elliot and Maier, 2014)
5. Spence and Zampini, in their project 'Assessing the Role of Visual and Auditory Cues in Multisensory Perception of Flavour' found out that visual cues can be instrumental in affecting the sense of taste. (Zampini and Spence, 2012)

RESEARCH GAP

This research is different from the other studies that have already been conducted on similar topics, due to the following factors:

1. Previous research focuses on general consumer reactions to colours, while this study offers a deeper analysis of how specific colours influence purchasing behaviour.
2. This study provides a more holistic view of colour's role in product differentiation and its aesthetic appeal, impacting consumer buying decisions.

3. Prior research focuses mainly on brand logos, while this study explores how colours influence perception across advertisements and packaging.

RESEARCH OBJECTIVES

The goals of this research analysis are as follows:

1. To understand the psychological impact of colours on consumers and their reactions.
2. To analyse how consumer preferences change when products are associated with different colours in advertisements.
3. To analyse how colours in ad campaigns affect consumer buying decisions.

RESEARCH METHODOLOGY

The methodology includes primary data from a survey of 180 respondents and secondary data from online research papers, reports, articles, and journals.

DATA ANALYSIS AND FINDINGS

Data analysis

To examine the impact of colour in advertising, a questionnaire was distributed. The study's objectives were addressed through the following:

1. Psychological Impact of Colour (Questions 1-4): Assessed the importance of colour in advertisements and what emotions or thoughts certain colours evoke in consumers.
2. Consumer Preferences and Colour (Questions 5-7): Images were shown to analyse how people associate colours with products and use them for product differentiation.
3. Colour's Effect on Buying Decisions (Questions 5-7): Examined how different colour choices in ad campaigns influence consumer buying decisions and brand preferences.
4. This project's primary data analysis is based on 180 responses, with graphical analysis used to illustrate

the findings. The details of the data collected are as follows:

5. Total Number of Respondents (Sample Size): 180

6. Age Break-up of Respondents:

Age Group	Number of Respondents	Percentage of Respondents
Less than 18	3	1.7 per cent
18 to 22 years	142	78.9 per cent
23 to 35 years	23	12.8 per cent
36 to 50 years	6	3.3 per cent
51 to 60 years	6	3.3 per cent

Table 1: Age Distribution
(Source: Primary Data)

Gender Break-up of Respondents:

Gender	Number of Respondents	Percentage of Respondents
Male	101	56.1 per cent
Female	79	43.9 per cent
Other	0	0 per cent

Table 2: Gender Distribution
(Source: Primary Data)

Findings

Question 1

Rank the following aspects of an advertisement according to what appeals to you the most:

Options Provided -

- Tagline
- Colour
- Platform Placement
- Body
- Design

Response Received -

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Tagline	50	29	36	41	24
Colour	19	47	46	43	25
Platform Placement	23	26	53	49	29
Body	20	33	50	54	23
Design	38	24	35	43	40

Table 3: Rankings of Different Aspects of an Advertisement
(Source: Primary Data)

Rank the following aspects of an advertisement according to what appeals to you the most:

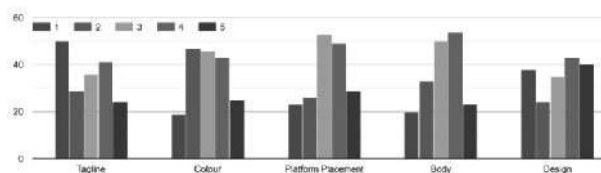


Figure 1: Ranking of Different Aspects of an Advertisement
(Source: Primary Data)

Interpretation

- Out of 180 responses, 50 ranked the tagline as most appealing, followed by colour with 47 respondents. Platform placement, body, and design were ranked third, fourth, and fifth.

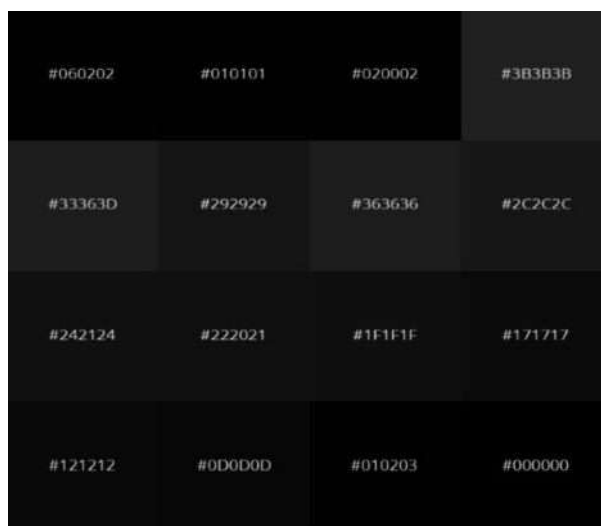


Figure 2: Colour Codes
(Source: Primary Data)

- This suggests that colour, ranked second, plays a significant role in advertising.
- A weighted average method was used to calculate the final score for each aspect, with points assigned from 5 (1st place) to 1 (5th place).

$$\text{Final Score} = \frac{\Sigma(\text{Number of Respondents} * (6 - \text{Rank of the Respondents}))}{180}$$

- The following are the scores using this formula:

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Final Score
Tagline	50	29	36	41	24	3.23
Colour	19	47	46	43	25	2.95
Platform Placement	23	26	53	49	29	2.80
Body	20	33	50	54	23	2.85
Design	38	24	35	43	40	2.87

Table 4: Ranking of Different Aspects of Advertisement with Final Scores
(Source: Primary Data)

- From the above table, we can see that tagline has the highest score. People believe that it appeals to them the most in advertisements. Colour has the second highest score, reiterating the important role that colour plays in influencing consumer behaviour.
- The huge difference of 0.28 between colour and tagline shows how people give taglines a significantly higher weightage. However, colour is considered more important and appealing than the avenues of advertisements, body or the design used.

Question 2

What comes to your mind when you look at the following colours?

Options Provided

- Power
- Magic
- Calmness
- Energy

Responses Received -

Opinion	Number of Respondents
Power	86
Magic	29
Calmness	33
Energy	31

Table 5: Opinion on the Colour Black
(Source: Primary Data)

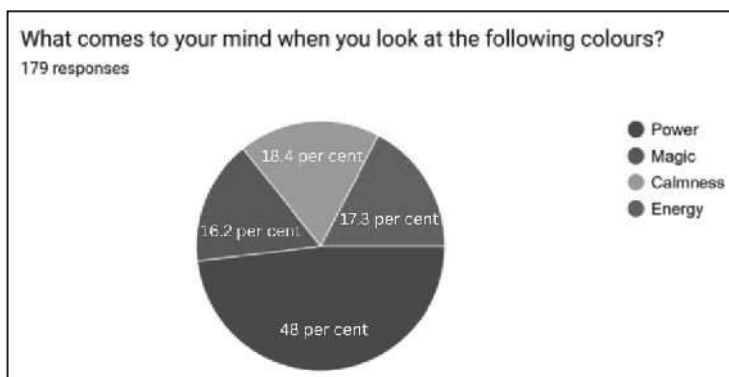


Figure 3: Opinion on the Colour Black
(Source: Primary Data)

Interpretation -

- Of 48 per cent associate black with 'power,' while 18.4 per cent link it to 'calmness,' suggesting that black evokes power.
- Smaller percentages associate black with calmness (18.4 per cent), energy (17.3 per cent), and magic (16.2 per cent), indicating varying emotional responses to the same colour.

Question 3

What comes to your mind when you look at the following colours?

Options Provided

- a) Health
- b) Innocence
- c) Trust
- d) Luxury

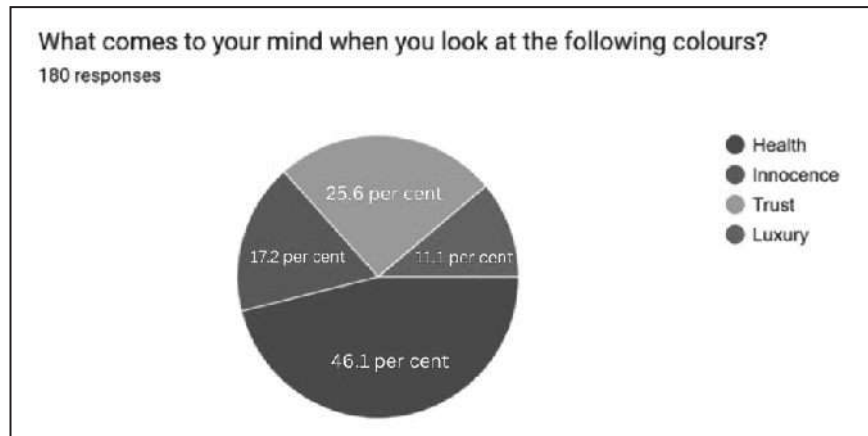


Figure 5: Opinion on the Colour Green
(Source: Primary Data)

Interpretation –

- 46.1 per cent of respondents associate green with 'health' and 25.6 per cent with 'trust,' showing that green evokes positive emotions.
- Green's association with health and trust likely stems from its calming effect and its connection to nature.

Question 4

Which of the following products do you associate these colours with?

Options Provided

- a) Coffee
- b) Wood
- c) Chocolate
- d) Leather

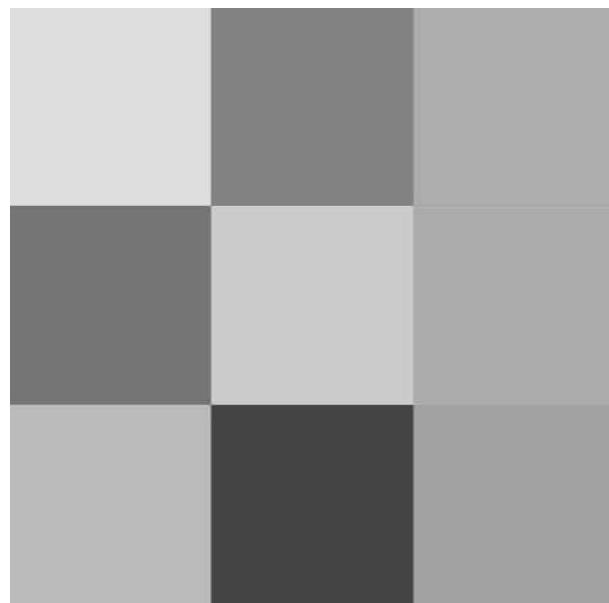


Figure 4: Picture Provided in Questionnaire
(Source: Internet)

Responses Received -

Opinion	Number of Respondents
Health	83
Innocence	31
Trust	46
Luxury	20

Table 6: Opinion on the Colour Green
(Source: Primary Data)

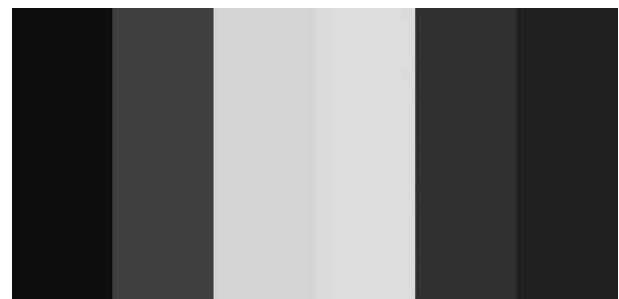


Figure 6: Picture Provided in Questionnaire
(Source: Internet)

Responses Received -

Products	Number of Respondents
Coffee	58
Wood	51
Chocolate	86
Leather	15

Table 7: Products Associated with the Colour Brown
(Source: Primary Data)

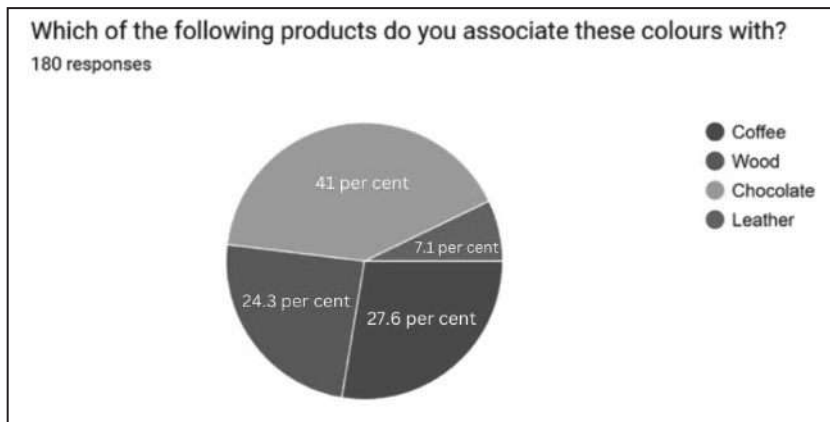


Figure 7: Products Associated with the Colour Brown
(Source: Primary Data)

Interpretation -

- Among 180 respondents, 41 per cent associate brown with chocolate, 27.6 per cent with coffee, and 24.3 per cent with wood, while only 7.1 per cent to leather.
- This shows that consumers connect specific colours with certain products, and marketers can use this to enhance brand identity.
- Despite multiple products sharing this colour, chocolate stands out, underscoring the strategic use of colour in advertising.

Question 5

Which of the following advertisements is most appealing to you?

Options Provided

Figure 8: Option 1



Figure 10: Option 3



Figure 9: Option 2



Figure 11: Option 4



Figure 12: Option 5

(Source: Internet)

Responses Received -

Advertisements	Number of Respondents
1	11
2	12
3	09
4	59
5	89

Table 8: Different Backgrounds on an iPhone
(Source: Primary Data)

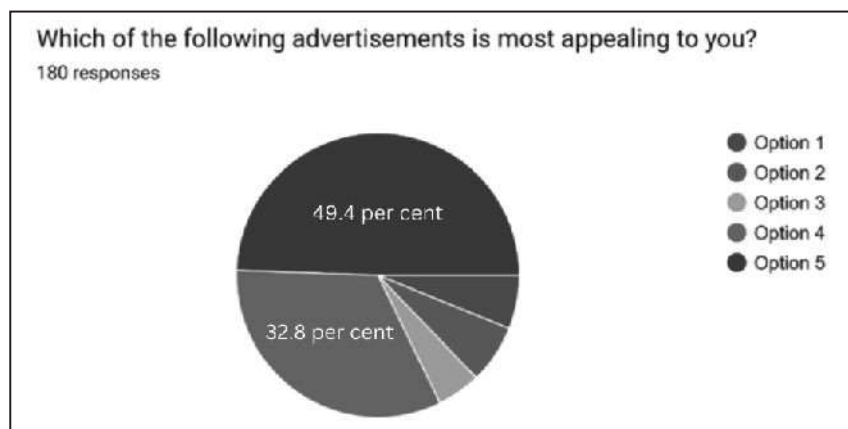


Figure 13: Different Backgrounds on an iPhone
(Source: Primary Data)

Interpretation -

- The data shows a preference for white backgrounds (49.4 per cent), followed by black (32.8 per cent).
- White offers a simplistic appeal, focusing attention on the product, while black conveys luxury.
- The preference for white may stem from Apple's consistent use of it, highlighting the power of colour in effective marketing strategies.

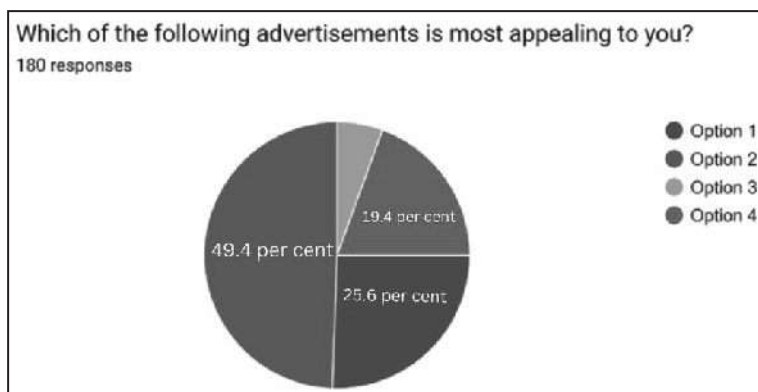


Figure 18: Different Backgrounds on a Burger
(Source: Primary Data)

Question 6

Which of the following advertisements is most appealing to you?

Options Provided



Figure 14: Option 1



Figure 15: Option 2



Figure 16: Option 3



Figure 17: Option 4

(Source: Internet)

Responses Received -

Advertisements	Number of Respondents
1	46
2	89
3	10
4	35

Table 9: Different Backgrounds on a Burger
(Source: Primary Data)

Interpretation -

- Among the respondents, 89 chose a yellowish background and 46 opted for a red background, with 75 per cent selecting one of these two colours.
- Red and yellow are commonly used in restaurant advertising (e.g., KFC, Burger King, McDonald's) as red stimulates appetite and yellow grabs attention, symbolizing friendliness and happiness—known as the 'ketchup and mustard' theory. These colours appeal particularly to younger consumers, who often influence their parents' purchasing decisions.

Question 7

What is the flavour that you would associate this packaging with?

Options Provided

- Honey Mustard
- Cheese
- Barbeque
- Salt and Vinegar



Figure 19: Image Provided in Questionnaire
(Source: Internet)

Responses Received -

Advertisements	Number of Respondents
Honey Mustard	116
Cheese	29
Barbeque	22
Salt and Vinegar	13

Table 10: Different Flavours of Chips
(Source: Primary Data)

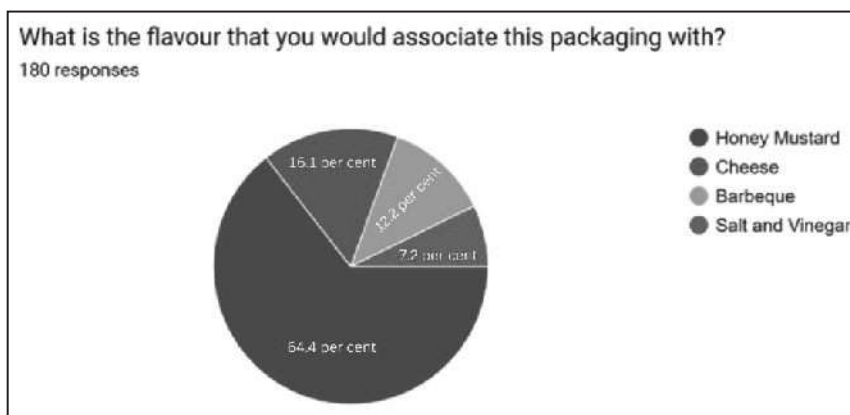


Figure 20: Different Flavours of Chips
(Source: Primary Data)

Interpretation -

- The data shows that 116 respondents (64.4 per cent) associate the colour of the packet with the 'Honey Mustard' flavour, likely due to the colour's influence on their perception.
- Colour and flavour are closely linked, as packaging colours help consumers differentiate between flavours. The strong association with 'Honey Mustard' demonstrates how consumers psychologically link colour to a product. Brands like Lays and Bingo use this strategy by emphasizing colour in their advertisements and packaging to market different flavours effectively.

CONCLUSION

Colour significantly influences decision-making and helps products stand out by associating colours with

identity, lifestyle, or appearance. These subconscious links between colour and packaging shape purchasing decisions, making colour selection vital for marketers.

Marketers must carefully consider colour choices, as they impact consumer behaviour. However, consumers should be mindful of how aesthetics may influence their choices beyond a product's actual utility. This study confirms the strong connection between colour psychology and purchasing behaviour. While further research with a larger sample size could offer deeper insights, the

findings underscore that understanding colour perception can build brand identity, foster loyalty, and drive sales by differentiating products in a crowded marketplace.

LIMITATIONS OF THE STUDY

- The 180-respondent sample size is too small to represent the broader population and lacks diversity, limiting global

applicability.

- Colour perception is subjective, making it difficult to draw universally applicable conclusions due to individual differences.
- The study excludes respondents with colour vision deficiencies, which may affect how people perceive advertisements.
- Disclosing the study's purpose may have influenced respondents' answers, affecting the analysis of the unconscious impact of colour.

RECOMMENDATIONS

Colour is an integral part of life and advertising, playing a key role in shaping consumer perception, establishing brand identity, and driving sales. Marketers should prioritize colour in their advertising strategies for the following reasons:

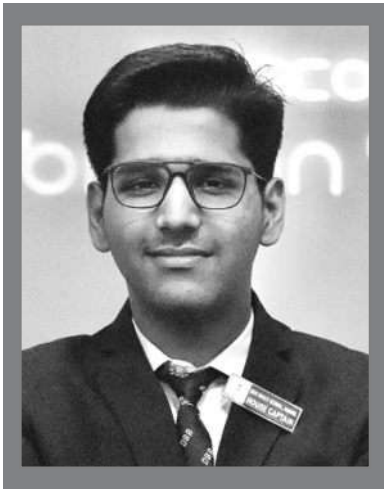
1. **Colour in Packaging:** Colour in packaging enhances both brand and product identification, creating a stronger impression and aiding brand recognition.
2. **Choosing the Right Colour:** Colours evoke specific emotions. Marketers must select colours that align with the product's utility and convey the right message to boost ad effectiveness.
3. **Effective Use of Colour:** A deep understanding of colour psychology allows marketers to capture consumer attention and outshine competitors by leveraging colour to evoke the desired consumer response.
4. **Adapting to Changing Consumer Preferences:** Marketers should stay attuned to shifting colour preferences, such as red and yellow in fast food and white and black in electronics.
5. **Enhancing Visual Appeal:** Colours significantly enhance the overall appearance of ads, making products stand out. In Apple's iPhone ads, for instance, a white background helps focus attention on the product.
6. **Shaping Colour Psychology:** Marketers can influence perception by associating their brand

with specific colours, creating differentiation. Unique colour combinations strengthen brand identity and loyalty through consistent use.

Strategic use of colour allows marketers to build stronger connections with audiences and create impactful campaigns.

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Cricket's Return to the Olympics - A Potential Game-Changer

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The International Olympics Committee's Agenda 2020+5 prioritize making the Olympics more appealing to younger audiences by incorporating sports that are vibrant, youth-friendly, and globally popular.



ABSTRACT

Cricket, one of world's most popular sports, is set to be reintroduced at the 2028 Summer Olympics at Los Angeles, California, United States. It is historic return to the Olympics was advocated by renewed efforts of the International Cricket Council (ICC) after the game made its last Olympic appearance in 1900. There is a significant transformative impact of inclusion of cricket in the Olympics for the emerging cricketing nations and for countries struggling with socio-political divides and rifts among themselves.

The global cricket fanbase exceeds two million approximately, with prominent presence of popularity of this sport in the countries like India, Pakistan, Bangladesh, Sri Lanka, Australia, South Africa and England. As per recent statistics by YouGov, a British international Internet-based market research and data analytics firm headquartered in the UK, Cricket also has a strong presence of around 24 per cent in UAE, which is home to a big population of expatriates from South Asian countries.

Cricket's reintroduction to the Olympic platform has the potential to spur worldwide expansion. Cricket, which has traditionally been dominated by nations such as India, Australia, and England, could benefit from its presence in the Olympics, allowing it to enter new markets. Countries with a growing fascination in cricket, such as the United States, China, and several African nations, might use the Olympic stage to increase participation and viewership. This might result in a huge rise in grassroots engagement, promoting indigenous talent growth and nurturing an emerging class of cricketers.

The Olympic Games offer an unmatched opportunity for worldwide awareness. Cricket's comeback would draw a diverse worldwide audience, raising the sport's prominence and attractiveness. The Olympics' high viewership could lead to more sponsorship opportunities and commercial collaborations, producing significant streams of income for national cricket

boards and global governing bodies. Cricket might cement its position as a big worldwide sport by leveraging the Olympics' massive marketing infrastructure, potentially competing with other prominent sports such as basketball and football.

One of the primary benefits of cricket's reintroduction to the Olympics lies in the ability to change the structure of the game. Shorter formats, such as Twenty20 (T20) or T10, complement the Olympics' focus on fast-paced, exciting sports. These forms are ideal for engaging younger audiences, improving the viewer's experience, and integrating into the time limits of Olympic events. The dynamic character of these formats has the potential to create an exciting Olympic environment, attracting new spectators who may not be familiar with conventional longer formats such as Test cricket.

Cricket's prospective reintroduction to the Olympics gives a tremendous chance for the sport to improve and broaden its worldwide reach. Cricket might benefit from the Olympic platform by increasing its awareness, fostering international expansion, and engaging a larger audience. Despite the hurdles, proper preparation and association among stakeholders may create the path for cricket's effective integration into the Olympic structure. Finally, this decision has the potential to improve the Olympic Games while also ushering in a new age of development and long-term viability for cricket in the twenty-first century.

OVERVIEW

The International Olympics Committee's Agenda 2020+5 prioritize making the Olympics more appealing to younger audiences by incorporating sports that are vibrant, youth-friendly, and globally popular. Cricket, particularly the T20 format, fits effectively into this agenda due to its fast speed and entertainment value.

Cricket has long been immensely popular in India, Pakistan, Australia, England, and South Africa. However, in recent years, it has expanded into non-traditional areas like as the United States, Canada, and parts of Europe. Cricket's spread into these locations broadens its global appeal, which aligns with the (International Olympic Committee's (IOC) preference for internationally recognized sports.

THE CENTURY-LONG WAIT: ANALYZING CRICKET'S JOURNEY BACK TO THE OLYMPICS

The ICC has officially suggested that cricket be included in the 2028 Los Angeles Olympics. The popularity of the T20 format, paired with the rising following in the United States (which has over 30 million cricket fanatics), was critical to the bid success. Furthermore, an influx of American investors into cricket via Major League Cricket highlighted the sport's ability to succeed in non-traditional areas.

Cricket's absence from the Olympics for more than a century is a multifaceted issue with numerous contributing elements. Cricket originally appeared at the 1900 Paris Olympics, but only two teams (Great Britain and France) competed. Because of the minimal participation, it was deemed unsuccessful, and the IOC opted not to include it in future editions.

Cricket was popular throughout the twentieth century in countries such as England, Australia, the West Indies, India, and South Africa. As a result, there was insufficient international interest to justify its inclusion in the Olympics. According to the ICC, only 12 countries hold full Test-playing status, with few associate and affiliate members until the last decade.

Traditional cricket formats, such as Test matches, can run up to five days, which is not suitable with the Olympic timetable. Even One Day Internationals (ODIs) last approximately 7 to 8 hours, making them tough to accommodate within a tight Olympic schedule. This induced a conflict in scheduling and prioritising timings for cricket in Olympics. Moreover, Cricket's international calendar is jam-packed with competitions such as the ICC Cricket World Cup, T20 World Cup, bilateral series, and franchise-based leagues like the Indian Premier League (IPL). This hectic schedule made it difficult to locate an appropriate time period for the Olympics. For example, the Indian Premier League brings in more than \$6 billion in revenue, demonstrating how profitable these tournaments are when compared to a single Olympic edition.

Adding a new sport to the Olympic program necessitates significant infrastructure investment. Cricket necessitates specialized pitches and facilities, as opposed to sports such as football or basketball, which can use existing venues. Many potential host countries

lacked the motivation to make investments in cricket infrastructure without an assured profit.

Cricket bodies, particularly the Board of Control for Cricket in India (BCCI), profit significantly from television rights and sponsorships. For example, the International Cricket Council (ICC) reported that the 2019 Cricket World Cup garnered more than \$400 million in media rights. This economic reason made cricket officials hesitant to compromise the brand's value by taking part in an event in which its financial implications were questionable.

Prior to T20, there was no standard short format. T20 cricket was introduced in 2003, and it substantially transformed the game. The shorter format, which lasted approximately three hours, corresponded nicely with the Olympic timetable. Before T20, there was no widely approved shorter variation, making cricket less appealing to the International Olympic Committee. The T20 World Cup, which debuted in 2007, subsequently evolved into one of the most-watched athletic events worldwide. For example, the 2021 T20 World Cup attracted over 167 million different viewers in India alone, demonstrating how the format's popularity improved the prospect of Olympic participation.

THE CASE FOR CRICKET: KEY STATISTICS FUELLING ITS OLYMPIC COMEBACK

Proliferation of ICC Membership - ICC has seen tremendous expansion in its membership, expanding from 40 in the 1980s to over 100 now, with 12 Full Members (Test-playing nations), 38 Associate Members and 60 Affiliate Members.

T20 International Matches - Since 2019, the ICC gave full T20 International status to all of its member countries, with over 94 countries actively playing in international T20 matches. This decision greatly increased cricket's global recognition and showcased its vast acceptance.

T20 World Cup Viewership - The total global television approximate viewership for T20 World Cup 2022 was

approximately 1.28 billion. The T20 World Cup 2024 final between India and South Africa had a highest continuous viewership of 53 million on Disney+ Hotstar in India, the biggest for any OTT platform in cricket history. This match was of special significance since India broke an 11-year drought of ICC titles. Match consumption in India proved that Indians are enthusiastic cricket fans, with the most-watched encounter of the tournament, India vs Pakistan, garnering 256 million viewing hours in India alone. The average live linear TV viewership in India increased by 4 per cent as a result of multilingual broadcasts provided by the Star Network and Hotstar. These energetic performances drew more digital and traditional spectators, reinforcing T20 cricket's global popularity.

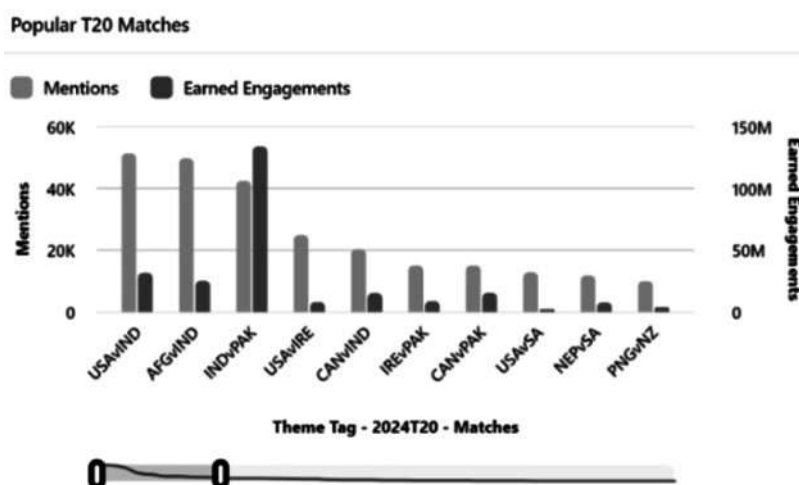


Figure 1: Statistics Showing the Matches with Highest Number of Live Viewers in the Group Stage of T20 World Cup 2024 (Source: Primary Data)

ICC Cricket World Cup popularity - The ICC World Cup 2019 drew a total overall audience of 1.6 billion people, with an average of 13.7 million viewers for each match, making it one of the most watched sporting events in history. Despite cricket's reputation as a specialist sport in the United Kingdom, 15.4 million viewers around the globe watched the World Cup 2019 final between England and New Zealand. Furthermore, the 2019 ICC Cricket World Cup received over 4.6 billion views on videos across all digital and social media channels, while the 2021 T20 World Cup received more than 10 billion views, demonstrating cricket's strong digital presence and capacity to engage youthful people.

The battle between India and Pakistan in Ahmedabad during the Cricket World Cup 2023 was a historic event for the platform and digital sports traffic across the country. The network said that a new 'high concurrency' record was reached during the match between Cricket World Cup 2023 hosts India and archrivals Pakistan, with 3.5 crore viewers tuned in. The overall count of spectators who watched the stream at once eclipsed the 2.8 crore live viewers who watched the same two sides face off in the Asia Cup 2022, as well as the 2.1 crore who watched India facing Sri Lanka in the Asia Cup 2022 final.



Figure 2: Statistics Showing Viewership During 2019 Cricket World Cup Held in England
(Source: Primary Data)

Cricket Infrastructure Globally - More than 120 countries currently have cricket amenities fit for conducting international T20 matches, demonstrating the enormous infrastructure development required to enable cricket's involvement in multi-sport events such as the Olympics. A prominent example of an emerging country in the cricket realm worthy to be stated is the United States. The United States, an expanding cricket market, has witnessed significant investment, including Major League Cricket's plans to build world-class cricket venues in Dallas, Los Angeles, and various other locations. This advancement of infrastructure is critical for cricket's comeback, especially given the upcoming 2028 Los Angeles Olympics.

ADMINISTRATIVE ROADBLOCKS TO INCLUSION

The political and administrative obstacles substantially slowed cricket's return to the Olympics. The substantial impact of cricket boards, financial reasons, scheduling

difficulties, and opposition from both the ICC and unconventional markets made the process difficult. However, shifting views among the ICC, cricket boards such as the BCCI, and the accomplishment of the T20 format have slowly torn down these hurdles, opening the way for cricket's probable comeback at the 2028 Los Angeles Olympics.

The ICC and many cricket boards have generally taken a conventional approach, preferring Test cricket and bilateral series over competing in multi-sport competitions. This conservative stance slowed the movement for Olympic participation, since many stakeholders saw the Olympics as of lesser significance than established cricket tournaments such as the ICC World Cup.

The ICC's complicated and frequently slow-moving bureaucracy makes it difficult to make quick judgments about Olympic participation. The ICC did not publicly start considering Olympic inclusion until 2017, and thereafter, a long period of negotiations was required to move the notion forward.

In recent years, the ICC has demonstrated a stronger commitment to growing cricket's worldwide impact, acknowledging the prospective of the Olympic platform to reach new audiences. Initiatives such as awarding T20 International status to all member nations and advocating for cricket's inclusion in multi-sport events such as the Asian and Commonwealth Games indicated a shift in mindset.

EVOLVING PERSPECTIVES OF IOC TOWARDS RECOGNISING CRICKET'S OLYMPIC POTENTIAL

The IOC recognizes cricket's potential to attract millions of new fans from South Asia, especially India, that contributes for more than 90 per cent of the sport's global viewing. This will greatly expand the Olympic Games' worldwide reach and viewership ratings.

The T20 format, owing to its quick-paced and exciting nature, complements the IOC's goal on attracting younger people. Cricket's comeback would appeal to a younger generation, in line with the Olympics' goal of remaining relevant to a contemporary audience.

Since the 2019 Cricket World Cup garnered \$400 million in revenue only from broadcast rights, cricket's participation in the Olympics might be extremely

profitable. Cricket's reinstatement might result in sponsorship agreements from major corporations in cricket-loving countries, greatly increasing the overall profitability of the Olympic Games.

THE IMPACT OF OLYMPIC CRICKET ON WORLD CRICKET

1. Established Cricket Nations- Full ICC Members

These include countries in which cricket is already a popular sport, such as India, Australia, England, Pakistan, South Africa, New Zealand, Zimbabwe, Sri Lanka, Ireland, Bangladesh, Afghanistan, and the West Indies.



Figure 3: Showing List of Countries that are ICC Full Members
(Source: Primary Data)

Evaluation of Probable Outcomes -

- **Enhanced Recognition** - Cricket will become more widely known even in nations where it is already well-liked, thanks to its involvement in the Olympics. Since earning an Olympic medal conveys a great deal of status, it will create a great deal of excitement and boost national pride.
- **Enhanced support and Endorsements** - As the Olympics provide cricket a wider stage, developed cricketing nations may see an increase in support from their governments and corporate sponsors. This financial boost has the potential to further develop the sport, especially at the beginner's level.
- **Beneficial Effect on Women's Cricket** - Women's cricket will receive increased attention and participation as a result of the Olympics. There may

be greater opportunities for nations like Australia, India, and England to advance their women's teams, which could result in more gender balance in cricket.

2. Emerging Cricket Nations- Associate ICC Members

These countries encompass Scotland, Nepal, the United States, the United Arab Emirates (UAE), and others whose cricket infrastructure is still being developed.

Evaluation of Probable Outcomes -

- **Greater finance and Government Support** - Cricket's inclusion in the Olympics will result in more money from national and international governments since it will be recognized as a competitive sport with Olympic prospects. Emerging nations will be able to construct better training facilities and infrastructure thanks to this inflow of wealth.
- **Increase in Popularity and Talent Promotion** - Cricket will become more widely known in these nations as a result of the Olympics, which will motivate more young players to participate. There will be an increase in regional leagues and talent spotting initiatives as the sport becomes more popular.
- **Roadmap to Full ICC Membership** - These countries will be able to become full members of the ICC if they do well in the Olympics. Their ability to perform well could help them get more competitive matches against more established countries, which would improve their knowledge and expertise.

3. Non-Cricketing Nations- Nations with little or no presence of Cricket

These include nations in regions like Eastern Europe, Latin America, and some parts of Africa, where cricket has limited presence.

Evaluation of probable outcomes -

- **Orientation to Cricket** - Millions of new fans will be exposed to the game through the Olympics, which could pique interest in nations where the sport has

not previously received much attention. This can result in the formation of cricket leagues, clubs, and academies.

- **Development of Grassroots Programs** - Developing grassroots programs to find and train talent may encourage countries who had not previously had much reason to engage in cricket to gradually raise interest and participation in the sport.
- **Multi-sport athletes** - Countries that do not play cricket may encourage players from other sports, particularly those with transferable talents (baseball players, for example), to give cricket a try. This might result in a distinctive evolution of tactics and playing styles, enhancing the environment of cricket around the world and success for those countries at the Olympics.

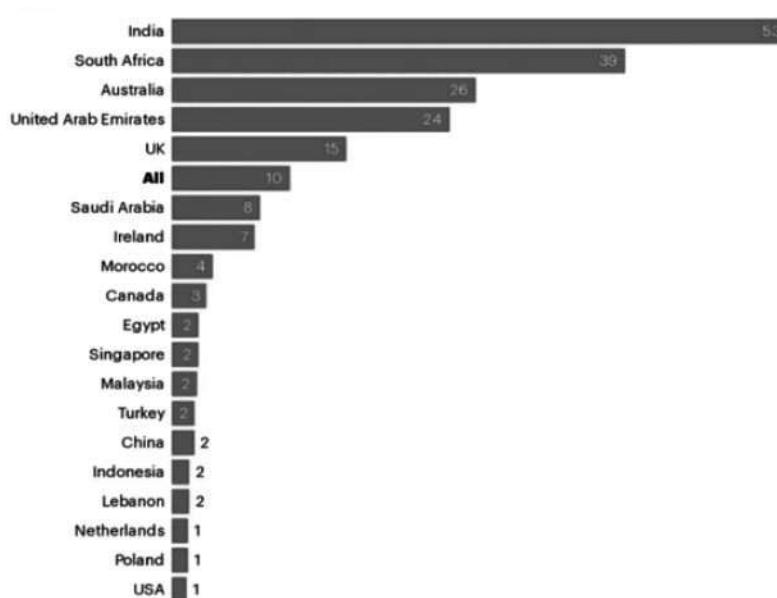


Figure 4: Showing the Fan Base of Cricket in Different Countries of the World
(Source: Primary Data)

have been successful in winning the greatest number of Olympic medals in each edition since its inception.

GLOBAL REACH AND POPULARITY

The return of cricket to the Olympics might have a big impact on world sports, especially for emerging and divided nations. Cricket is the second most popular sport worldwide, with a huge global fan base. A global sport with over 2.5 billion fans, has made it a big audience draw, especially during major events like the ICC World Cup, which in 2019 attracted a record-breaking global audience of over 1.6 billion viewers.

According to a report by YouGov, the world's largest cricket fan base is in India, followed by South Africa and Australia. Although Cricket's popularity is enormous in South Asia and other Commonwealth nations, it is relatively unknown in the US, China, and most of Europe, where barely around 2 per cent of consumers follow the sport.

By presenting cricket on a worldwide platform and introducing the shorter, faster T20 format to audiences that are younger and more varied, the Olympics could be the catalyst for the sport's breakthrough in these untapped regions, which notably include France, China, and the United States and other nations who

EXPLORING PROSPECTS OF CRICKET IN THE OLYMPIC ARENA

1. Recognition on a Global Scale

- The Olympics feature a number of sports that appeal to a global audience, with athletics and Gymnastics being regarded as the highlight due to its varied competitions and high participation rate. Swimming follows closely, noted for its dramatic races and high-profile sportsmen such as Michael Phelps, who captivate fans all over the world. Gymnastics is quite popular, as it combines artistry and athleticism across both artistic and rhythmic disciplines. Basketball gets value from the National Basketball Association's (NBA) global reach, attracting large audiences throughout the Games, whilst soccer (football) is among the most popular sports in the world, with widespread viewing and devoted fan bases. Volleyball, including indoor and beach varieties, has grown significantly, while tennis draws spectators with contests involving top professional players. Cycling, rowing, wrestling,

boxing, and shooting round out the Olympic schedule, each with their own distinct appeal and traditions that add to the Games' diverse tapestry. In general, these sports not just showcase athletic brilliance, but also bring together varied nations and cultural backgrounds on a global scale.

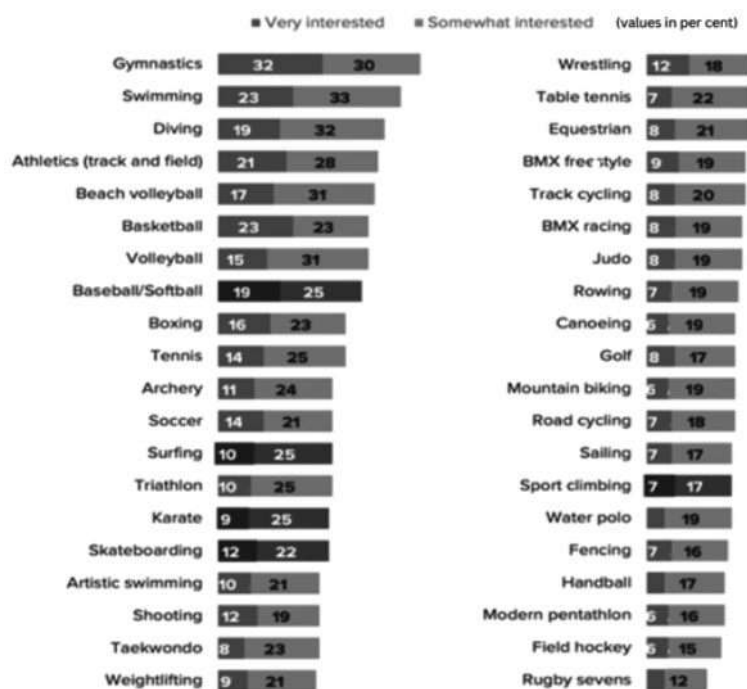


Figure 5: Showing the Most Popular Sports in the Olympics
(Source: Primary Data)

- Cricket has a devoted following in South Asia, Australia, and the United Kingdom, but its global influence is limited. Although the ICC has over 100 member nations, only a small fraction constantly participates at the most elite level, indicating cricket lacks the extensive exposure that other Olympic sports experience

2. Diversity in Participation

- Diversity and inclusiveness define the Olympic sports participation scene. Thousands of athletes compete in sports like swimming and athletics from a wide range of nations, guaranteeing widespread participation and representation. The Olympic Games are known for their diversity, as competitors from all over the world fight against nations with different backgrounds and athletic traditions

- On the other hand, cricket has difficulties in this regard. The sport's competitive field is limited because it is mostly popular in a small number of nations, while having a long tradition and devoted fan base. The fundamental framework of cricket and its past connections to particular regions provide impediments to global inclusion, even though shorter formats like T20 would allow more countries to join.

3. Adaptations through Engagement of Audience

- Adaptation is critical for sports that want to succeed in the Olympic structure. Popular Olympic sports, like basketball, have developed structures designed to keep spectators interested, including the frantic pace of swimming competitions or the need for quick decisions in plays. By adapting to contemporary watching patterns, these forms keep viewers interested.
- In case of cricket, shorter formats, such as T20 or even T10, which are better suited to the time limits of the Games and potentially appeal to a wider audience unaccustomed with the sport, are probably necessary for cricket to be effectively incorporated into the Olympics. In order to keep cricket's essence while keeping it interesting and approachable for non-cricketing fans, this modification is essential.

HOW CRICKET CAN IGNITE INDIA'S OLYMPIC RENAISSANCE

Cricket's presence in the Olympics has the capability to completely transform the sport's scenario in India. Cricket's Olympic debut, as one of the country's most prominent sports, has the potential to boost India's sporting status, increase economic prospects, and spark mass enthusiasm in multi-sport participation.

- The IPL merely has a projected brand value of \$8.4 billion by 2023, illustrating the commercial value of cricket in India. If cricket were included in the

Olympics, it's worth may rise, luring international brands and sponsors. The IPL's broadcasting rights have been auctioned for around \$6.2 billion over a five-year period (2023-2027), underlining the tremendous revenue-generating potential.



Figure 6: Statistics Showing the Most Watched ICC Tournament Matches (Source: ICC)

- During the Tokyo 2020 Olympics, the Indian government's 'Target Olympic Podium Scheme' (TOPS) designated around 300 crores (\$40 million) toward athlete preparation. In the event of inclusion of cricket in Olympics, government spending on cricket growth and development could grow dramatically, potentially tripling the amount.
- The Olympic Games are viewed by more than 3 billion people globally. The introduction of cricket could improve India's proportion of Olympic viewing, resulting in higher advertising revenue. India's proportion of worldwide sports sponsorship could climb from 0.6 per cent to roughly 1-2 per cent as cricket's international prominence grows.
- As per the Board of Control for Cricket in India (BCCI), approximately 25 million individuals play cricket in India. Given Olympic inclusion, the government and commercial sector are expected to engage extensively in grassroots programs, boosting participation by at least 20-30 per cent over the following decade.
- According to statistics from the National Sports University in Manipur, India now boasts approximately 120 cricket academies. Given cricket in the Olympics, this figure might quadruple

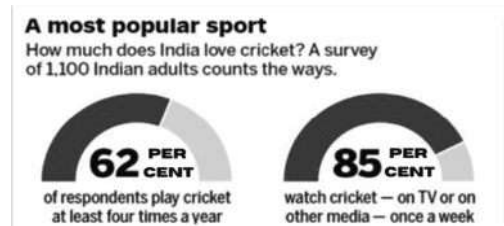


Figure 7: Statistics Showing the Level of Preference of Cricket in India (Source: Primary Data)

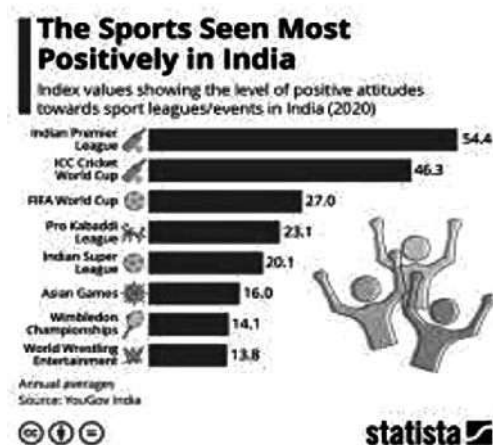


Figure 8: Statistics Showing the Sport Most Seen in India (Source: Statista)

in the next five years, increasing chances for ambitious athletes.

- Till Paris Olympics 2024, India has earned 41 medals at the Olympics in its history, which is an insufficient total for a country of nearly 1.4 billion people. Cricket's addition could dramatically boost India's medal count, potentially adding 1-2 medals per Olympic edition based on India's consistent accomplishments in international T20 competitions.
- Studies have revealed that nations that have vibrant multi-sport cultures, such as the United States, China and Australia, have a higher total sports participation percentage (30-40 per cent) than India (15 per cent). Cricket's Olympic inclusion could increase India's sports involvement rate to roughly 25 per cent as more people become interested in other sports besides cricket.

Amongst all these favorable scenarios and statistics, there are some challenges that are needed to be addressed for India's participation in Olympic cricket-

1. India plays roughly 50-60 international cricket matches per year. Coordinating these games with Olympic preparations could be difficult, necessitating a planned program.
2. Given that cricket will likely be included in the T20 format, the BCCI and Indian Olympic Association (IOA) must collaborate to develop strategies, training programs, and a dedicated coaching staff tailored to this shorter format to maximize medal-winning chances.

CONCLUSION

Cricket's prospective return to the Olympics represents a revolutionary prospect for the sport, offering to expand its worldwide reach and awareness while encouraging growth at both the base and elite levels. Cricket aspires to grow its impact beyond traditional strongholds, and the Olympic platform provides a unique opportunity to connect new viewers, particularly in emerging regions like the United States and China. Incorporating cricket within the Olympic framework might result in considerable economic benefits such as increased sponsorship, TV rights, and ticket sales, eventually adding to the sport's viability. The development of shorter formats such as T20 or T10 is consistent with the Olympic ideal, making the sport more easily available appealing to a younger generation, hence increasing participation and viewership.

However, the effective readmission of cricket into the Olympic Games will necessitate meticulous preparation and collaboration among parties. Addressing logistical obstacles, scheduling issues, and guaranteeing equitable competition across nations will be critical to delivering an uninterrupted Olympic experience for both athletes and spectators. Finally, cricket's reintroduction to the Olympics has the opportunity to reestablish its global character by

unifying people from many cultures via a shared love of the sport. By seizing this once-in-a-lifetime chance, cricket may develop as a significant global sport, creating national unity and fraternity while encouraging subsequent generations of cricketers and supporters.

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Subscription Revolution

- Symphony or Cacophony?

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By fostering a collaborative dialogue between consumers and service providers, we can ensure that the subscription musician continues to play a positive and enriching role in our digital lives.



ABSTRACT

Remember the days of fumbling for quarters, desperately searching for that elusive silver dime just to whisper across the miles? The echoic dial tones, the cumbersome coin slots, and the hope that the call wouldn't end before you could finish speaking. Yes, the phone booth was as quaint as a typewriter, but it was as convenient as carrying a brick. And then the revolution of subscriptions arrived, blowing through those metal chains like a 4G breeze. No more wacky coin-counting gestures or desperate scurries for cash when the situation struck. The subscription model has democratized access to information and services, making them more accessible and affordable than ever before, but growing subscription fatigue, data privacy concerns, and the ephemeral nature of digital content are raising questions about the long-term sustainability and ethical implications of this trend. This article delves into the benefits and drawbacks of the subscription model, examining its impact on industries and consumers alike.

KEYWORDS: Subscription Model, Revenue Generation, Data Privacy, Content Ownership, Subscription Fatigue, Impermanence.

THE RISE OF SUBSCRIPTIONS

In the recent years, the subscription-based business model has hit app developers and internet start-ups like a tsunami. The majority of these companies first allow customers to experiment with basic functionality before tempting them with more advanced features that need a membership. Canva is an excellent illustration of this type of platform. It is a

visual design tool that provides a free edition with basic tools and paid memberships that unlock more sophisticated features like premium pictures, templates, and more. With their win-win philosophy, these models are more than simply a fad, they are a revolutionary force that is changing the face of marketing.

But despite its popularity and clear benefits, the subscription model is still poorly understood. Consider it more like a treasure box full of valuables than a pop-up advertisement. Platforms like Spotify provide their users with more than just a jukebox, they let their users listen to podcasts that are exclusive to them, help them make personalised playlists and enjoy features like offline listening, unlimited skips, replays. What about the Advertisements in Spotify? They are not sirens, but symphony builders. It's the artist receiving their due, a new voice finding its audience, and the platform evolving to keep the music playing for all. The next time you hear a Spotify advertisement, keep in mind that it's just a single note in the vast orchestra of music streaming.

Streaming giants like Netflix face a colossal task: crafting captivating content, wooing talented artists, and delivering it all flawlessly. Unlike a one-time movie ticket, this demands a model that sustains the magic - enter the subscription. They act as a financial lifeline. Producing high-quality, original shows like 'Stranger Things' requires hefty investments. Subscriptions ensure a steady flow of funds, empowering Netflix to take creative risks and attract top-tier talent, ultimately driving sales and attracting more subscribers (see Figure 1). Imagine saying goodbye to Eleven and the Mind Flayer because of a shaky revenue model!

THE SUBSCRIPTION FATIGUE DILEMMA

But whispers of caution linger amidst the melody. A 2021 McKinsey report throws a discordant chord into the mix, cautioning against subscription fatigue. It highlights a growing consumer trend of 'subscription churn,' where users cancel services due to overwhelming costs or lack of perceived value. As with any captivating melody, there's a need to listen to the

subtle discordant notes before getting swept away entirely. Imagine signing up for a music streaming service, a language learning app, and a fitness tracker, all with the intention of trying them out for a month. Suddenly, your inbox explodes with reminders to upgrade, and your bank statement reflects a growing list of recurring charges. The initial convenience of 'freemium' models can quickly morph into a financial burden if not carefully managed.

IN THE AGE OF DATA, WHO'S REALLY IN CHARGE?

Data privacy emerges as a potential off-key note in the subscription symphony. Subscription services, from LinkedIn tracking your professional network to Google monitoring your search habits, meticulously gather information about our preferences, habits, and even locations (see Figure 2). The question lingers: Are we the true listeners in this digital concert, or simply instruments in a vast orchestra of data collection?

A prime example emerged in 2021 when Twitch, a subsidiary of Amazon Prime and a popular live streaming platform where gamers showcase their skills and connect with audiences, fell victim to a massive data breach. Hackers gained access to sensitive user information including source code, login credentials, and even unreleased game details. This breach sent shockwaves through the gaming community, raising concerns about the security of personal data entrusted to Amazon. While the impact on Prime users themselves might not have been direct, it casts a shadow of doubt on how effectively Amazon safeguards user information across its vast ecosystem. The Twitch breach underscores the critical need for subscription services to prioritize data security across all their platforms. Another cautionary tale involving MakeMyTrip's payment processor, Juspay, raises security concerns. The breach exposed masked credit card numbers, mobile numbers, and email addresses of millions of users, highlighting the vulnerability of personal information within the subscription ecosystem. This incident sparked anxieties for MakeMyTrip users, raising questions about how effectively their data was being protected by third-party vendors integrated into the subscription experience.

THE FUTURE OF SUBSCRIPTIONS

In the membership model, the concept of ownership adds additional complexity. Unlike the purchase of books or software, a subscription confers access, not ownership. Imagine dedicating years to amassing a collection of carefully chosen movies or books on a certain platform, only to discover that it vanishes when the platform quits, changes its content, or your subscription expires. This shift towards renting rather than experiencing raises questions about the long-term access and control of things we value. Is the ease of a subscription worth the potential ephemeral nature of our digital collections? Will the data we meticulously curate today be compatible with the technology of tomorrow, or will they become a collection of digital dust, unplayable relics of a bygone era?

Ultimately, the change in subscriptions presents an interesting paradox. It offers undeniable advantages – convenience, constant innovation and a wide range of services. However, it also comes with potential drawbacks – financial pressures, data privacy concerns, and a sense of impermanence. By fostering a collaborative dialogue between consumers and service providers, we can ensure that the subscription musician

continues to play a positive and enriching role in our digital lives. Will it be a coherent masterpiece, or a cacophony of unfulfilled promises? The answer lies in our collective ability to navigate this revolution with critical intuition and enlightenment.

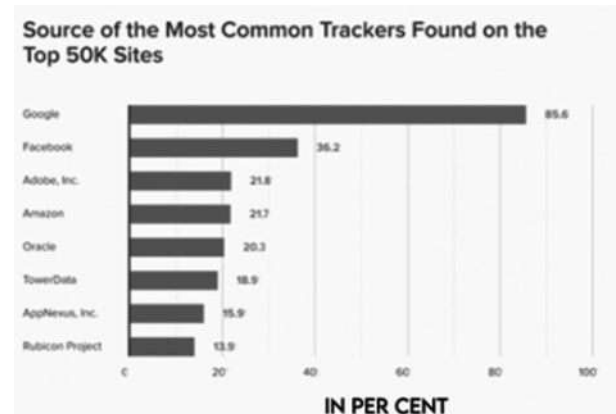


Figure 2: Google Dominates the List of Most Common Trackers Found on the Top 50000 Websites (Source: Forbes)

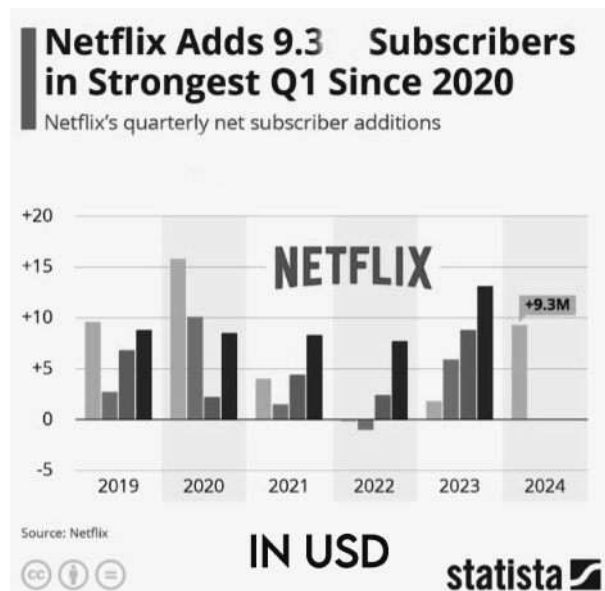


Figure 1- Netflix's Subscriber Growth Surges in Q1 2024, Reaching the Highest Point Since 2020 (Source: Statista)

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“

Strategic projects in key trade and energy regions highlight China's ambition to secure its long-term position as a global superpower.

”

Weaving A Global Network

Rohit Gupta
Department of Commerce (Morning)

Divyanshu Aditya
Department of Commerce (Morning)

ABSTRACT

A new highway in Pakistan, a train terminal in Kazakhstan, sea port in Sri Lanka or a bridge in Laos. It is interesting that all these projects are part of one country's project that spans across three continents and touches over 60 per cent of the world population. This is China's Belt and Road Initiative (BRI), an ambitious infrastructure project in modern history, with a goal to restore and extend trade links.

Reviving the ancient Silk Road established during the Han Dynasty over 2000 years ago, China introduced its One Belt One Road (OBOR) Initiative to re-establish and extend vital trade links. Through aggressive investment and partnership with developing countries, BRI has significantly boosted

connectivity, trade, and development across participating nations. But what does China get out of this? The article explores and delves into the dual nature of BRI—its promise of growth and development alongside the risks of debt dependency and loss of sovereignty and various facets ranging from economic and geopolitical implications of this landscape.

KEYWORDS: One Belt One Road (OBOR), Belt and Road (BRI), Silk Road, String of Pearls, Debt Trap, Necklace of Diamonds.

INTRODUCTION

The discovery of silk in ancient China marked a transformative moment in global trade, this precious fabric not only fuelled the economy of the Chinese Empire but also sparked a network of trade routes that would come to be known as the Silk Road, which symbolized prosperity, exchanging silk, spices, and valuable goods. Fast forward to today, when President Xi Jinping introduced the revival of the ancient Silk Road in 2013, reimagined as BRI. Does this signify the resurgence of China's dominance in global manufacturing, reminiscent of its historic role?

In 1970, China adopted an export-led growth model that boosted exports and attracted foreign investment. By 2009-2013, foreign-invested enterprises contributed 33 per cent of Gross Domestic Product and 27 per cent of employment. However, challenges like excessive liquidity, over-investment, and trade friction

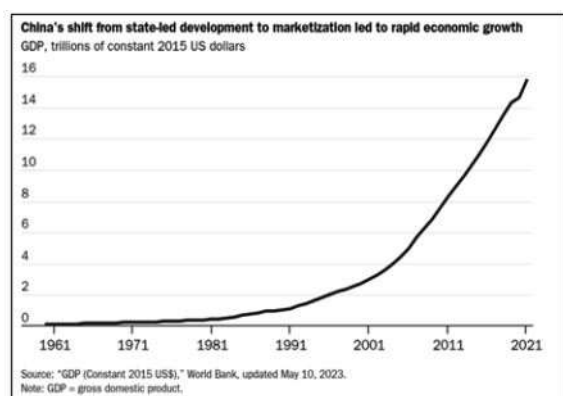


Figure 1: China's shift from State-Led Development to Marketization Led to Rapid Economic Growth
(Source: Gross Domestic Product 2015, World Bank)

led China to shift its focus from exports to domestic consumption and demand.

The BRI, in its name, carries two elements 'Belt' referring to China's historical trade partners in the Eurasian mainland and the 'Road' to coastal developing countries in Southeast Asia and across the Indian Ocean Rim.

China's One Belt One Road (OBOR) initiative is a grand connectivity blueprint spanning over 150 countries, covering 40 per cent of global GDP with over One trillion dollar in contracts aiming to enhance infrastructure, foster economic growth, and cement China's leadership in manufacturing, technology, and digital infrastructure through projects like Huawei's 5G and numerous Special Economic Zones.

WHY DOES CHINA WANT THIS?

Given China's economic strength—boasting the world's second-largest economy with a Gross domestic Product (GDP) surpassing \$17 trillion and over three trillion dollars in foreign reserves, with exports contributing significantly to its economy—what drives this massive project? Is it purely economic, or are there deeper geopolitical ambitions at play?

The Chinese government has been very clear on what their broad agenda is. 'The orderly and free flow of economic factors, highly efficient allocation of resources and deep integration of markets; encouraging the countries along the Belt and Road (BandR) to achieve economic policy coordination and carry out broader and more in-depth regional cooperation of higher standards; and jointly creating an open, inclusive and balanced regional economic cooperation architecture that benefits all.' – China State Council, March 2015.

Economically, it aims to enhance trade routes, increase exports, and secure access to key resources like oil, gas, and minerals. By building infrastructure in developing nations, China fosters new markets for its products, stimulates demand for its construction materials, and mitigates its domestic overcapacity.

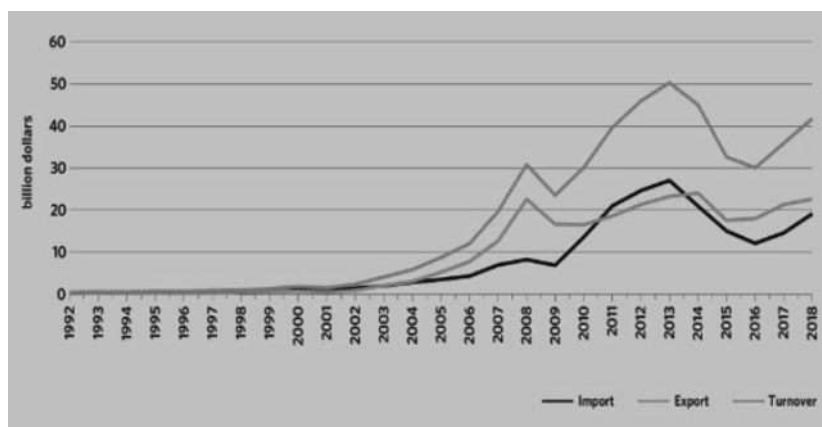


Figure 2: Chinese Trade Turnover with central Asian Countries
(Source: Chinese General Administration of Customs)

Many One Belt One Road (OBOR) member nations are underdeveloped with high infrastructure demand, which China is well-positioned to meet. China provides financing, oversees projects through its contractors, and often supplies its own labour, creating a mutually beneficial arrangement for both China and partner countries. Through these investments, China expands its global influence, strengthens ties, and challenges Western dominance. Strategic projects in key trade and energy regions highlight China's ambition to secure its long-term position as a global superpower. While economic objectives are central, the BRI also serves as a tool for geopolitical leverage.

ACTIONS TAKEN BY CHINA

The BRI, introduced with the unveiling of the 'Silk Road Economic Belt' in Kazakhstan and the '21st Century Maritime Silk Road' in Indonesia, focused on Central Asia, a crucial region for its expansion. It serves as a geographic link between China, Europe, and the Middle East, offering overland trade routes. It also enhances regional trade and expands China's geopolitical influence in a historically Russian-dominated area. Amid geopolitical tensions, especially highlighted by the Ukraine situation, Central Asian countries increasingly view China as a stable partner. Since

its launch in 2013, China's BRI has evolved in response to shifting global and domestic priorities. Initially, the focus was on large-scale infrastructure projects, driven by state-owned enterprises, to improve connectivity and secure resources like oil and minerals. And eventually, China diversified its investments, incorporating technology and manufacturing sectors. The COVID-19 pandemic led to a strategic shift towards smaller, more manageable projects, adopting a 'small is beautiful' approach. Recently, private sector involvement has surged, with private

investments now making up over 52 per cent of total BRI engagement, reducing reliance on state-owned enterprises. There has also been significant diversification into green energy and technology sectors, with record investments in sustainable projects, signalling China's adaptation to a greener, more balanced global economy.

AFTERMATH OF THE ACTIONS

Overall, the BRI has spurred significant growth in trade, enhanced the welfare of communities, driven economic development, and strengthened international partnerships, all while boosting China's global influence and promoting sustainable infrastructure investments.

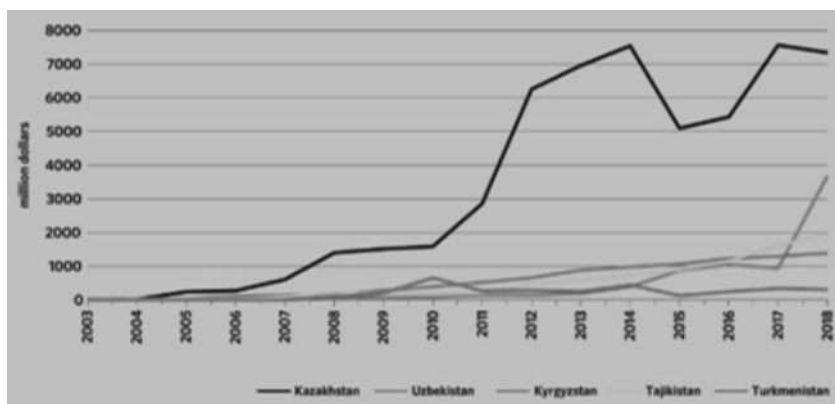


Figure 3: Investment in Central Asian Countries
(Source: Chinese Ministry of Commerce)

In 2023, China's trade with the Middle East, Russia, and Central Asia grew significantly, totalling \$774 billion. This highlights the strengthening economic ties fuelled by strategic initiatives and evolving geopolitical dynamics. In addition, China's trade also surpassed other major economic partners.

1. China's trade with these regions exceeded its trade with the United States by \$668 billion and reached \$784 billion, illustrating its robust engagement with these regions and also slightly surpassed its trade volume with the European Union.
2. When BRI was launched in 2013, trade between China and the five Central Asian states amounted to US\$50 billion, whilst the region trade with Russia, previously the region's top economic player—amounted to only US\$30 billion. This is clear

evidence of the increase in Chinese presence after the introduction of BRI.

The BRI has faced criticism, with concerns over 'debt-trap diplomacy,' where countries unable to repay Chinese loans are forced to surrender key infrastructure. Sri Lanka's 99-year lease of Hambantota Port is a notable example. Similar worries exist in Kenya, where China holds 64 per cent of its external debt, and in Montenegro, where a €1 billion Chinese loan pushed debt to 103 per cent of GDP. Critics also point to China's leveraging of loans for access to strategic resources, raising issues of sovereignty over natural assets.

CENTRAL ASIAN SCENARIO

Central Asia has become a key focus of BRI due to its rich energy resources, vital for China's energy security. Since 2013, BRI has boosted trade and infrastructure development in the region, enhancing China's geopolitical influence in a historically Russian-dominated area.

Since the 1990s, China's energy consumption has surged, driving increased reliance on Central Asia's vast reserves of oil, natural gas, and uranium. The region offers 40 billion barrels of oil and over 500 trillion cubic feet of natural gas, with Turkmenistan being a major supplier. Central Asia's proximity and stable transport routes make it a more reliable energy partner for China compared to the geopolitically unstable Middle East. In return, China provides critical financial investments and technological support, making the region pivotal in diversifying China's energy sources and securing its long-term energy needs.

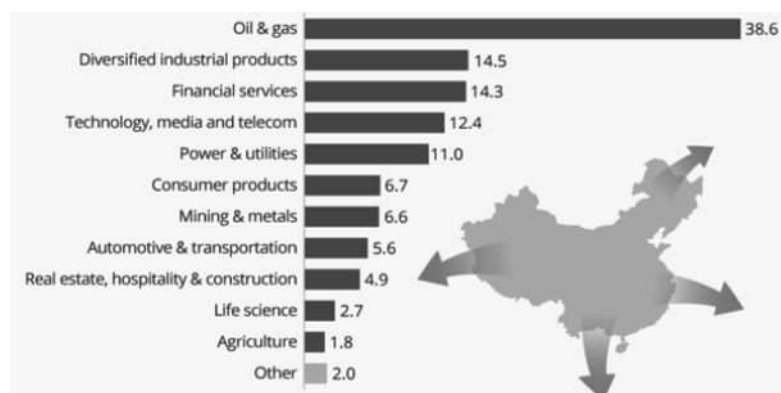


Figure 4: Belt and Road
(Source: MergerMarket)

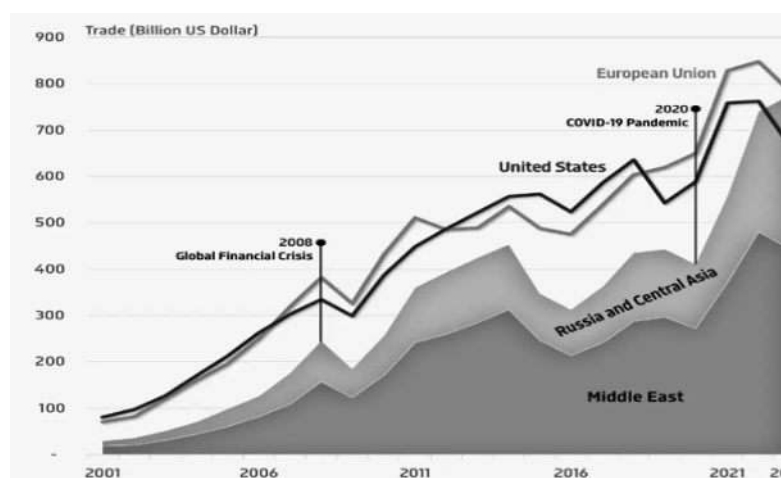


Figure 5: China's Trade with Middle East, Russia and Central Asia
(Source: Customs of China)

GROWTH OF TRADE AND FDI

The BandR corridor economies have become key players in global trade, showing strong participation in

international value chains and attracting significant foreign direct investment. East Asia and Europe dominate, contributing over 80 per cent of corridor exports, with China, Vietnam, and Cambodia leading in export growth. However, smaller exporters like Timor-Leste and Brunei, as well as Armenia and Tajikistan in Europe and Central Asia, lag behind due to lower levels of integration. While East Asia and Europe see increasing regional integration, South Asia remains less connected. China's central role in these trade networks has bolstered the BandR economies, driving connectivity and regional development across the initiative.

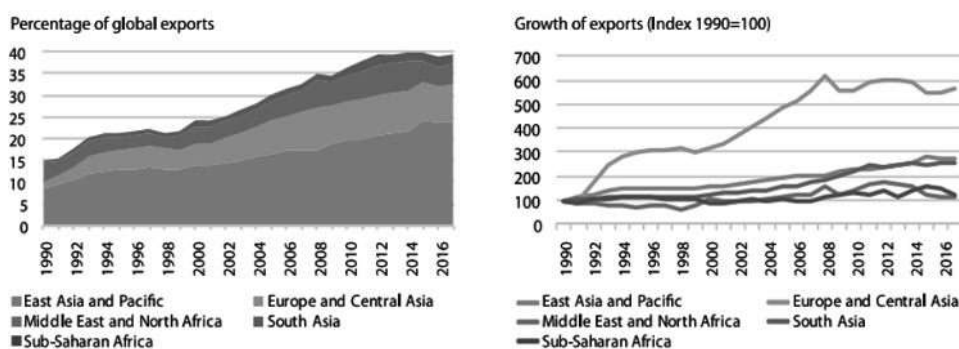


Figure 6: Global Exports
(Source: IMF, *Direction of Trade Statistics*)

East Asia and the Pacific have emerged as leading recipients and drivers of Foreign Direct Investment (FDI) outflows, followed by Europe and Central Asia, creating a growing gap between regions. Wealthier economies in the BandR corridors, especially high- and upper-middle-income countries, capture most of this investment. Low-income countries, however, struggle to attract FDI, with only a few securing over \$10 billion in 2017. China's pivotal role in both FDI inflows and outflows has transformed investment patterns, especially after the global financial crisis. Chinese firms capitalized on the retreat of developed economies, driving growth and economic connectivity in BandR countries through strategic investments.

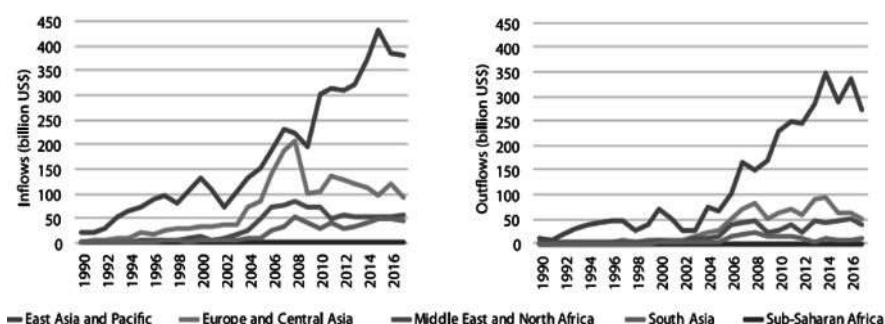


Figure 7: Belt and Corridor Economics
(Source: United Nations Conference on Trade and Development)

GEOPOLITICAL SCENARIO

BRI has sparked significant geopolitical tension, particularly with India, due to concerns over sovereignty, territorial integrity, and regional dominance. As China invests in infrastructure across

South Asia and the Indian Ocean Region (IOR), India sees its strategic interests increasingly threatened, both on land and at sea.

ADVANTAGES FOR CHINA

At the heart of China's BRI lies a desire to secure its position in global

trade. By building alternative trade routes, China is reducing its dependency on vulnerable chokepoints like the Strait of Malacca, through which 40 per cent of global trade passes. This strategic diversification helps China hedge against potential global supply chain disruptions — whether caused by natural disasters, geopolitical conflicts, or economic sanctions. For a country so reliant on external energy supplies and exports, gaining control over alternative routes secures not just economic stability but also its global position.

Additionally, infrastructure projects like the \$62 billion China-Pakistan Economic Corridor (CPEC) serve multiple purposes. Besides boosting trade, they enhance China's strategic foothold in South Asia.

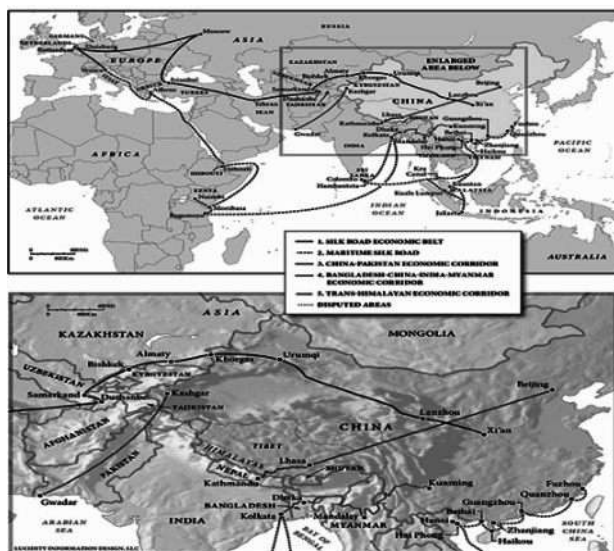


Figure 8: China's Belt and Corridor Initiative
(Source: Lucidity Information Design)

WHAT ARE THE IMPLICATIONS FOR INDIA?

The CPEC passes through Pakistan-occupied Kashmir (PoK), a disputed region claimed by India, prompting strong opposition from New Delhi. By investing in this territory, China implicitly supports Pakistan's control, undermining India's sovereignty and leading to its vocal resistance to the BRI.

India's concerns extend to other Chinese initiatives, such as the Trans-Himalayan Corridor and the Bangladesh-China-India-Myanmar (BCIM) Economic Corridor, which deepen China's ties with neighbouring countries like Nepal, Bangladesh, and Myanmar, potentially encircling India. This raises fears of strategic encirclement and instability along its borders.

China's maritime strategy, known as the 'String of Pearls', further unsettles India. This network of ports and bases, including investments in Gwadar (Pakistan), Hambantota (Sri Lanka), and a military base in Djibouti, enhances China's naval presence in the Indian Ocean Region (IOR). Given that 95 per cent of India's trade volume and 80 per cent by value transit through the IOR, China's presence at critical chokepoints raises significant concerns about India's energy and trade security.

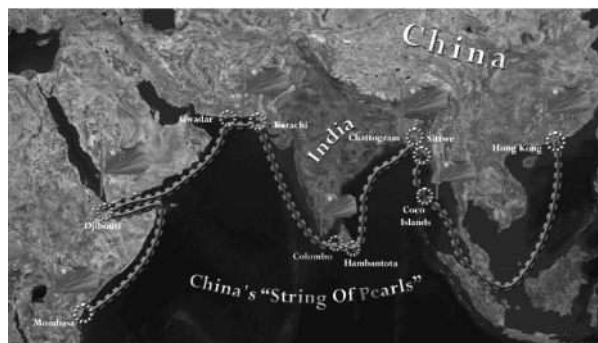


Figure 9: China's String of Pearls
(Source: Mobasa)

HOW IS INDIA RESPONDING?

In response to China's 'String of Pearls', India has developed its own 'Necklace of Diamonds' strategy. This involves securing naval access to key ports like Singapore's Changi, Indonesia's Sabang near the Strait of Malacca, and Oman's Duqm, giving India a stronghold between China's bases at Gwadar and Djibouti. India has also invested in Iran's Chabahar Port to counter Gwadar and bypass Pakistan. To monitor Chinese naval activity, India has deployed coastal surveillance radars across the Maldives, Sri Lanka, and Bangladesh. Additionally, India has deepened its security ties with the U.S., Japan, and Australia through the Quad alliance, creating a counterbalance to China's influence in the Importer of Record (IOR).



Figure 10: Necklace of Diamonds
(Source: Primary Data)

TWO SIDES OF THE COIN

Two perspectives emerge: one highlights growth for both China and its partner countries, driven by increased trade, stronger relations, and enhanced connectivity. The other raises concerns about a potential 'debt trap'—either for the countries struggling

to repay Chinese loans, or for China itself, entangled in its financial commitments.

Countries in the BRI have seen growth and improved welfare. Pakistan and the Kyrgyz Republic saw real income increases of 10.5 per cent and 10.4 per cent, while Thailand and Malaysia gained 8.2 per cent and 7.7 per cent. In Kenya, the Standard Gauge Railway created 30,000 jobs and boosted trade, while collaborations with Huawei strengthened Kenya's digital economy. China's infrastructure investments, totaling billions, have deepened these ties.

China's true intentions with the BRI remain unclear—whether it's genuine development or a calculated strategy. If it's the latter, China may find itself trapped in its own plan. By offering generous loans to numerous countries, strategic advantages were likely envisioned. However, with rising risks of loan defaults, the strategy seems to be faltering, raising concerns that China's financial diplomacy might be unravelling under the weight of its own ambitions.

How Has China's Belt and Road Initiative Impacted Southeast Asian Countries?

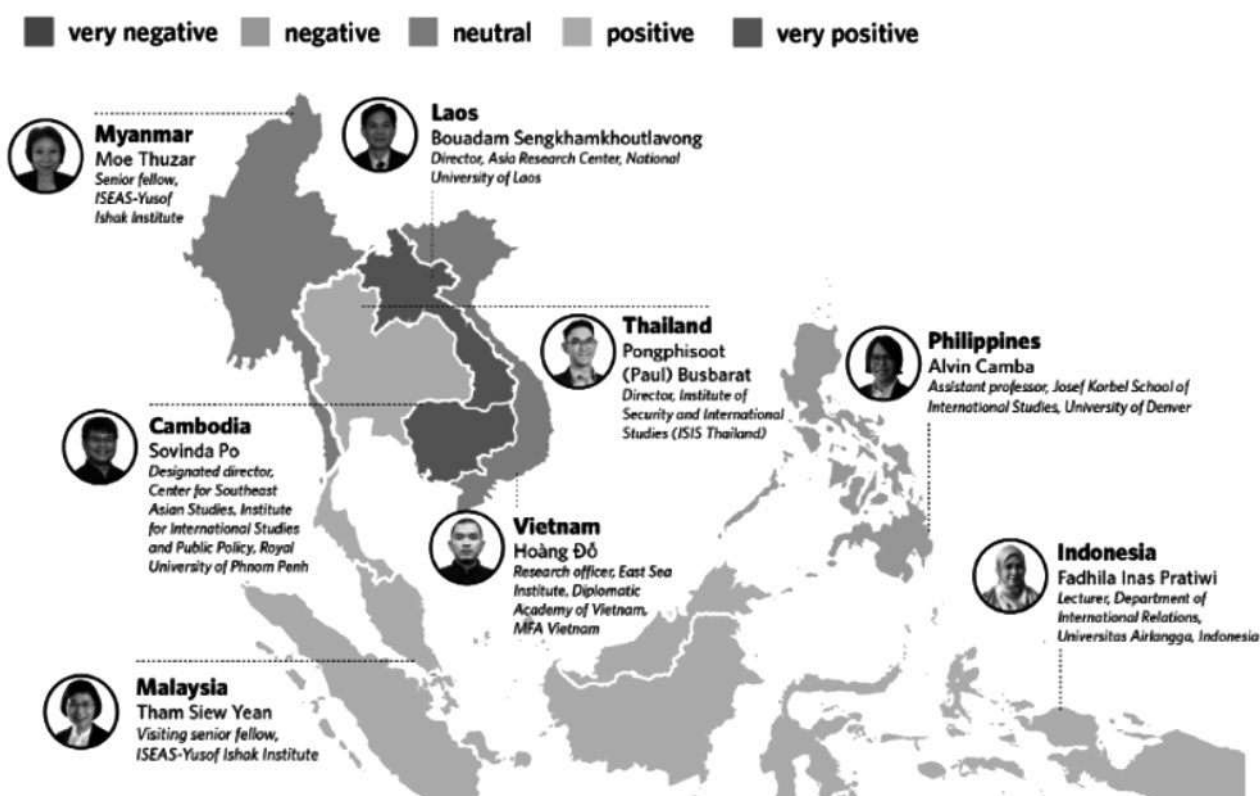


Figure 11: Impact on Other Countries
(Source: Primary Data)

However, challenges such as debt sustainability and equitable benefit distribution remain, are these countries capable of repaying an amount equal to a significant portion of their GDP? China is getting control of the country's property, which for the locals may be a threat to sovereignty.

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The goal is more profound change: altering how we approach money for a wiser financial future for generations.

”

The Convergence of Digital Currencies with Artificial Intelligence: Transforming the Future of Commerce and Financial Systems

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ABSTRACT

Imagine waking up one day, reaching for your phone, and finding a world where your money is not just a paper bill or a number in a bank account. Instead, it is smart, secure, and entirely digital, living in your smartphone. That is the promise of Central Bank Digital Currencies (CBDCs)—the next generation of money that is not just a currency, but a living, breathing financial companion. Let us take a look at how CBDCs bring a whole new

personality to money. This article is discussing how integration of the digital currency and Artificial Intelligence (AI) is not only speeding up change and innovation in commerce and finance but also creates opportunities, challenges, and ethical dilemmas. Ranging from the possibility of revolutionizing cross-border payments and financial inclusion to invasion of privacy and job displacement as some risks or concerns associated with the convergence of these two forces.

KEYWORDS: Central Bank Digital Currencies, Artificial Intelligence, Fiat Money, Blockchain, Cross-border Payments, Cryptocurrency, Monetary Policy.

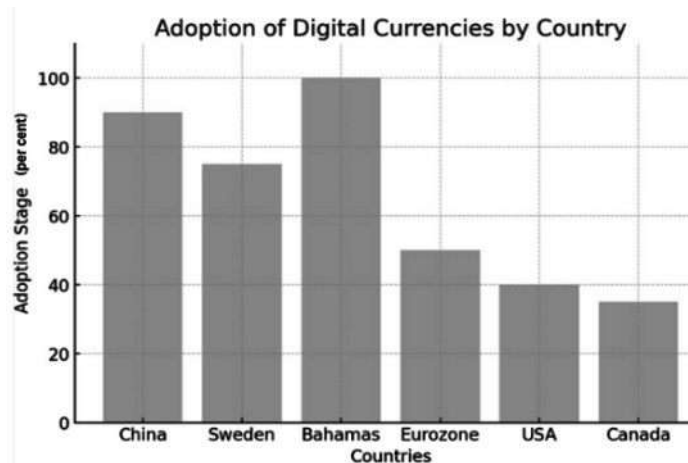


Figure 1: Increasing Trend of Adoption of Digital Currency across Countries.

(Source: Primary Data)

INTRODUCTION

With the help of digital currencies and artificial intelligence, everything to do with doing business and finance will be revolutionized. Decentralized cryptocurrencies with Central Bank Digital Currencies are transforming money as we know it, while artificial intelligence will automate processes, predict trends, and bring unprecedented experiences. At their hybrid best, these two game changers could introduce frictionless commerce and intelligent financial systems into this digital age. The AI energized, digital currencies could deliver cross-border payments in real time and build personalistic financial ecosystems tailored for billions without breaking the barriers. Commerce and finance will be altogether new when energized by AI.

What are CBDCs? For simplicity, Central Bank Digital Currencies can be considered as an official national currency represented in a digital format and issued and regulated by a central bank. As opposed to decentralized cryptocurrencies like Bitcoin or Ethereum that operate with no governing control, the new digital currencies are state-backed and function within the framework of a country's monetary system. They hold the same value to the fiat currency that any country use and are designed for use in everyday transactions.

CENTRAL BANK DIGITAL CURRENCIES (CBDC)

Imagine your uber cab driver denying you from taking the cab fare through Unified Payments Interface (UPI) and you are left with no cash at that moment, then can you compel him to pay him through the medium of UPI?

The answer is NO!

However, he cannot deny Central Bank Digital Currencies as it is fiat money.

CBDC: India's attraction to cash

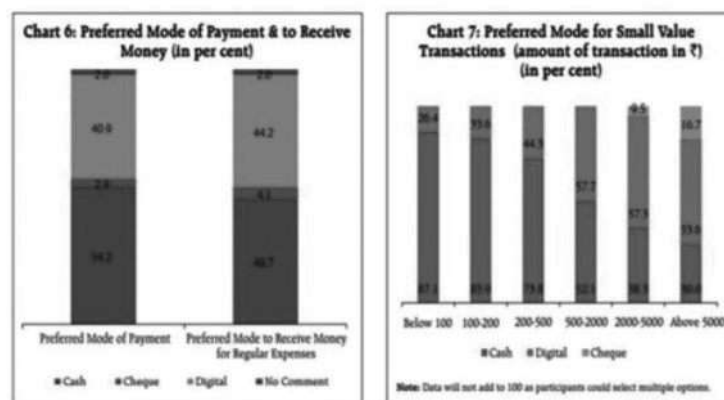


Figure 2: Shift from being a Cash to Cashless Economy.

(Source: RBI Bulletin April 2021)

MAJOR FORMS OF CBDC

Retail CBDCs: It is designed for general usage by the public, allowing for every day-to-day transaction like payments, saving, and purchase.

Wholesale CBDCs: These are used by banks for interbank settlements and better large-scale payment systems.

BENEFITS OF CBDC

1. **Digital Nature:** CBDCs are strictly a product that is totally digital and only exists in electronic form. They are transferred directly between individuals without any intermediary financial institution like banks using a mobile phone or computer.
2. **Central Bank Backed:** Unlike such volatile cryptocurrencies, CBDCs, is supported by a central bank hence a direct liability on the balance sheet of the central bank. This will therefore ensure stable value, trust, and reliability.
3. **Traceable and Programmable:** CBDCs are programmable. It can be designed with defined rules and conditions. Example, programmable money can automatically be spent in some particular regions or even expire after a date. This also enables better tracking of transactions. It would lead to the better work of Anti Money Laundering.
4. **Monetary Policy Control:** Real-time monetary policy change will allow central banks to undertake direct money supply changes or to launch an economy by controlled releases of funds.
5. **Safety and Transparency:** Because CBDCs will be based either on distributed ledger technologies or centralized databases they are also safer compared to cash. Moreover, tracing transactions reduces the chances for tax evasion, money laundering, and other sorts of financial crime.

Besides that, RBI saves a huge chunk of money through CBDC which it otherwise would have spent on printing paper currency.

Gaining currency

The number of CBDCs under research and development has recently exploded.

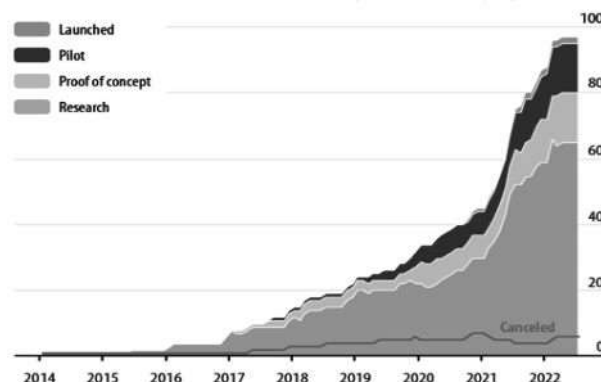


Figure 3: Huge Potential in Future Due to Intensive Research.
(Source: Primary Data)

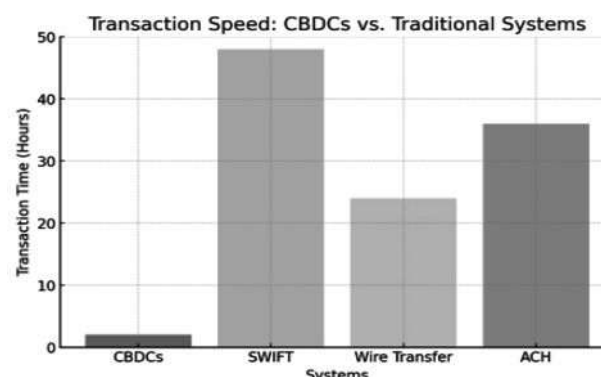


Figure 4: Efficiency in Terms of Quick Transactions.
(Source: Primary Data)

CHALLENGES AND RISKS ASSOCIATED WITH CBDC

1. **Privacy Issues:** CBDCs offer traceability, but that may also lead to bulk government observation of a citizen's transactions. This might create a stigma on the part of consumers on its initial adoptability.
2. **Impact on Conventional Banking:** The emergence of CBDCs can threaten the traditional models of commercial banking. For example, if people prefer to hold CBDCs directly with the central banks that may decrease the commercial bank accounts.
3. **Cybersecurity Risks:** Like any digital system, CBDCs can be at risk of cyberattacks, hacking, or digital fraud. Protecting a country's financial system when moving to the digital currency format requires significant investments in cybersecurity infrastructure.

4. **Risks to Financial Stability:** Bad design of CBDC can translate into negative implications for financial stability. For instance, at a time of financial crisis, citizens scramble to liquidate their commercial bank deposits to CBDCs, creating a 'bank run' situation.

AI AND AUTOMATION: TRANSFORMING COMMERCE AND FINANCIAL SERVICES

Artificial intelligence fundamentally changes the way businesses operate, how consumers relate to a company, and the very delivery of financial services. From automated customer service interactions via AI-driven chatbots to complex data management using machine learning algorithms, AI brings commerce and finance closer to better performance, personalization, and data-related productivity.

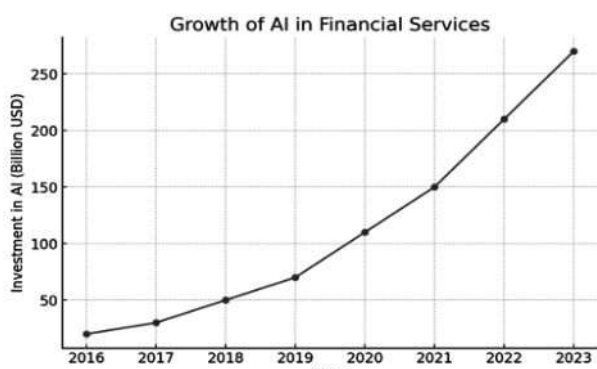


Figure 5: Exponential Growth of AI in Financial Services.
(Source: Primary Data)

IMPACT OF AI IN FINANCIAL SERVICES

1. **Fraud Detection:** It provides the advantages of fraud detection and security since such AI-powered systems can process large datasets in real-time, thereby detecting a pattern of fraudulent activities better than other traditional systems.
2. **Credit Scoring and Risk Management:** Due to the multidimensional
3. Datasets from which machine learning models can work, the process by which their assessment of credit risk would happen will be much more accurate than the traditional approaches.

4. **Algorithmic Trading:** Through algorithms, AI has transformed trading by allowing for high-frequency trades and real-time analysis of market trends, such things as speed and efficiency that human traders cannot provide.
5. **The Convergence:** Digital Currencies Powered by AI: Combining digital currencies and AI is the total potential. These technologies, when used together, can open new possibilities for innovation while concurrently solving a huge proportion of the challenges upon commerce and financial systems.

AI IN DIGITAL CURRENCY SYSTEMS

1. **Automation of Transactions:** AI can automate complex financial processes such as cross-border transactions, which may often take time to get cleared due to intermediaries and because of regulatory hurdles.
2. **Smart contracts and Blockchain:** Blockchain-based smart contracts can only be made better by AI in terms of efficiency and security by automating complex financial agreements that self-execute at predetermined conditions.
3. **Enhanced Security:** AI algorithms may monitor the transactions made in the digital currency and flag the system to alert it about abnormalities or suspicious activities that may escalate into fraud or money laundering.

IMPLICATIONS FOR GLOBAL COMMERCE

Artificial intelligence and digital currencies are going to reshape global trade in the following ways:

1. **Cross-border payments:** Cross Border Payments- mostly, cross border payments are expensive and slow because of the existence of intermediary banks and regulatory frameworks. AI will automate and make it smooth through real time compliance with local laws and real time fraud detection.
2. **Financial Inclusion:** The AI-back digital currency systems can benefit the poor and also in the developing countries, which will have less access to

traditional banking access. Digital currencies, driven by AI, can make bank less people sense to improve on the financial inclusion level.

CHALLENGES AND ETHICAL CONSIDERATION

Although such a blend of digital currencies and AI holds infinite possibilities, equally significant ethical considerations need to be advanced while fostering a sustainable and just future of commerce and finance.

1. **Data Privacy and Surveillance:** This massive personal and financial information will be available to AI systems that are involved in digital currencies. Crucially, questions on this information and its security are raised.
2. **Job Displacement and Automation:** Job displacement due to AI-driven automation may be a future challenge in the retail, customer services, and banking sectors. Digital currencies will create an innovation, but growth should avoid economic inequality by properly transitioning between these and not worsening the situation.
3. **Regulation and Governance:** The hard reality is that governments and international institutions will be forced to begin regulating AI-driven digital currencies. This dilemma is the heart of the problem: how to incite innovation while protecting consumers.

THE FUTURE OF COMMERCE AND FINANCIAL SYSTEMS

As the lines blur between digital currencies and AI, there will be a new financial ecosystem that is faster, more effective, and greater in reach. Trends to look out for in the very near future include:

1. **DeFi or Decentralized Finance :** The first noticeable trend is likely to be an AI-based decentralized finance platform that is unbound and could operate independently, without relying on intermediation by traditional banks for the dispensing of financial services.
2. **AI-optimized CBDCs:** Central banks through AI

will be able to monitor real-time changes and even be able to balance issuance of the digital currencies, optimizing monetary policy to stabilize the economy in the event of financial crises.

3. **Personalized finance:** AI-based personalized financial advisors that can return digital currency portfolio management back to the individuals as personalized recommendations and as automated routine transactions of finances.

CONCLUSION

Digital currencies and artificial intelligence combine to create a future in which money works as a dynamic and smart companion at the workplace. Such combination would redefine commerce by a threefold mantra: faster transactions, smarter transactions, and safer transactions. Commerce would be turned into an all-inclusive financial world with universal access and endless opportunities. But the toughest battles of that journey shall be quite certain—those from privacy, losses of jobs, and regulations. That calls for Governments, businesses and individuals to navigate the New Financial Frontier between innovation and ethics. The goal is more profound change: altering how we approach money for a wiser financial future for generations.

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MR. ANAND KUMAR

Scholar and Educator

Taken by the Editorial Board

YT: Sir, your initiative, Super 30, has transformed the lives of many underprivileged students by preparing them for the IIT-JEE. What inspired you to start this program, and what were some of the biggest challenges you faced in its early days?

AK: It all began as a call of conscience after I missed the opportunity to study at Cambridge due to financial constraints. That experience deeply shaped my resolve to make education accessible to others. I started small by teaching mathematics to local students, and over time, it grew into something more substantial, even becoming a source of sustenance for me.

Later, I decided to take a bigger step by selecting 30 meritorious students from underprivileged backgrounds and providing them with free residential education. The journey was not easy—starting out without resources was particularly challenging. I worked from a makeshift venue and had to rent benches for students to sit on. Despite the hurdles, my vision to transform lives through education gave me the strength to persist.

YT: Your journey has been filled with both triumphs and obstacles. Can you share some of the most impactful success stories from your Super 30 program, and how these stories have impacted you personally?

AK: Super 30 is about transforming dreams into reality for those from the most challenging backgrounds. Every student here has an inspiring story of grit and determination. Whether it is the child of a daily wage laborer, a security guard, or a widow struggling to make ends meet, they have overcome incredible odds through hard work and passion. Many have gone on to work in top multinational companies, bringing about generational change. It is this ability to nurture hope and drive transformation that makes Super 30 truly unique.

YT: Education plays a crucial role in shaping the future of a nation. Based on your experience, what do you believe are the most pressing issues facing the Indian education system today, and how can we address them to ensure quality education for all?

AK: The most pressing issue is making education truly inclusive. Right now, different standards based on affordability create inequities and limit the talent pool. Many brilliant students lose opportunities simply because of financial constraints. This not only affects their futures but also hampers societal progress. Access to quality education must be based on ability and ambition, not economic status. Inclusivity is essential for building a fair and thriving education system and unlocking our society's full potential.

YT: In many STEM (Science, Technology, Engineering, Mathematics) fields, gender parity remains a significant issue. How does Super 30 encourage and support female students to pursue careers in science and technology, traditionally male-dominated fields?

AK: Gender parity is essential in every field, and while things are gradually changing, it cannot happen overnight. Over the years, we have seen more girls entering fields where they were once underrepresented, and their numbers are steadily growing. At Super 30, in the early years, we only had boys because girls were often not seen as inclined towards engineering and mathematics. However, we did have a few girls in the program, and since they were just two or three, they stayed at my house with my mother for safety.

Today, even traditionally male-dominated fields are seeing more women, and this trend will continue to grow as awareness and opportunities expand. It is a positive shift, and with time, we will see even greater participation from women in all sectors.

YT: Your work has inspired many individuals to pursue careers in education and social work. What advice would you give to young people who aspire to make a difference in society through education?

AK: My only advice to the youth is to always give back to society what it has given you. If you are fortunate

enough to have opportunities and resources that many others lack, it's important to share those blessings when you're in a position to do so. Giving back can truly make a difference—it uplifts others and helps build a more compassionate, equitable society. By doing so, you not only change lives but also contribute to a stronger, more connected world.

YT: Reflecting upon the numerous accolades and recognition you have received in recent years, could you describe in detail how this fame has influenced and transformed your professional trajectory? How has it altered your approach to your work, collaborations with peers, opportunities for innovation, and overall career aspirations?

AK: Accolades and recognition come as a result of hard work, and they always bring with them a greater sense of responsibility to do even better. They should not be seen as a reason to rest on one's laurels but as encouragement to push further and achieve more.

Currently, I'm focused on expanding my work through online platforms to reach more needy students, not just across the country, but even beyond. I realized the power of technology in education when I started engaging with students remotely to help them avoid the stress of confinement during the pandemic. The response was overwhelming and encouraged me to transform Super 30 into Super Infinity. I'm still working on this expansion, collaborating with experts to enhance the initiative and make it even more impactful for students.

YT: With the advent of digital education and online learning platforms, how do you see the future of traditional classroom education evolving, and what role can technology play in making quality education accessible to all?

AK: Technology should be seen as a supplement, not a substitute for classroom teaching. A good teacher

will always be essential in guiding and inspiring students. However, technology can enhance the learning experience by making classrooms more engaging and interactive. It can provide students with access to the best educational materials available anywhere, ensuring quality education and broadening learning opportunities. When used effectively, technology can empower both teachers and students, helping them achieve more.

YT: You have faced numerous challenges in your mission to provide quality education to underprivileged students. Can you share an instance where you overcame a significant obstacle, and what lessons did you learn from that experience?

AK: When I started Super 30, it was a completely new concept. Nobody had thought of providing free residential education to 30 students. I kept them at home or nearby to ensure I could give them maximum attention. This pioneering initiative did not sit well with some in the coaching industry, who saw it as a threat to their business. For me, it wasn't about business—it was a mission I wanted to pursue.

Arranging for food, accommodation, and study materials for all the students was difficult, as I did not have the resources. My mother even cooked meals for the children. Despite this, there were people who tried to disrupt the initiative, even resorting to attacks. But I remained focused on my goal, and as Super 30 succeeded, others tried to copy it. Many started their own versions in hopes of diluting my efforts, but none succeeded. The key takeaway is that negativity never wins—Super 30 remained unique.

YT: As an educator who has worked closely with students from disadvantaged backgrounds, what personal values and principles have guided you throughout your journey, and how do you impart these values to your students?

AK: The biggest difference is the opportunity I provide. My principle is to offer all students the same opportunities and environment, regardless of caste or creed. Beyond that, they do the rest. I instill in them the belief that they are inferior to none and, in fact, better than many. I emphasize that they have the power to bring about a generational shift. I also stress that education is the only way they can rise above poverty and lift their families with them. The students are incredibly receptive to this message and passionate about their goals. This mindset shift is what drives them to succeed, and it is what makes all the difference in their journeys.

YT: The students of St. Xavier's College (Autonomous), Kolkata, deeply admire your dedication to education and social upliftment. What message would you like to convey to them about the importance of education, perseverance, and giving back to the community?

AK: Education is power, wealth, progress, and liberation. It is the one weapon that can solve most of the world's problems, whether it is poverty, inequality, or other challenges. If you take education seriously, it will take you seriously throughout your life. It empowers you, not just to improve your own circumstances, but to give back to society. You owe it to yourself and to society to embrace it fully. For India to progress, education must reach every individual in equal measure. Only then can we truly unlock the potential of our people and build a more equitable and prosperous future.



MR. BHUVAN BAM

Actor and Comedian

Taken by the Editorial Board

YT: You have been a musician, a content creator, and even an actor. As a creative professional, which of these mediums do you have a personal preference for, and where do you believe your imagination can be showcased more effectively?

BB: As a creative professional, I see my imagination and thoughts as the foundation of everything I pursue. Whether it is singing, content creation, or now acting, my aim has always been to bring my creative vision to life. Each medium might be different, but the effort, passion, and dedication I pour into them remain constant. It is this consistency in creativity that defines my journey and shapes my work.

YT: Your content often navigates the intersection between humour and contemplation, encapsulating profound insights within seemingly light-hearted narratives. Can you recount a particular instance where a comedic piece of content took an unexpected turn, leading to a thought-provoking revelation that resonated deeply with your audience and how

does this outlook frame the stories you chose to tell?

BB: Many of my comic sketches originate from a simple idea I want to plant in my audience's minds. There have been moments when certain pieces have resonated far beyond my expectations—like my video 'My Duty', which explored how a shift in a man's mindset could lead to fostering a more respectful society. The positive recognition such videos receive is incredibly motivating. It encourages me to keep crafting stories in my own unique way, trusting that my audience will connect with and understand the message behind them.

YT: Having established a notable career as a content creator, there must have come various forms of critique and feedback your way regarding the composition of your content. What is your approach towards both the favourable as well as the adverse reactions you receive from your viewers and is there a particular experience that stands out?

BB: I have never shied away from criticism—in fact, I welcome it. Over time, I have learned to differentiate between constructive feedback that helps me grow and criticism that’s best left aside. There is no one-size-fits-all approach to this; it is a process that comes with dedicating time to perfecting your craft. The deeper you immerse yourself in your work, the clearer it becomes which critiques can elevate your talent and which ones you should disregard. It is all about striking the right balance for continuous improvement.

YT: In India's dynamic digital content landscape, you have played a pivotal role in its revolution with your notable presence on YouTube. As content formats shift towards even shorter modes such as reels, how do you perceive the future of the industry, especially in the context of increasingly stringent digital regulations and, how do you plan to maintain your popularity and influence amidst this evolving landscape while adhering to the stricter digital laws that are emerging?

BB: I have always believed there is no better time to be a content creator than today. While policies and regulations might evolve, I am confident that creative individuals will always find innovative ways to connect with their audience. Once you have identified your audience and built a strong bond with them through meaningful content, maintaining that connection becomes much more manageable. This approach has been the cornerstone of my journey, and it is something I truly stand by.

YT: With a substantial and engaged online following, your influence among the youth is undeniably significant which carries a weight of responsibility, particularly concerning the potential impact your content can wield over your audience. Could you elaborate on how you approach and manage this responsibility?

BB: From the very start of my journey, I have always felt a deep sense of responsibility for the stories I choose to tell. This responsibility does not feel like a burden—it is more like a guiding conscience. It is an intrinsic part of how I think and create, which makes it easier for me to navigate and align my decisions with it. For me, it is not an added factor to manage; it is an inherent part of my storytelling process.

YT: Within the intricate diversity prevalent in Indian society, characterized by a myriad of languages and cultural nuances, your skill in crafting content that genuinely connects with such varied backgrounds is truly praiseworthy. How do you navigate the challenge of maintaining inclusivity and ensuring that your content deeply resonates with individuals from these multifaceted backgrounds?

BB: Over the years, I have realized that while our language, geography, food, and clothing may differ, the core expectations and challenges of life are what unite us as humans. This shared experience makes it easier for people to connect with my stories. They are not crafted for any specific community but focus on universal situations and relatable issues, often drawn from the dynamics of a middle-class household. It is this universality that allows my work to resonate with a diverse audience.

YT: On YouTube, you take on various characters, each of which have a distinct personality that strongly resonates with viewers and conveys meaningful messages. Could you tell us about the real-life individuals who served as inspiration for bringing these characters to life?

BB: Having grown up in a middle-class household in Delhi, I have always been a keen observer of human behavior. Most of the characters I portray are inspired by the people around me—my family, friends, or even strangers I encounter in everyday

settings like metros, parks, and other public spaces. For instance, Titu Mama is based on my actual uncle, whose mannerisms I have been observing since childhood. Angry Masterji is a nod to one of my school teachers, and Doctor Sehgal draws inspiration from a real Dr. Sehgal whose clinic was next to my house. These personal connections lend authenticity to my characters and make them relatable to my audience.

YT: Your achievements on YouTube have opened doors to ventures in music, acting, and business. You have also grown your brand by introducing merchandise and producing music albums. How do you go about selecting projects beyond your main content, and what considerations shape your choices?

BB: Throughout my YouTube journey, every new path I have explored has been driven by a single core goal: telling meaningful stories. Whether it is through songs, inspiring merchandise, or

producing original content under my own production house, the purpose remains constant. I see these ventures as different channels that allow me to expand my reach while staying true to my vision of creating impactful narratives.

YT: Your work continues to be cherished by millions around the country; the students of St. Xavier's College (Autonomous), Kolkata are no different. What message would you like to pass on to them?

BB: I know this might sound like advice people hear often, but I genuinely believe in it because it works: do what you love and give it your 100 per cent. Failures are inevitable, no matter what path you choose, so why not dedicate yourself to something you are truly passionate about? When you pursue what you love, even challenges become more manageable, and the journey itself becomes fulfilling.



MS. DHVANI BHANUSHALI

Singer and Actress

Taken by the Editorial Board

YT: You were raised in a family with a deep appreciation for music. How did your upbringing, and the cultural environment around you, shape your initial fascination with music? Were there any defining moments in your early life that solidified your decision to pursue this as a career?

DB: I can not point to one specific moment, but I believe my passion for music grew naturally over time. My dad worked in a music company, so our home was always filled with music he brought back from work. I think being surrounded by it helped me develop a good ear for music. Initially, though, I did not see it as something I would pursue professionally. As a teenager, I was more focused on studying and was inclined towards marketing—just like my dad, who has been a huge inspiration for me since childhood. However, as I grew, learned, and started applying myself to music, it gradually transformed into a career. It has been surprising to see how far I have come. I never imagined becoming an artist, but I believe destiny has its way of guiding us toward the right path. Looking back, I am incredibly glad it led me here.

YT: Artists often find inspiration in those who have paved the way before them, drawing from their unique styles and innovations. Could you share some of the key musical influences that have significantly shaped your approach towards this field?

DB: When it comes to unique styles and innovations, I do not think anyone consciously decides, 'This is different, so I will do it.' For me, it's more about what feels right in the moment—something that stems from a small thought or even a sound you hear. Throughout our lives, we are constantly shaping ourselves through our experiences, likes, and dislikes. These preferences naturally influence the sounds we are drawn to and the ideas we consider unique. I think this individuality—our personal tastes and perspectives—is what sets us apart, even as artists. So, when you bring those elements into your music, it creates something distinctly yours. It is that combination of personal taste and creative instinct that ultimately defines your unique style.

YT: In 2019, you achieved a remarkable milestone as the youngest artist to surpass 1 billion views on YouTube with your singles 'Vaaste' and 'Leja Re'. Looking back, did you anticipate such overwhelming success early on in your career, or was this a pivotal moment that reshaped your journey and opened new doors for you?

DB: Honestly, I never thought it would happen so early. I genuinely had no idea it was even possible. I had been working hard at it for years, giving it my all, but I never expected to achieve something so significant at such a young age. When it happened at 21, it opened new doors for me. It was a pivotal moment that not only shaped my career but also instilled a sense of confidence in me. That confidence has been a driving force, allowing me to continue exploring my journey as an artist and pushing boundaries in my work.

YT: In recent years, independent music has seen a significant rise in India, with more artists choosing to bypass traditional labels. As someone who has worked within both the mainstream and independent frameworks, how do you see the future of independent music evolving, and what role do you think it will play in shaping the industry?

DB: Yes, I have experienced both, and I feel there is a significant contrast between the two. As an independent artist, there is a lot more freedom, but it also comes with much more responsibility. You are directly involved in every aspect of your career, and while it is a lot of work, I think it is ultimately a better way to go about things. There are many reasons why the label system does not always work well for independent artists. While I believe people in the industry have good intentions and genuinely want to help shape your career, the way they operate often does not align with what the artist wants. This disconnect can create challenges. That is why many artists choose to build their own teams and take control of their careers. Over time, mindsets evolve, but the label structure tends to maintain a rigid hierarchy of decision-making. As

an independent artist, you have the freedom to make your own decisions while relying on a team that advises and supports you. I believe this approach is incredibly valuable because it is the best way to stay true to yourself and your vision as an artist.

YT: Every artist has a very unique and personalized method of dealing with the creative side. Could you walk us through your approach to crafting a new song, from the spark of initial inspiration to the final stages of production?

DB: The initial inspiration or a spark of thought could come from anywhere, maybe you hear a sample on the internet, you sort of see something, you hear someone playing something and then maybe a melody comes into the picture once you download it and sit on it. Or you play a certain instrument and sort of go at it. I would just like to give you an example of 'Mera Yaar,' that is how I made it. Abhijit sent me this piece, it was the beat and I just wrote the hook on it and sent it back to him and from there when we listened to it, it was very catchy and then we made the whole song and the idea basically at the time about the song was how when you have a crush on someone and you need like this really decent way of saying that to them and not be indecent about it, the idea was that and I just then went ahead and sort of completed the song with him and Shlok. So, it can come from anything really.

YT: You have successfully ventured into both Bollywood soundtracks and independent singles, showcasing your versatility as an artist. What were some of the key differences between the two formats and how do you navigate your way to meet the demands of both?

DB: It is just music at the end of the day. I feel when there is a Bollywood song, you are supposed to go and sing it according to what the music director wants but when you come to the independent side of things and when you are doing your own single, it is your own story that you try to tell and you work

with a few people from the seed of the idea. I feel like you develop it into a song and then the whole video and conceptualise it and make your own world really. So that way they are very different but at the end of the day it is music so I feel like I would also only sing songs that really fit into my world and really make my voice shine. Those are the differences and that is how one navigates but like I said since it is music, when you are an artist you can sort of maneuver both ways.

YT: Many artists have been experimenting with different genres recently, from classical fusion to electronic pop. Are you planning to explore new genres or musical styles in the near future?

DB: When it comes to experimenting with different genres, I have always done that, even in the past. When I did 'Radha,' it was very different from what I did initially with 'Vaaste' and 'Leja Re', which was made by Tanishk. With 'Radha,' I worked on it with Abhijit Vaghani and we had elements of house and we blended it with this traditional Sarangi in the drop. So I have always made sure, even in the album 'Lagan,' there are a lot of elements that are Indian instruments and when it comes to 'Thank You God,' again, it is a very different genre. It is straight up pop, a little bit of Latin elements there. I feel I have jumped from here to there for the sake of how different it can sound and how much I can explore. So, I have been doing it and I feel like musicians have been doing it for far too long and I feel like the audience is just realising it now.

YT: Balancing your academics in business management and entrepreneurship alongside a thriving music career must've been a formidable challenge. Reflecting on your own journey, what would be an advisable approach for students at St. Xavier's College, Kolkata, who are passionate about creative fields like music while managing their academic commitments?

DB: Yeah, balancing academics along with doing this gets extremely hard. So I remember when I was in college and doing all of this together, I really used to work constantly. But I feel like what helps is having extreme discipline. Monday to Friday, make sure you are constantly at it and maybe one day you can take an off. So rest is also important. I just feel it has to work like clockwork. I used to get up at six every single day and practice and everything before I hit college and sleep sharp at 10. So, you really have to sort of pull up your socks and make sure you have time for things that are important.



MS. DIPAKARMAKAR

Indian Gymnast

Taken by the Editorial Board

YT: Making history as the first Indian female gymnast to qualify for the Olympics was a monumental achievement. What were your thoughts as you prepared for such a prestigious event, and how did it feel to represent your country on such a grand stage?

DK: When I qualified for the Olympics, it was the most precious moment of my life. Every athlete dreams of participating in the Olympics. After 52 years of waiting for an Indian gymnast to qualify, this achievement was truly a historic moment for me. It was not an easy journey. I had to face numerous challenges in every aspect—whether it was training in the gymnasium, handling the equipment, or overcoming injuries.

I came from a background where people did not even know about me. I chose this sport, which I believe most people were unfamiliar with at the time.

As a woman, we all can relate to the fact that achieving anything comes with its own unique set of challenges. In today's world, being a female athlete often means facing additional hurdles. But

challenges are essential—they shape us and push us toward a successful career.

As a woman, I may look delicate, but I can confidently say that women have to face and overcome more obstacles. Earlier, society believed that girls could not achieve certain things, but now, people think differently. Mindsets regarding girls and women have changed significantly.

This time, when you win at the Paris Olympics, the victory will be celebrated equally—50:50 per cent, both men and women recognized equally. This shift in mindset is proof that people now believe in the immense potential of girls and women.

YT: Your mentor, Bishweshwar Nandi, has played a significant role in your career. Can you describe the nature of your relationship with him and the specific ways he has influenced your development as an athlete? What are some memorable lessons or experiences you've shared that have shaped your approach to gymnastics?

DK: We have a father-daughter relationship because I learned so much from him. If I had to look up to someone in my life and choose a role model, both aspects—his teachings and his support—are equally important to me. He gave me invaluable lessons, and for that, I am deeply grateful.

I have to say that my journey has been filled with experiences. I was a champion, but I always looked up to him. Initially, I did not get many opportunities, but when I started working with him, he said something that stayed with me: 'We did not have perfect facilities at that time. We did not have good physios or doctors. But what I had was a coach.'

He used to tell me, 'Son, Whatever you have, do not complain about what is missing. Instead, make the most of what you do have.' That philosophy changed my perspective completely. Complaining about what you lack is a waste of time. Instead, we should utilize what we have to its fullest potential.

Since that day, I have realized that the passion of the government and the coaches is to win medals for the country and give it a unique identity in the world of sports. I have seen many foreign coaches being brought in after the Olympics, but I often wonder: when Indian coaches train athletes for decades and help them qualify for the Olympics after 52 years, why do not they receive the same trust and recognition?

Whatever I am today, it is because of my coach. I have fallen, fought, and risen again because of his guidance. If I had not have such a coach, I might have ended up doing something completely different—perhaps playing badminton or pursuing something else entirely. But because of him, I found my true path, and for that, I am forever grateful.

YT: Reflecting on your experiences at the 2016 Rio Olympics, what were some key takeaways that shaped your perspective on competition and personal achievement?

DK: See, after Rio Olympics, life has changed a lot. I did not know Tripura, I only knew Tripura. Then I performed in a world that I did not know in India. People knew that. There were many changes in my life. My whole life has changed. But yes, I learned something from that. This is not just my hard work, it is our hard work. My coach. I am proud to be a part of this movement. When I go out, people say that I am like the women of the country. When people say that, I am proud to be a part of this movement. I am proud to have made this movement known to the world. If we have a good subject in our heart, we will definitely succeed. You can never be patient.

YT: In your opinion, what changes have you seen in the perception of gymnastics within India due to your achievements? How do you think your success has contributed to encouraging more young people, especially girls, to take up the sport?

DK: The last five years were incredibly challenging for me. I had to undergo two surgeries, face multiple injuries, and deal with everything that came with it. Despite these setbacks, I managed to compete in three to four World Cups. It was a massive challenge, both physically and mentally.

At that time, I was in a 'do or die' situation. Being over 30 years old, the pressure was immense—not just in sports but also from societal expectations, like the constant pressure of marriage. I didn't know whether I would get married or not, and honestly, I did not know all the answers. But one thing was crystal clear to me: my goal.

The most important thing for me was to win a medal for my country. That was my only focus, and I decided to think about everything else only after achieving it. I knew I had to prove myself, not just for me but for everyone who believed in me.

In every competition, there were people who doubted me, people who said things to discourage me. There were even times during training when nothing seemed to go right. But when I stepped

onto the competition ground, everything changed. Winning a gold medal was the most joyous moment of my life.

The best part was proving those who doubted me wrong. The same people who used to criticize me were now congratulating me. That, for me, was the biggest gift. It showed the power of staying positive, no matter what others said.

I have always believed in focusing on my goals. People will always have opinions, but as women, if we lose sight of our goals, it is easy to fall into negativity or depression. My journey taught me that no matter what others say, we must keep moving forward, focused on our dreams.

YT: Growing up in Agartala, how did your environment and culture influence your journey into gymnastics? Can you share any specific experiences from your childhood that played a role in shaping your determination and passion for the sport?

DK: I am very stubborn, and I have always been this way. As a sportsperson, this stubbornness became one of my defining traits. When I was 25 years old and actively competing in sports, I often felt like I was not progressing enough.

I remember once saying, 'I have done this for just 30 bucks,' and they told me, 'You can beat me with this.' But for me, it wasn't about the money or external validation—it was about self-satisfaction.

Until I can fully satisfy myself with my performance and efforts, I refuse to quit or give up on anything. That inner drive and determination to prove myself to myself are what keep me going.

YT: What are your thoughts on the current state of gymnastics in India? How do you perceive the development of the sport, and where do you see it heading in the coming years?

DK: I believe sports have developed significantly, especially in recent years. However, there is still

room for improvement, particularly in addressing certain challenges faced by athletes and coaches. I want to encourage coaches to work towards solving these problems because the more participants we have, the better the competition will become.

Preparing for the Olympics should not be a short-term effort of just two to three months. To achieve success, we need consistent preparation for at least one to two years. With only three years left until the next Olympics, it is essential to start working now, set clear targets, and remain focused. By doing so, we can ensure progress, not just for individual athletes but for our country as a whole.

Women's sports, in particular, need more attention and encouragement. If we continue to invest in and support women's sports, it will not only contribute to our country's growth but also strengthen our sports culture. Women's participation and success in sports are crucial for taking our nation to greater heights.

YT: Can you share a particularly memorable interaction with a fan or a young athlete who was inspired by your journey? How did that encounter affect you personally?

DK: There have been many memorable interactions, but one that stands out was during the Rio Olympics when I returned to Mumbai. I received a call from Amitabh Bachchan sir, who said he wanted to meet me. I was a bit late due to some delays caused by traffic, and I felt bad because he is such a respected figure. It was important for me to be on time.

When he called me again to reassure me that it was okay, it felt very kind and understanding of him. Meeting him was a truly special moment for me. He was so positive and encouraging. His words left a lasting impression.

This interaction meant a lot to me, as he is someone I have admired greatly. It was one of those moments that reminded me how far I had come.

When I see children now getting inspired by the Olympics, it makes me proud. At least my performance has helped change some people's mindsets. It has also brought more attention and recognition to gymnastics in our country, which is a significant achievement in itself.

YT: Have you engaged in any collaborations or partnerships aimed at promoting gymnastics or sports more broadly? Can you discuss any projects that you believe have made a positive impact?

DK: I have not done many collaborations yet, but I believe there is immense potential to create impactful initiatives. For example, if we introduce a dedicated period for physical activities in every school, it would significantly benefit students. It would help keep their bodies healthy, improve fitness, and make them mentally stronger.

Sports and education can go hand in hand. I believe that if every school could allocate time for such classes, even for just a week, it would make a big difference. It would also inspire India to adopt a healthier and more active lifestyle.

Our youth represents the new generation of ideas and innovation. However, nowadays, we see a growing problem with depression, even among young kids. To combat this, regular exercise and physical activities are essential. Whether we are 60, 70, or 80 years old, staying physically active keeps us healthy. If we exercise regularly, not only will we stay fit, but our entire country will benefit from a healthier and more productive population.

YT: In your opinion, what changes have you seen in the perception of gymnastics within India due to your achievements? How do you think your

success has contributed to encouraging more young people, especially girls, to take up the sport?

DK: If I say this, it might sound wrong, but there has been a lot of change. Many centers have opened, and more people have gotten involved. The number of children participating has also increased, especially because gymnastics, which was once less known, is now gaining more recognition.

I believe that if we keep striving to win more medals for our country, we will raise the popularity of gymnastics just like sports such as badminton and table tennis have gained prominence. I have complete faith that gymnastics will continue to grow in popularity and success.

YT: As a prominent figure in Indian sports, how do you feel about the admiration that students from St. Xavier's College (Autonomous), Kolkata, have for you? What specific advice would you give them about pursuing their passions and overcoming challenges in their own journeys, whether in sports or other fields?

DK: I would like to tell every student: never give up in life, especially on yourself. No matter what anyone says, you should never lose faith in your own abilities. If you believe in yourself and stay determined, you will ultimately succeed in life. Hard work always pays off, no matter how tough the journey may seem.

I remember visiting your college last year for a function, and it was a memorable experience. I want all the students there—and everywhere else—to work hard and stay focused on their goals. With dedication and perseverance, I am confident they will achieve great success in life.



MR. RISHABH PANT

Indian Cricketer

Taken by the Editorial Board

YT: Cricket is all about personal flair, and every player has their own unique style. How much of your game is a reflection of your natural instincts, and how much has been influenced by the advice and techniques you've gathered from others along the way?

RP: Cricket is definitely about expressing yourself out there. For me, a lot of it is instinctive. For example, when I am batting, I do not overthink things too much. If I see the ball, I hit it. That is just how I have always played, since my childhood days.

But obviously, you learn things along the way. Playing with so many senior players in the Indian team, you pick up so much just by observing them. You try to absorb those qualities.

My coaches, right from my childhood, have also played a huge role. They have helped me refine my technique and taught me how to read different situations in a game. So yeah, it is a mix of both – my natural instincts and the guidance I have received from others.

YT: After taking a significant break from the game, it must have been a challenging time. How did

this period away from cricket allow you to reflect on your life, your approach to the game, and even change the way you view yourself?

RP: Being away from the game for so long forces you to look at things differently. Because, when you are constantly in the grind, playing non-stop, you are just reacting, you are in the moment, dealing with what is in front of you.

But when you are suddenly pulled out of that, you get space and time to reflect on the aspects of your life which do not constitute cricket. It gives you time to think. And for me, it was a chance to reflect on everything, not just cricket. On life in general. It made me realize how much I actually love the game, and how much it means to me. I missed being out there, the competition, the feeling of hitting a good shot, and even the pressure.

It also made me think about my approach. Maybe I was taking some things for granted, maybe I was not as focused as I should have been, or maybe I was not looking after myself as well as I should have. It gave me a new perspective on training, on preparation, on everything, really. And yeah, it changed how I view myself a bit too. It made me

realize that I am not just a cricketer. There is more to me than that. It gave me time to reconnect with myself, my family, and the important things outside of cricket. It was a tough period, but I think I have come out of it stronger, more mature, and with a clearer understanding of what I want, both on and off the field. It was like a reset button for me. Lastly, it also instilled in me a greater sense of gratitude for life.

YT: With social media becoming an integral part of an athlete's career, do you think it is crucial for players today to build skills outside of cricket in order to develop their personal brand and explore more opportunities?

RP: Social media is a big thing these days. You see everyone on it, but for me, cricket has always been the main focus. That is what I am passionate about, that is what I train for and that is what I have dreamt of playing since my childhood.

However, it is important to, connect with fans and all. They show us so much love and support,

so, it is good to give something back. And social media helps with that. It is a way to stay in touch, share what we are up to and other things.

As for building skills outside of cricket, I think it is good to have other interests. It keeps you grounded. For me, I like spending time with my family, hanging out with my friends, listening to music, playing other sports normal stuff. It helps me switch off from cricket for a while and come back feeling refreshed. I do not think too much before posting, just want to be my natural self.

YT: The commercial side of cricket, with sponsorships and endorsements, can be overwhelming. How do you maintain a balance between managing your image and staying authentic to yourself?

RP: A simplified approach and partnership allows me to focus on things on ground. With brands, I have always wanted to forge a partnership.

For me, it is important to match values and think what is best long-term.

I want to give my best to whoever I am partnering with and to ensure that all the boxes are ticked.

YT: The Indian Premier League (IPL) has become a major platform for young players to showcase their talent. How has your journey in the tournament shaped your career, and which moment stands out as the most defining for you in the IPL?

RP: IPL is a whole different vibe, altogether! It is a great platform for all players, not just youngsters, to compete against the best in the world, under pressure, in front of massive crowds. It gives us the exposure, confidence, and the experience of playing in high-pressure situations. You learn so much just by being in that environment, sharing the dressing room with fresh talent and legends. There is not one memory- the entire journey has been one to remember!

YT: During high-pressure situations with the Indian team, how do you contribute to maintaining a cohesive and motivated team atmosphere, especially when the stakes are at their highest?

RP: High-pressure situations with the Indian team are intense, no doubt. The stakes are always high, especially in big tournaments. But that is what makes it exciting, that is what we live for.

For me, in those moments, it is all about keeping the atmosphere light, keeping the energy positive. I try not to let the pressure get to me. I might crack a joke or two, just to ease the tension a bit. It is important to keep things relaxed, to not overthink things.

I think communication is key as well. Talking to your teammates, discussing the situation, making sure everyone is on the same page. It is about building that trust, that understanding, so that everyone feels comfortable and confident.

And of course, it is about supporting each other. If someone makes a mistake, you do not start

pointing fingers. You pick them up, you encourage them, you tell them to keep their chin up. That is what a team is all about, right? Being there for each other, through thick and thin.

YT: With the game evolving rapidly through new formats and technological advancements, where do you see cricket heading in the future, particularly in terms of player roles and the strategies that will define success?

RP: Cricket is changing fast – new formats, improved technology. You have to adapt. It will get way more tactical. Technology is going to get even more precise, maybe even real-time data mid-game. Strategically, we will see even more innovation, maybe shorter formats, and even more focus on quick runs. But at the end of the day, I think the core of the game will always remain the same. It is still about skill and temperament. Technology and new formats will change things, but the fundamentals will always be there. It is about adapting, learning, and staying ahead of the curve. That is what will define success in the future. It is an exciting time to be a cricketer, that is for sure!

YT: Your innings at Gabba is remembered as one of India's greatest. When you walked out to bat with such a historic moment on the line, what was your mindset or guiding principle in handling such high-pressure circumstances?

RP: It is still a bit of a blur, to be honest. But yeah, walking out there, with so much on the line, it was intense. Everyone knew what was at stake.

But for me, at that moment, it was all about backing my sense. I was not thinking about the series but I just focused on the ball, on what I need to do in that specific moment. For me it was all about staying in the present, in the zone. For me, it was about trusting my instincts, trusting my abilities.

Sometimes, when you simplify things like that, when you just focus on the process, things just fall into place. That day, it just felt right. I was seeing

the ball well, I was hitting it cleanly, and I just kept going.

So, my guiding principle in those high-pressure situations is to keep it simple, stay in the present, and back myself. Not overthink things, and not letting the pressure get to me. I just focus on what I need to do in that moment, and have the trust that my skills will take care of the rest. That is what I try to do, anyway. And at the Gabba, thankfully, it worked out pretty well!

YT: Your journey has inspired countless individuals, including students at St. Xavier's College. What message would you like to share with them as they embark on their own journeys and challenges?

RP: It is really humbling to hear that my journey has inspired anyone, especially students. That means a lot.

So, for the students at St. Xavier's, as they are starting out on their own journeys. First, believe in yourself. That is the most important thing. You are all capable of achieving great things, but you have to believe that you can do it. Trust your abilities, trust your instincts, and do not let anyone tell you that you cannot achieve your dreams.

Second, do not be afraid to face challenges. Life is full of ups and downs, there will be setbacks, and there will be obstacles. But it is how you respond to those challenges that define you. Learn from your mistakes, pick yourself up when you fall, and keep moving forward. Every challenge is an opportunity to grow, to become stronger.

And third, do not forget to enjoy the journey. It is not just about reaching the destination, it is about the experiences you have along the way. Embrace the challenges, celebrate the successes, and cherish the memories you create.

And most importantly, never give up on your dreams. If you are giving your 100 per cent effort and continue working, people may delay you, but they cannot deny you. All the best! It is all about hard work and believing in yourself, and you guys have got this!



MS. SHREYANKA PATIL

Cricketer

Taken by the Editorial Board

YT: Your journey to success has been marked by numerous milestones, each more impressive than the last. Can you take us through the early stages of your career, discussing the initial challenges you faced, the key decisions you made which prepared you for the successes you have achieved today?

SP: Looking back, I was fortunate to have a very supportive environment. My brother played cricket, and my father ran a cricket academy, so the sport was always a part of my life. My parents trusted me to travel independently for practice, which gave me both confidence and freedom to focus on my game. The only real challenge I can recall was the long hours spent commuting on Bengaluru's busy roads to and from practice. It was exhausting at times, but my love for cricket outweighed the fatigue, and I never saw it as a major hurdle. I started playing at the age of nine, so there were not many big decisions to make initially. However, as I grew older, especially in my late teens, I had to seriously commit to the sport, and that is when my journey truly took shape.

YT: Successful careers often hinge on crucial turning points—decisions or moments that dramatically alter the course of one's professional journey. Do you recall a specific turning point in your career that had a profound impact on your trajectory?

SP: The turning point was meeting my coach, Arjun Dev. In my first session at his academy, he noticed something in my bowling that excited him. After the session, he approached me with some questions, and that interaction changed everything. He took me into his batch and had an open discussion about my goals. He asked me to trust him for five years to help me become the player I aspired to be. It was a big decision, especially since many girls my age were already playing at the national level. But committing to his guidance shaped my journey and unlocked my potential. His belief in me made all the difference.

YT: The landscape of your industry has undoubtedly changed since you began your career. How have these changes impacted your approach to your

work and how they have influenced your strategy and outlook?

SP: When I started playing cricket at nine, and even up until I was 18 or 19, the highest level for women was the national team. Back then, opportunities were limited, and showcasing talent was a challenge. However, over the last five years, women's cricket has transformed dramatically, which is incredibly exciting!

We now have franchise leagues like the Women's Big Bash League (WBBL) in Australia, and similar leagues are thriving in England, the West Indies, and, of course, India with the Women's Premier League (WPL). These leagues have opened up so many opportunities beyond just playing for the national team. While representing the country remains the ultimate goal, these tournaments give players a platform to gain experience, showcase skills, and contribute to the sport's growth globally.

For me, every opportunity—whether with my state team, WPL franchise, national team, or overseas leagues—is a chance to make an impact. I have learned to value each one and give it my best because these moments define both individual players and the future of women's cricket.

YT: You were conferred with the 'Sports Performance of the Year' award by a national sports body in 2024. How does it feel to be acknowledged on such a prestigious platform, and what does this recognition mean for your future aspirations within Indian women's cricket?

SP: Winning the 'Sports Performance of the Year' was an incredible honour and a truly special moment in my journey. Being recognized on such a prestigious platform for something I am so passionate about is deeply gratifying.

While I enjoy the recognition, my priority has always been to stay focused on my game and give my best every time I step onto the field. Achievements like this serve as motivation—they push me to keep working hard and doing what I

love. It is a reminder of how much the sport means to me and inspires me to aim higher in every match and season.

YT: Recently, you became the first Indian cricketer to feature in the Women's Caribbean Premier League (WCPL). How does it feel to represent India on an international stage, and what lessons have you brought back to improve your game in domestic circuits?

SP: As I mentioned before, playing in these overseas leagues is a great experience, to share a dressing room and literally spend three weeks with some of the greats of the modern game was amazing! I was at the WCPL before I had made my India debut, so to have represented India at the WCPL was a big responsibility and I thrive when I am given the big responsibilities. Ending the WCPL as the highest wicket-taker was incredible, it felt like I had done justice to the first Indian cricketer tag. This experience made me a more confident player, I felt I was better prepared for the upcoming season.

YT: As a young female cricketer in India, you are part of a growing movement that is shifting perceptions about women's participation in sports. How do you see yourself contributing to this larger conversation on women's empowerment through cricket?

SP: I feel incredibly excited and privileged to be part of a movement that is transforming how people perceive women in sports. There are several ways I hope to contribute to this change.

First, by performing well on the field, I want to inspire young girls to dream big and pursue sports with confidence. I believe with the right preparation and determination, nothing is impossible, and I want my journey to reflect that. Second, visibility is crucial. By playing in leagues and representing my country, I hope to bring more attention to women's cricket, showcasing the talent and potential it holds.

Lastly, having a role model can make a big difference. For me, that person was Virat Kohli—his dedication and journey have had a profound impact on my career. I aspire to be that kind of inspiration for others. If my career inspires even a few young girls to take up cricket, I would consider it a success. Beyond that, I hope to use my platform to advocate for better opportunities and resources for female athletes, fostering a more inclusive and supportive environment in cricket and beyond.

YT: As a cricketer who has grown up in the evolving landscape of Indian women's cricket, how do you perceive the current state of the sport in India, and what changes or improvements would you like to see in the coming years?

SP: The progress in women's cricket over the past few years has been remarkable. We are seeing more women climb the ranks and become stars in the sport. A great example is my dear friend Asha Sobhana. The opportunities she received, even later in her career, completely transformed her life. Having experienced a similar journey myself, their success feels deeply personal and is a source of immense pride for me.

Women's cricket is undoubtedly moving in the right direction. We are playing as much as the men

now, we have our own leagues, and stadiums are filling up for our matches—a testament to the growing interest and support. The media and fans have played a crucial role in this transformation, and I hope this momentum continues.

Ultimately, my hope is that this progress inspires broader change, allowing women across all sports to receive the opportunities and recognition they truly deserve. Positive signs are everywhere, and it is exciting to be part of this journey.

YT: As a role model for many students at St. Xavier's College (Autonomous), Kolkata, what advice would you give to students who aspire to be cricketers and sports enthusiasts on pursuing excellence in sports?

SP: In simple words, be a daredevil! No obstacle is too big to overcome. Dream big, be brave, trust your instincts, and do what you believe is right. For me, it has always been about facing challenges head-on and striving to make a mark.

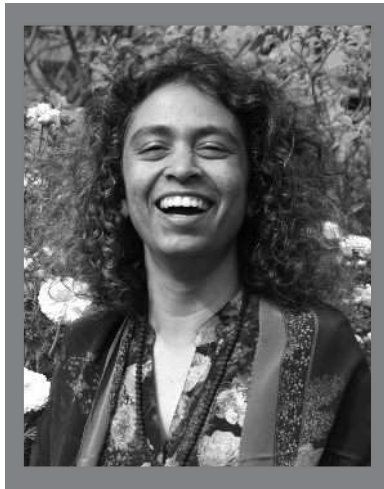
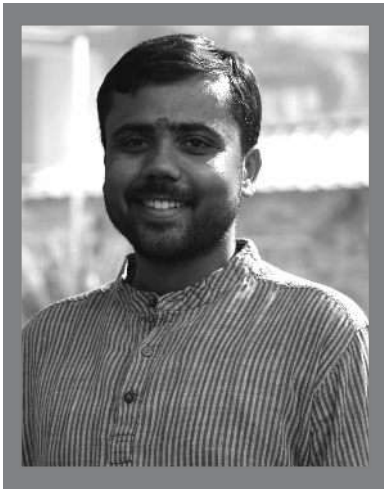
Whether it is on the field or off it, the key is to stay determined and focused. Believe in yourself, put in the hard work, and never let fear hold you back. Sports can be demanding, but the rewards of following your passion are worth every effort.

FEATURE
INTERVIEWS

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BEYOND
ASCENT
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Maturity that comes from experience is necessary and may be found in mentors.

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Embracing Ascension Through Awareness

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ABSTRACT

In 'Embracing Ascension through Awareness,' Chetna Parekh and Abhishek Kumar show how the material and spiritual worlds are connected. They explain that true fulfillment comes from looking within, not from outward achievements. Ascension is described as expanding one's awareness, leading to a life of balance, joy, and resilience for individuals and society. The authors stress that awareness—seeing ourselves and situations clearly—helps us accept our strengths and weaknesses. By bringing awareness into areas like business, innovation, and sports, people can break down barriers and

build stronger connections. The article highlights the need to nurture the human side in all aspects of life, promoting a shared journey toward a more conscious and balanced world. Parekh and Kumar encourage living with joy and inner balance, showing that this approach creates a more fulfilling life.

KEYWORDS: Consciousness, Awareness, Ascension, Internal Growth, Human Potential.

Before we begin talking about embracing ascension, we wish for the reader to note that the material world and the spiritual worlds are not separate; rather, they are only two different approaches to living life. While in the material first world, we may tend to believe that external effort, achievements, and recognition will bring us internal fulfillment, the direction is reversed in the spiritual first world. When we say we are spiritual we only mean that we first seek internal wholeness and from that place of ascended awareness we act out our roles in the world- whether it be the role of a student, a teacher, a government employee, a mother, a friend, a business person or a corporate worker and so on.

Ascension can be thought of as an act of rising to an important position of power in the material world. Internal ascension is similar in the sense that you do rise to a higher position but here we mean expansion of human consciousness- that of the individual and of the society as a whole. Internal ascension would also make you feel powerful but this power is unlike in nature to the temporary outside power that is determined by your current position in the world. Internal power is a knowing that arises deep within from a place of balance and maturity. It cannot be given to you or taken away. It is a power that simply is and you become aware of it. Internal ascension is truly about creating ourselves as individuals who are stable, joyful, easy, aware, solution-oriented, and resilient.

Now when we speak of ascension through awareness it is important to note a bit about awareness first. What is

awareness? We all have it - it is our very awareness that makes us cognizant of the fact that we are even reading this article. But what else can be said about it? Awareness allows us to look at ourselves or a situation without judgment- just as it is - without coloring the situation with our preconceived ideas and notions. There are many ways to harness and increase one's awareness- these range from journaling, meditation, exercise, eating right, spending time with nature and simply observing oneself.

What you notice when you observe yourself outside of the roles we play, outside of our expectations of ourselves gives us a deeper insight into who we truly are and now we can come to a new stage in the journey of ascension - Acceptance. We are unable to transform or evolve that which lies in the darkness of our unawareness and unacceptance. Therefore, once we become truly aware of who the real character is behind all the roles and masks, we must put on to achieve our goals in the material world, we come face to face with our true selves. And when we look at ourselves sans judgment that is when acceptance naturally arises. Accepting our strengths, weaknesses, likes, dislikes, and quirks puts us in a powerful position. Just like when you play a game, the more you know and understand the game the more likely you are to succeed at it. The act of observing and knowing yourself puts you in a position of possible success no matter the problem at hand.

We have thus far looked at ascension through awareness at an individual level. Opening that up, let us see how some of the themes of this Youthink issue are all connected.

If we talk about Unified Payments Interface (UPI), we understand that it represents a shift towards a global financial system of frictionless commerce. It is great because it signals the transcendence of physical and economic boundaries. A natural expansion to its current state is the system connecting us with an individual sitting on the other side of the world crafting a creative piece of product or idea that we are looking to

invest in. However, until awareness is infused in such dealings between human beings we are bound to make the mistakes of unawareness. As money and ideas become borderless and fluid, the importance of being conscious of our choices becomes the most important meta-skill.

There has been an upsurge of student innovators and young entrepreneurs. This was a rare phenomenon a few decades or even years ago. While it is wonderful that student-led startups are being funded - it shows that humanity is always evolving as younger people are becoming aware of their potential to positively impact society, it is important to note that it is no small task to run a business and all its nuances. Maturity that comes from experience is necessary and may be found in mentors. However internal resilience comes from having taken care of the internal environment first. The decision about what business is a natural fit for you rather than just something that you 'think' must be done comes through awareness.

Talking about the advancements in sports and the role of Artificial Intelligence (AI) in sports and all other fields of our lives. The expertise, precision, and lack of human error in Artificial Umpires cannot be denied. Just as AI seeks to bring impartiality and precision to sports, conscious evolution involves moving beyond ego-driven reactions to more mindful, objective responses to life. Aware and evolved individuals spearheading

such technological advancements are adept at managing their emotions and making decisions that are fair and beneficial to all, much like how AI umpires aim to ensure fairness and accuracy in competitive environments. It must be remembered that whether we talk of personal relationships business meetings or big conferences what is common across all these is the human element. It is the human being and its awareness that is at the heart of its creation, maintenance, receptivity, and impact on its environment. Only when this human being is taken care of and are taking care of one another and their environment can we have a world where we are all ascending together. Each human being carries something unique within them and when awareness is infused in the work, we do in the world we can honor each individual while each individual can contribute in a meaningful way to the advancement of all.

Everything in life is forward-moving- just like in business, age, or the next sequel of your favorite movie franchise. When internal ascension is taken care of, the balanced and equanimous mind is able to project its solution-oriented mindset outwardly and bring harmony in all that way. This allows one to create from a space of joy and freedom rather than comparing and chasing goals on a spreadsheet. It is definitely a more fun way of going about life and if we were ever in need of a conscious world and human beings it is now.



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From old to young, the world is falling prey to new media via the cool technology of mobile phones, surpassing any other tool of human life in their ubiquity.

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Is Our Media Shaping Us?

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ABSTRACT

The impact of modern social media was foretold by Marshall McLuhan decades ago, when he postulated how the media forms social behavior and thoughts. The transition from printing press to television, and now to social media, has changed communication, and made it context-less replacing nuance with soundbites and short form videos. The growth of content generated by Artificial Intelligence (AI) is worsening the situation with deepfakes and misinformation. This change shows the need for an intervention in the form of media literacy. This is a set of skills that people can cultivate to evaluate the accuracy of information and distinguish between propaganda and truth. Media literacy efforts have proven effective in

addressing issues such as fake news, bias, and body image issues. Global adoption of media literacy is essential to developing critical autonomy and solidarity, enabling individuals to responsibly navigate the digital age. As McLuhan argued, “we shape our tools, and then our tools shape us,” making media literacy a vital tool in creating a more informed society.

KEYWORDS: Media Literacy, Critical Thinking, Misinformation, Social Media Impact.

INTRODUCTION

‘The human family now exists under conditions of a global village. We live in a single constricted space resonant with tribal drums ...’

This statement rings true in the tribalist mentality of the social media world that we live in today but was presciently made over sixty years ago by the media theorist Marshall McLuhan, who is widely known as the ‘prophet’ of media, as his predictions came true decades later.

Inundated with news, soundbites and images, all teetering at the edge of virality, current media content – online and offline – is re-wiring our models of thinking and communication, thus re-shaping society in its image.

In this big election year for the world, where many countries have had or are going to have elections, the problem of trust in media, lack of sanguine debates, and the hyper risk of fake news have perplexed those who worry about the future of democracies.

A viral 60-second reel or a short TikTok video can mock a candidate, take things out of context, or, worst still – be totally fake, if not a deepfake. In a very short span of time, big damage can be caused to the reputations of candidates, companies or communities. With Artificial intelligence-enabled content generation technology gaining acuity, this is a new era where no one can rely on the evidence of their senses.

While many now consider Chat-GPT a friend, with Indians making the most of the users in the world (45 per cent), it is coming in handy for classroom assignments and mundane office writing. It frees time

and synthesises complex data efficiently. Students turn into project managers for their Artificial Intelligence (AI) models, they feed them tasks and regurgitate the output, losing their own comprehension and critical thinking in the bargain.

If we lose the ability to think and write, do not we risk the ability to think critically at all?

MCLUHAN'S MESSAGE

McLuhan said, ‘All media exist to invest our lives with artificial perceptions and arbitrary values’. In 1964, he published the book *Understanding Media*, which had the seminal idea that ‘the medium is the message.’ This idea meant that it was not the content of any medium that mattered but the medium itself. Using the example of ‘electric light’, he said that its invention created avenues that did not exist earlier, such as brain surgery or nighttime sporting events. But these avenues can then be interpreted as the ‘content’ of the electric light, seeing as they would not exist without it, meaning that the ‘medium’ itself is what matters most, not the content that it engenders.

Before the television and the Internet, the printing press created a society where people communicated with each other using the written and spoken word. This meant that the societal structures were built around this method of communication, debates were common and were seen as an effective way of discussing societal issues. People routinely read and wrote very long pieces of text to convey their ideas, advertisements were mostly text-based, and books served the dual function of learning and entertainment. The ‘medium’, which was the printing press, shaped the way society behaved, it had nothing to do with the contents of the medium.

The advent of television was the first major paradigm shift, which made communication faster and context-less and brought images and videos to reduce reliance on the written word. Then came the Internet and social media, which did not just kill context but buried it six feet deep.

Reading was a solitary activity, whereas speaking was sociable. Reading leads to a private consciousness and listening to or watching videos leads back to tribal

consciousness. McLuhan has said that electric media, as cool technologies that stimulate interaction, would restore the lost tribal consciousness, and these tribes would no longer be small and isolated but would join a 'global village' as a result of the worldwide reach of new media. This is a true description of the internet and particularly social media.

From old to young, the world is falling prey to new media via the cool technology of mobile phones, surpassing any other tool of human life in their ubiquity. Social psychologist Jonathan Haidt said that smartphones and social media have 'rewired childhood and changed human development on an almost unimaginable scale.' His theory is McLuhan's message repackaged for the 21st-century audience that smartphones are changing human consciousness as we know it.

MEDIA LITERACY

Haidt said the answer is simply to regulate access to the Internet and social media and pass legislation to enforce the change. Easier said than done! Legislations do not translate to global standards, powerful tech companies have access to powerful lobbies. The AI train hurtles on at breakneck speed with no guardrails or emergency stop mechanisms.

Human intelligence will have to find a solution to this potential dystopian abyss of information loss. There is a need to develop critical thinking skills, which build the capacity to evaluate information critically and assess its veracity or accuracy. This is called media literacy, and it can be taught.

The roots of media literacy can be traced back to the 1920s when the British Film Institute attempted to teach young students to become critical consumers of

media. However, media literacy needs not to be confined narrowly. It needs widespread adoption across all levels of learning. Media literacy interventions have been observed to have helped adolescents overcome prejudice and appreciate diversity. Studies have shown that it can help people better debunk dubious claims and detect 'fake news.' The interventions usually involve classroom-based coursework or online videos and games that can be tailored based on the target audience. It has also been observed to help people overcome body image issues and eating disorders, a pervasive side-effect of social media.

After the recent riots in the United Kingdom that were caused by misinformation spread online, the British government announced lessons to help children spot fake news and extremist content online. They took swift action to curb online malfeasance by arming citizens with faculties of critical thinking. However, a standard education curriculum that is adopted across the globe to teach students critical thinking is the need of the century.

The aim should be to arrive at a democratic pedagogy with the goal of creating critical autonomy so that students will want to question media even without external influence critically. It is also necessary to learn critical solidarity because one is never truly autonomous, and information does not exist in isolation. This requires effort from educators as well as policymakers to arrive at a common platform and formalise such processes

'We shape our tools, and then our tools shape us' McLuhan may have again been correct about AI, but as the virtual begins to seep into the real, media literacy is the much-needed silver bullet.



Combating the Widening Digital Divide

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The Power Research Centre has noted that 24 per cent of adult having annual income of below 2.53 crores do not have smartphone and 40 per cent lower income do not have either a computer and home-based broadband connection.



ABSTRACT

The digital technology in particular has benefited humanity more than any other technology. It has complexly changed the mode of communication by the use of mobile phone. The internet has become the store house of information and knowledge and the social media such as WhatsApp, Twitter and Facebook et al., used for multiple purpose for local and inter-continental business, education and sharing of information and knowledge. Digital technology has also become a determining factor for economic progress. Nations after nations are now investing more and more to improve their digital technology as it impacts considerably all the aspects of human life. But just investing in promoting digital technology alone will not produce the desired result in the form of eradicating in poverty, illiteracy and the growing unemployment which has become the causes for terrorism, fundamentalism, mass migration and war etc. The investment should be accompanied by taking the technology to every corner of the world more importantly to the rural areas where the majority global population resides. Digital skill development should accompany the proper infrastructure and above all cost effectiveness and sponsoring it in the area where people cannot afford it, will result in reaping the full benefit of the technology. All we need is the will to make it into a reality.

KEYWORDS: Digital Divide, Digital Technology, Internet, Digital Skill, Internet, Mobile Phone, Social Media.

INTRODUCTION

We are on the verge of surpassing the digital era, which has enhanced our human life partially and has rendered half of the global population not able to

reap the benefit of it. Yet we are faced with another versatile technology – Artificial Intelligence that has begun to intrude all the spheres of human endeavours such as engineering, technology, medical science, education, business and the mode of production etc. No technology has far has been made combatable for the total eradication of poverty, illiteracy and to shun violence and wars in order to make the world a better to place live in. The poor are always excluded from reaping the benefit of the technology since the industrial revolution. The reason being they not only lack the purchasing power but also lack the ways and means of availing the developing technology to improve their standard of life. Digital Divide is one of the causes of such disadvantages of the poor. As the technology keeps growing so does the digital divide rapidly. People under the realm of ever-growing digital divide are made to suffer multiple consequences.

DIGITAL DIVIDE: AN EVER-GROWING PHENOMENON

The digital divide refers to the gap that results on account of the inaccessibility and the inability to use the modern-day information and communication technology. The gap now also includes the financial and technical inability to avail the modern and available technology such as Internet, smartphone, computer etc. As the technology grows, the gap also keeps widening. A report of 2019 indicates, 50 lakhs rural Americans and 1.53 crores urban population lack access to broadband Internet connection. The Power Research Centre has noted that 24 per cent of adult having annual income of below 2.53 crores do not have smartphone and 40 per cent lower income do not have either a computer and home-based broadband connection. Additionally, there is a growing global inequality in the communication bandwidth. Countries like Venezuela and Paraguay experience the lowest digital access speed along with Yemen, Egypt and Gabon.

GLOBAL LEVEL DIGITAL DIVIDE

It is generally presumed that economic advancement

spurs the narrowing of the gap. On the contrary, economic growth has not resulted it bridging the gap on account of lack of adequate investment to improve the Internet infrastructure especially in the developing nations. People here may have Internet enabled devices but have no access to World Wide Web. The use of Internet varies from regions to regions. In 2020, 80 per cent Europeans had Internet access whereas only 22 per cent in Africa. East Asia has 24 per cent, Asia as whole has 57.9 per cent, India 60 per cent and South Asia 18.5 per cent, South East Asia 10 per cent and South America 6.8 internet users. Eritrea, an African country has the lowest (.91 per cent) Internet uses in the world. Countries like Maldives, Nicaragua, Bahrain, and Burundi have minimum number of Internet users. North Korea has banned the use of Internet by the civilians. India has 93 per cent urban and 86 per cent rural population using Internet. Among the 93.79 per cent, American Internet users, 39 per cent rural and 4 per cent urban lack broadband connection.

TYPES OF DIGITAL DIVIDE

Besides the divide that penetrates the developed and developing countries, urban and semi-urban and rural population, men and women, there are other types of divides, which prevents the momentum of bridging the gap. Here is the list: -

1. **The Accessibility Divide:** The most visible divide based on the financial ability of the population to procure devices to avail Internet connection and the lack of proper skill to use the Internet services. People in the developing countries and more acutely in the underdeveloped nation endure such a divide.
2. **The Skill Divide:** It is consisted in the difference of skill the individual possess. The generation gap plays a vital role in having the requisite skill to use Internet. The younger and the youth score over the elder and older of the past generation and also the educated one having better skill than the so called undereducated and not so educated.
3. **The Quality Use Divide:** It revolves around the way the users access the Internet technology to

access the information. Some succeed in accessing the needed and the right information. Others use the technology and information other than needed for their socio and economic and intellectual progress.

4. **The Social Divide:** The digital connection has been revolutionizing the mode of communication such as inter-continental and global communication network. Many social media such as Facebook, Twitter, WhatsApp have enabled people to communicate, share thoughts and ideas and cooperate to enhance their life. On the other hand, people who do not have access to modern communication gadgets and service stand to lose to availing the benefits.
5. **Gender Divide:** A report of 2013 indicates an alarming internet gender gap. The mobile and Internet connectivity is not spreading equally but in developing countries, as 90 per cent men own mobile than women. It amounts then 18.4 crores women around the globe lack mobile phone connectivity. Around 120 crores women lack Internet connectivity even if they own a mobile phone in the low and middle in-come countries.
6. **Universal Usability Divide:** People with disability are the most disadvantaged group with regard to availing themselves the benefits of the modern communication technology and services. They may have the skill but cannot exploit the proper hardware and software. People in some part of the world may remain segregated due to lack of proper knowledge of mobile and Internet usage.

CAUSES OF DIGITAL DIVIDE

Beyond doubt, the use of computer, smartphone and Internet are increasing leaps and bound. But Digital divide has not been bridged as they continue to persist. The reasons for not able to bridge the divide are as follows:

1. **Education:** Literacy is a vital investment in shrinking the gap. Low literacy increases ever widening digital inequality. The college goers better tap the full potentiality of Internet and Internet services to their advantage. The school going students tend to utilize the maximum benefit of it. Pupil who continues their learning are bound use the modern digital technology and other services not only for their learning ability but also contribute towards the improvement and to come out with more useful technologies.
2. **Infrastructure:** Lack of infra structure plays a vital role in the arena of digital divide. Computers, smartphone and other accessories are necessary to have access to Internet based communication and learning. Almost half of the globe yet to have Internet connectivity which requires broadband or fibre connectivity. Thirty per cent of the student community is yet to be connected. Better technology is the need of the hour.
3. **Digital Literacy:** It is consisted first of all knowing what is the safe information to share on line, how to disseminate it and use the information to improve one's life. People need to be educated and just expanding the infrastructure alone is not enough to achieve the goal and thereby bridging the knowledge gap in digital literacy.
4. **Institution:** The lethargic attitudes of the private, central and state government institutions contribute to the digital divide. Adequate funds have to be sanctioned for subsidizing broadband Internet. Institutions should come forward to educate people on the proper and the safe use of information technology. The rural population who lacks such knowledge will further widen digital divide.
5. **Income Level:** Income of the people determines the bridging and widening the digital divide. High-income earners (6.33 crores) likely to use more Internet usage than the low-income earners (2.96 crores). Wealthy people can own personal computers and fast Internet connection whereas the low-income earners whose earning will be mainly spent to meet their basic necessities.
6. **Geographical Restriction:** The more economically developed countries will use different types of communication technologies and also the fast Internet connections. The less developed countries

will obviously lack the infrastructure to avail such technologies. Further the urban regions are in a better position to have the needed infrastructure and the availability 4G and fibre Internet connection than the mountainous and rural zones.

7. **General Interest and Motivation:** A sizable portion of the population has high income, computer and the needed literacy but lack the enthusiasm to avail the potentiality of the Internet. While some perceive it to be luxury others conclude it to be most complex skill to learn.
8. **Lack of communication and Isolation:** Not having access to digital technology leads minimum communication with the outside world. Timely information can enable people to make adequate preparation in the wake of natural disaster and pandemic such as Covid-19. It also amounts total isolation in the fast technologically changing world order.

THE IMPACT OF DIGITAL DIVIDE

1. **On Economy:** Telecommunication plays an important role for boosting of economy. Internet facilities are used for various effective economic activities. Buying and selling is done without much hassle on line. E-commerce increases profit making and on-line advertisement enables faster sale and thereby increases the production. Such practice not only facilitates cost effective but also time saving and paperless transaction. It escalates market competitiveness all over the world and thereby impacting more production resulting in high earning.
2. **On Education:** The introduction of Internet and World Wide Web has paved the way for the on-line library and the easy and faster way of securing information and knowledge. On line courses and classes very much convenience the teaching and learning process. Scientific research work and academic success are very much linked to ITC these days. It is essential to get linked for individual and societal progress.
3. **On Social Sphere:** The communication and Internet technology have brought in dynamism in peoples' social life. Multiple social media platforms like Facebook, Twitter, WhatsApp etc enable people for a faster communication and share information and knowledge. They have been bridging the local, state, national but also international level communication barriers. Art and music have been revolutionized by the information and digital technology.
4. **On Society:** The digital divide has segregated people in the society. Individuals realign themselves on the basis of caste, ethnicity, religion, age, race and gender. It perpetuates the advantaged group who has access and those do not have and thereby lack the means to improve their lives.
5. **On Healthcare:** One can get important information on health care issue just by browsing through the Internet. The availability of the treatment and mode of availing also made known to the people through the on-line mode. Lack of information technology poses a total barrier from using vital health care facilities and information. The medical experts insist that information technology is vital for health care determinant.
6. **On Business Opportunity:** Broadband access is necessary for both workers and business owners to have employment and business opportunities. The online business mode expands business beyond regional border to increase the earning capacity. Lacking broadband would mean losing prosperous economic opportunity and not living up to the competitiveness of digital economy.
7. **On Job opportunity:** Digital education has direct link on one's earning capacity. People having digital skill have better earning capacity to avail higher income jobs. According to Digital Edge Report, 85 per cent per cent of job opportunity requires minimum digital skill notwithstanding the demand for higher digital skill for highly paid jobs. For career advancement too, advanced digital skill such as computer networking and social media etc., has become an indispensable requirement.
8. **On Social Economic Impact:** Individual's economic loss on account of lacking digital skill impacts the overall economic growth of a nation.

According to a World Bank Report, 10 per cent of digital penetration improves 1.27 per cent of GDP of the developed nations and 1.38 per cent of the developing nations. Bhaskar C. argues that 10 per cent in broadband in the US would have increased 87,500 additional job opportunities leading to 1,570.17 crores economic output. Persisting with the digital divide would drastically affect not only the individual earning capacity but also the overall economic growth of a nation.

9. **On Racial Divide:** The already existing inequality gates impacted from the digital divide. Chakravarti claims 50 per cent of the US population lacking home based Internet connection belongs to black community. Nearly 40 per cent students of the Black, Latino and other indigenous community struggle without having sufficient digital skill. If the scenario persists, majority of Black and Latino workers will be left behind from the eighty per cent of job opportunity in the coming years.
10. **On Income:** A study done around 191 countries accounted for higher income linked to their technological and educational advancement. The increased GDP of a country found to be correlated with the advanced information and communication. The developing economics and the rural areas in the developed nations have indicated such a growth.

DIGITAL DIVIDE IN EDUCATION

The technology divide has infused an alarming divide among the teachers and students. As a result, the education sector stands to witness backwardness in the learning sphere on account of lack access to technology and better learning opportunity for those who can avail the technology for their advantage. The elements that cause digital divide in educational institutions are as follow:

1. **Institutions having technology and but lacking Internet connectivity:** An estimated 1.76 crores students require a basic bandwidth for digital learning. While efforts are being made to meet the requirement, concerted efforts needed to meet the

requirement of the entire student community. The institutions with the rural base continue to be beyond the purview of having optic and fibre connection to enhance their learning capacity.

2. **Lack of Devices:** The US labour department indicate that 77 per cent job would require individual with adequate computer skill. The skilled laborers cannot be prepared unless students have access to computers, Internet and the necessary skill in the modern technology. Students are in dire need of gadgets such as laptop, smartphone, tablets and chrome books for equipping themselves with the needed skills. Those who lack such skills will be pushed to backwardness in their learning and suffer poor grads.
3. **Teachers' lack of skill:** Providing adequate digital facilities does not grantee the bridging of the divide. For instance, teachers lacking the proper skill to utilize them will hamper the active digital learning of the students. Samuel Electronic of South Africa indicates that nearly 60 per cent of teachers consider themselves ill prepared to take the digital learning to the students. More investments are required for more relevant and focused learning in the educational institutions.
4. **Varying Standard of Teaching:** The affluent schools enable the students' learning with the help of digital technology, coupled with problem solving skill with the needed fieldwork exposure. They get tutored for conducting survey and research on line making video using various on-line facilities like Google Docs. Students in the school lacking similar infrastructure tend to use only computers for just making simple computer presentation with the available materials and so they lack in-depth technology learning.

EFFORTS TO BRIDGE THE DIVIDE

To respond to the need of the hour, many countries, institutions and industries have begun to make the necessary investment and set up the appropriate infrastructure to combat the growing digital divide. The European Union, the Republic of Korea and Estonia

have taken the lead in prioritizing digital education and constituting public and partnership to find a solution to reduce

the divide. Various projects are underway to reduce the knowledge gap and digital divide. They include: -

1. **Partnership in Wi-Fi Connection:** The Wi-Fi partnership is aimed reducing the Internet usage gap. For instance, The Clark County School district has made a partnership with the Chamber of Commerce of Las Vegas to offer a cost-free quality Wi-Fi directory to students. It enables the student community to have Wi-Fi access from their homes and not solely dependent on their schools and colleges. Other countries too can follow their footsteps.
2. **Facebook Internet Org:** It offers free access to materials on the Internet. Their app enables people to view the web pages regarding health, local and national information and on job opportunities throughout the world. Africa, Asia and Latin America thrive on this initiative and other countries also benefit from it.
3. **Linux4 Africa:** The initiative aims at narrowing down the divide between developed and developing nation focusing mainly on ensuring information technology for Africa. It gathers the discarded and used computers from Germany, Ubuntu software and terminal server. They are then transported to Africa to provide necessary digital facility in the hospitals, schools and other institutions. More similar projects can be adapted in the other parts of glob as well.
4. **Laptop for Each Child:** The MIT institute introduced a policy of giving each student class 1 to 6 public school a laptop with the operating system of Linux. Later it was extended to the students from class 6 to 10. The project reduced drastically the lack of learning material for the students. In other countries where strategic plan of equipping students with similar facilities has made tremendous progress in ensuring equality in digital learning.
5. **Equal Internet Access:** It goes hand in hand equal economic and social condition. Hence the countries must ensure equality in Internet access especially to the school going children. It will result in forming responsible digital citizens and improving the media literacy of all especially the marginalized ones.
6. **Community Network:** It meets the challenge of many digital divides. It mainly focuses on providing cost effective Internet connection to the needy. The system can provide telehealth options in the rural areas and thereby bridge disparities in the health sector.
7. **Health Broadband:** The dedicated connection has benefited numerous communities for faster, easier and cheaper medical treatment with the facility of online consultation and procuring of medicine without which people would have to spend more money, energy and time.
8. **Subsidized and Free Internet and Broadband connection:** Providing subsidized connection to deserving firms and free connection to the rural educational institutions can improve the quality of learning. The students can benefit not only for their educational needs but also better prepared to improve their digital skills in order to avail the skill-based job opportunities.
9. **Public and Private Digital Initiatives:** The partnership can be introduced to promote digital literacy especially in the rural areas. By helping in establishing proper infrastructure throughout a region and in particular, in rural areas, will enable the country to utilize the optimum man power for a proactive purpose that will enhance the GDP of country.
10. **Affordable Connectivity Programme:** The corporate houses compete each other in offering affordable connectivity. The service-cost can be drastically brought down on account of competitions among mobile service provides. Internet connectivity is also getting similar attentions. The responsible governments should not only encourage the corporate houses but also

monitor their quality service. The governments also should fix the reasonable tariff without permitting them to earn excessive profit and should compel them to use their profit for further investments to improve the system.

The digital divide is not beyond the preview of human effort to bridge it drastically. The responsible officials and government should devise a suitable project to provide the needed facilities for digital skilling. The increase number of digitally skilled workforce ensures responding to the present and future employment opportunities. The developed and the developing nations can help the underdeveloped nations to bridge the gap through mutual cooperation and networking. The international organizations such United Nation, World Bank

and the World Economic Forum can also devise international policies with the sole aim of reducing the digital divide. All we need is the will power to accomplish it.

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Every traveller seeks to find something interesting during their journey, and the knowledge about the places they travel to is high up on their list.

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Storytelling as a Means of Promoting Tourism in India

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ABSTRACT

India is a land steeped in history, myth, legends, and cultural diversity. It also holds immense tourism opportunities. The tourism industry is growing rapidly in the country as the options and resources available to people to explore increase day by day. Storytelling is a famous technique for promoting a place. The study mainly focuses on understanding people's perception of storytelling as a means of promoting tourism in India. Whether it can

successfully increase the tourism growth of a place. The study further analyses whether the effect of storytelling can de-market a place. Whether it can be used to decrease or forbade people from visiting an area.

KEYWORDS: Storytelling, Tourism, Marketing, De-Market.

INTRODUCTION

Storytelling, in the context of marketing, is a way of delivering a place's story by appealing to a vivid and enriching story through the use of our senses such as hearing and listening, and using our imagination.

Storytelling is becoming an effective tourism marketing tool with the help of new technologies and based on creativity. With the support of technology, travellers can join in the storytelling process that can impact positively on engagement and facilitate the development of last-lasting relationships. New digital technologies like visually oriented social media have facilitated new tourist experiences based on storytelling and have offered new ways to develop and spread these experiences through social networks.

Storytelling is a brilliant tool for marketing places that are not famous, usually rural towns and villages. It can also be used to promote sustainable tourism. The involvement of the townspeople can be significant as they know many folklores about their place of residence. Employment can be generated for them as they can act as guides or sell products relating to their heritage. They can even portray stories of their area through dances and songs.

Storytelling is also helpful when it comes to demarketing a place. It is mostly done by people to discourage tourists from visiting a particular area. It might be due to the protection of the residents or the tourists, or it might be due to the terrain of that place. There are many places all around the world which are void of human presence. There are a few places in India as well, which have been declared prohibited for tourism by the Government because of the uncertain nature of the spot.

LITERATURE REVIEW

1. Cao (2019) explored the effects of storytelling on tourists' experiences. He concluded that a fictional story about a place created immersion and emotional arousal and that it self-implies the presence of a narrating voice.
2. Seung Soon Choi (2016) studied the effectiveness of tourism storytelling influencing destination brand value and tourist behavioural intentions.
3. Zuzana (2023) concluded that storytelling is an effective way of increasing customer interest. Storytelling conveys a purpose and a goal; stories can engage the listener and arouse attention and curiosity.

RESEARCH OBJECTIVES

1. To determine whether storytelling is an effective marketing tool in India.
2. To determine if storytelling can be used to de-market a place.
3. To determine if stories about a place can keep its sustainability intact with the contribution of its local community.

RESEARCH METHODOLOGY

Data collection method: An online questionnaire was distributed amongst people of different fields; ages, occupations, and regions, and their answers were recorded for the study.

Data analysis: Various techniques and tools like pie charts, bar graphs, and tables have been used for analysis.

CONCEPTUAL FRAMEWORK

1. Creative Storytelling in Tourism

Storytelling falls under the category of creative tourism. Every heritage site in India holds a mystery, whether it is historical, cultural, or mythical. They offer the tourists insights about the land and its past

and make it easier for them to remember the place for a long time to come through these stories.

This form of marketing has been cherished by both Indian as well as foreign tourists. Every traveller seeks to find something interesting during their journey, and the knowledge about the places they travel to is high up on their list. But storytelling is not a famous mode of marketing in India, yet. There is so much scope for improvement.

2. Most Common Kinds of Stories Told about a Place

- a. **Historical:** Historical events and facts are told in various modes, the most famous mode being tours by local guides.
- b. **Mythical:** These are based on old folklore about a place that is mostly supernatural in nature and those that originated due to some incidents or rumours being portrayed as truth. These are not of a factual nature.
- c. **Cultural:** These are related to religious stories of a place, as they tell tales of gods and their journeys and actions at a particular place.
- d. **Personal:** These are stories that people find relatable to their lives. The way of living, the battles, and hardships, which includes fragments of the local residents of a place.

3. Some Stories of Places in India

- a. **Taj Mahal:** There is a famous love story, which has been told about the infamous Taj Mahal in Agra for centuries now. It is said that it is a mausoleum that was commissioned by the famous Mughal emperor, Shah Jahan to house the tomb of his favourite wife, Mumtaz Mahal in 1632. People from all around the world come to visit this structure, which is also one of the seven wonders of the world.
- b. **Jallianwala Bagh:** Jallianwala Bagh is a garden and memorial in Punjab. This is the place where the famous and horrific incident of the Jallianwala Bagh massacre took place during the rule of the British in the 1900s. The British troops fired on a large crowd of unarmed Indians, killing several hundred people and wounding many hundreds more.

- c. **Kuldhara:** It is a village in Jaisalmer, Rajasthan which is rumoured to be haunted. The locals of Jaisalmer say that on one night in 1825, all the people in Kuldhara and the nearby 83 villages vanished in the dark without any trace. It is prohibited by the Government to be visited at night.
- d. **North Sentinel Island:** This Island is part of the Andaman and Nicobar, and is also home to the ancient Jarawa tribe. The Indian authorities have banned visitors from this place. The people residing there are rumoured to be cannibals and are called 'Stone Age People.'
- e. **Jatinga:** Jatinga is a little-known, isolated village with a lush green cover and surrounded by beautiful, serene mountains in Assam. This village is associated with a mysterious phenomenon called 'Bird Suicide' where a large number of birds descend from the sky, falling to their deaths. The villagers say this is because of evil spirits in the sky.
- f. **Kedarnath:** Kedarnath in Uttarakhand is believed to be the place where Lord Shiva, one of the major deities in Hinduism, resides. It is said that the temple of Kedarnath was built by the Pandavas, the heroes of the Indian epic Mahabharata, to seek the blessings of Lord Shiva. During the flood in 2013, a large rock fell just at the rear side of the temple, blocking it from severe damage. It was called sentinel against the wrath of waters and it was deemed to be holy. It is also worshipped by the priests of the temple.

DATA ANALYSIS AND PRESENTATION

1. Past Traveling Experience

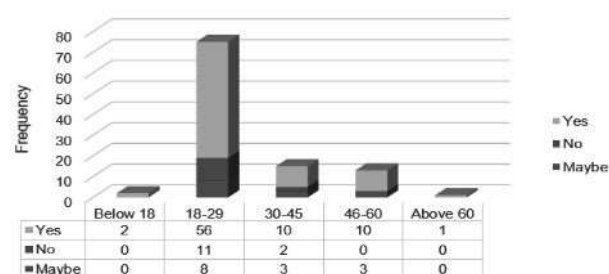


Figure 1: Have the participant ever visited a place with a story of its origin, split by age.
(Source: Primary Data)

Figure 1 shows us the respondent's past travelling experience to a place with a story of its origin. Both of the respondents of age group below 18 have been to a place with a story of its origin. Similarly, 56 out of 75 of age group 18 - 29, 10 out of 15 of age group 30 - 45, 10 out of 13 of age group 46 - 60, and all of age group above 60, have been to a place with a story of its origin.

This indicates that 75 per cent of the respondents have visited a place with a story of its origin.

2. Belief In Stories

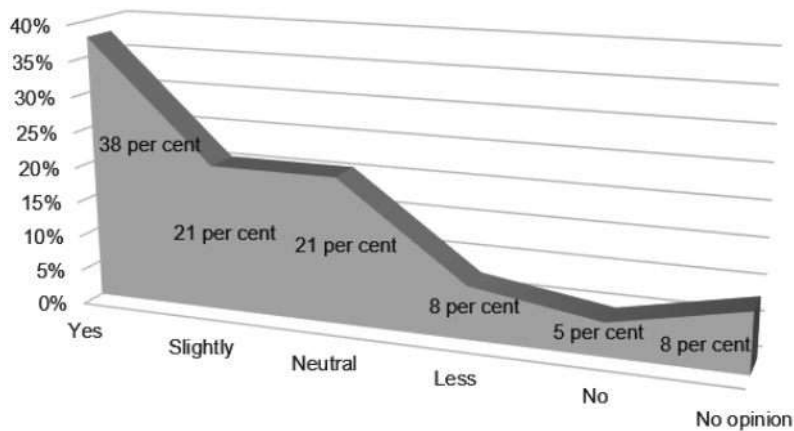


Figure 2: On what level the participants believed the story about a place.
(Source: Primary Data)

Figure 2 shows us the percentages of the respondent's belief in the story of a place when they heard it, on a scale. This shows us that 38 per cent believed completely in the story, 21 per cent believed slightly, 21 per cent were neutral upon hearing the story, eight per cent were less convinced and five per cent did not believe in the story at all. The eight per cent of the respondents with no opinion are the ones who have not been to a place with any story attached as indicated in Figure 1.

This indicates that majority of the respondents believed in the story about the tourist place.

3. Interest In Places with Stories

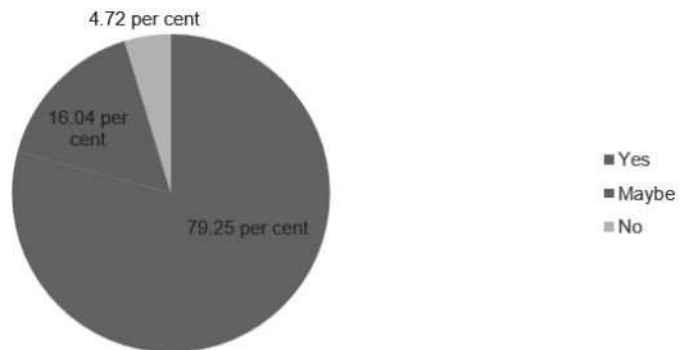


Figure 3: Interest of respondents to a place with a story.
(Source: Primary Data)

Figure 3 shows the responses to whether the people would be more interested in a place if it has a story or myth attached to it. It shows that 79.25 per cent would be interested in a place with a story, 16.04 per cent might be interested and only 4.72 per cent would not be interested.

This indicates that 80 per cent of the respondents are willing to consider visiting a tourist destination that has a story connected to it.

4. Type of Story

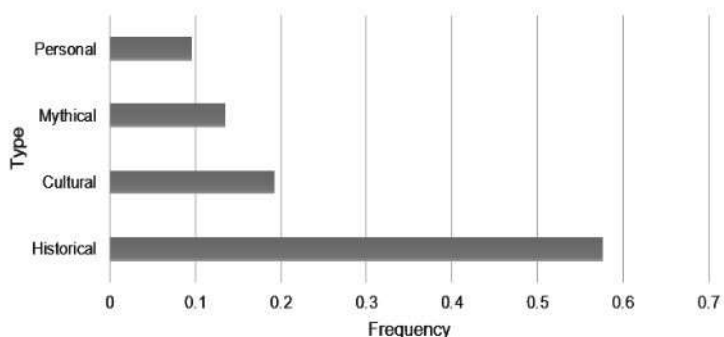


Figure 4: Type of story about a place preferred by participants. Frequencies.
(Source: Primary Data)

Figure 4 shows the different types of stories, that are commonly used for the purpose of storytelling, and the preferences of the respondents. It shows that the historical type of stories is most favoured by the respondents followed by cultural in second and mythical in third, while personal type of stories is the least favoured.

Therefore, historical stories are the most preferred type of story, followed by cultural, mythical, and personal.

5. Way to Deliver Stories

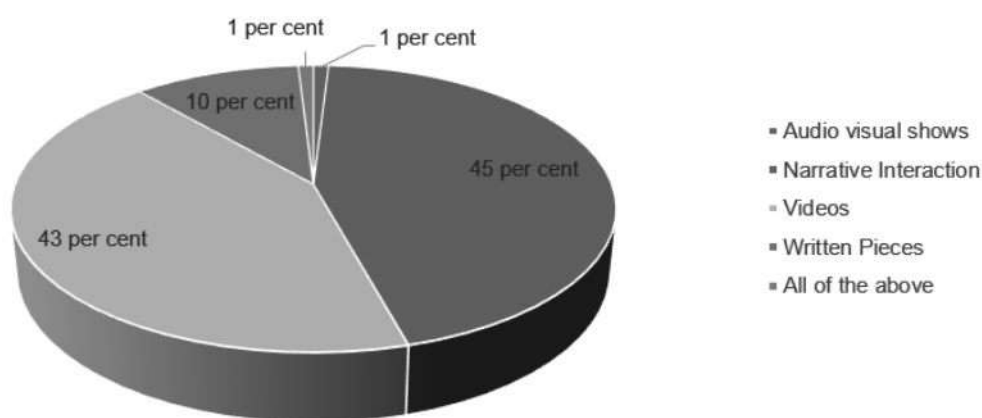


Figure 5: Effective way to tell stories preferred by participants. Percentages.
(Source: Primary Data)

Figure 5 shows the preferences of people about the most effective way to tell or deliver stories about a place. The most preferred way is narrative interaction (it is a form of interaction between a person narrating the story and a person/group of people listening to him/her) at 45 per cent followed closely by videos at 43 per cent, then written pieces at 10 per cent, audio visual shows at one per cent, and all of these at one per cent.

This chart indicates that narrative interaction and videos are the most preferred effective ways to tell stories about a travel destination.

6. Platforms for Accessing Travel Stories

Platforms for accessing travel stories	Percentage
Documentaries	14.29 per cent
Personal on-the-spot learning	16.67 per cent
Social media	40.48 per cent
Travel blogs	28.57 per cent

Table 1: Participant's most favoured platforms for accessing stories about a place.
(Source: Primary Data)

Table 1 shows the platforms most preferred by the respondents for accessing stories. The most preferred platform is social media at 40.48 per cent, followed by travel blogs at 28.57 per cent and personal on-the-spot learning at 16.67 per cent, and documentaries are the least preferred at 14.29 per cent.

This table shows that social media is the most preferred platform for accessing travel stories of a place.

7. Discouraging Story

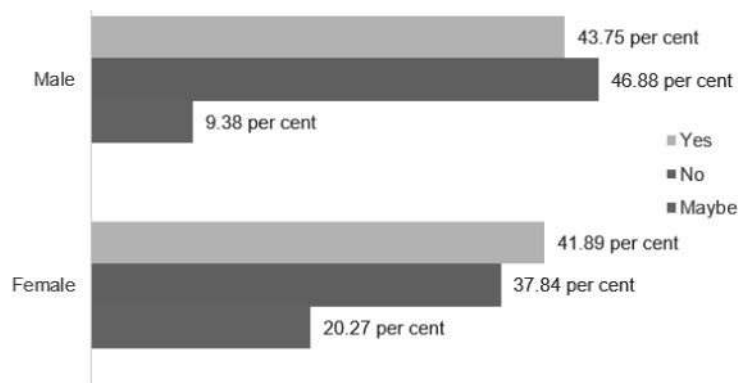


Figure 6: Participants encounter with discouraging stories about a place, split by gender.
(Source: Primary Data)

Figure 6 shows whether the participants have encountered any story which has discouraged them from visiting a place. It shows that 46.88 per cent of the male sample have not encountered any such story, while only 37.84 per cent of female sample have not encountered such story. 43.75 per cent of males and 41.89 per cent of females have encountered such a story. 9.38 per cent of males and 20.27 per cent of females may have encountered such a story.

It can be concluded that for the male proportion, the majority have not been discouraged by any story about a place, but for the female proportion, the majority have been discouraged from visiting a place due to a story.

8. Tour Guide

Figure 7 shows the preference of participants to get a guide while visiting a historical site. It shows that most of the students and employed would like to get a guide depending on the place, all of business owners would like to get a guide, most of retired would like to get a guide, most of unemployed would like to get a guide, most of

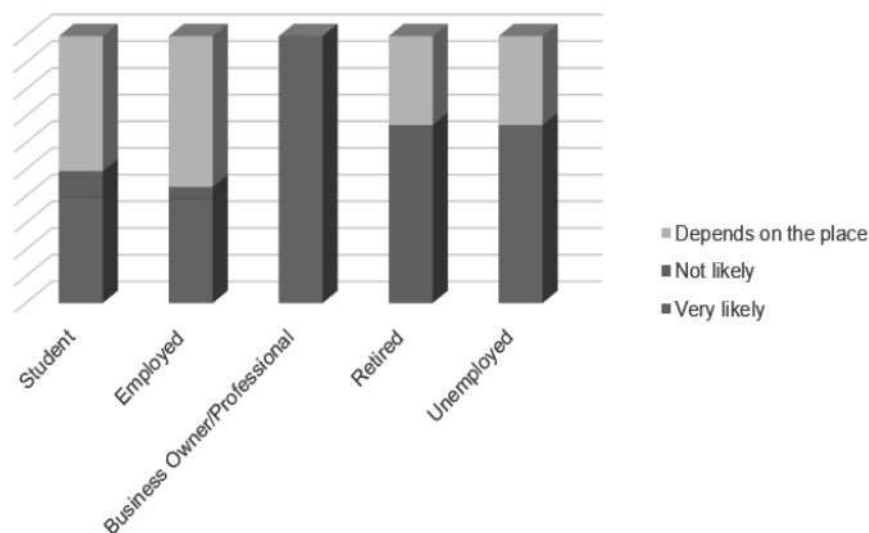


Figure 7: Services by local guide preferred by participants, split by occupation. Percentages.
(Source: Generated by Author)

retired would not like to get a guide, and most of the unemployed would like to get a guide.

Local guides can increase the local contribution of a place as the residents providing this service, are much aware of their history and folklore which they can share with the tourists.

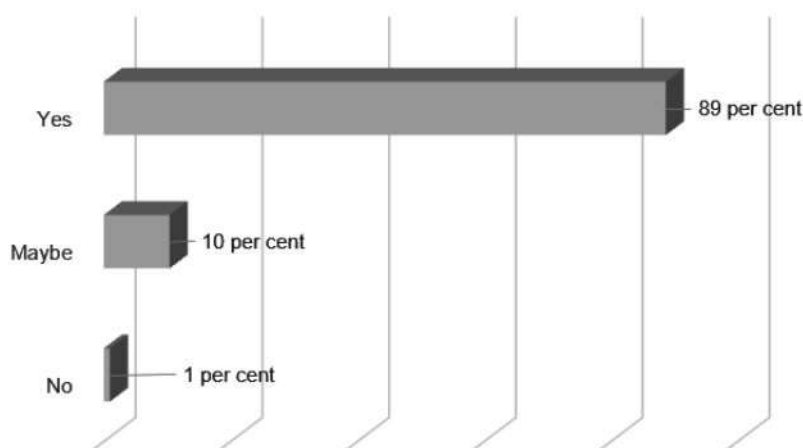


Figure 8: Do the participants believe that stories can encourage responsible and sustainable tourism practices.
(Source: Primary Data)

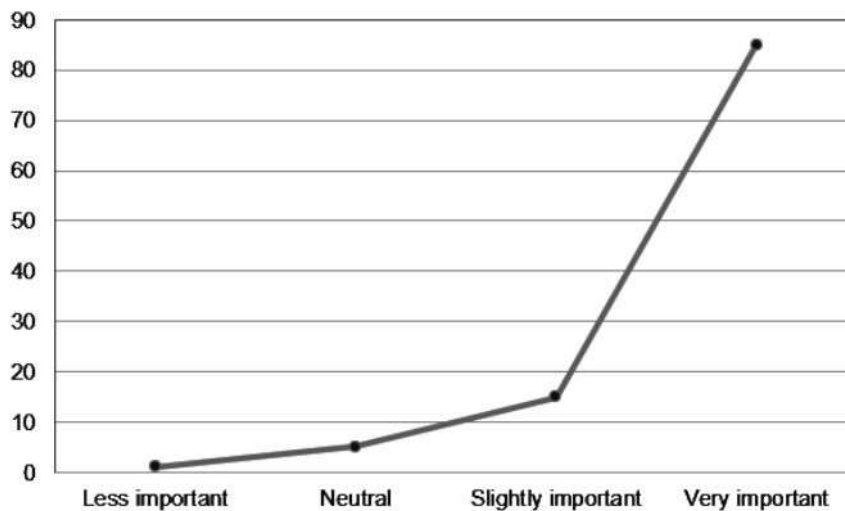
This chart indicates that most of the respondents would either like to get a guide, or get a guide depending on the tourist spot.

9. Sustainable Stories

Figure 8 shows the participants' views on whether stories can encourage responsible and sustainable tourism practices, or not. 89 per cent of the respondents believe that stories can be used, while only one per cent believe they cannot be used. The rest 10 per cent believe stories might be used.

This indicates that most of the respondents believe that stories can encourage responsible and sustainable tourism practices.

10. Diversity of Stories

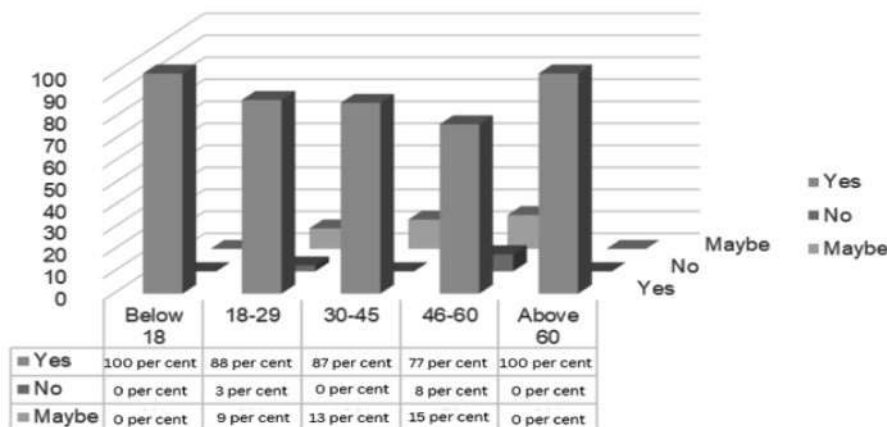


*Figure 9: Importance for stories to showcase the diversity of India's culture and people.
(Source: Primary Data)*

Figure 9 shows the participants' view on the importance for stories to showcase diversity of India's culture and people. 85 out of 106 respondents believe that it is very important, 15 believe that it is slightly important, five are neutral, and only one respondent believes that it is less important.

This indicates that the majority believes it is very important for stories to portray the diversity of India's culture and people.

11. Contribution of Local Community



*Figure 10: Storytelling's contribution to local community, split by age.
(Source: Primary Data)*

Figure 10 shows the participants' views on whether storytelling can increase the contribution of the local community of a place. This shows that the age group of 100 per cent of below 18, 88 per cent of 18 - 29, 87 per cent of 30 - 45, 77 per cent of 46 - 60, and 100 per cent of above 60 group believe that this statement is true.

This indicates that most of the respondents agree that storytelling can increase the contribution of the local community of a place.

CONCLUSION

From the above study, it can be concluded that storytelling is a powerful tool for promoting a tourist place as people seem to be drawn to that place by forming an emotional attachment through the stories. The stories are easy to spread and the mystical nature of the places keeps the visitors in constant awe and contemplation. Storytelling can become a good means of promoting tourism in India, as India is a land steeped in history and mystery, and there is no shortage of tales to be told.

It cannot be concluded whether it might be a good means for de-marketing a place as the curiosity of the tourists overrides their senses. It might be better to use different sorts of restrictions on places that are outside of human connection.

As for the local contribution of an area, storytelling can be a significant means for raising the value of their place and also help them sell their goods and provide services to the tourists leading to a rise in employment and growth of the place.

As there have been many significant events in the past, India is full of history which leads to the people of India preferring historical stories the most. The rich and full history of India is famous worldwide which attracts foreigners to come visit our lands and become aware of our engaging stories.

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Consistent colour
use enhances
brand recall and
trust, though its
impact is generally
secondary to
quality and price.

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Impact of Colour Sensory Marketing on Consumer Behaviour

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ABSTRACT

Colours play a vital role in consumers' lives, often subconsciously influencing their emotions and reactions. The research also indicates that different colours evoke specific emotions, impacting consumer behaviour. This project explores how colour marketing strategies affect consumer perceptions of price and quality, as well as behaviours on in-store environments influenced by smell, lighting, and colour. Data from 311

individuals, analysed using mean, standard deviation, chi-square tests, and Cronbach's alpha, revealed that colours significantly impact consumer behaviour in advertising, branding, packaging, and product design. It is also found out that consumers associate colours with emotions, affecting their purchasing decisions, brand recognition, and overall shopping experience. Thus, marketers should strategically use colours to convey brand messages, create attractive packaging, and build brand identity, considering product pricing and quality as primary factors.

KEYWORDS: Colour Psychology, Sensory Marketing, Consumer Behaviour, Brand Perception, Packaging Design, Advertising Strategies, Product Differentiation, Emotional Branding, In-store Environment, Visual Appeal.

INTRODUCTION

Businesses use sensory marketing, including colours, to influence consumer decisions by appealing to their senses. (Understanding the Science between color psychology in marketing, n.d.) Colours not only enhance visual appeal but also shape perceptions and emotions, influencing shopping behaviours and responses to marketing strategies. This study aims to explore how sensory marketing impacts consumer behaviour colour across various contexts.

NATURE OF THE PROBLEM

Colour plays a crucial role in marketing by influencing emotions, perceptions, and decisions, beyond just visual appeal. Its psychological implications vary across demographics like gender, age, and income, necessitating detailed research for effective integration with other senses and impact on consumer behaviour. This understanding helps marketers differentiate their brands, build reputation, and drive consumer preference in competitive markets for long-term success.

LITERATURE REVIEW

Luisa M. Martinez (2021) investigated the influence of

similar and complementary colours in store environments on attractiveness and consumer purchase behaviour. They explored how product types influence colour preferences in packaging and the sensory impact associated with these choices.

Machad (2021) investigated how logo components, such as colour and naturalness, influence affective responses and brand persona perceptions. The study, based on data from 260 participants, finds that organic designs enhance perceptions of femininity, while cultural logos convey masculinity, with colours like light pink and dark blue reinforcing these associations. However, no moderating effects of gender or colour on consumer responses were identified, providing insights for designing gender-targeted logos.

Emrah Ozkul (2019) examined the importance of colour and lighting in creating service ambiance in the travel and accommodation sectors. Their study utilized neuromarketing tools such as eye tracking and facial recognition to understand their impact on customer satisfaction.

Dr. Rupa Rathee (2019) explored ethical issues related to sensory marketing cues and their effects on customer behaviour. They reviewed existing research on how sensory marketing strategies involving the five senses influence consumer behaviour.

Kumar (2017) explores the usage of colour psychology in marketing and how it influences purchase decisions, impact on packaging, creating brand image and matching a consumer's personality with the specific colours. It also discusses the colour properties of hue, saturation, and value and relationship of colours with emotions.

Jean-Éric Pelet (2022) in his study researched the role of different colours in e-commerce websites in influencing consumer mood, memory, and purchase intentions. Their research highlighted the impact of colour components such as hue and brightness on consumer behavioural responses, emphasizing the importance of choosing the right colours for website design.

D.K.Choudhury (2016) in their study examines the influence of colour on brand perception of consumers and its role in creating a differentiation and altering the

mood. This study stresses on the significance of manager's comprehension of the colours and using it strategically in company's logo, packaging, advertising, and other aspects of marketing. Results found out that colours like white, red, black, and brown create feelings of sincerity, excitement, sophistication, and ruggedness respectively in brands.

Srivastava (2011) examined the role of colours in marketing, focusing on their impact on branding, advertising, and sales by interpreting the meanings associated with different colours. The study considers factors such as consumer psychology, personal experiences, and demographic characteristics, including age, gender, and income, in influencing consumer perceptions and buying decisions.

Robert J. Donovan (1994) in their research explores how the packaging colour in case of food product impacts the consumer perceptions, both positive and negative, regarding how healthy or tasty it is. It takes into consideration light and pale coloured packaging and provides valuable insights to marketers regarding the use of colours in packaging strategy in case of food.

OBJECTIVES OF THE STUDY

1. To identify "the" impact "of" colours used in advertising, branding, packaging on consumer behaviour and purchase decisions.
2. To determine the role of colours in product design and its perception on consumer's mind in terms of price, quality
3. To determine the impact of colours along with lighting and smell on the consumers while shopping in-store.

RESEARCH METHODOLOGY

The research utilised convenience sampling, under non-probability sampling method for data collection. Data collection was conducted over a period of 32 days using both primary and secondary sources. Primary

data was gathered through a structured questionnaire administered via Google Forms on social media platforms and cold calls. Secondary data was obtained from existing literature, including research papers, articles, and online sources. A total of 311 respondents, comprising both male and female participants from various income groups, contributed to the study.

For the descriptive analysis, measures such as the mean, standard deviation, and graphical representations (including bar graphs and pie charts) were employed, with the aid of Microsoft Excel. Inferential analysis was conducted using chi-square tests to explore relationships between variables. Cronbach's alpha testing was done for the whole questionnaire.

ANALYSIS

Descriptive Analysis

1. Consumer Demographics

a. On the basis of gender

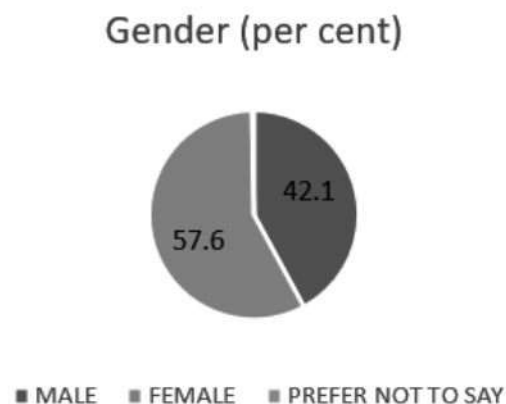


Figure 1: Showing Percentage of Male and Female Respondents
(Source: Primary Data)

Out of 311 respondents, 131 are male forming 42 per cent of the population, and 179 are Female, which is 57.7 per cent of the population. 0.3 per cent selected 'Prefer not to say' option.

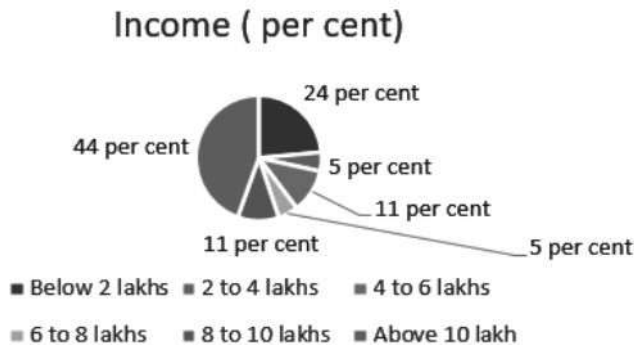
b. On the basis of income

Figure 2: Showing Percentage of Respondents Belonging to Different Income Brackets (Source: Primary Data)

From the above bar graph and pie chart, it can be inferred that the income distribution among respondents shows that 23.5 per cent earn below two lakhs, 4.8 per cent earn between two to four lakhs, 11.3 per cent earn between four to six lakhs, 4.8 per cent earn between six to eight lakhs, 10.6 per cent earn between eight to ten lakhs, and 44.5 per cent earn above 10 lakhs.

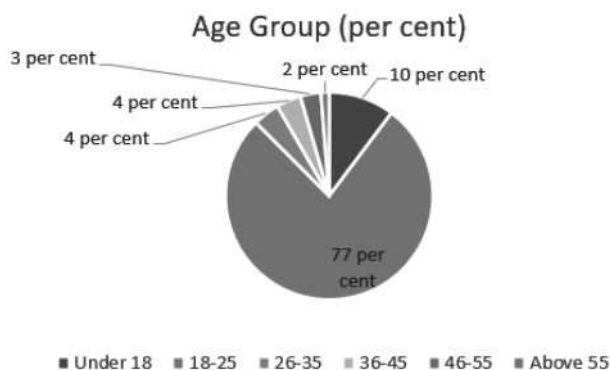
c. On the basis of age

Figure 3: Showing Percentage of Respondents Belonging to Different Age Groups (Source: Primary Data)

Data from different age groups were collected, of which majority are from 18-25, followed by under 18, then 26-35, 36-45 and 46-55 range in the same order, least being from above 55.

ANALYSIS OF CONSUMER BEHAVIOUR**Mean and Standard Deviation**

Particulars	Mean	Standard deviation
Colours used affects their perception of a brand	3.79	0.74
Association of certain colours with specific brands	3.82	0.85
Product perception based on colours of a package with what it contains inside	3.69	0.82
The colours used in following aspects influence purchase decisions of consumer		
1. Advertising	4.05	0.81
2. Packaging	4.03	0.76
3. Logo	3.86	0.91
Consumers remember and recognise a brand:		
• which uses specific colours in ads	3.98	0.84
• Which uses vibrant colours compared to the ones using dull colours	3.98	0.84
• Having attractive colour packaging	4.11	0.79
• Having unappealing colour packaging	2.98	
• Based on company's logo colours	3.77	1.04
• colours can influence online shopping experience of a consumer	3.78	0.90

colours of website's influence on following factors of consumer behaviour		
• Purchase decisions	3.73	0.87
• Providing recommendations:		
• Brand preference	3.6	0.80
• Brand recognition	3.7	0.76
• Brand remembrance	4.18	0.88
	4.11	0.97
willingness to pay more for a product based on colour differentiation	2.79	0.98
willing to purchase a product solely based on colour	3.04	1.1
perception of consumers regarding likelihood of leaving a store due to unpleasant colour, lighting or smell.	3.88	0.94
willingness of consumers to return to the above mentioned store again in future	2.49	1.06
colour, lighting and smell influences their mood while shopping	4.13	0.77
likeliness of color lighting and smell to influence purchase decision of consumers	3.84	0.78
Store with good lighting, smell and pleasant colour. Likeliness to:		
Recommend the store to others	4.02	0.79
Purchase again from here	4.00	0.77

Table 1: Mean and Standard Deviation
(Source: Primary Data)

INTERPRETATION

From the standard deviation, we observe that there is high variability in the responses (values >1) for:

- Consumers' ability to remember and recognize a brand based on logo colours,
- Their willingness to purchase a product solely based on its colour,
- Their likelihood of returning to a store with unpleasant colour, lighting, or smell.

In other cases, the responses showed low variability.

The mean values could be analysed as follows:

- Values >4 indicate a strong likelihood or strong agreement with the statement,
- Values between >3 and <4 indicate likelihood or agreement,
- Values between >2 and <3 indicate a neutral opinion,
- Values <2 indicate unlikelihood or disagreement.

To determine the impact of colours used in advertising, branding, packaging on consumer behaviour and purchase decisions.

Distribution on the Basis of How Far Do Consumers Agree That Colours Used Affects Their Perception of a Brand

PARTICULARS	NUMBER	PERCENTAGE
Strongly agree	48	15.4
Agree	157	50.6
Neutral	99	31.7
Disagree	5	1.6
Strongly disagree	2	0.7

Table 2: Colours used Affect Consumer's Perception of a Brand
(Source: Primary Data)

Percent of Respondents Agreeing to the Statement

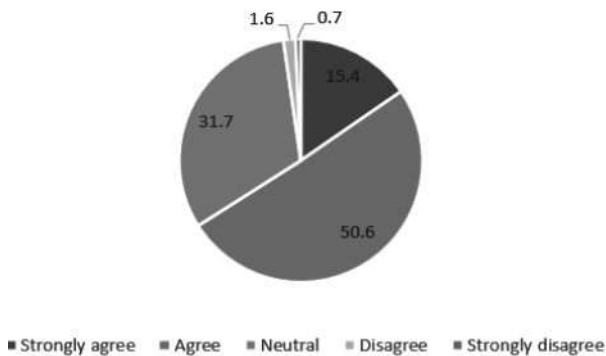


Figure 4: Showing Percentage of Respondents on the Basis of Level of Agreement that Colours Used Affects Perception of a Brands
(Source: Primary Data)

According to the data findings, we can infer that:

1. Majority (157) agreed that colour shapes brand perceptions.
2. Significant number of people were neutral (99 respondents), while few disagreed to the statement.

Overall, the interpretation points to a substantial presence of neutrality in the responses, even amid broad agreement.

Distribution on the Basis of Respondent's Association of Certain Colours with Specific Brands

PARTICULARS	NUMBER	PERCENTAGE
Strongly agree	63	20.2
Agree	152	48.7
Neutral	76	24.4
Disagree	17	5.3
Strongly disagree	3	1

Table 3: Respondent's Association of Certain Colours with Specific Brands
(Source: Primary Data)

Percent of Respondents Agreeing to the Statement

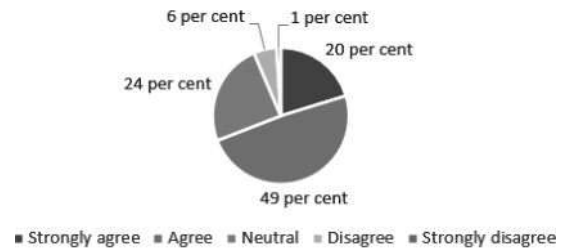


Figure 5: Showing percentage of respondents on the basis of level of agreement
(Source: Primary Data)

The results show that a strong majority of respondents believe colours are closely associated with specific brands, highlighting the importance of colour in brand recognition.

Distribution on the Basis of Respondent's Perception Based on Colours of a Package with What it Contains Inside

PARTICULARS	NUMBER	PERCENTAGE (per cent)
Strongly agree	39	12.5
Agree	165	52.9
Neutral	80	25.6
Disagree	25	8
Strongly disagree	2	0.6

Table 4: Respondent's Perception Based on Colours of a Package with What it Contains Inside
(Source: Primary Data)

Percent of Respondents Agreeing to the Statement

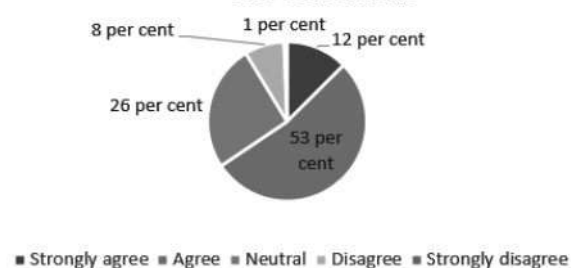


Figure 7: Showing Percentage of Respondents Based on Level of Agreement
(Source: Primary Data)

1. Majority of respondents agreed or strongly agreed with the statement, while a sufficient number of people were neutral.
2. In case of food packets, it was found that the colour of a package has an impact on the consumer's sense of taste by forming a pre conceived idea of what might be there inside it.

Distribution on the Basis of their Choice and Reason for Selecting the Logo of a Company Having Same Design but Different Colours



Figure 8: Different Logos of a Company
(Source: Primary Data)

LOGO (Rank Wise)	Colour	Responses	Reason
7	White	71	Simplicity; Liked the look of the logo; Visibility
3	Ochre Yellow	69	Felt logo was associated with the company's product and values
5	Yellow	59	Felt logo was associated with the company's product and values; Felt good about the company; Liked the look
8	Red	58	Felt its association with the product and values of the company; Made them hungry and crave a burger; Felt good about the company
2	Black	36	Liked the look of the logo; Simplicity; Felt good about the company, Favourite colour
4	Green	12	Simplicity; Liked the look of the logo, Felt good about the company
1	Blue	4	Feel good, simplicity; made them hungry; values of the company, Favourite colour
6	Pink	2	Felt hungry and crave a burger, Looked cute

Table 5: Selecting the Logo of a Company Having Same Design but Different Colours
(Source: Primary Data)

- The logo with the white background received the most votes (71), reason being the simplicity and visual appeal of it.
- It was followed by ochre yellow with 69 votes, chosen for its alignment with the company's values.
- Yellow (5th option) received 59 votes, partly due to its subconscious reminder of McDonald's.
- Red (8th option) garnered 58 votes, reasons cited as its association with product values and ability to create hunger.
- Reasons cited by the respondents in the 'other' category included clear visibility, personal colour preferences, appearance factor, and the reminder of McDonald's on seeing the yellow and red logo.

Respondents mostly believed that these factors strongly influence their purchase decisions, with some neutral responses and few indicating minimal influence.

Distribution of the Number of Respondents on the Basis of the Role of Colours in Enabling Consumers to Remember and Recognise a Brand

PARTICULARS	Which uses specific colours repeatedly in its ads	Which uses vibrant colours than the ones using dull colours	Having attractive colour packaging	Having unappealing colour packaging	Based on company's logo colours
Very likely	116	89	109	40	84
Likely	126	143	136	69	117
Neutral	61	66	59	74	78
Less likely	6	10	7	100	20
Not likely at all	2	3	0	28	12

Table 7: Number of Respondents on the Basis of the Role of Colours in Enabling Consumers to Remember and Recognise a Brand (Source: Primary Data)

Distribution on the Basis of how the Colours Used in Advertising, Packaging and Logo Influences Purchase Decisions of Consumer

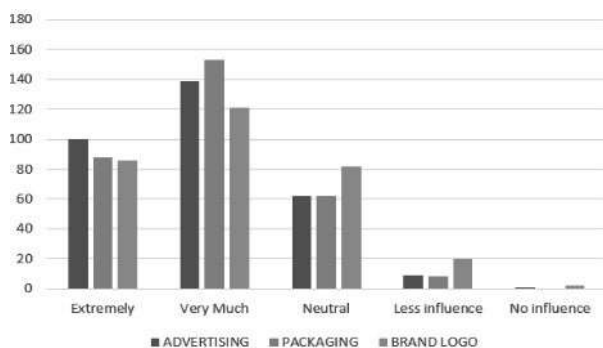


Figure 9: Showing Percentage and Number of Respondents (Source: Primary Data)

PARTICULARS	ADVERTISING	PACKAGING	BRAND LOGO
Extremely	100	88	86
Very Much	139	153	121
Neutral	62	62	82
Less influence	9	8	20
No influence	1	0	2

Table 6: Table Showing the Segregation of Number of Respondents (Source: Primary Data)

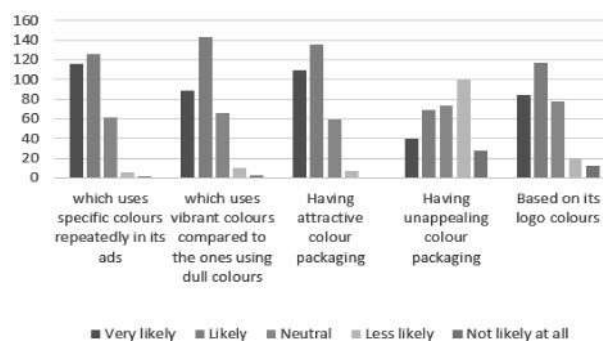


Figure 10: Showing Percentage and Number Of Respondents (Source: Primary Data)

- Majority of the respondents voted 'very likely' followed by 'extremely likely' in the first three cases, with many being neutral and few indicating minimal or no influence.
- Similar responses were observed for the influence of company logo colours.
- Regarding unappealing colour packaging, majority voted 'less likely', followed by a significant portion for 'neutral', and some for 'likely'.

To Determine the Role of Colours in Product Design and its Perception on Consumer's Mind in Terms of Price and Quality

Ranking based on Colour, Price and Quality

Rank	Colour	Price	Quality
1	54	115	179
2	162	138	43
3	95	58	89

Table 8: Ranking based on Colour, Price and Quality
(Source: Primary Data)

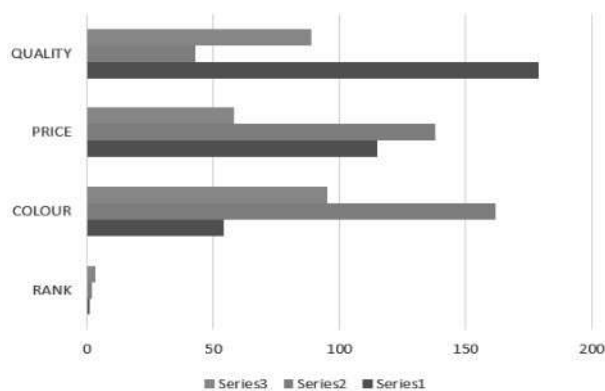


Figure 11: Showing Ranking on the Basis of Colour, Price, Quality
(Source: Primary Data)

On analysing the ranking given by the people, it was found that most people think of quality of the product to be the most important, followed by the price in the second place and then colour.

Distribution of the Number of Respondents on the Basis of their Willingness to Pay More for a Product Based on Colour Differentiation

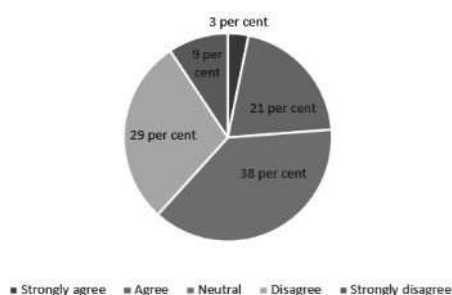


Figure 11: Showing Percentage of Respondents Agreeing with the Statement
(Source: Primary Data)

Particulars	Number	Percentage
Strongly agree	10	3.2
Agree	64	20.6
Neutral	118	37.9
Disagree	90	28.9
Strongly disagree	29	9.3

Table 9: Respondents Agreeing with the Statement
(Source: Primary Data)

The majority of respondents expressed neutrality, indicating uncertainty or lack of strong feelings indicating that while colour may influence some purchasing decisions, it is not a factor for the consumers to pay more.

Distribution Showing Number of People Willing to Purchase a Product Solely Based on Color

Particulars	Number	Percentage
1	31	31
2	61	19.6
3	115	36.9
4	76	24.4
5	29	9.3

Table 9: Respondents Agreeing with the Statement
(Source: Primary Data)

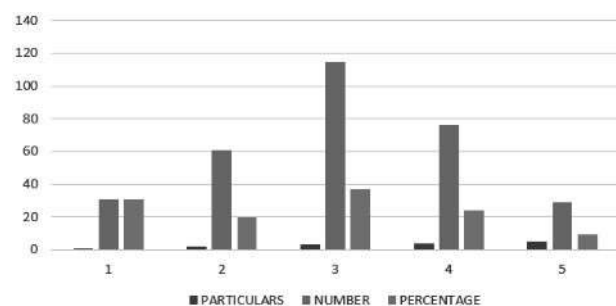


Figure 12: Showing Percentage and Number of Respondents Agreeing with the Statement
(Source: Primary Data)

We find that, most respondents are neutral or somewhat likely to purchase a product based solely on colour, with a notable minority either highly likely or unlikely to do so.

Distribution Showing the Perception of Consumers Regarding the Price and Quality of a Product Based on Color

The respondents were presented with the following picture and asked to indicate which watches they believed should be priced higher or lower, as well as which ones they perceived to be of high or low quality.

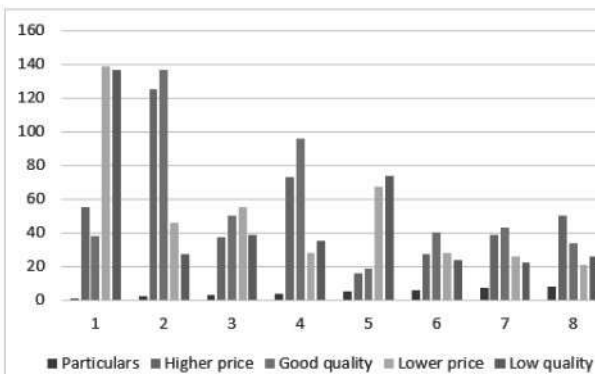


Figure 13: Showing Percentage and Number of Respondents Agreeing with the Statement
(Source: Primary Data)

Particulars	Higher price	Good quality	Lower price	Low quality
1	55	38	139	137
2	125	137	46	27
3	37	50	55	39
4	73	96	28	35
5	16	19	67	74
6	27	40	28	24
7	39	43	26	22
8	50	34	21	26

- Respondents associated higher prices and quality with black and dark purple watches.
- White and orange watches were perceived as lower-priced and lower-quality.

- Darker colours and lighter colours were associated with luxury and affordability respectively.

These results are consistent with (Singh, 2005) research linking colour to perceived price and quality.

To Determine the Impact of Colours, Lighting, Smell and Overall Environment on the Consumers in case of in Store Shopping

The colour, lighting, smell and overall store environment leads to impulse buying among the consumers. (Piron, 2001)

Particulars	Leave a store due to the colour, lighting and smell of a store	Return to the store which had had smell, colour and lighting on previous visit	Influence consumer's mood	Influence purchase decisions	Recommend a store based on colour, lighting and smell
Extremely likely	86	65	102	58	92
Likely	131	91	159	158	140
Neutral	68	105	45	83	73
Less likely	22	39	7	10	5
No likely	4	11	2	2	1

Table 10: Impact of Colors, Lighting, Smell and Overall Environment on the Consumers in case of in Store Shopping
(Source: Primary Data)

Colours, lighting, and smell significantly impact consumer mood (83.5 per cent), purchase decisions (70.7 per cent), and store recommendations (74.4 per cent). Negative sensory experiences cause many to leave (67.3 per cent) and fewer to return (47.2 per cent)

INFERENTIAL ANALYSIS

Cronbach's Alpha

Cronbach Alpha
0.953416

Table 11: Showing the Value of Cronbach's Alpha
(Source: Primary Data)

Cronbach's alpha, a reliability metric used to evaluate the validity of a set of items meant to measure a latent construct or variable, for my data is 0.95 which is regarded as excellent and indicates that the scale's items have a high level of internal consistency.

Chi Square Tests

Null hypothesis (H0): There exists no relationship between the two variables into consideration
 Alternate hypothesis (H1): There exists a relationship between the 2 variables into consideration

If the P value is less than 0.05, then we conclude that there exists a relationship, rejecting the null hypothesis and vice versa.

Relationship between Gender and How Far They Agree that Colour Affects their Brand Perception

χ^2 Tests			
	Value	df	p
χ^2	18.811	8	0.016
N	311		

Table 12: Showing p Value
(Source: Primary Data)

Age and How Far they Agree that Color Affects Brand Perception

χ^2 Tests			
	Value	df	p
χ^2	33.139	24	0.773
N	311		

Table 13: Showing p Value
(Source: Primary Data)

Income and the Colors Used in Different Marketing Aspects' Influence on Buying Decisions

Advertising:

χ^2 Tests			
	Value	df	p
χ^2	19.130	24	0.745
N	311		

Table 14: Showing p Value
(Source: Primary Data)

Packaging:

χ^2 Tests			
	Value	df	p
χ^2	14.562	18	0.692
N	311		

Table 15: Showing p Value
(Source: Primary Data)

Brand logo:

χ^2 Tests			
	Value	df	p
χ^2	41.846	24	0.013
N	311		

Table 16: Showing p Value
(Source: Primary Data)

Colour, Lighting, and Smell:

χ^2 Tests			
	Value	df	p
χ^2	32.234	24	0.121
N	311		

Table 17: Showing p Value
(Source: Primary Data)

Thus, we can conclude from the tests, that there exists a relationship between

- Gender and brand perception based on colours.
- Income and the colour of logo on purchase decisions.

FINDINGS AND OBSERVATIONS

Colours significantly influence consumer behaviour, brand perception, taste perception, and brand association. Consistent colour use enhances brand recall and trust, though its impact is generally secondary to quality and price. While most consumers remain neutral about paying more based solely on colour, the overall environment—comprising colour, lighting, and smell—plays a crucial role in shaping mood and purchase decisions. A pleasant shopping environment encourages recommendations and repeat purchases. Specific colours also trigger distinct emotional responses, further affecting consumer perceptions and behaviours.

RECOMMENDATIONS

1. Choose colours that represent your brand's identity and understand the associated meanings to communicate effectively.
2. Use appealing colours to make product packaging attractive and engaging.
3. Colour Choices:
 - i. Niche/High-Priced Products: Use dark colours like black and purple.
 - ii. Affordable/Budget-Friendly Products: Use light colours.
 - iii. Consistency: Use specific colours repeatedly in marketing to enhance recognition.
4. Do not compromise on quality and pricing strategies, as those are primary factors in making a decision.

CONCLUSION

The research shows that colours in advertising, branding, and packaging play a significant role in influencing consumer behaviour. In packaging, colour shapes taste perception and brand association, while in advertising, it enhances brand recall and emotional response, highlighting colour psychology's impact.

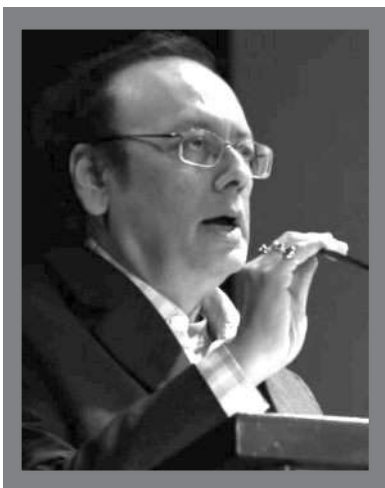
A study on branding found that simple, visible logos aligned with brand values are preferred, with familiar brand colours fostering trust. However, factors like price and quality are more influential than colour in purchase decisions, with most consumers neutral about paying more based on colour alone. Thus, for marketers to effectively leverage colours, they must also ensure high product quality and appropriate pricing.

In-store factors such as colour, lighting, and smell strongly affect consumer mood and behaviour, with pleasant environments leading to increased recommendations and repeat purchases.

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“

It would be necessary to understand how important the factor of a diamond being lab-grown would be in the minds of the consumer before they decide to purchase a diamond.

”

Analysis of Adoption of Lab-Grown Diamonds in Kolkata Background

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PG and Research Department of Commerce

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ABSTRACT

Lab-grown diamonds, also known as synthetic diamonds, are gaining traction globally due to their ethical, environmental, and economic advantages. Produced in controlled environments, they offer the same brilliance and chemical properties as natural diamonds while addressing concerns like unethical labor practices and environmental damage. In India, a price-sensitive and culturally rich market, their popularity is rising, driven by younger generations prioritizing sustainability and cost-effectiveness. This study explores awareness, perceptions, and adoption of lab-grown

diamonds among various age groups in India, highlighting consumer inhibitions and market potential while examining how businesses can align with evolving ethical and economic preferences.

KEYWORDS: Lab-Grown Diamonds, Consumer Perception, Ethical Sourcing, Market Positioning, Economic Appeal, Sustainability.

INTRODUCTION

In recent years, lab-grown diamonds, its production, sales and its adoption has been gaining a surge. This surge is driven by various factors such as environmental, ethical, economic, among others. Such diamonds, which are also called synthetic diamonds, are manufactured in a controlled environment, usually in a laboratory, rather than being extracted from the natural environment. This alternative approach towards diamond production has gained traction for several compelling reasons. First and foremost, the reason on which everyone's focus should be, and is on, is its ethical nature. Traditional diamond mining has been associated with environmental concerns, like land disturbance, deforestation, energy consumption and unethical labor practices among various other concerns. Lab-grown diamonds are created in a controlled environment, without tampering with nature in any way, eliminating concerns relating to unfair labor practices or environmentally damaging mining processes. Thus, it resonates with the concerns of the consumers who prioritize sustainability and social responsibility (Oluleye, 2021).

Another reason for its popularity among consumers is its economic nature. A synthetic diamond is generally one-tenth the price of a natural diamond. This is a major point that has assisted the surge of lab-grown diamonds in the Indian context, considering the type of economy India is. All this, while the diamond having indistinguishable chemical and visual properties as a natural diamond. Both the types share the same physical and optical properties, making it even more challenging and difficult for the naked eye to distinguish between the two. Developments in technology for the production of such diamonds has ensured that these

diamonds exhibit the same brilliance, hardness and chemical properties as their mined counterparts.

In India, a nation with a rich cultural history and deep-rooted tradition of diamond jewelry, where not a wedding goes by without the exorbitant purchase of jewelry on both sides, the market for lab-grown diamonds is expanding at a rapid pace. However, it is believed that this shift to lab-grown diamonds is mostly supported by the younger generations as they seek more sustainable and socially responsible alternatives. Additionally, the factor contributing to its surge among all generations in a price-sensitive market such as India is its economic benefits and cost-effectiveness. That is the factor that is appealing to a huge chunk of population within a country like ours. This change is also adopted among businesses not only to meet the consumer demands, but also to adapt to changing global attitude towards responsible and ethical business practices. This study aims to analyse the various factors that influence the adoption of lab-grown diamonds, from the point-of-view of various age groups. It aims to study the various inhibitions that people have towards lab-grown diamonds and to understand how the people in the Indian economy perceive the use of such diamonds, given the cultural importance diamonds are associated with in this country.

The core research questions include the current levels of awareness of lab-grown diamonds among various age groups, how they perceive lab-grown diamonds, their attitudes towards it, the inhibitions that people have that is barring their adoption of such an alternative. This study also aims to determine how the overall adoption of such an alternative has been among the Indian audience and draw a picture as to where the market for such a product is headed, what concerns the businesses need to address and educate the consumers, for their products to effectively penetrate such a market.

LITERATURE REVIEW

Keech, Morrin and Podoshen (2020) in 'The effects of materialism on consumer evaluation of sustainable synthetic (lab-grown) products'

Conducted a study to analyse how choices of materialistic and unmaterialistic consumers differ in the purview of lab-grown products. They also tried to determine the effectiveness of an ethical positioning strategy for luxury and synthetic products. Findings suggested that ethical positioning strategy is more effective for low materialistic consumer and can even backfire in the case of the other consumers.

Welp (2022) in her master's project on 'Lab-grown diamonds on the luxury market: how can they gain a competitive advantage?'

Did research on the lab-grown diamonds industry in her city, where she compared the marketing strategy of two lab-grown diamonds sellers to investigate how luxury brands selling this product gain advantage over one another. She conducted multiple case studies on the two brands. Findings suggested that the brand using lab-grown diamonds need to hold the full control over their value chain, especially when choosing the supplier of the product.

Ibrahim, Anuar and Daud (2021) in 'The development of Islamic Geometric Pattern in Jewellery Product Design'

Surveyed 302 respondents, including Malay male from all over Kelantan. They tried to determine the knowledge that the consumers possessed about the purchases that they made in the precious gems and stones industry. It was also focused on determining the factors that affected the choice during the process of purchase, like the color, certification or the type of the stone in consideration, they also tried to determine how a stone, being natural or synthetic, could affect the purchase decision of an individual. They concluded that a total of 86.1 per cent of people could identify the characteristics of a natural or a synthetic stone. A total of 76.8 per cent of the enthusiasts were not familiar with the terms of a treated gemstone or a gemstone certificate. They also found out that personal factors like age, lifestyle, profession, and personality affected the purchase that an individual makes among the various gemstone options.

Roshanzamir, Weerakkody, Yoganathan (2018) in 'A Rhetoric of Smart Carpet in the age of Disruption'

Conducted quantitative research to determine the role of technological advancements, including Internet of Things, blockchain, and platform models responsible for disrupting the luxury goods industry, like that of jewelry. They suggested ways as to how a novel and practical framework can be effectively utilized to transform handmade or naturally made goods to smart. They aimed at finding out how cost, exclusivity, communication, positioning of the product and conformability among other parameters influenced how effectively marketers could exploit and make the best use of technology to sell their luxury products to potential consumers.

Bagathi, Balagtas, Boppana, Maniere, Vincent, Boyer, Troquer (2021) in 'Lab-grown Diamonds- The shape of Tomorrow's Jewelry'

Conducted a study to determine how the diamond industry will adapt to this latest form of technology of making diamonds in the lab. They tried to understand if this new form of technology is the answer to the current changing jewelry market. The research tried to observe the real potential of this man-made gemstone. They tried to analyse what factors of a synthetic diamond affected the purchase behavior of various demographics. They suggested the luxury brands, based on their findings, to keep educating its audience by disclosing clearly the differences between mined and lab-grown diamonds and to use this increasing awareness to promote new responsible jewelry collection that are relevant to today's society needs.

Schulte, Sreejith, and Paris (2021) in 'Blood diamonds and ethical consumerism: an empirical investigation'

Aimed at conducting research for ethical consumerism in the luxury goods segment, and so focused on ethical buying behavior of consumers and the moderating effects of their income levels on the diamonds industry. 418 respondents were surveyed by a questionnaire assessing ethical buying behavior and the hypothesized relationship between the constructs. Findings suggested that overall, ethically minded consumer behavior had significant positive impact on willingness to pay more, ethical concerns regarding country of origin of diamonds, and ethical buying of diamonds. Thus, it focused on the social and ethical factors associated with

the sourcing of diamonds, introducing the concepts of blood diamond.

Schulte, Paris (2022) in 'Supply chain transparency, ethical sourcing, and synthetic diamond alternatives: exploring the perspectives of diamond retailers.'

Researched to explore the importance and perspectives of supply chain transparency of diamond retailers in the United Arab Emirates and their perceptions of the importance of transparency and ethical sourcing for consumer diamond purchasing decisions. The research findings suggested that retailers currently perceive the consumers to be indifferent or unaware of the complexity of transparency in the diamond supply chain. However, some consumers did inquire about the origin. Additionally, they also concluded that as they are at the end of the supply chain, retailers do not have the means to guarantee that diamonds are ethically sourced.

Maltseva, Khromova (2019) in 'Current global trends in the diamond market and their impact on the development of diamond complexes of Russia and India'

This article explores how lab-grown diamonds and digitalization are shaking up the diamond industry, particularly for Russia and India. It examines how younger buyers' tastes are changing and financing challenges. By analyzing recent research and industry voices, the authors identify trends that threaten these countries' diamond sectors. They conclude by calling for a new development strategy to navigate this evolving market.

Trang, and Lin, (2023). 'Millennials' perceptions of and preferences for laboratory-grown diamonds Journal of Retailing and Consumer Services'

This study explores millennial consumer perceptions and preferences towards lab-grown diamonds. It analyses factors influencing their choices, including ethical concerns, sustainability, and price point. The research sheds light on how millennials, a key demographic, are driving the adoption of lab-grown diamonds.

Brucks, Nuñez, and Ozsoym (2018). 'Status through

Consumption: The Role of Diamond Engagement Rings Journal of Consumer Psychology'

This article examines the concept of status consumption associated with diamond engagement rings. It explores how cultural expectations and traditions might influence generational preferences for mined diamonds versus lab-grown alternatives. The research provides insights into the potential shift in engagement ring choices across generations.

Dutta, and Shiri (2020). 'The Rise of Lab-Grown Diamonds: A Threat or an Opportunity for the Diamond Industry? Journal of Management and Marketing Research'

This research delves into the rise of lab-grown diamonds and its impact on the traditional diamond industry. It analyses how different generations might perceive the value proposition of lab-grown diamonds compared to mined ones. The study explores potential opportunities for the industry to adapt and cater to changing consumer preferences.

Yim, and Ham (2022). 'The Role of Brand Image and Ethical Perceptions in Consumer Purchase Intention for Lab-Grown Diamonds Sustainability'

This research investigates the role of brand image and ethical perceptions in consumer purchase intent for lab-grown diamonds. It delves into generational differences in their evaluation of brands and ethical considerations when purchasing diamonds. The study provides insights into how marketing strategies can be tailored for different generations.

Cheung, and Chan (2020). 'Factors influencing consumer purchase intentions for laboratory-grown diamonds. A structural equation modeling approach Journal of Fashion Marketing and Management.'

This study utilizes structural equation modeling to identify factors influencing consumer purchase intentions for lab-grown diamonds. It analyses the influence of factors like price, environmental concerns, and perceived value on generational preferences for diamond types.

Jin and Lee (2021). 'Sustainability perceptions and

purchase intentions for laboratory- grown diamonds: A comparison of millennials and Gen Z'

This research compares millennials and Gen Z consumer behavior regarding lab-grown diamonds. It focuses on their sustainability perceptions and how they influence purchase intentions. The study provides insights into the growing environmental consciousness among younger generations and its impact on diamond preferences.

Biondi, Iaquinta, and Perrini (2020). 'Millennials and luxury: A new perspective on value and consumption.'

This research delves into millennial consumer behavior in the luxury market. It explores their redefined values and how they approach luxury consumption, potentially influencing their diamond choices. The study provides a broader context for understanding how millennials might differ from older generations in their approach to diamonds as a luxury good.

Although there have been studies, as mentioned above, to determine how various factors such as the synthetic nature, the market perceptions, association with luxury product as a status symbol, materialistic nature of consumers, marketing and positioning techniques adopted, social responsibility factors, et al. affect the lab-grown diamond market and its demand in various contexts, there has not been enough emphasis on how consumers in the Indian context, belonging to various generations, having a rich cultural history full of traditions, would interpret the utility of such a product. There is also a clear lack of quantitative research to determine how consumers perceive the sustainable, economic, ethical and compositional aspects of a lab-grown diamond. Here lies a clear research gap where it becomes necessary to study how the consumers, essentially in the Indian market, adapt to the whole concept of such synthetic diamond, and to foretell if it even has a chance of success as it is supposed to or projected to have because of a few of its properties. It also becomes necessary to understand how the consumers perceive the role of government in promoting the use of such an alternative that will help us fight the damages caused by the diamond industry to the environment, miners, and other factors of production.

MOTIVATIONS FOR THE STUDY

As the market, the supply, the demand, the perception and adoption, of a product like a synthetic diamond evolves, understanding its relevance within the Indian economy becomes essential. It becomes absolutely important for the players in the lab-grown diamond economy, such as manufacturers, distributors, and most importantly, marketers to understand how the various generations, especially the upcoming generation that encompass a larger chunk of their top line, interpret the utility of lab-Grown Diamonds. It is important to study the perceptions to effectively position the product in the minds of the consumer. Given the social importance that a diamond is given in the Indian culture and traditions, it would be necessary to understand how important the factor of a diamond being lab-grown would be in the minds of the consumer before they decide to purchase a diamond.

Since it is a sustainable solution and offers a great alternative to naturally mined diamonds, this study also aims to understand what role the government could play with regards to such an industry, given the fact that the Government is actively promoting values of sustainability among the people of this country. Thus, to promote the usage of such a product, what could the Government do from their end that would further support the industry in the long run.

Furthermore, I feel motivated to conduct this study to analyze if this product, a lab-grown diamond, has the potential to break the long-built monopoly by a few companies in the diamond market. This could possibly be a revolutionary product with regards to the already existing product and its dynamics, specially it's supply, which is controlled by very few companies. If this product is accepted by the Indian consumers, that form a huge chunk of the global sales of the companies, it could possibly shatter the monopoly control practiced by such companies and they would then have no control over the supply of diamonds in the market and would have to switch to ethical practices and ethical sourcing, including that of adoption lab-grown diamonds as well.

EXPECTED CONTRIBUTIONS FROM THE STUDY

This study could have various potential benefits for various stakeholders that could utilize the data and the research conducted in this study in multiple domains. This study could be used by marketers in their favor in order to position and successfully gain a market share among the Indian consumers. By helping the marketers realize how consumers would adopt lab-grown diamonds and how would they perceive the smallest of difference that exist between a natural diamond and that of a lab-grown diamond, they could deploy methods and techniques to target consumer segments and could realize the potential profits and sustain in the long run.

Furthermore, this study could also help the Government in devising policies that they wish to implement within the market of this product, to promote its usage and also its development. The government could, by understanding the current perception of lab-grown diamonds among various market agents, could implement policies and provide incentives for further growth of the industry and promote development of technology as well as more awareness among the people of our country, as we recently saw our Prime Minister promoting the idea by gifting the First Lady of the United States, a lab-grown Diamond. Thus, this study also aims to throw light on the social awareness among Indian consumers and how they adopt an alternative that is ethically backed by moral techniques of production.

OBJECTIVES OF THE STUDY

1. To study the current levels of awareness about lab-grown diamonds among various individuals belonging to different demographics in Kolkata, to understand how important factors like ethical sourcing and social responsibilities associated with lab-grown diamonds, are consumers aware of, to make them realize the benefits of considering this alternative.
2. To investigate the various factors that affect consumer choice while making a purchase of a lab-grown diamond and reasons why they consider

such a purchase. This would help the marketers, who could be said to be major stakeholders to the study, because, as mentioned earlier, this will help them market and position their product effectively.

3. To forecast what the future holds for a product like this and how the trajectory for the industry could look like. Various factors including manufacturers, marketers, consumers, and the government would play a key role in determining the future for our product.

RESEARCH METHODOLOGY

The population where the survey shall be conducted and the results to be drawn and analyzed primarily includes students at St. Xavier's College (Autonomous), Kolkata, and their direct and indirect family members. However, the survey form will also be circulated through various channels so that it reaches a wider audience belonging to different age groups. The survey instrument for the successful and efficient conduct comprises a structured questionnaire wherein all questions shall be kept close ended and be fixed for all respondents to maintain uniformity. The survey will use forced choice questions as well as scales and will be prepared and circulated through online channels by using Google forms. The sampling technique that will be adopted for this study will be convenience sampling with snowballing. The questionnaire has been branched into two sections after four demographic and one choice-based question of whether the respondent has considered purchasing a lab-grown diamond. Post the choice-based question, the form is branched into those who did consider purchasing lab-grown diamonds and those who did not consider purchasing it. For those who did consider, there are six more questions regarding their opinions post their purchase and for those who did not, there are five questions as to why they did not and their perceptions. These questions include questions like 5-point scales and category Multiple Choice Questions (MCQs). The sample size is aimed at being 100 respondents. Hence, by keeping an expected response rate at 40 per cent, the form shall be circulated among approximately 250 people.

Statistical Package for Social Sciences (SPSS) software has been used for effective analysis of the responses that have been received to derive conclusive findings from the research. This study will utilize both descriptive and inferential statistics to interpret and examine significant findings obtained from the primary data gathered. Descriptive tools such as charts, figures, tables, pie charts, weighted mean, measures of central tendency, and measures of dispersion will be employed. Additionally, inferential statistics, including tests of association, will be conducted.

Suitable inferential statistics was also done, including Exploratory Factor Analysis, wherein, extraction was made by the process of Principal Component Analysis (PCA) and rotation was set to Varimax. We used Exploratory Factor Analysis (EFA) to explore the underlying structure of our data. This analysis provided two key pieces of information:

Proportion of Explained Variance: This statistic tells us how much of the variation in the data can be explained by the identified factors.

Rotated Component Matrix: This matrix shows how each question relates to the identified factors.

Before running the EFA, we checked the suitability of our data for factor analysis using the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests. Finally, we developed scales to measure each of the identified factors. Mean scores were then calculated using the following formula:

$$\bar{X} = \frac{\sum_{i=1}^n x_i}{n}$$

We assessed the reliability of our scales using Cronbach's Alpha. Next, we checked if the data met the assumptions of normality tests like Kolmogorov-Smirnov and Shapiro-Wilk. Since the data wasn't normally distributed, we opted for non-parametric tests for mean comparisons.

We calculated the mean scores for each scale across different groups (independent variables). Depending on the number of groups being compared, we used either the Mann-Whitney U test (for two groups) or the Kruskal-Wallis H test (for more than two groups) to analyze the mean score differences.

The results of these tests were then used to evaluate our hypotheses and are discussed further in the report.

DATA ANALYSIS AND INTERPRETATION

Demographic Profile

The following table shows the different demographic variables of the respondents along with their frequency and percentages:

		FREQUENCY	PERCENTAGE
GENDER	MALE	43	43
	FEMALE	57	57

AGE	18-30	63	63
	31-43	14	14
	44-56	13	13
	57 and ABOVE	10	10

OCCUPATION	STUDENT	60	60
	EMPLOYED	13	13
	SELF-EMPLOYED	15	15
	HOMEMAKER	12	12

ANNUAL PERSONAL INCOME	<200,000	23	23
	2,00,001-5,00,000	11	11
	5,00,001-10,00,000	16	16
	10,00,001-15,00,000	7	7
	15,00,001-20,00,000	15	15
	>20,00,000	28	28

The same can be depicted in charts as follows:

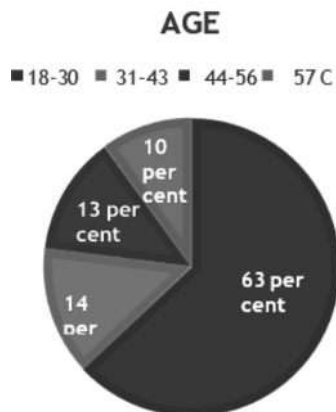


Figure 1: Age
(Source: Primary Data)

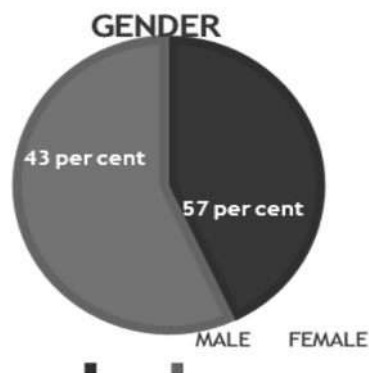


Figure 2: Gender
(Source: Primary Data)

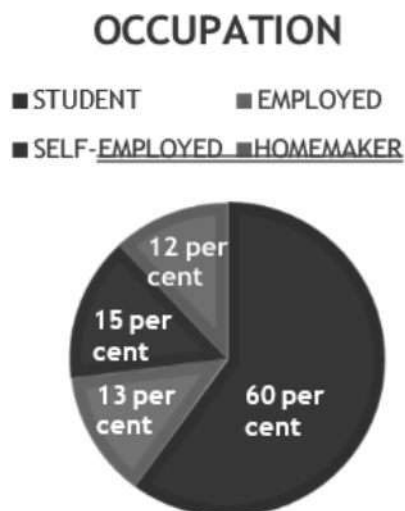


Figure 3: Occupation
(Source: Primary Data)

ANNUAL PERSONAL

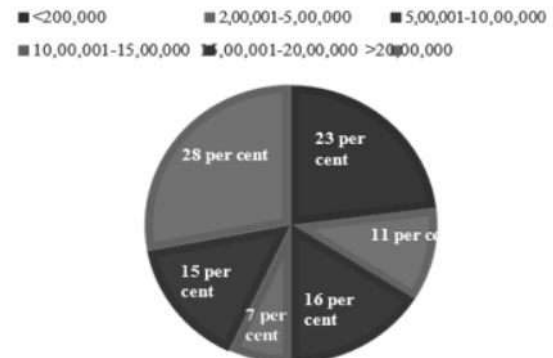


Figure 4: Annual Personal
(Source: Primary Data)

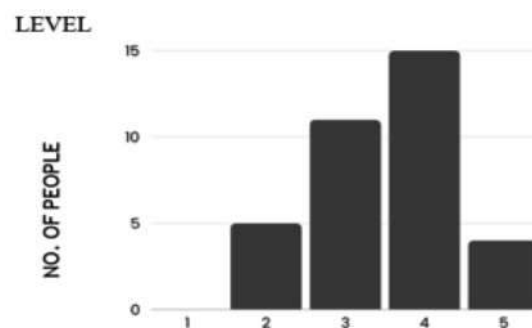


Figure 5: Level of Awareness
(Source: Primary Data)

Level of awareness of people who considered purchasing lab-grown diamonds.

Inference: This graph shows us that people who actually do consider purchasing lab-grown diamonds are majorly aware of the benefits that are associated with the use of the product.

REASONS BEHINE MAKING THE PURCHASE DECISION

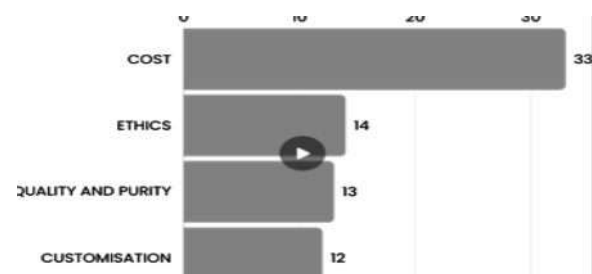


Figure 6: Purchase Decision
(Source: Primary Data)

Reasons for consideration the purchase of a lab-grown diamond.

Inference: Majority of the people that actually consider purchasing a lab grown diamond purchase it because of the economical appeal of the product, as it serves the purpose at a lower cost. All the other factors like ethical, quality and purity of the product and options and customizations available have approximately equal weightage for the consumers.

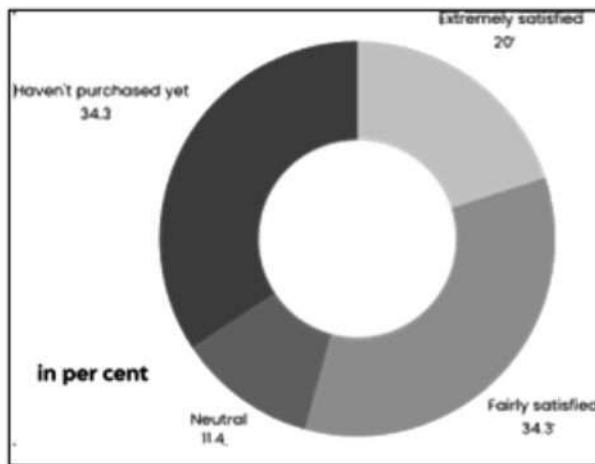


Figure 7 : Level of Satisfaction After the Purchase
(Source: Primary Data)

Inference: More than 50 per cent of the people are either extremely or fairly satisfied with their purchase, while the rest are either neutral or haven't yet made the purchase and are considering buying the product. Interestingly, none of the people who have made the purchase are dissatisfied at any levels with their purchase decision or the product. Thus, it can be inferred that the product has a positive perception among its users

Inference: Once again, cost becomes the most important factor for the consumers, which has received the maximum number of 5 level importance. Following cost, the technology and the quality with which lab-grown diamonds are made gets a fairly high level of importance by the users of the products. Factors like ethical considerations, options and customization and regulations from the government get a fair level of importance, which shows that the consumer values quality and cost over other factors.

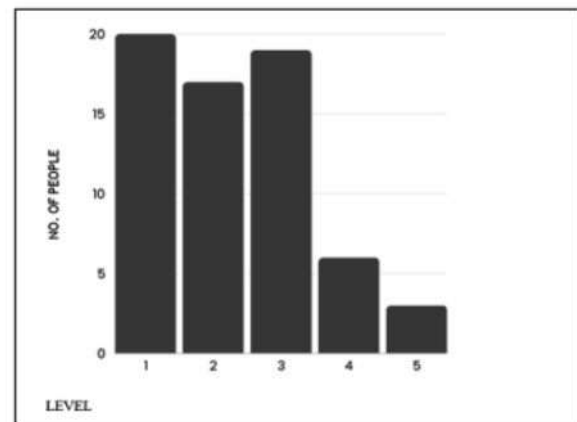


Figure 9: Level of Awareness
(Source: Primary Data)

Inference: A major chunk, more than 90 per cent of the respondents who have not considered purchasing lab-grown diamonds are unaware about the benefits that are associated with the usage of lab-grown diamonds. This shows clearly that there is a lack in knowledge dissemination about these benefits and the consumers need to be made aware of the benefits so that they start using such an alternative on a higher scale.

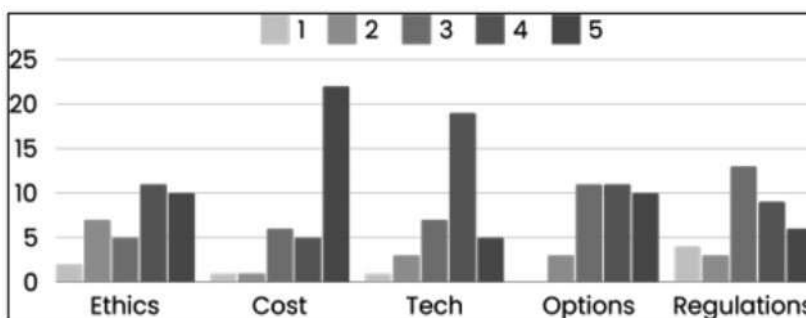


Figure 8: Level Of Importance Given to Various Factors
(Source: Primary Data)

REASONS FOR NOT CONSIDERING PURCHASE

Inference: People are mostly concerned about the resale value of a lab-grown diamond, and believe that after making the purchase, the diamond would not have a value close to what it was purchased for. Also, traditional, and cultural values act as an inhibitor for the purchase decision

as well, and so do factors like durability of the product and social value of the same.

Hence, the consumers are not willing to invest in such a product, because of the aforementioned reasons.

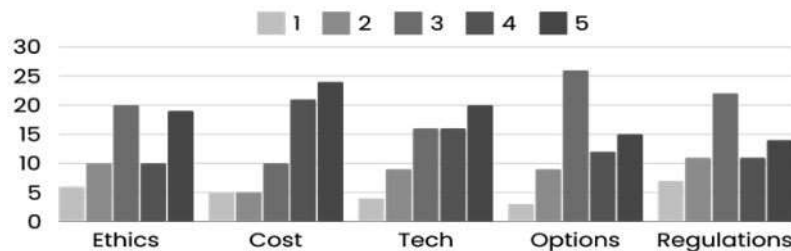


Figure 10: Level of Awareness
(Source: Primary Data)

Inference: Once again, the economic factor is one of the most important factors according to even those respondents who did not consider purchasing the product. They also follow suit when they find technology and quality to be the 2nd most important factor according to them. Thus, it can be inferred that these two factors are among the most important according to all the consumers in the market. About all the other factors, the consumers are mostly neutral.

'The Government should actively promote the use of such an alternative by implementing policies.'

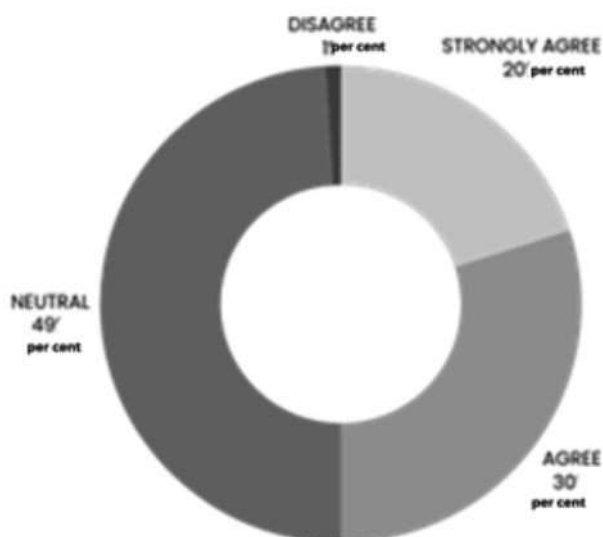


Figure 11: People's Interpretation
(Source: Primary Data)

Inference: 50 per cent of the people either strongly agree or agree that the government should actively promote the use of such alternative to ensure the growth of this industry while the rest are neutral.

Interestingly enough, only 1 per cent of our respondents disagree with the statement and so, it shows that the consumers do demand proactive role from the government.

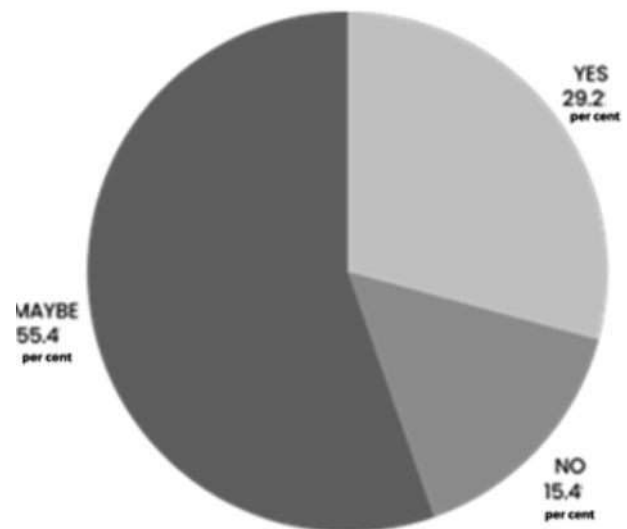


Figure 12: If Non-Purchasers Are Willing to Purchase After Being Aware of The Associated Benefits
(Source: Primary Data)

Inference: Majority of the non-purchasers are still unsure about whether they would actually consider purchasing the product. However, the people who would consider after being aware, outnumber those who still are committed to their stance, and so it shows that if people are made aware of the benefits, there is scope for growth within the industry and the usage of the product.

INFERENTIAL STATISTICS

Exploratory Factor Analysis

Exploratory Factor Analysis was conducted with the Extraction Method set to Principal Component Analysis (PCA) and Rotation was set to Varimax.

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.779
Bartlett's Test of Sphericity	Approx. Chi-Square		153.657
	df		21
	Sig.		<.001

Table 1: Test of Factorability
(Source: Primary Data)

The Tests of Factorability- KMO test of Sampling Adequacy and Bartlett's Test of Sphericity were conducted on the data set, and since the Level of Significance is less than 0.05, the Null Hypothesis is rejected and thus, the data is eligible for Factor Analysis.

Total Variance Explained									
Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		of Variance	Cumulative	Total	of Variance	Cumulative	Total	of Variance	Cumulative
1	2.835	40.496	40.496	2.835	40.496	40.496	2.670	38.145	38.145
2	1.178	16.824	57.320	1.178	16.824	57.320	1.342	19.175	57.320
3	.954	13.624	70.944						
4	.623	8.896	79.839						
5	.552	7.884	87.723						
6	.456	6.521	94.244						
7	.403	5.756	100.000						

Table 2: Total Variance
(Source: Primary Data)

The factors identified through the Factor Analysis explain 57.320 per cent of the total variance.

ROTATED COMPONENT MATRIX

Factors were identified on the basis of Factor Scores obtained from the Rotated Component Matrix.

The following Scale-based questions were eliminated from the analysis since they were not 5- point scale question.

What were the factors that affected your choice?

Were you satisfied with your purchase?

Would you recommend and promote the purchase of such an alternative to friends and family?

Why did you not consider purchasing lab-grown diamonds?

Would you, after being aware about the social, economic, and ethical advantages of Lab-grown diamonds, consider purchasing one?

Rotated Component		
	Component	
	1	2
AWARE	0.037	0.625
GOVT	0.071	0.840
ETHICS	0.595	0.367
COST	0.740	-0.056
TECH	0.815	0.127
OPTIO	0.785	-0.087
NS		
REGU	0.289	0.695
Extraction Method:		
a. Rotation converged in		

Table 3: Rational Component
(Source: Primary Data)

The highest factor scores for every particular question were highlighted on the Rotated Component Matrix. Then on the basis of the factor scores, questions that were to be grouped together were identified. The underlying factors were then identified as follows:

Degree of regulations

Perceived benefits

SCALE DEVELOPMENT

On the basis of the above factors identified and the corresponding questions, 2 scales were formed.

Mean Scale Scores was then computed by using the following formula:

$$\bar{X} = \frac{\sum_{i=1}^n xi}{n}$$

Mean Scores were calculated for the following scales:

Scale 1: Degree of regulation

How much would you say you're aware about the benefits associated with lab-grown diamonds?

'The Government should actively promote the use of such an alternative by implementing policies.'

How much would you rate the importance of the following factors in case of Lab- grown diamonds, 5 being the highest: Regulatory environment.

Scale 2: Perceived benefits

1. How much would you rate the importance of the following factors in case of Lab- grown diamonds, being the highest: Ethical factors.
2. How much would you rate the importance of the following factors in case of Lab- grown diamonds, being the highest: Cost.
3. How much would you rate the importance of the following factors in case of Lab- grown diamonds, being the highest: Technology and quality.
4. How much would you rate the importance of the following factors in case of Lab- grown diamonds, being the highest: Options and customization.

Reliability Testing

Reliability Testing was carried out for the factors and scales identified. The results were as follows:

Factor 1: Degree of Regulation

Reliability Statistics

Cronbach's Alpha	N of Items
.359	3

Table 4: Reliability Statistics
(Source: Primary Data)

Factor scores obtained from Exploratory Factor Analysis along with judgement from the responses received, this factor may be considered reliable.

Factor 2: Perceived Benefits

Reliability Statistics

Cronbach's Alpha	N of Items
.744	4

Table 5: Reliability Statistics
(Source: Primary Data)

Since Cronbach Alpha is greater than 0.6, factor obtained from factor analysis stands true and reliable.

Normality Tests

Kolmogorov-Smirnov Test and Shapiro-Wilk Test were conducted for Normality Tests. The Results were as follows:

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DEGREE OF REGULATION	.109	100	.005	.972	100	.033
PERCEIVED BENEFITS	.140	100	<.001	.939	100	<.001

a. Lilliefors Significance Correction

Table 6: Test of Normality
(Source: Primary Data)

Since the p values for both Degree of Regulation and Perceived Benefits are less than 0.05, the data obtained is not normal and hence does not follow a normal distribution. So, the data is not eligible for parametric tests. Hence, non-parametric tests have been carried out on the factors and scales obtained.

MEAN COMPARISON TEST**Grouping Variable: Age**

Non-parametric Tests for k independent samples were conducted. The results for Kruskal- Wallis H Test were as follows:

Test Statistics^a		
	DEGREE OF REGULATION	PERCEIVED BENEFITS
Mann-Whitney U	223.000	298.500
Wilcoxon W	278.000	353.500
Z	-1.496	-.267
Asymp. Sig. (2-tailed)	.135	.790

a. Grouping Variable: AGE

*Table 7: Test Statistics
(Source: Primary Data)*

Hypothesis 1

H_0 : Mean Scale Scores for Degree of Regulation is equal across Age.

H_1 : Mean Scale Scores for Degree of Regulation for at least 1 Age is not equal.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Degree of regulation = $0.135 > 0.05$. Thus, Null Hypothesis is accepted. Some Descriptive Statistics have been detailed below:

Report			
DEGREE OF REGULATION			
AGE	Mean	N	Std. Deviation
18 - 30	3.2116	63	.71417
31 - 43	3.5476	14	.74658
44 - 56	3.1795	13	.82345
57 and above	2.8667	10	.54885
Total	3.2200	100	.72817

*Table 7: Degree of Regulation
(Source: Primary Data)*

Hypothesis 2

H_0 : Mean Scale Scores for Perceived Benefits is equal across Age.

H_1 : Mean Scale Scores for Perceived Benefits for at least 1 Age is not equal.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived benefits = $0.790 > 0.05$. Thus, Null Hypothesis is accepted. Some Descriptive Statistics have been detailed below:

Report			
PERCEIVED BENEFITS			
AGE	Mean	N	Std. Deviation
18 - 30	3.6587	63	.90173
31 - 43	4.1071	14	.60219
44 - 56	3.1923	13	1.06142
57 and above	3.6500	10	.60323
Total	3.6600	100	.88515

*Table 8: Perceived Benefits
(Source: Primary Data)*

Grouping Variable: Gender

Non-parametric Tests for 2 Independent samples were conducted. The results for Mann- Whitney U Test were as follows:

Test Statistics^a		
	DEGREE OF REGULATION	PERCEIVED BENEFITS
Mann-Whitney U	1201.500	1131.000
Wilcoxon W	2854.500	2077.000
Z	-.169	-.662
Asymp. Sig. (2-tailed)	.866	.508

a. Grouping Variable: GENDER

*Table 9: Test Statistics
(Source: Primary Data)*

Hypothesis 3

H_0 : Mean Scale Scores for Degree of Regulation is equal among Genders.

H_1 : Mean Scale Scores for Degree of Regulation is not equal among Genders.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Degree of Regulation = $0.866 > 0.05$. Thus, Null Hypothesis is accepted.

Some Descriptive Statistics have been detailed below:

Report**DEGREE OF REGULATION**

GENDER	Mean	N	Std. Deviation
Male	3.2281	57	.80464
Female	3.2093	43	.62158
Total	3.2200	100	.72817

Table 10: Regulation
(Source: Primary Data)

Hypothesis 4

H_0 : Mean Scale Scores for Perceived Benefits is equal among Genders.

H_1 : Mean Scale Scores for Perceived Benefits is not equal among Genders.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived Benefits = $0.508 > 0.05$. Thus, Null Hypothesis is accepted.

Some Descriptive Statistics have been detailed below:

Report**PERCEIVED BENEFITS**

GENDER	Mean	N	Std. Deviation
Male	3.6842	57	.91555
Female	3.6279	43	.85282
Total	3.6600	100	.88515

Table 11: Perceived Benefits
(Source: Primary Data)

Grouping Variable: Occupation

Non-parametric Tests for k independent samples were conducted. The results for Kruskal- Wallis H Test were as follows:

Test Statistics^{a,b}		
	DEGREE OF REGULATION	PERCEIVED BENEFITS
Kruskal-Wallis H	8.416	.567
df	3	3
Asymp. Sig.	.038	.904
a. Kruskal Wallis Test		
b. Grouping Variable: OCCPTN		

Table 12: Test Statistics A,B
(Source: Primary Data)

Hypothesis 5

H_0 : Mean Scale Scores for Degree of Regulation is equal across Occupation.

H_1 : Mean Scale Scores for Degree of Regulation for at least 1 Occupation is not equal.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Degree of Regulation = $0.038 < 0.05$. Thus, Null Hypothesis is rejected at 5 per cent Level of Significance. Thus, we can conclude that the means for different Occupations is statistically different.

Descriptive Statistics have been detailed below:

Report**DEGREE OF REGULATION**

OCCPTN	Mean	N	Std. Deviation
Student	3.2111	60	.68606
Self Employed	3.4444	15	.90560
Employed	3.4615	13	.63155
Homemaker	2.7222	12	.60022
Total	3.2200	100	.72817

Table 13: Perceived Benefits Standard Deviation
(Source: Primary Data)

Hypothesis 6

H_0 : Mean Scale Scores for Perceived Benefits is equal across occupations.

H_1 : Mean Scale Scores for Perceived Benefits is not equal for at least one occupation.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived Benefits = $0.904 > 0.05$. Thus, Null Hypothesis is accepted.

Some Descriptive Statistics have been detailed below:

Report**PERCEIVED BENEFITS**

OCCPTN	Mean	N	Std. Deviation
Student	3.7125	60	.79966
Self Employed	3.5000	15	1.15341
Employed	3.7308	13	.97073
Homemaker	3.5208	12	.90741
Total	3.6600	100	.88515

Table 14: Perceived Benefits Standard Deviation
(Source: Primary Data)

Grouping Variable: Annual Personal Income

Non-parametric Tests for k independent samples were conducted. The results for Kruskal- Wallis H Test were as follows:

Test Statistics^{a,b}		
	DEGREE OF REGULATION	PERCEIVED BENEFITS
Kruskal-Wallis H	3.451	4.986
df	5	5
Asymp. Sig.	.631	.418

a. Kruskal Wallis Test**b. Grouping Variable: API**

Table 15: Degree of Regulation and Perceived Benefits
(Source: Primary Data)

Hypothesis 7

H_0 : Mean Scale Scores for Degree of regulation is equal for all levels of income.

H_1 : Mean Scale Scores for Degree of regulation is not equal for at least one level of income.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived Benefits = $0.631 > 0.05$. Thus, Null Hypothesis is accepted.

Some Descriptive Statistics have been detailed below:

Application Programming Interface (API)

Report			
DEGREE OF REGULATION			
API	Mean	N	Std. Deviation
Less than Rs.2,00,000	3.1739	23	.78412
Rs.2,00,000-Rs.5,00,000	3.3636	11	1.03767
Rs.5,00,001-Rs.10,00,000	3.2083	16	.54263
Rs.10,00,001-Rs.15,00,000	3.3333	7	.69389
Rs.15,00,001-Rs.20,00,000	3.4444	15	.74180
Rs.20,00,000 and above	3.0595	28	.64822
Total	3.2200	100	.72817

Table 16: Report of Degree of Regulation
(Source: Primary Data)

Hypothesis 8

H_0 : Mean Scale Scores for Perceived Benefits is equal for all levels of income.

H_1 : Mean Scale Scores for Perceived Benefits is not equal for at least one level of income.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived Benefits = $0.418 > 0.05$. Thus, Null Hypothesis is accepted.

Report			
PERCEIVED BENEFITS			
API	Mean	N	Std. Deviation
Less than Rs.2,00,000	3.5109	23	.93989
Rs.2,00,000-Rs.5,00,000	3.7500	11	.98742
Rs.5,00,001-Rs.10,00,000	3.3750	16	.91742
Rs.10,00,001-Rs.15,00,000	3.6071	7	.74801
Rs.15,00,001-Rs.20,00,000	3.8500	15	.93922
Rs.20,00,000 and above	3.8214	28	.79015
Total	3.6600	100	.88515

Table 17: Report of Perceived Benefits
(Source: Primary Data)

Grouping Variable: Purchase Consideration

'Have you ever considered purchasing a lab-grown diamond?'

Non-parametric Tests for 2 Independent samples were conducted. The results for Mann- Whitney U Test were as follows:

Test Statistics^a		
	DEGREE OF REGULATION	PERCEIVED BENEFITS
Mann-Whitney U	514.500	922.500
Wilcoxon W	2659.500	3067.500
Z	-4.550	-1.563
Asymp. Sig. (2-tailed)	<.001	.118

Table 18: Test Statistics A
(Source: Primary Data)

Hypothesis 9

H_0 : Mean Scale Scores for Degree of Regulation is equal for people who have considered buying lab-grown diamond.

H_1 : Mean Scale Scores for Degree of Regulation is not equal among people who have considered buying a lab-grown diamond.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Perceived Benefits = $0.001 < 0.05$. Thus, Null Hypothesis is rejected at 5 per cent Level of Significance. Thus, we can conclude that the means for people with different purchase considerations are statistically different.

Some Descriptive Statistics have been detailed below:

Report			
DEGREE OF REGULATION			
CONSIDER	Mean	N	Std. Deviation
Yes	3.6571	35	.58009
No	2.9846	65	.69330
Total	3.2200	100	.72817

*Table 19: Degree of Regulation
(Source: Primary Data)*

Hypothesis 10

H_0 : Mean Scale Scores for Perceived Benefits is equal among people who have considered buying a lab-grown diamond.

H_1 : Mean Scale Scores for Perceived Benefits is not equal among people who have considered buying a lab-grown diamond.

Interpretation: Since the Asymptotic Significance (p value) for the mean scale score of Degree of Regulation = $0.866 > 0.05$. Thus, Null Hypothesis is accepted.

Some Descriptive Statistics have been detailed below:

Report			
PERCEIVED BENEFITS			
CONSIDER	Mean	N	Std. Deviation
Yes	3.8429	35	.75995
No	3.5615	65	.93649
Total	3.6600	100	.88515

*Table 20: Report of Perceived Benefits
(Source: Primary Data)*

CONCLUSIONS

From the analysis undertaken in the preceding section, the following are certain key findings and takeaways:

1. Majority of the respondents are still apprehensive about lab-grown diamonds and have not considered using such an alternative.
2. From the data collected about people who consider purchasing lab-grown diamonds, we can conclude that they are majorly aware of the benefits that are associated with the use of the product. While among those who did not consider purchasing the product, there is a clear lack in knowledge dissemination about these benefits and the consumers need to be made aware of the benefits so that they start using such an alternative on a larger number.
3. Majority of the people, irrespective of whether they consider purchasing a lab grown diamond or not, find the economical appeal of the product and technology and quality as the most important factors towards adoption of the product. Factors like ethical considerations, options and customization and regulations from the government get a fair level of importance, which shows that the consumer values cost and the quality of the product over other factors. This shows which aspects of the product needs to be effectively marketed and focused upon by marketers.
4. People are mostly concerned about the resale value of a lab-grown diamond. Also, social, traditional, and cultural values act as an inhibitor as well. On a small scale, factors like durability of the product also makes the non-buyers apprehensive. Thus, these become few challenges that the product faces and the marketers need to communicate the solutions for the same.
5. Consumers demand a somewhat proactive role from the government as many believe that Government should promote the use of the product and the industry by implementing policies.

Limitations

Just like many other research papers, this paper is bound to have its limitations. The limitations of this study mostly pertain to the following points:

1. The time in which this research paper has been made is in no way justifiable to help address a problem of this magnitude. A more detailed and comprehensive study is necessary for quality results.
2. The sample size is one hundred which is quite small to understand the knowledge, attitude, and beliefs of consumers towards our study product.
3. Since the questionnaire was distributed mostly to friends and family, the responses have been of similar age groups, and thus, diversification of responses was an issue.
4. The study was conducted on the assumption that information provided by the people is true and correct.
5. Any fault in designing the questionnaire may have led to vague responses.

RECOMMENDATIONS

The scope for further research on this study can be in the following ways:

1. Firstly, this study focused only on one city of India, that too limitedly, and therefore, future research could explore the adoption and attitudes of consumers towards lab-grown diamond, providing a better and broad perspective.
2. The sample size should be larger and more diversified. This would enable to better understand differences across demographics and thus understanding their respective scope of development and improvements in the product and marketing strategies.
3. A better study and analysis of the ways in which the government could play an active role in implementation of the policies and figuring out ways in which these policies can be implemented for both, the buyers as well as for the seller. This

could also improve the economic appeal of the product.

4. Analysing the scope of technological development to enhance the quality of the product and to ensure that the makers are equipped with the best technology is also required to make sure that the consumers remain satisfied, while getting the best of services.

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Post COVID-19, women based MSMEs have also been able to utilize their flexible structures for imbibing innovations and strategies.

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Opportunities and Challenges in Women-led Micro, Small and Medium Enterprises - Generalizing a Strength, Weakness, Opportunity and Challenge Model

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ABSTRACT

Women-led Micro, Small and Medium Enterprises (MSMEs) are accelerating the pace of metamorphosis in the milieu of Entrepreneurship especially when talking in the light of the Indian context. Given, the archetypal scenario of Entrepreneurship prevailing in India, female businesses face considerable challenges coupled with opportunities for growth that has been provided and supported by government. Nevertheless, women-led MSMEs also has certain strengths and weakness, which can be an intriguing topic of deliberation. In this context, the current research would shed valuable light upon the various strength, weaknesses, opportunities and challenges that exist in the milieu of women-led MSMEs. An attempt has been made to capture the Strength, Weakness, Opportunity and Challenge (SWOC) of women-led MSMEs and generalize the framework. The model can also be useful for guiding future researches based on which an empirical study can also be done.

KEYWORDS: Entrepreneurship, Women-led MSMEs, SWOC, Model Framework.

INTRODUCTORY STATEMENTS

The Micro, Small and Medium Enterprises, commonly known as MSMEs forms the mainstay of the economic model of India and the fulcrum of the supply chain for essential products and services, which was introduced by the Government of India in agreement with the Micro, Small and Medium Enterprises Development Act of 2006. However, the need of the hour is to briefly deliberate about the quintessential roles of MSMEs which exist in providing large-scale employment, propelling the pace of industrialization in rural and other backward regions, besides stabilizing economy in terms of growth and leverage exports, encouraging inclusive growth, cheap labour and off course, the mission and promise of its signature initiative 'Make in India'.

As of September 2023, there exist a total of almost 640 lakh MSMEs in India, with more than 99 per cent of them (630.5 lakh) qualifying as micro-enterprises. A total of 3.3 lakh (0.5 per cent) businesses qualifies as

small businesses and just 0.05 lakh (0.01 per cent) businesses qualify as medium businesses. The rural regions comprises of almost 325 lakh business compared to that of urban regions which have businesses of 309 lakh enterprises. Indian MSMEs account for more than 90 per cent of India's total industry, contributing 45 per cent to industrial manufacturing, 40 per cent to national exports and 17 per cent in Gross Domestic Product (GDP). These representations of facts has a strong mention of MSMEs being the backbone of the Indian economy.

It can be opined that the landscape of India is fast going mercurial metamorphosis especially in the context of Entrepreneurship. Gone are those days of traditional orthodoxy and conservatism, particularly when talking in the light of women. This can be better related to the Ministry of Micro, Small and Medium Enterprises, which is hailed as the growth engine of India and the incubators of Entrepreneurship, emerging as the torchbearers of women empowerment and its historical launch of 'Udyam Sakshi' on the eve of International Women's Day 2018. 'Udyam Sakshi' is actually a network that nurtures social Entrepreneurship, establishing business models swirling around low-cost products and services for solving social inequities. It caters to over eight million Indian women who are engaged in their own businesses via its platform for stability, support and sustainability in Entrepreneurship. Furthermore, the pace of women Entrepreneurship has been escalated and fostered with bank initiatives like 'saving account benefits' and 'loan benefits' as well as prominent government schemes, most notable mentions are 'Pradhan Mantri Mudra Yojana', 'Pradhan Mantri Rozgar Yojana', 'Trade Related Entrepreneurship Assistance and Development (TREAD) Scheme', 'Annapurna Yojana', 'Udyogini Scheme' and 'Cent Kalyani Scheme'.

The seismic transition of traditional women dwelling only within the four walls of their house to the women of the contemporaneous era who churn out stories of unprecedented success, the uncanny emergence of women has been a topic of immense intrigue and passion. Strictly emphasizing in the milieu of Entrepreneurship, women have expanded their entrepreneurial horizons and ventured into an

unprecedented range of business areas. It can be argued that greater choices are available to women in the context of employment and this is the prime reason for the upheaval of women as professional, bureaucrats and other hotshots.

LITERATURE REVIEW

Encapsulating the entire available literatures in only a few lines or paragraphs is extremely arduous especially when the literature content of women Entrepreneurship in the circa of academia or research field is gargantuan and never ceasing. Nevertheless, the most pertinent studies in the ambit of women Entrepreneurship and women participation in MSMEs would be pruned out.

The number of women-owned MSMEs has dramatically skyrocketed by over 75 per cent in the Financial Year 2022, from 4.9 lakh units in the previous Financial Year 2021 to 8.59 lakh units in Financial Year 2022 (Sharma, 2022).

In India, women-lead businesses are only 20 per cent with 90 per cent of such businesses falling under the category of nano business, which basically employs less than two workers (Rao, 2022).

Financing gaps and unavailability of loans are the major challenges faced by women-led MSMEs, where females have found it gruelling to secure finances as they are viewed as non-productive by several financial institutions. According to International Finance Corporation (IFC), Indian women-owned enterprises face an alarming 70 per cent financing gap.

Lack of financial literacy among female aspirants coupled with little or no awareness regarding social and economic as well as entrepreneurial rights also add to the woes of women participation in MSMEs (Kalra, 2022).

Through an examination of detailed statistics, it is observed that the financial gap faced by women-led MSMEs are a whopping USD 158 million. So, for the purpose of increasing women's access to credit can potentially ensure high rate of female Entrepreneurship and bolster the economic output of India (Rao, 2022). It is noteworthy to mention that if awareness related to

existing government schemes like Mudra is increased, it will be a major boost to women entrepreneurs as they would better comprehend the intricacies of procuring finance. Post COVID-19, women based MSMEs have also been able to utilize their flexible structures for imbibing innovations and strategies. Adding to the GDP contribution and exports, India's performance in the context of women based MSMEs have been better than any other country in South Asia, which will be influential in driving economic growth in the future years.

Besides, digital literacy can also prove to be a game changer as they would enable women entrepreneurs to have a systematic access to platforms of digital lending. Moreover, poor knowledge in financial planning among women entrepreneurs is also seen as a potential factor which raises difficulty in acquiring and managing funds. So, finance management initiatives could assist women led businesses in efficient planning and evaluation (Amazon, 2022).

OBJECTIVES OF THE STUDY

The present research endeavour is purported towards meeting certain aims or objectives, which are:

1. To identify the potential opportunities and challenges which exist in the landscape of women-led MSMEs
2. To conduct a SWOC analysis which explores the strengths, weaknesses alongside opportunities and challenges faced by women-led MSMEs.

CONCEPTUAL FRAMEWORK

SWOC Analysis is actually a problem-solving and decision-making matrix used in the domain of 'Strategic Management'. It is useful in the research of both internal as well as external which impact the survival and growth of a company. Organizations generally use SWOC matrix or SWOC Analysis for the determination of strengths, weaknesses, opportunities and challenges they face or might face. SWOC is an amelioration over Strength, Weakness, Opportunity and Threat (SWOT) matrix or SWOT analysis. SWOT is basically an

examination of strengths, weaknesses, opportunities and threats. SWOT fails to emphasize upon challenges and pay attention to challenges. Threats and challenges are similar but different, which is primarily the rationale behind firms using SWOC.

There are two internal factors or variables in a SWOC analysis which are within the controllable limits of a company which are strengths and weaknesses. Strengths are the characteristics which are beneficial on part of the firm, weaknesses are aspects which cause company to struggle. There are also two external factors or variables in a SWOC analysis which are most of the times beyond the controllable limits of a company. They are opportunities and challenges. Opportunities are potential areas of growth for the firms, capitalizing on which the firm can be successful and profitable, while challenges are existing conundrums or problems which are already said to be existent in the firm. Generally, the factors of strengths and weaknesses assume the top two parallel factors in the SWOC model and are included in the category of internal factors, opportunities and challenges comprise the external factors and lie below.

The theoretical framework in the present research undertaking is to develop a SWOC model or framework for women-led MSMEs. The development of the conceptual framework has been done with the help of literature review through which we have identified the

potential strengths, weaknesses, opportunities and challenges pertaining to women-led MSMEs. The SWOC analysis for women-led MSMEs stand as follows:

Strengths: Escalation and Growth, Employment Generation, Economic Growth and Government Support

Weaknesses: Nano Entities, Infrastructure Deficiencies and Lack of Skilled Manpower

Opportunities: Awareness about Government Schemes, Skill Development Training and Innovations

Challenges: Financing Gaps, Unavailability of Loans and Lack of Financial Literacy

CONCLUSION

After the exit of the COVID-19 pandemic, India is on a role for switch of gears from being a consumer economy to a manufacturer economy. This provides a unique opportunity for MSMEs to grow and sustain. It also paves an exciting avenue for women-led MSMEs to make a smooth transition from nano entities to valuable brands. Hence a rock solid businesses for women entrepreneurs would be built on optimum utilization of all facilities from banks and governments, upgrading to digitalization and obviously being uncompromising and hard-nosed in chasing their entrepreneurial visions. It is a very interesting fact to note that India has in excess of seven million MSMEs, generating 120 million jobs, accounting for 33 per cent of India's GDP. Capitalizing on this vantage point, India can cash in to become a USD five trillion economy possibly in the next five years, and hence driving India's economic growth. Besides the ineluctable significance of MSMEs deliberated upon at the beginning, one of its most striking revelations has been its extended opportunities for the banks to banks for providing more credit. Hence, it becomes relevant on the part of the government to better address the prodigious impeccability of MSMEs by increasing its rate of registration in the country. This could be possible by the implementation of enhanced and flexible regulations and enabling banks to lend credit but a lesser interest rate. Karlapathi & Nanduri

<u>STRENGTHS</u> Escalation and Growth, Employment Generation, Economic Growth and Government Support	<u>WEAKNESSES</u> Nano Entities, Infrastructure Deficiencies and Lack of Skilled Manpower
<u>OPPORTUNITIES</u> Awareness about Government Schemes, Skill Development Training and Innovations	<u>CHALLENGES</u> Financing Gaps, Unavailability of Loans and Lack of Financial Literacy

*Figure 1: SWOC Framework for Women-led MSMEs in India
(Source: Author's Compilation)*

(2022), in their study highlighted the fact that the government with various NGOs (Non-Government Organisations) and social awareness enterprises have to focus more on factors like 'adequate training for women', potent information, special workshops and special support for NGOs and special initiatives organization'. Their study focused on women Entrepreneurship through the lens of financial inclusion. According to Kinara Capital (2024), it is expected that India would undergo a vibrant yet impactful paradigm shift in the near future as estimates suggest the likelihood of over 30 million women-owned businesses to provide 150–170 million jobs by the year 2030. This potentially may turn out to be a game-changer and make the economic outlook appear more promising.

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ESG score does have an impact on the financial performance of a company but the investors and stakeholders must focus that there exists positive as well as negative impact.

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Impact of ESG Score on Financial Performance of a Company:

A study on Companies under SENSEX

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ABSTRACT

Nowadays, investors in their investing decisions also consider the non-financial aspect, such as environmental, social and governance (ESG)

performance as a risk measurement. The objective of this study to determine the extent to which companies' adoption of ESG practices impacts the financial performance. The ESG score has been collected from the Standard and Poor (S&P) Global Database and the financial data of companies have been extracted from Accord Fintech Database. The data for the year 2022-23 has been used for the analysis. The variables which are used for measuring the financial performance are price/book value, debt to equity ratio, return on assets, return on equity and return on capital employed. For analysing the impact of ESG score on financial performance of company, correlation analysis of the variables, regression analysis and descriptive statistics are used. The results indicate that there is a positive relationship between the ESG score with the firm's return on asset but there is a negative relationship with price/book value, debt to equity ratio, return on equity and return on capital employed

KEYWORDS: Stock Exchange Sensitive Index (SENSEX), Environmental, Social, Governance.

INTRODUCTION

ESG score is a framework to create an estimate that can be quantified like a numeric score or a letter rating for the company in terms of the level of success in the environmental, social and corporate governance pursuits undertaken. ESG is built on three main considerations in which the most notable include Environmental (E), Social (S), and Governance (G). Each of them additionally consists of various sub-indicators which are taken into account so as to evaluate the organization's non-financial performance.

The arena of 'E' which broadens up this environmental factor draws upon all the activities of the entity with the corresponding reservations and opportunities that may arise from this activity. It is measured through use of environmental data or disclosures made by the organization which show their effect on biodiversity, efficiency of using natural resources, lesser amount of pollution or other greenhouse gas emissions, recycling and efficient use of electricity and water. The 'S' factor that encompasses the social factors examines how the entity deals with its stakeholders like employees,

customers, society at large, suppliers or other stakeholders. It does not only entail an equitable treatment to the employees but it also includes the gender parity, workplace safety, community relations, customer satisfaction and many others as well.

Moreover, 'G' factor or Governance factors are centred on emanating the policies so that they are compliant with the regulations and industry practices. It is the cornerstone on which any company is designed or assessed for. Among the three factors it is the most vital one. It endorses whether the organization is considered responsible, and treats all its stakeholders equally and fairly. Corporations are evaluated not only based on the amount and the quality of their disclosures but the degree of their compliance to both mandatory and voluntary directives.

LITERATURE REVIEW

Alex Edmans (2023) explored how the insights of mainstream economics can be applied to ESG, and once it realized that ESG is no different to other investments with financial and social returns in long run. It highlighted how the application of finance and economics principles significantly enhances the understanding of major ESG issues. Tensie Whelan, Ulrich Atz and Casey Clark (2022) explored the linkage between ESG and financial performance. They found a positive relationship between ESG and financial performance and focused on operational metric. Praveen Kumar and Mohammad Firoz (2022) explored the connection between corporate financial performance and ESG disclosures in the Indian context. The study found that there is a positive relationship between ESG disclosure scores and financial performance.

David Freiberg, Jean Rogers and George Serafim (2020) outlined the framework of how ESG issues become financially material, affecting the valuation and profitability. They found that due to dynamic nature of ESG disclosure, it is difficult to compare it with financial disclosure. Asep darmansyah and Raisa Almeyda (2019) explored about the influence of non-financial aspect on the financial performance by highlighting the company's ESG disclosure score. They found positive

correlation between ESG disclosure and financial performance. The results showed that a high transparency regarding ESG information could improve the financial performance. Rohmad Faud (2018): This study explored the factors that have an influence on the environmental disclosure and environmental performance. The study concluded that profitability, liquidity and leverage have a significant effect on environmental disclosures and performance.

OBJECTIVES OF THE STUDY

1. To determine the extent to which companies' adoption of ESG practices has affected financial performance or indicators.
2. To support and ease the decision-making process for all parties involved, particularly for investors eager to make wise investments in Indian businesses.

SOURCE OF DATA COLLECTION

Secondary sources of data have been used in the study. The ESG score has been collected from the Standards and Poor Global Database, published in 2023. The financial data relating to the sample period, of SENSEX companies have been extracted from Accord Fintech Database.

SAMPLE SIZE

A sample of all 30 SENSEX companies is selected for the study. The Sensex is the benchmark stock index which depicts 30 of the country's biggest and most well-capitalized stocks listed on the Bombay Stock Exchange.

PERIOD OF STUDY

The data for the year 2022-23 has been used for the analysis carried out to ascertain the link between the underlying variables.

METHOD OF DATA ANALYSIS

For analyzing the impact of ESG score on financial performance of company, correlation analysis of the variables, regression analysis and descriptive statistics are used.

VARIABLES USED

The variables which are used for the study are:

1. ESG Score 2023: ESG score is a framework to create an estimate that can be quantified like a numeric score or a letter rating for the company in terms of the level of success in the environmental, social and corporate governance pursuits undertaken. The ESG score has been collected from the S&P Global Database, published in 2023. The range of score may be zero to hundred depending upon the qualitative and quantitative efforts made by the companies on ESG front.
2. Price/Book Value (Price/BV): This ratio is a financial metric that investors use to assess a company's stock valuation. It is calculated by dividing the market price per share by the book value per share. It can be used to assess whether a stock is undervalued or a good investment.
3. Debt to Equity Ratio (Debt to Equity): This ratio is used to evaluate a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholder equity. It is an important metric in corporate finance, as it measures how much a company is financing its operations with debt instead of its own resources.
4. Return on Assets (per cent): It is a financial ratio that measures how efficiently a company's management uses its assets to generate profit. It is calculated by dividing a company's net income by its average total assets, which is the sum of the current period's ending assets and the previous period's ending assets divided by two. It is expressed as a percentage, with a higher number indicating a more efficient management team.
5. Return on Equity (per cent): It is a financial ratio that measures how well a company uses its

shareholders' money. It is calculated by dividing a company's net income by its shareholders' equity, and is expressed as a percentage. It is often used to compare a company's profitability with its direct competition and/or companies in other industry sectors.

6. Return on Capital Employed (per cent): It is a financial metric that measures a company's profitability and capital efficiency. It is calculated by dividing a company's earnings before interest and taxes (EBIT) by its capital employed. Capital employed is calculated by adding shareholder's equity and total debt. It often used by investors to analyse a company before making an investment as it indicates efficiency of capital utilization.

acknowledgement of non- financial factors. The maximum ESG score observed is 75 while the lowest being at 26.

The observed standard deviation is of 17.933 which indicates variability in the scores across companies. The negative kurtosis of -1.457 indicates that the distribution of scores is relatively flat as compared to a normal distribution. The skewness of ESG scores is -0.118, which indicates a slight leftward tail in the distribution. Most companies cluster around the middle scores. The range of ESG score is 60.

The mean of Price/ Book Value is observed to be 7.54 with a standard deviation of 13.07 indicating a considerable spread. The maximum observed value is 72.56 while the minimum being at 1.07. The positive skewness of 4.547 indicates a right-skewed distribution. Most companies have lower Price/BV ratios, but there are outliers with very high ratios. The kurtosis value is 22.659, suggesting a heavy-tailed distribution. The range of the data is 71.490.

The companies have Debt to Equity ratio of around 2.03 on average with a standard deviation of 3.363. Also, some companies have no debt at all which is indicated by the minimum value of zero. The positive skewness implies that more companies have higher debt relative to their equity. The range of the data is 13.94.

The average Return on Assets is approximately 9.67 per cent. There is a significant variability which is indicated by the values ranging from 0.77 per cent to over 30.65 per cent. The range is given as 29.88 per cent. The positive skewness indicates that most companies have lower return rates, but there are outliers with exceptionally high returns.

The average Return on Equity is 20.363 per cent with a standard deviation of 15.66 per cent. The maximum and minimum values being 96.75 per cent and 5.22 per cent respectively which gives the range as 91.53 per cent. Similar to return on assets, positive skewness

DATA ANALYSIS AND INTERPRETATION

	ESG Score 2023	Price/BV (X)	Debt to Equity (X)	Return on Assets	Return on Equity	Return on Capital Employed
Mean	54.900	7.538	2.030	9.671	20.363	22.301
Standard Error	3.274	2.387	0.614	1.423	3.077	2.730
Median	57.500	3.855	0.610	7.145	15.660	16.480
Mode	75.000	72.560	0.000	30.650	96.750	9.940
Standard Deviation	17.933	13.075	3.363	7.795	16.853	14.953
Sample Variance	321.610	170.962	11.311	60.765	284.036	223.582
Kurtosis	-1.457	22.659	4.736	1.171	14.928	2.812
Skewness	-0.118	4.547	2.188	1.239	3.491	1.823
Range	60.000	71.490	13.940	29.880	91.530	56.730
Minimum	26.000	1.070	0.000	0.770	5.220	9.310
Maximum	86.000	72.560	13.940	30.650	96.750	66.040

Table 1: Summary of Descriptive Statistics
(Source: Primary Data)

The Table 1 given above shows the descriptive statistics of research variables used in the analysis. The value of mean, median, mode, standard deviation, kurtosis, skewness, range, minimum and maximum are presented for selected variables.

The mean ESG score is 54.9 which indicates towards an adequate performance is exercised by the businesses on ESG front. This also points towards the attitude of Indian companies towards the gain in importance and

suggests outliers with exceptionally high return on equity values.

The average Return on Capital Employed is about 22.301 per cent with a standard deviation of 14.953 per cent. The maximum and minimum values being 66.04 per cent and 9.31 per cent respectively which gives the range as 56.73 per cent. The positive skewness indicates the variability in the values.

	ESG Score 2023	Price/B V (X)	Debt to Equity (X)	Return on Assets	Return on Equity	Return on Capital Employed
ESG Score 2023	1					
Price/BV (X)	-0.26937	1				
Debt to Equity (X)	-0.26992	-0.2242	1			
Return on Assets	0.142837	0.6153	-0.57649	1		
Return on Equity	-0.26427	0.92688	-0.2271	0.761566	1	
Return on Capital Employed	-0.02603	0.7331	-0.37845	0.92987	0.863373	1

Table 2: Correlation Matrix of Variables
(Source: Primary Data)

The above data table, Table 2 represents a correlation matrix for various financial metrics and their relationship with the ESG score. Each cell in the matrix contains a numerical value that indicates the strength and direction of the correlation between two variables. Let's break down each metric:

1. Price/BV (Price-to-Book Value Ratio): This ratio compares a company's stock price to its book value (net asset value). The negative correlation with the ESG score which is indicated by correlation coefficient of -0.26937. It suggests that companies with higher ESG scores tend to have lower Price/BV ratios. The table also shows that there is a very strong positive correlation with return on assets, return on equity and return on capital employed.
2. Debt to Equity: Some companies have no debt and have the value of zero. The negative correlation with the ESG score which is indicated by the correlation coefficient of -0.26992. It implies that companies with better ESG practices tend to have lower debt relative to equity. The table also shows that there is a negative correlation with price/ book value, return on assets, return on equity and return on capital employed.
3. Return on Assets: It measures a company's profitability relative to its total assets. There is not a strong correlation with the ESG score as the correlation coefficient is given as 0.142837. There is a weak but positive correlation between ESG score and Return on Assets. It implies that companies with high ESG score may also have high Return on Assets. The table also shows that there is a positive correlation with price/ book value, return on equity and return on capital employed.
4. Return on Equity: It assesses a company's profitability from shareholders' equity. There is a positive correlation with the ESG score which is indicated by the correlation coefficient of 0.92688, it implies that there is a very strong positive correlation. Also, it suggests that companies with better ESG practices tend to have higher return on equity. The table also shows that there is a positive correlation with price/ book value, return on asset and return on capital employed.
5. Return on Capital Employed: It evaluates profitability from both equity and debt capital. There is no strong correlation with the ESG score which is indicated by the given correlation coefficient of -0.02603. The table also shows that there is a positive correlation with price/ book value, return on equity and return on assets.

Dependent Variable- Price/BV

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.269373583							
R Square	0.072562127							
Adjusted R Square	0.039439346							
Standard Error	12.81481232							
Observations	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	359.7557236	359.756	2.1907	0.150011015			
Residual	28	4598.143613	164.219					
Total	29	4957.899337						
	Coefficients	Standard Error	t Stat	P-value	Lower 95	Upper 95	Lower 95.0	Upper 95.0
Intercept	18.31998617	7.651340691	2.39435	0.02359	2.646925253	33.99304708	2.646925253	33.99304708
ESG Score 2023	-0.196399262	0.132693071	-1.4801	0.15001	-0.468208697	0.075410173	-0.468208697	0.075410173

Table 3: Results of Linear Regression
(Source: Primary Data)

ESG Score coefficient is given as -0.1963. For every one unit increase in the ESG Score, the price by book value decreases by approximately 0.1963 units when holding other variables constant. The p-value for ESG Score is 0.150 suggesting that this variable is not statistically significant at a 95 per cent confidence level.

Dependent Variable- Debt to Equity

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.269922132							
R Square	0.072857957							
Adjusted R Square	0.039745742							
Standard Error	3.295609469							
Observations	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	23.89792706	23.8979	2.20033	0.149150695			
Residual	28	304.1091696	10.861					
Total	29	328.0070967						
	Coefficients	Standard Error	t Stat	P-value	Lower 95	Upper 95	Lower 95.0	Upper 95.0
Intercept	4.808666088	1.967709726	2.44379	0.02109	0.777995433	8.839336743	0.777995433	8.839336743
ESG Score 2023	-0.050619297	0.034124928	-1.48335	0.14915	-0.120521043	0.019282448	-0.120521043	0.019282448

Table 4: Results of Linear Regression
(Source: Primary Data)

ESG Score coefficient for is -0.0506. Which means for every one-point increase in ESG Score, the debt-to-equity value decreases by approximately 0.0506 units, assuming all other variables remain constant. The p-value associated with ESG Score is 0.149, which is greater than the common significance level of 0.05. Therefore, ESG Score might not be a reliable predictor in this model.

Dependent Variable- Return on Assets

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.142837348							
R Square	0.020402508							
Adjusted R Square	-0.014583117							
Standard Error	7.851842873							
Observations	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	35.9531647	35.9532	0.58317	0.451460304			
Residual	28	1726.240222	61.6514					
Total	29	1762.193387						
	Coefficients	Standard Error	t Stat	P-value	Lower 95	Upper 95	Lower 95.0	Upper 95.0
Intercept	6.262059893	4.688100253	1.33574	0.19239	-3.341078147	15.86519793	-3.341078147	15.86519793
ESG Score 2023	0.062087555	0.081303192	0.76365	0.45146	-0.104454484	0.228629594	-0.104454484	0.228629594

*Table 5: Results of Linear Regression
(Source: Primary Data)*

ESG Score coefficient is 0.06208. Which means that for each one unit increase in ESG Score, the return on asset value increases by approximately 0.06208 units, assuming all other variables remain constant. The p-value is given as 0.0451 which suggests that this variable is marginally significant at a five per cent significance level.

Dependent Variable- Return on Equity

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.26427177							
R Square	0.069839568							
Adjusted R Square	0.036619553							
Standard Error	16.54192109							
Observations	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	575.2724902	575.272	2.10233	0.158184382			
Residual	28	7661.784296	273.635					
Total	29	8237.056787						
	Coefficients	Standard Error	t Stat	P-value	Lower 95	Upper 95	Lower 95.0	Upper 95.0
Intercept	33.99735276	9.876685731	3.44218	0.00183	13.76587917	54.22882635	13.76587917	54.22882635
ESG Score 2023	-0.248354938	0.171286029	-1.44994	0.15818	-0.599218463	0.102508587	-0.599218463	0.102508587

*Table 6: Results of Linear Regression
(Source: Primary Data)*

ESG Score coefficient is -0.2483. Which means for every one-point increase in ESG Score, the return on equity value decreases by approximately 0.248 units, assuming all other variables remain constant. The p-value associated is 0.15818, which is greater than the common significance level of 0.05. Therefore, ESG Score will not be a reliable predictor in this model.

Dependent Variable- Return on Capital Employed

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.026029601							
R Square	0.00067754							
Adjusted R Square	-0.035012548							
Standard Error	15.21217874							
Observations	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	4.393091525	4.39309	0.01898	0.891398473			
Residual	28	6479.490695	231.41					
Total	29	6483.883787						
	Coefficients	Standard Error	t Stat	P-value	Lower 95	Upper 95	Lower 95.0	Upper 95.0
Intercept	23.49216507	9.08273639	2.58646	0.01519	4.887022985	42.09730716	4.887022985	42.09730716
ESG Score 2023	-0.021703068	0.157516994	-0.13778	0.8914	-0.344362003	0.300955868	-0.344362003	0.300955868

Table 7: Results of Linear Regression
(Source: Primary Data)

The coefficient for ESG Score is -0.0217. Which means for every one -increase in ESG Score, the return on capital employed value decreases by approximately 0.0217 units, assuming all other variables remain constant. The p-value associated is 0.8914, which is higher than the common significance level of 0.05. Therefore, ESG Score will not be a reliable predictor in this model.

CONCLUSION

In summary, the study examined the impact of ESG scores on the financial performance of Indian companies through a variety of analytical techniques, such as regression and correlation analysis between distinct financial indicators. The following conclusions can be made from it:

The average ESG scores achieved 54.9 which indicates that most of the companies have a good ESG score and there has been an increased focus on ESG disclosures.

ESG Scores are not very strongly correlated with the financial factors undertaken in this study. There is a

weak positive correlation with Return on Assets. All the other factors are negatively correlated with the ESG scores.

Similarly result of regression analysis shows that increase in ESG scores will have a positive impact on the value of Return on asset but will have a negative impact on the value of price/book value, debt to equity, ratio return on equity and return on capital employed.

Therefore, ESG score does have an impact on the financial performance of a company but the investors and stakeholders must focus that there exists positive as well as negative impact. The study has its importance for different stakeholders, but is not comprehensive enough to throw light on all minute aspects of ESG related issues.

ANNEXURE

The following section contains the tabulated form of company name, ESG Score, return on asset, return on equity, return on capital employed, Debt to equity ratio and Price / Book value of BSE SENSEX companies.

COMPANY	INDUSTRY	ESG Score 2023	Price/BV (X)	Debt to Equity (X)	Return on Assets	Return on Equity	Return on Capital Employed
ASIAN PAINTS	PAINTS	64	18.47	0.00	16.76	26.32	36.38
AXIS BANK	BANKING	47	2.29	8.86	0.77	8.42	9.31
BAJAJ FINANCE	FINANCE	33	8.65	1.21	4.16	21.39	11.82
BAJAJ FINSERV	FINANCE	34	5.07	2.23	6.08	26.61	19.75
BHARTI AIRTEL	TELECOM	70	5.81	2.01	7.44	15.87	15.71
HCL TECHNOLOGIES	SOFTWARE	64	4.28	0.00	16.52	22.79	29.58
HDFC BANK	BANKING	57	4.36	7.35	1.83	16.04	15.21
HUL	FMCG	76	11.19	0.00	14.03	20.24	26.83
ICICI BANK	BANKING	39	3.15	6.46	1.72	15.88	15.26
INDUSIND BANK	BANKING	55	1.99	7.02	1.58	13.47	13.07
INFOSYS	SOFTWARE	74	9.14	0.00	19.63	32.32	45.14
ITC	FOOD & TOBACCO	71	5.82	0.00	22.84	28.53	38.03
JSW STEEL	STEEL	75	2.44	0.89	5.23	6.34	9.94
KOTAK MAHINDRA BANK	BANKING	48	3.36	3.65	2.47	13.28	13.85
L&T	ENGINEERING	34	2.97	0.71	6.85	14.17	17.85
M&M	AUTOMOBILES	70	2.24	1.02	8.43	20.32	17.94
MARUTI SUZUKI	AUTOMOBILES	38	4.10	0.00	9.96	13.25	17.04
NESTLE(dec)	FOOD & TOBACCO	27	72.56	0.00	28.40	96.75	66.04
NTPC	POWER	41	1.07	1.11	6.75	12.39	11.28
POWER GRID	POWER	37	1.77	1.38	9.56	18.55	13.87
RELIANCE IND.	ENERGY	33	2.16	0.32	5.75	10.32	12.58
SBI	BANKING	37	1.52	13.94	0.93	15.45	12.48
SUN PHARMA	PHARMACEUTICALS	68	4.13	0.00	11.34	15.33	17.14
TATA MOTORS	AUTOMOBILES	64	3.61	2.02	3.78	5.22	9.94
TATA STEEL	STEEL	71	1.34	0.51	5.11	7.83	15.92
TCS	SOFTWARE	58	13.66	0.00	30.65	46.74	63.77
TECH MAHINDRA	SOFTWARE	86	4.85	0.00	11.15	15.26	20.53
TITAN	RETAILING	26	17.27	0.00	13.25	27.54	40.07
ULTRATECH CEMENT	CEMENT	75	3.42	0.11	6.61	9.52	13.84
WIPRO	SOFTWARE	75	3.44	0.09	10.54	14.74	18.85

Table 8: Annexure
(Source: Primary Data)

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The existing condition of market instability and the ambiguity encompassing its future trajectory are a matter of serious concern for investors.

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A Study of the Relationship between the Volatility Index and the NIFTY Indices

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ABSTRACT

The existing condition of market instability and the ambiguity encompassing its future trajectory are causing concern among most investors. Although forecasting the stock market's returns can be difficult, there exist established models that can aid in predicting the volatility of these returns. Market

indices have been developed to forecast the perceived volatility of the stock market over a specific period by capturing the fluctuations in stock price volatility. One of these indices is the Volatility Index (VIX).

This comprehensive research aims to identify and interpret the correlation between India VIX and various NIFTY indices, such as Nifty 50, Nifty Midcap 100, and others. It also explores the interrelationships among these indices and assesses the effectiveness of India VIX as a risk management tool for Indian investors in making investment decisions. Although numerous research papers have examined the factors influencing India VIX and its relationship with NIFTY using methods like Granger causality tests, regression, Vector autoregression (VAR), and Autoregressive conditional heteroskedasticity (ARCH) models, none have specifically tested the correlation between different NIFTY indices and India VIX.

For the analysis, daily data from five consecutive years (2019 - 2024) for the selected indices were collected and analysed from secondary sources, including published studies on India VIX, NSE records of NIFTY Indices and India VIX, as well as relevant journals and papers. Additionally, several hypothesis tests were conducted, and scatter plot charts were created to facilitate the analysis. Ultimately, this study provides guidance on testing the correlation between NIFTY indices and the VIX index, which was found to be negative. It also offers insights on how investors can use the VIX index to predict future market volatility and incorporate it into their investment strategies.

KEYWORDS: VIX index, Nifty 50, Hypothesis Testing, Risk management, Correlation, Volatility.

INTRODUCTION

The pace at which a security's price rises or falls for a particular set of returns is known as volatility. It is determined by computing the standard deviation of the annualized returns over a specified time period and represents the risk related to the fluctuating price of the security. India VIX, also known as India Volatility Index, is a measure of market sentiment towards potential volatility and fluctuations in the short term, calculated

by the National Stock Exchange. There is a direct correlation between the value of the India VIX and volatility; that is, larger values correspond to higher levels of volatility. Further, India VIX is also used for risk assessment, option pricing, hedging, as well as market timing by different analysts and investors. It helps businesses to take proactive measures and lessen the impact of unfavourable market swings.

Typically, variance or standard deviation are used to quantify volatility. In either scenario, the returns or prices are more erratic the larger the value. In other words, a high standard deviation figure indicates that prices are dispersed over a large range. On the other hand, a low standard deviation number suggests that prices are tightly distributed within a small range. Rapid price fluctuations in either direction is regarded as volatility in the context of the stock market. Consequently, a large standard deviation figure indicates the ability for prices to fluctuate dynamically.

India's financial landscape is navigated using the National Stock Exchange's (Nifty 50) list of the top 50 firms as a compass. The Nifty 50 index is owned and managed by NSE Indices, a fully-owned subsidiary of the NSE Strategic Investment Corporation Limited. One of Nifty's several stock indices, the Nifty 50 index, was first released on April 22, 1996. The index can be viewed as a miniature version of the Indian economy, encompassing a variety of industries such as consumer goods, IT, and finance.

Replicating the characteristics and performance of the small-cap segment of the financial market is the aim of the Nifty Small-cap 100 Index. As of September 29, 2023, the Nifty Small-cap 100 Index, which consists of one hundred publicly traded trading companies, accounts for about five per cent of the market capitalization of NSE-listed equities in free float.

Delving into the Nifty Midcap 150, the Nifty Midcap 100 functions as a precise instrument, concentrating on the top 100 prominent entities among India's mid-sized corporations. Encompassing various sectors such as financials, IT, and consumer goods, it meticulously handpicks the most significant mid-cap entities based on market capitalization. The fundamental aim of the NIFTY Midcap 100 Index is to capture the variations

and serve as a benchmark for the midcap sector of the market.

Thus, in the light of the foregoing, this study seeks to identify and interpret the correlation between India VIX and different NIFTY Indices using different statistical tools and further examine the performance of VIX as a risk management tool. For the said objectives, various secondary sources have been employed, including published studies on India VIX, NSE records of NIFTY Indices and India VIX. Daily data for five subsequent years (2019 - 2024) of the chosen indices have been collected and analysed.

LITERATURE REVIEW

Mall et. al (2014) analysed how the implied volatility index (India VIX) is affected by a number of factors, including foreign direct investment (FFI) in India, Nifty and S&P returns, and US market volatility. According to the research results, in addition to FPI investments, Nifty returns, S&P returns, and so on, the implied volatility index is also influenced by the CBOE VIX. Interestingly, this analysis found that increased FPI investment resulted in a decrease in volatility rather than an increase upon the debut of FPIs in India. The study sheds light on the variables influencing market volatility in India by providing insightful information about the relationship between the India VIX and NIFTY returns. Further, Thenmozhi and Chandra (2013) examined the relationship between India VIX and Nifty list returns through the implementation of Johanson's co-integration and Granger causality methodologies. The significance of VIX return and index return causality serves as a crucial factor in forecasting, providing insights for policymakers on effectively utilizing India VIX for risk management strategies. Previous studies have focused on analysing the behaviour of India VIX over time and its correlation with diverse equity portfolio returns. This study inspected the time-series properties of VIX and the connections among VIX and returns of the Nifty indexes for the period 2010 - 2013. Past examinations show proof of a negative relationship between VIX and Nifty return.

Bantwa (2017) in his research study studied the correlation between the NIFTY and VIX, to show

whether VIX acts as a good predictor for the stock market NIFTY. They observed that VIX acts as a risk management tool in calculating the future direction of stock movements. A key observation was that the Indian VIX and NIFTY had a significant relationship. When the market was moving down the correlation between NIFTY and VIX increased and while the market was moving up, the contrary. One strategy discussed was the shift from mid-cap assets to high-cap assets when the market is going up and shifting from high-cap assets to mid-cap assets when the market is going down. Mehta & David (2019) explored into the correlation between Indian VIX and two commodity pricing: Oil and Gold. The study spans over a horizon of 10 years using the Generalized AutoRegressive Conditional Heteroskedasticity (GARCH) methodology. The research showed that gold has an inverse impact while oil has a direct impact. Nevertheless, the impact was minute. The major finding was the persistent nature of VIX. The observations so drawn could aid investors' understanding of Gold and Crude Oil as proxies to measure risk so as to provide safeguarding against wrong assumptions and anchoring bias.

RESEARCH METHODOLOGY

The research design of this paper is explanatory and descriptive in nature. This is because the paper seeks to determine whether an association exists between the VIX of the Indian market and NIFTY Indices. The study is conducted based on the percentage change of monthly prices of three indices that have been selected for this study based on judgment. The study primarily uses secondary sources of information which include, published studies on India VIX, NSE records of NIFTY Indices and India VIX, and journals and papers regarding the same. Daily data for five subsequent years (2019 - 2024) of the chosen indices have been collected and analysed. The method of sampling used is Judgement Sampling. Using this non-probability sampling method, the researcher chooses which units to sample based on his prior information or expert judgment. For this study, 55 listed Indices were processed through our judgment, and three indices have been chosen among them.

DATA ANALYSIS

1. Quantitative Data Analysis

To gain a foundational understanding, the analysis begins by examining the price trends and movements of the five chosen indices over the period 2019-2024. Nifty 50 saw a gain of more than 88 per cent over the course of these five years, beginning 2019 at 11,665 and ending at 21,982 in 2024. The Indian stock markets have often increased by double digits between budgets over the past five years. The benchmark Nifty 50 increased by 26 per cent between the Union Budget 2021 and Budget 2022, even as global stocks underperformed due to obstacles like rising commodity prices, the conflict between Russia and Ukraine, tensions between China and Taiwan, and

2024. The India VIX experienced a spike in March 2020, peaking at 65.54 points. This was mainly ascribed to the COVID-19 pandemic, which swept throughout the world and fuelled significant pessimism and volatility in the Indian market.

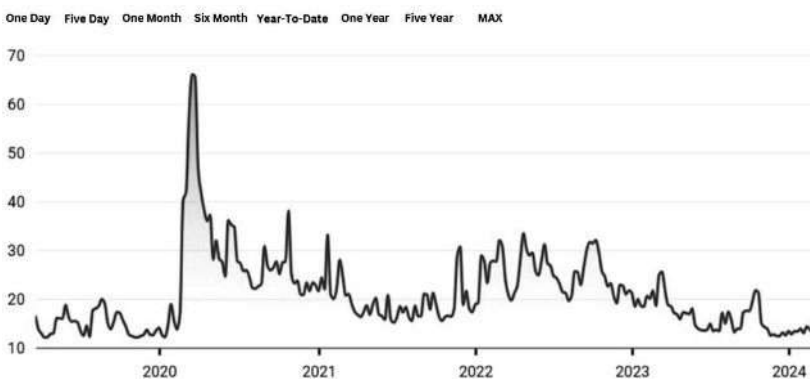


Figure 2: VIX Index Movement (2019 - 2024)
(Source: Primary Data)

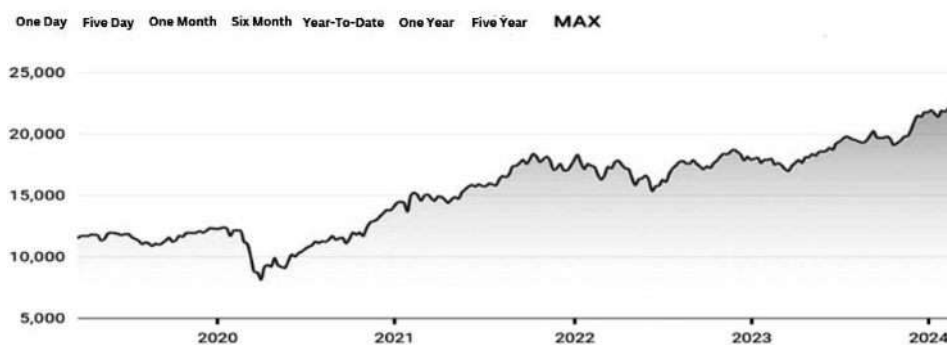


Figure 1: Nifty 50 Movement (2019 - 2024)
(Source: Primary Data)

extremely high inflation.

Secondly, examining the trends in VIX prices in India. It is evident that the price volatility of the VIX is significantly higher. It began at a peak of 18.05 in 2019 and finished at a low of 15.57 in

Looking at Nifty Midcap 100, this index has also similar to Nifty 50 and has increased during the last five years. It started 2019 at 18,333 points and ended at 48,335 in 2024, giving over 163 per cent increase in returns. Mirroring the Nifty 50's performance, the Nifty Midcap 100 has experienced significant growth over the past five years. Having begun 2019

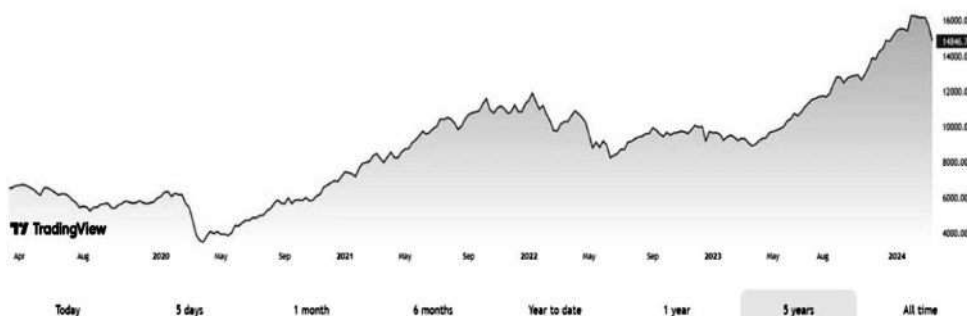


Figure 3: Nifty Midcap 100 Movement (2019-2024)
(Source: Trading View)

at 18,333 points, the index closed 2024 at 48,335, translating to a remarkable return of over 163 per cent.

Looking at the Nifty Small-cap 100, which is a reflective of the behaviour and performance of small capitalized sector of the market, it started at 6737 points in 2019 and ended at 15976.2 points in 2024. Nifty Small-cap 100 grew significantly and gave returns over 137 per cent in the last five years.

In the following illustration depicts the percentage changes of all four variables – the NIFTY 50, Midcap 100, Small-cap 100, and the India VIX – over the five years from 2019 to 2024. A clear distinction is evident: the VIX exhibits significantly higher volatility compared to the three NIFTY indices. Among the NIFTY indices themselves, the NIFTY 50 displays the least volatility.

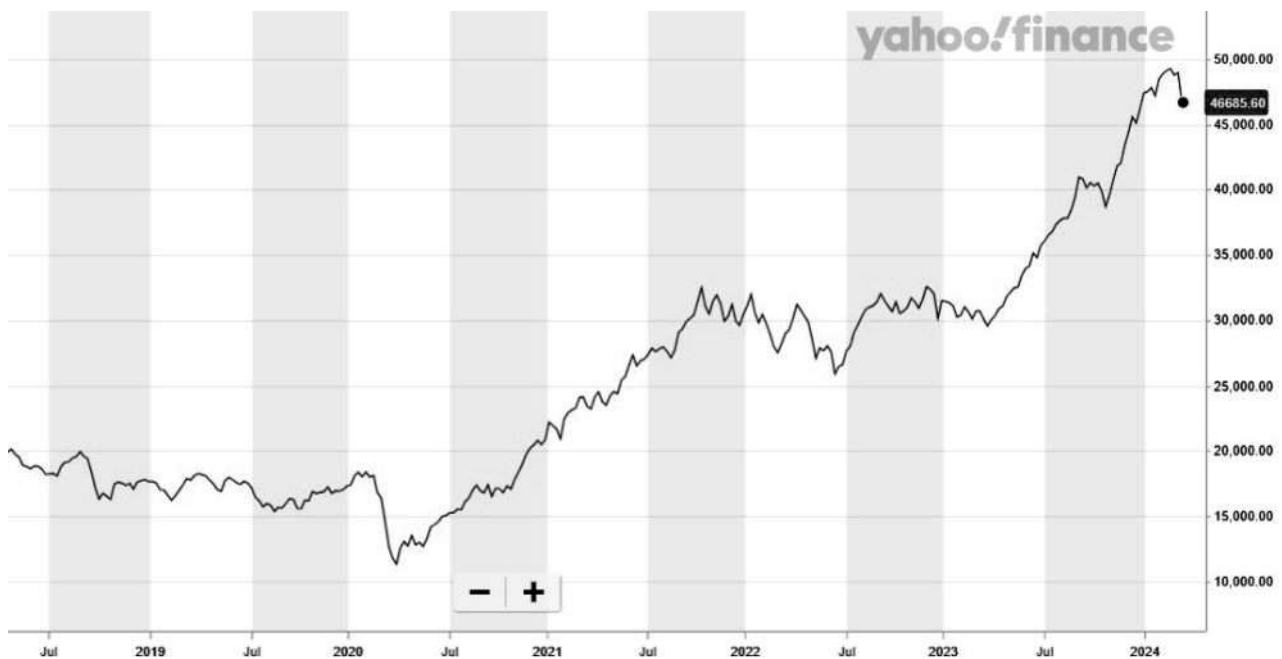


Figure 4: Nifty Small-cap 100 Movement (2019-2024)
(Source: Primary Data)

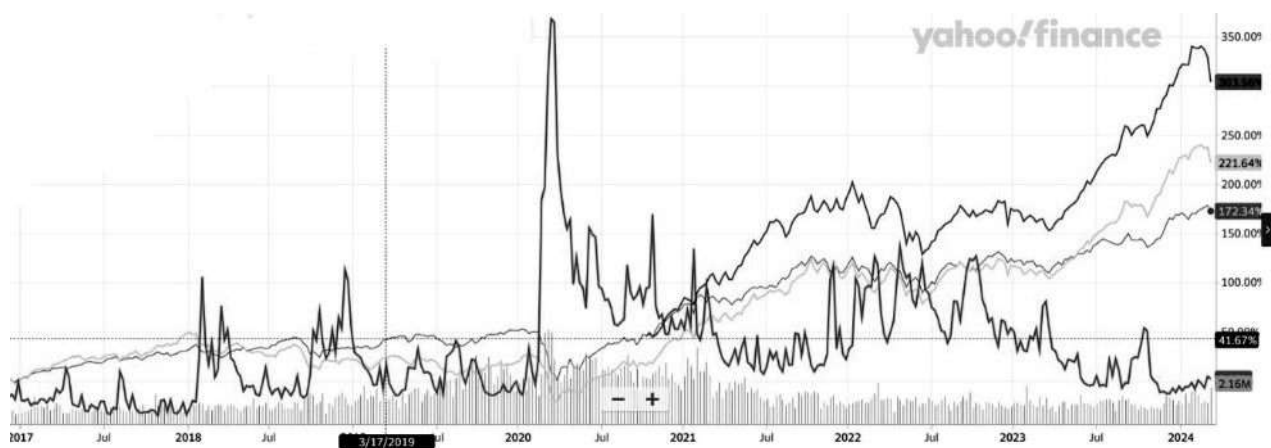


Figure 5: Comparison Among the Four Indices
(Source: Yahoo Finance)

The chart exhibits an inverse relationship between Nifty 50 and the India VIX throughout the examined period. This confirms established market principles, where heightened volatility, as measured by the VIX, frequently coincides with a decline in investor sentiment. This negative sentiment can manifest as risk aversion, leading to decreased trading activity and potentially lower trading volume.

2. Normality of Data Sets

To facilitate a deeper understanding of the four variables examined over the chosen period (2019-2024), a table summarizing their basic statistical characteristics has been presented below.

Statistical tools	VIX per cent change	Nifty50 per cent change	Nifty Midcap 100 per cent change	Nifty Small-cap 100 per cent change
Mean	0.12	-0.08	-0.12	-0.20
Median	-0.43	-0.01	-0.01	-0.08
Maximum	30.79	9.31	12.96	11.99
Standard Deviation	5.34	0.97	1.13	1.16
Skewness	1.27	0.76	0.85	0.27
Kurtosis	6.19	15.05	17.55	12.99
No. of Observations	1216	1216	1216	1216

Table 1: Statistical Characterization
(Source: Author's Own Source)

3. Correlation Test

The next stage involves investigating the correlation between India VIX and three Nifty indices under consideration, to determine whether a positive or negative relationship exists between these variables.

Column1	VIX per cent Change	Nifty Small-cap 100 Change	Nifty Midcap 100 Change	Nifty50 Change
VIX per cent change	1.00			
Nifty Smallcap100 per cent change	-0.33	1.00		
Nifty Midcap 100 per cent change	-0.35	0.91	1.00	
Nifty 50 per cent change	-0.36	0.74	0.82	1.00

Table 2: Correlation Table
(Source: Author's Own Source)

Starting with the 1st Hypothesis,

H_0 : Correlation between the VIX and NIFTY 50 does not exist.

H_1 : Correlation between the VIX and NIFTY 50 does exist.

As per the correlation matrix given above, the correlation between VIX per cent change and NIFTY 50 per cent change is -0.36 which clearly rejects the null hypothesis. Even a scatter plot has been shown below which shows a downward sloping pattern and indicates a negative correlation between the two variables. Thus, we reject H_0 and accept H_1 , i.e., a significant correlation between VIX and Nifty 50 does exist.

Moving on, the 2nd Hypothesis states:

H_0 : Correlation between the VIX and NIFTY Small-cap 100 does not exist

H_1 : Correlation between the VIX and NIFTY Small-cap 100 does exist.

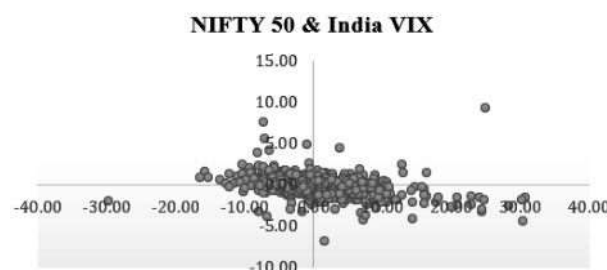


Figure 6: Correlation between the VIX and NIFTY 50
(Source: Primary Data)

The provided correlation matrix suggests a negative association in the changes of VIX and the Nifty SmallCap 100. While the coefficient of -0.33 is slightly weaker than the correlation observed between the VIX and the Nifty 50, it still indicates a statistically

significant relationship. The accompanying scatter plot visually reinforces this negative association, with a downward sloping trend supporting the conclusions drawn from the correlation coefficient.

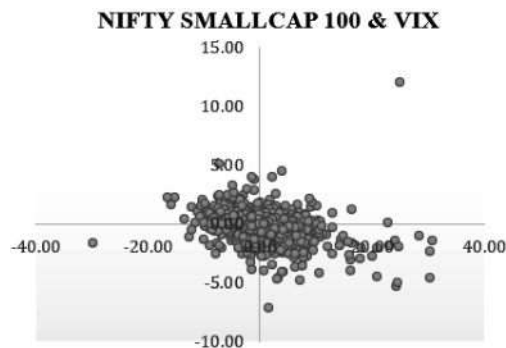


Figure 7: Correlation between the VIX and NIFTY Small-cap 100
(Source: Primary Data)

For the third hypothesis,

H_0 : Correlation between the VIX and NIFTY Mid-cap 100 does not exist

H_1 : Correlation between the VIX and NIFTY Mid-cap 100 does exist.

As per the correlation matrix given above, the correlation between VIX per cent change and NIFTY Midcap 100 per cent change is -0.35 which clearly rejects the null hypothesis. This chart bears a strong resemblance to a scatterplot comparing the Nifty 50 and the India VIX.

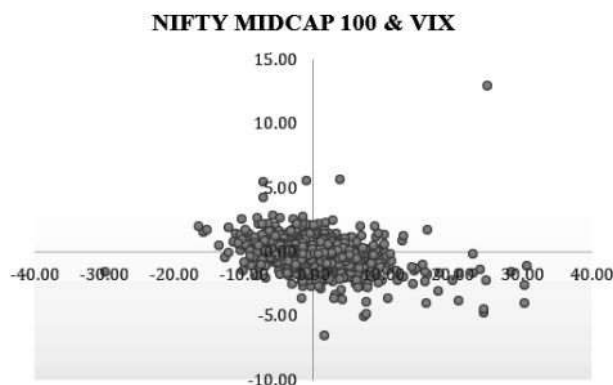


Figure 8: Correlation between the VIX and NIFTY Mid-cap 100
(Source: Primary Data)

Thus, we reject H_0 and accept H_1 , i.e., a significant correlation between VIX and Nifty Mid-cap 100 exists.

Conclusion from the test:

While the research analysis demonstrates a negative correlation of the three Nifty indices and the India VIX, statistically significant correlations are typically considered to be those with a coefficient of -0.65 or stronger, according to established practices among statisticians and equity analysts. Nevertheless, the economic significance remains clear: rising volatility often coincides with increased uncertainty, potentially leading to stock price declines, and vice versa. A thorough analysis using five years of daily data was conducted to examine the historical performance of the employed indices and their correlation.

4. VIX as a Tool of Risk Management

This section elucidates the possible uses of the Volatility Index within the realm of the stock market. Past studies and the data examination in the preceding section unequivocally revealed a negative correlation between stock market returns and the implied volatility index.

A market volatility index typically provides an estimate of perceived uncertainty about the future, reflecting pessimism and volatility among investors in the short term. It also provides information on standards of market volatility that can be useful in the creation of derivative market products such as volatility index-based futures, options, and variance swaps. Because it is dependent on a continuously liquid market, which guarantees its long-term stability, the India VIX—which is generated from the extremely liquid CNX Nifty index—makes an excellent choice for a market volatility indicator.

An average inverse correlation is found between Nifty returns and variations in India VIX levels, according to the analysis that was done. The link between India VIX and Nifty returns is clearly asymmetrical. However, the returns of the two indices fluctuate on their own at times of notable market upswings. This feature of the VIX highlights its potential as a powerful tool for risk management. During market downturns, derivative

instruments based on the volatility index can successfully protect portfolios from erosion.

CONCLUSION

The existing condition of market instability and the ambiguity encompassing its future trajectory are a matter of serious concern for investors. Although forecasting the stock market's returns can be difficult, there exist established models that can aid in predicting the volatility of these returns. Market indices have been developed to forecast the perceived volatility of the stock market over a specific period by capturing the fluctuations in stock price volatility.

This study sought to explore the relationship between the Indian VIX and various NIFTY Indices in the market, with the objective of determining whether the VIX can inform the creation of effective market strategies. Given the importance of volatility in financial markets, this study tried to clarify how knowledge of the VIX might turn volatility from a possible threat to a useful tool for market players. Results indicated that the Indian VIX is a leading indicator in the market and that it has a significant impact on the movements of all of the NIFTY Indices that we looked at, save NIFTY 50. Moreover, the investigation explored the links between several NIFTY indices and the VIX, identifying if these interactions were varied or uniform.

Thus, given the importance in this realm of study, this research proposed to shed light on the dynamic interactions between the VIX and NIFTY and establish a framework for further research in this area as and when new information and courses of action become available.

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Brand loyalty and engagement are increased when companies can leverage Artificial Intelligence-driven data.

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Artificial Intelligence-Powered Customer Experiences: Navigating the Impact of User-Generated Content on Brand Image

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ABSTRACT

Technologies based on artificial intelligence (AI) are becoming more and more essential to our daily lives because they lay the groundwork for novel value propositions and unique consumer experiences. AI is essential for

providing improved customer experiences, which improve brand distinctiveness and the engagement between consumers and brands. This study discusses how customer experience and AI technology interact with user-generated content. It seeks to draw attention to the growing influence of user-generated content on how consumers perceive brands and the part AI plays in handling, analyzing, and utilizing this content to improve brand perception.

This study also explores the dynamic link that exists between AI technologies and user-generated content highlighting the significant influence that user-generated content has on brand image in the current digital environment. The application of AI-driven personalization techniques for customized customer experiences, the creation of proactive engagement strategies to build stronger relationships with customers, and the use of sentiment analysis algorithms to measure customer sentiment are central to this study. This study employs an interdisciplinary methodology to offer practical recommendations for businesses looking to optimize their brand image in the digital era.

KEYWORDS: Artificial Intelligence, User-Generated Content, Brand Image, Customer Perceptions.

INTRODUCTION

Artificial intelligence, characterized by machines that emulate human intelligence, has made its way into many parts of customer-facing interactions, giving businesses unparalleled potential to understand, engage, and satisfy their customers. AI's impact on customers is complex, ranging from tailored suggestions to seamless communication via virtual assistants, and it continues to reshape market dynamics. All marketing efforts rely on segmenting target audiences. Today, the combination of AI and predictive analytics may add a significant level of 'smartness' to digital marketing. By using this approach, companies may provide a more customized offer to their clients, forging a special, personal connection that would be challenging to forge without AI.

AI is no longer a fictional concept. There is a reason why, ever since Open AI's Chat Generative Pre-trained

Transformer (GPT) launched in November 2022, AI in customer experience has been a popular topic of conversation. It improves user experience and fosters innovation in a wide range of industries and businesses. An Accenture report claims that by 2035, AI will boost business profitability by 38 per cent. Not only Chat-GPT, but chat-bots for customer service and personal assistants like Alexa and Siri have also gained popularity in recent years. These generative AI solutions have the ability to deliver tailored marketing, client experiences, and services, which is what makes them exciting.

The current situation of AI in the market includes AI-powered chat bots being frequently used in customer service, informational support, routine inquiry handling, and problem solving. Due to AI's reliance on data, privacy and data security issues have gained attention. Businesses are actively tackling the difficulty of striking a balance between guaranteeing privacy compliance and using client data for personalization. Further, businesses are teaming up to pool resources and experience in AI development that includes joint ventures, industry-specific alliances, and tech company collaborations, so as to take advantage of AI technologies. It is thus imperative to acknowledge the dynamic nature of the AI market, and that there may have been changes since my previous update. It is advised to consult recent market reports, industry news, and updates from pertinent sources for the most up-to-date information.

AI and its role in customer experience and branding is a rapidly expanding field with significant implications for many aspects of life, including customer encounters. Exploring this realm would allow one to keep up with industry trends, which is important for workers in business development, marketing, and technology professions. Thus, in the light of the foregoing, this study aims to analyze the impact of Brand Perception Management and thereby explore into the means of optimizing Customer Engagement. The exploratory and descriptive study also seeks to delve into real-time fraud detection and prevention, in this realm.

LITERATURE REVIEW

The use of AI by the consumers in the market in India has garnered attention from several researchers and experts in the field. Several studies and publications have explored the potential implications of AI technology on consumer behavior and branding.

Balakrishnan et al. (2020) at McKinsey Analytics reported that 50 per cent of enterprises have adopted AI in at least one of their business functions, and 75 per cent of the enterprises that are using AI demonstrated 10 per cent rise in customer experience (Stancombe, 2017). Superior power of AI is its ability to learn from large datasets (Davenport et al., 2020; Shah and Shay, 2019). Enterprises expect 99 per cent return on investment (Return On Investment) from AI implementation in the next five years and 187 per cent in the next 10 years (Teradata, 2017). Further, a report by De Bruyn et al., (2020) examined the potential benefits and drawbacks of AI in marketing from the perspectives of knowledge transmission and creation. The way buyers and sellers transact in the marketplace is changing fundamentally as a result of marketers and consumers embracing AI services and applications at the same time and redefining marketing management and customer experience (Marinchak et al., 2018a). A report by Forbes (2017) stated that an IBM study found outperforming companies more ready to adopt AI for marketing. Additionally, they are more likely to think that AI is developed enough to be commercially viable and that the technology will be significant for the future of their company. AI is generating new value chains, new types of rivalry, and innovative methods of global economic coordination. AI is transforming a new economy, not simply technology.

RESEARCH METHODOLOGY

This analysis is furthered using a combination of primary and secondary sources to gather data and pursue with a study that is exploratory and descriptive in nature.

Primary data was collected using a questionnaire prepared using Google Forms and circulated amongst a diversified group of audience encompassing individuals from different professional and economic backgrounds,

age groups, and gender, yielding 135 responses. The survey was designed to capture information on the various components that impact the consumer's use of AI and its preference towards branding. The survey was administered electronically, and the responses were collected and analyzed using analytical methods, like percentages, graphs and charts.

In addition to the primary data, secondary data was also collected from various websites, including articles, online resources, company websites and academic articles. Secondary data was used to supplement the primary data, provide additional context and insights into the technology industry in India and understand how technology is redefining brand loyalty in India.

1. Analysis and Findings

a. Demographic Profile of Respondents

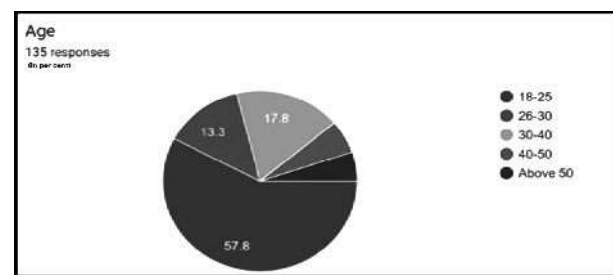
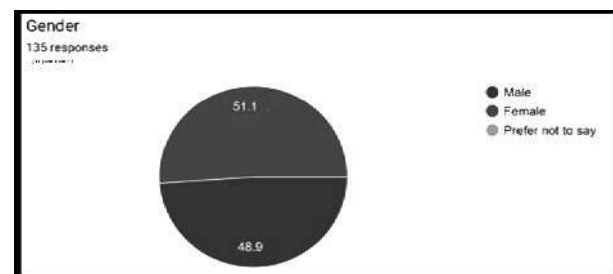


Figure 1: Age of Respondents
(Source: Primary Data)



2: Gender of Respondents
(Source: Primary Data)

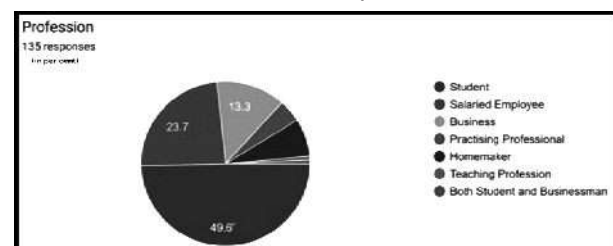


Figure 3: Profession of Respondents
(Source: Primary Data)

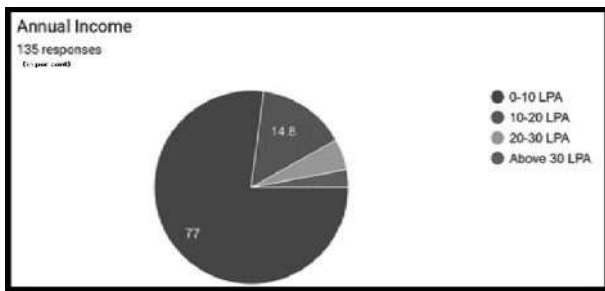


Figure 4: Annual Income of Respondents
(Source: Primary Data)

2. Research Findings

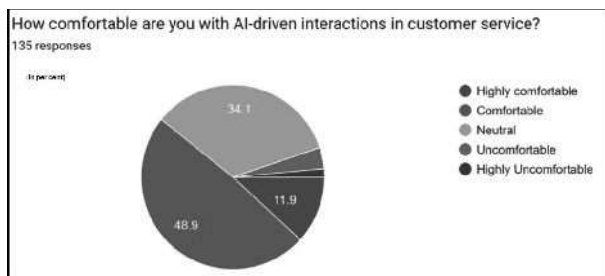


Figure 5: Observation 1- Comfortability with AI-Driven Techniques
(Source: Primary Data)

11.9 per cent of the customers are highly comfortable in using AI-driven techniques, 48.9 per cent of the consumers are comfortable with the AI-interactions. 1.5 per cent of the respondents are highly uncomfortable and 3.7 per cent are uncomfortable. The elderly people who are in the age bracket of 40 and above are mostly uncomfortable with the interactions made by AI. While 34.1 per cent of the respondents are Neutral to the AI-driven experiences stating that they are neither comfortable nor uncomfortable with these interactions. Therefore, it is observed that the majority

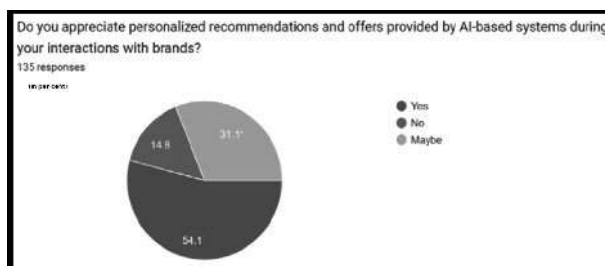


Figure 6: Observation 2- Personalized Recommendations and Offerings through Brands
(Source: Primary Data)

of the people or the generation-z are mostly comfortable with the new technologies being enabled in the customer services while others are still not that comfortable with these new emerging technologies.

Majority of the respondents i.e., 54.1 per cent appreciated personalized recommendations and offers provided to them during their interactions with brands, while 14.8 per cent of the consumers did not appreciate this interaction as they might be uncomfortable with these techniques. 31.1 per cent of the respondents were not sure with these suggestions and recommendations. These are those people who were neither comfortable nor uncomfortable with these new techniques of interactions. It can be interpreted that there are some people who still lack the clarity which is the reason why they are being indifferent with personalized suggestions and recommendations. By analyzing vast amounts of client data and seeing patterns and trends, AI can assist firms in developing targeted marketing messages. Customer demographics, past purchases, browsing patterns, social media activity, and other information can all be included in this data. Marketers understand that what draws in and holds the attention of an audience is creativity. They also understand that the key to turning a prospect into a client is personalization—that is, sending the appropriate message to the right person at the right moment.

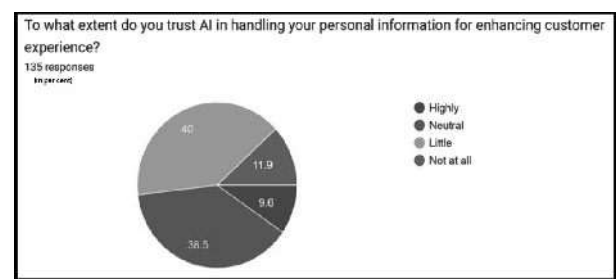


Figure 7: Observation 3- Trustworthiness towards Personal Information
(Source: Primary Data)

Around 40 per cent of the consumers were little comfortable with sharing their personal data to the brands with such AI-techniques, 9.6 per cent of the people were very much comfortable in sharing their personal information and other crucial information

with the brands showing their utmost trust in AI whereas 11.9 per cent of the consumers did not trust AI in handling their personal data with respect to customer experience. 38.5 per cent of the respondents were neutral i.e., they neither trust the technology completely nor do they rely completely on them for handling their personal information. It can be interpreted that lack of trust among the consumers regarding the use of AI can impact the brand's image. Trustworthiness still has to be curated among the consumers for their personal data handling, ensuring that their data is kept safe and secured with AI.



Figure 8: Observation 4- Purchasing Power Decisions
(Source: Primary Data)

48.9 per cent of the respondents agreed to the fact that AI-driven content and recommendations do influence their purchasing decisions, 5.2 per cent strongly agreed that it affects their purchasing decisions, 11.9 per cent of the respondents disagreed with the fact that AI driven suggestions do not affect their buying behavior. While 4.4 per cent strongly disagreed with this fact, 29.6 per cent of the consumers were neutral i.e., they neither agree nor disagree with this fact. It can be interpreted that most of the consumers like the suggestions and recommendations given by AI on various brands and its features, while the other half are neutral to the fact that such recommendations can or cannot help them in their buying decisions.

44.4 per cent of the respondents agreed to the fact that enhancement of brands through AI has positively impacted customer experience with 14.8 per cent agreeing with this fact, 5.9 per cent of the consumers were highly dissatisfied with the implementation of AI on brands suggesting its negative impact on the customer experience. 15.6 per cent of the people were uncertain on whether it has positively impacted or

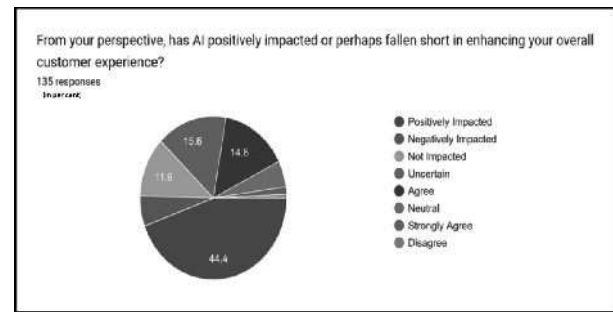


Figure 9: Observation 5- Impact of AI on Overall Customer Experience
(Source: Primary Data)

negatively impacted their overall customer satisfaction whereas 11.9 per cent of the consumers stated that it did not create any impact on their overall experience with the brands. It can be interpreted that AI for sure has created a positive impact on the minds of the consumers. However, there are still many consumers who are uncertain about this creation in the long run.

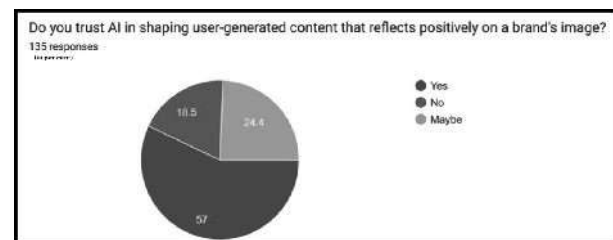


Figure 10: Observation 6- Reflection of User-Generated Content and Its Positive Impact on the Image of a Brand
(Source: Primary Data)

57 per cent of the population agreed that they trust AI in shaping user-generated content that helps a brand in reflecting its positive image, 18.5 per cent of the respondents disagreed with this statement whereas 24.4 per cent of the people who participated in the survey were not sure about the trustworthiness of the user-generated content. It can be interpreted that the majority of the respondents were in favor of the fact that the user-generated content through AI has created a positive brand image. The people who were not in favor of this statement still do not believe that AI can help create a positive image of various brands. The rest of them were still doubtful whether they should trust AI in generating content and whether it can enhance the brand's image positively or not.

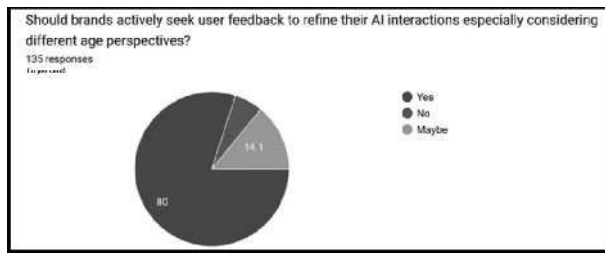


Figure 11: Observation 7- Seeking Customer Feedback while Considering Different Age Groups
(Source: Primary Data)

Majority of the respondents (80 per cent) were in favor of active user feedback from the customers to refine their interactions through AI with regards to various age groups. Only 5.9 per cent of them did not agree to the fact of active user feedback whereas 14.1 per cent of the people who participated in the questionnaire were not sure whether the brands should actively seek feedback from customers to refine the AI mechanism considering different age perspectives. It can be interpreted that the majority population feels that active feedback from the consumers of different age groups can help brands re-define their AI strategies and enhance better interactions with the consumers. There are still a few respondents who feel that this feedback might not be helpful for the interactions keeping in mind the various age categories. The 'maybe' respondents are still confused whether these feedback responses will help enhance customer engagement or they will remove these interactions through AI.

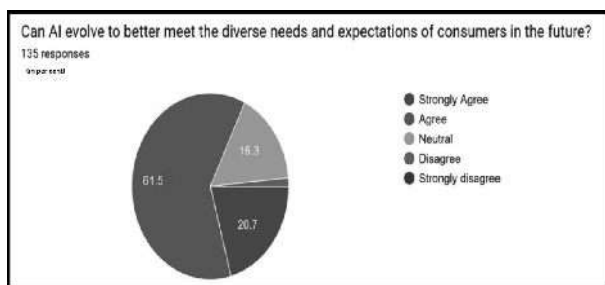


Figure 12: Observation 8- Evolution of AI to Meet the Needs and Preferences of the Consumers in the Future
(Source: Primary Data)

61.5 per cent of the respondents agreed that AI will evolve better to meet the expectations of the consumers in the future, 20.7 per cent of them strongly

agreed that it will definitely meet the needs and wants in the future. 1.5 per cent disagreed with the fact that AI will not evolve to meet the diverse needs and preferences in the future while 16.3 per cent of them were neutral about this fact. It can be interpreted that there are two sides to the growing trend of AI and hyper-personalized offerings. By providing customized experiences and taking feedback that cater to each customer's requirements and preferences, such as personalized product recommendations and customer care, AI enables businesses to forge closer bonds with their clients. It is clear that if AI develops quickly, businesses will face both opportunities and challenges. Brands that prioritize their client's demands and improve personalization in response to those needs will find success in the long run. The people who disagreed with this fact could mostly be those elderly people for whom these technological advancements are a new thing and who still prefer traditional methods of branding and customer needs and preferences.

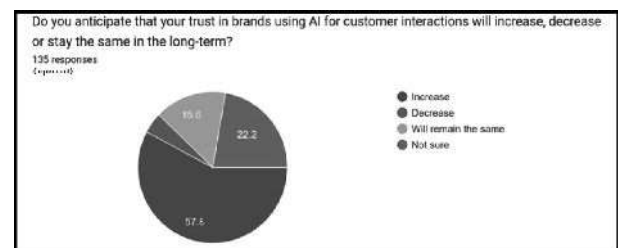


Figure 13: Observation 9- Anticipation of AI in the Long Run
(Source: Primary Data)

57.8 per cent of the respondents feel that their trust in brands using AI for customer interactions will increase in the future, 15.6 per cent of them feel that it will stay the same i.e., it will neither increase nor decrease in the long run, while only 4.4 per cent of them believe that the trust on brands using AI will decrease in the long-term. 22.2 per cent of the respondents are not sure on whether the customer interaction of the brands through AI will increase, decrease or stay the same in the long run. It can be interpreted that the majority of the people do trust AI for its excellent customer interactions through brands and they feel that their trust will increase in the long run. The people who disagreed with this fact feel that their trust in brands will decrease

in the future when certain information is disclosed to AI. These 4.4 per cent of the respondents could be in the age bracket of 40 and above as they feel that their information might not be safe with brands using AI for their customer engagement.

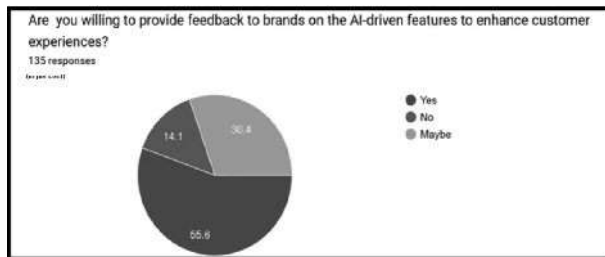


Figure 14: Observation 10- Willingness of Customers to Provide Feedback to Brands using AI
(Source: Primary Data)

55.6 per cent of the respondents agreed that they are willing to provide feedback to brands for their better experiences with the products or services rendered, 14.1 per cent of the consumers are not willing to provide feedback to the brands using AI while 30.4 per cent of them can or cannot provide the feedback. It can be interpreted from the above data that most of the consumers are willing to provide feedback to brands on the AI-driven content for better customer engagement. These are those people who want to increase their customer experience with the brands in the future with the help of AI. Still among these respondents are those who do not know whether providing feedback to the brands will help them in experiencing better customer satisfaction with the help of AI. The people who disagree with this feel that sharing feedback to the brands will create no change in their customer experience with AI and it might also create trust issues with the brands.

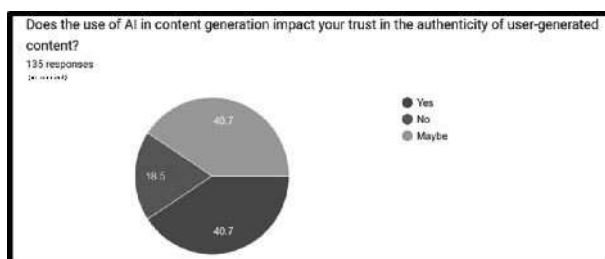


Figure 15: Observation 11- Trust in the Authenticity of User-Generated Content
(Source: Primary Data)

40.7 per cent of the respondents agreed that AI in content generation do impact their trust in the authenticity of user-generated content, 18.5 per cent of them feel that it does not impact their trust in the brands using user-generated content while 40.7 per cent of them again are not sure whether the AI in content generation impact their trust or not. It was expected that many people would trust AI on content generation by the brands for their user-content for the brands but the opposite response was found. Many people yet do not trust AI for its authenticity and feel that it is not safe in user-generated content. This result can have a huge impact on brands using AI for content generation and with this they might even lose their customers in the long-run as well. The rest of them are not sure whether they should trust brands using AI or not to meet their own needs and preferences. The influence of AI on trust regarding user-generated content is contingent upon multiple aspects, such as the degree of transparency in the AI's engagement, the context in which it is employed, and the users' understanding of AI's role in content development. Transparency can help sustain confidence if brands explicitly state that AI is used in content creation and users are aware of this. Users could modify their expectations correspondingly. The people who do not trust AI is because of the fact that when AI is utilized to produce false or misleading content, trust may be jeopardized. Users may become less trusting of user-generated content if they are not aware that AI is involved in the dissemination of false information.

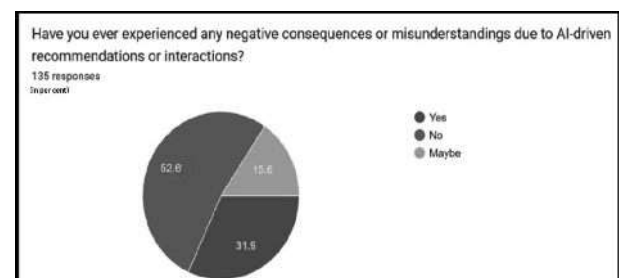


Figure 16: Observation 12- Misunderstandings due to AI-Driven Interactions
(Source: Primary Data)

52.6 per cent of the consumers who participated in the survey have never experienced any negative consequences with respect to AI-driven

recommendations through brands, 31.9 per cent of them have faced issues with AI and 15.6 per cent might have faced some consequences with them. It can be interpreted that the majority of them have not faced any issues with brands using AI and it is a good sign for brands in the future. Those who have faced negative issues are because AI models may read context or user input incorrectly, leading to suggestions or responses that fall short of what the user expects. Particularly in intricate or dynamic situations, AI systems may produce unexpected behavior or unanticipated effects.

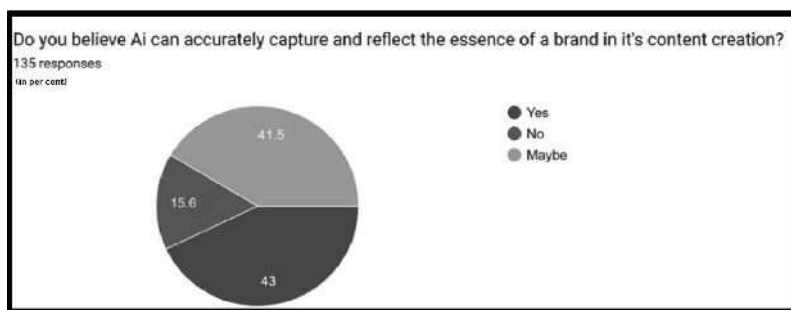


Figure 17: Observation 13- AI's Reflection on Brands using Content Creation
(Source: Primary Data)

43 per cent of the respondents agreed to the fact that AI can accurately capture and reflect the essence of a brand in its content creation, 15.6 per cent of them do not agree with this whereas 41.5 per cent of them were dicy in this context. It can be interpreted that those who believe in this may help brands improve their user-generated content for its positive image and brand building. Though the degree of effectiveness varies on a number of circumstances, AI has the capacity to effectively capture and reflect key features of a brand in its content creation. The ones who neither believe nor disbelieve need to be the target of the brands for their attraction. AI may be educated to follow brand standards if they are explicit about the brand's identity, values, tone, and style. Accurately capturing the essence is aided by the AI when brand expectations are communicated clearly. Brands should modify their AI guidelines and make sure that consumers believe in AI generated content in the future.

CONCLUSION

AI plays a big part in consumer behavior because it makes tailored experiences, predictive analytics, and simplified customer service possible. Brand loyalty and engagement are increased when companies can leverage AI-driven data to better understand consumer preferences and adjust marketing campaigns. In addition, chatbots and virtual assistants driven by AI enhance customer support and brand reach. In the future, AI will divide audiences according to their interests, habits, and preferences, making it easier to create hyper-personalized marketing campaigns. By distributing messages and offers to distinct custom categories, brands can enhance the efficacy and pertinence of their marketing endeavors. Customization strengthens the bonds between brands and customers, increasing engagement and conversion rates. By examining social media exchanges, user reviews, news stories, and other online content resources, AI will assist brands in keeping an eye on and managing their online reputation.

AI-powered solutions will help brands remain ahead of the competition by offering insights about rival activity and market trends.

But as consumers struggle with the trade-off between personalized service and the security of their personal data, this dependence on AI also brings up privacy and data security concerns. However, there is no denying that AI has had a profoundly disruptive effect on consumer branding overall, changing how firms interact with and serve their audience in a digital context that is changing quickly. In order to retain consumer trust as AI develops further, organizations must place a high priority on security, ethics in data utilization, and transparency. After reviewing all the responses from the questionnaire, it was observed that the potential for transforming the consumer experience through the incorporation of AI into branding strategies is immense, providing a preview of a future in which businesses will be able to effortlessly adjust to the unique tastes, requirements, and behaviors of each individual.

AI's involvement in branding is expected to develop, grow, and become increasingly complex as we look to the future. Customers, brands, and AI will all work together to shape the environment in which technology and people meet. Data analysis using generative AI can improve understanding of consumer behavior and preferences. It enables marketers to adjust their approaches appropriately. Personalized advice, focused advertising, and interactive experiences are made possible by technology and connect with consumers on a deeper level. We are about to enter a time where customization will go beyond accepted conventions. AI will enable hyper-personalized experiences in which each interaction, goods and service will be catered to the particular tastes, habits, and expectations of each person. AI of the future will comprehend emotions in addition to customer behavior. By creating stories, experiences, and interactions that emotionally connect with consumers, brands will use AI to build stronger emotional bonds and brand loyalty. Brands will be able to anticipate demands and adjust tactics in real-time by using AI to acquire greater insights into consumer behavior and preferences. To successfully traverse this changing world, consumers and brands must prioritize ethical considerations concerning data protection, bias mitigation, and transparency, especially in light of the rising dependence on AI. Brands that can capitalize on AI's analytical abilities while respecting the innate human desire for connection, genuineness, and moral involvement have the potential to leave a lasting impression on the ever-changing environment of the future.

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Audit committee independence is linked to higher audit quality and transparency in financial disclosures.

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A Study Report of the Audit Practitioner's Perspective on the Effect of Auditors' Independence on Earnings Manipulations

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ABSTRACT

In a world and an era where the concept of individual independence is extremely necessary for a society to function fairly and smoothly, how would the case turn up to be if the mirror of the company, i.e., its financial statements are operated by individuals who do not enjoy 100 per cent independence? Not necessarily all frauds are illegal. There is a term given to a lower level of fraud or is sometimes not considered as fraud according to various rules and regulations in the auditing field earnings management. Though quite a controversial topic, the individuals who operate the financial statements of a company, i.e., the auditors, sometimes sacrifice a small part of their free will and independence to commit the lower level fraud of earnings management.

This research looks into the impact of the independence of auditors on earnings manipulation and investigates how the independent nature of an auditor influences the practice of manipulating financial statements. To make this study a success, the approach of using solely primary data has been adopted. For this, an online survey was conducted by drafting a questionnaire with the Likert 5-point scale and circulating it among the people belonging to the area of work where they are directly exposed to the current situation of auditor's independence and the practices of manipulating financial records in various organizations of the country. Such people include Chartered Accountants, Cost Accountants, CA, and CMA finalist students, and academicians expertising in Audit. The data gathered is then analyzed with the help of various graphs and statistical analysis tools to arrive at satisfactory and valid conclusions. The study have found out that the Auditors have themselves acknowledged in practising earnings management and have cites factors like audit fees and non-audit services (NAS) as the main impetus for committing the manipulations.

KEYWORDS: Earnings Manipulation, Audit fees, Non Audit Fess, Auditors' Independence.

INTRODUCTION

The literature now in publication defines earnings management as a method that management uses to artificially manipulate a company's profitability, mainly through non-cash activities. Such actions are bound to prevent shareholders from getting a good understanding of the company's financial situation, and it is the call of duty of the auditors to disclose such mishaps.

It is notwithstanding that there is an excellent possibility that such minor tampering is overseen by the auditor lacking independence and will undertake an audit that is partial to the client. One characteristic of demonstrating the independence of auditors is honesty in the audit, evaluation of the findings, and verification of funds. The researchers assessed that the analysis had three objectives, including 'improving environmental information, providing a basis of insurance against business failure, and the performance of administrative staff.' If a company's auditors ignore warnings or find errors and misstatements in its financial statements, the value of the audit would be brought under a question mark, and the company's reputation would be maligned.

This study aims to find out whether 'audit fees, non-audit fees' affect the independence of the auditor. Quite often, in a market for fraud, hefty audit fees and non-audit costs are incurred by auditors, with an audit committee independent and quite rare in paying close attention to those matters.

Auditors and accountants refer to an audit cost as audit fees. One could determine the price through the services rendered or the size of the firm. However, it can never be known whether audit fee influences audit quality. Large firms always charge higher audit costs because they assume that auditors will do better in completing the audits.

A huge concern is non-audit fees since auditors are more likely to risk their independence for huge profits. It is viewed that to retain their audit clients, the auditors might try to barter their independence. In regard to obtaining such fees, auditors provide specific services that are termed non-audit services. A few examples of non-audit services include bookkeeping, internal audit

services, actuarial services, and financial design services. Studies show that the rise in NASs negatively affects the auditor's independence. In this backdrop the research tries to highlight how the independence of auditors affects their tendency of manipulation of the company's earnings.

LITERATURE REVIEW

There exists a host of literature on earnings management. According to some earnings management refers to the intentional manipulation of a company's financial statements to achieve desired financial results. This practice is typically driven by the pressure to meet earnings expectations and can mislead stakeholders about the true financial health of the organization (Gao et al., 2016, Ghazali et al., 2015). It often involves the manipulation of discretionary accruals, which are elements of a company's financial statements that are under management's control and can be adjusted to smooth out income and expenses over time (Andrew, 2018, Dechow et al., 1995).

Research has highlighted various factors influencing earnings management. These include the independence of the audit committee, which plays a crucial role in ensuring the integrity of financial reporting by providing oversight over auditors and reducing the likelihood of manipulation (Rakshit et al., 2020, Chatterjee et al., 2020). Audit committee independence is linked to higher audit quality and transparency in financial disclosures (Carcello et al., 2003, Lennox, 2000).

Auditor independence is another critical factor. When auditors provide non-audit services to their audit clients, their independence may be compromised, potentially leading to biased reporting and overlooking of earnings management practices (Pandit et al., 2021, Boiral et al., 2014). Studies suggest that longer audit tenure with a client can also undermine auditor independence, as familiarity may reduce the auditor's skepticism and objectivity (Oziegbe et al., 2022, Simunic, 1984).

Moreover, regulatory bodies like the Securities and Exchange Commission (SEC) have implemented rules

to limit non-audit services provided by auditors to ensure they remain independent and objective in their reporting (SEC, 2000, Ministry of Corporate Affairs, India, 2013).

In summary, earnings management is a complex issue influenced by factors such as audit committee independence, auditor independence, and regulatory oversight. Effective governance structures and regulatory frameworks are essential in mitigating these risks and maintaining the credibility of financial reporting.

RESEARCH OBJECTIVES

1. To understand the auditors' acknowledgment of the existence of earnings manipulation practices.
2. To quantitatively assess the 'relationship between earnings management and each aspect that affects auditors' independence'.
3. To compare the relationships between the metrics of 'auditor independence and earnings management' is conducted to determine the direction of these relationships during the study.
4. To ascertain the auditor's independence's ultimate effect on earnings management.

RESEARCH METHODOLOGY

The research is based purely on primary data collected from a group of respondents who are either auditors or relate to auditing to some extent. The respondents were asked three sets of questions, in the first their details were asked, in the second section they were tested about their understanding of earnings management and in the third their responses were analysed to understand their opinion on the relationship between auditors' independence and earnings management.

At first, the research proceeds with primary data through a questionnaire. We choose auditors (Chartered Accountants and Cost Accountants), Academicians teaching audit, and CA and CMA Intermediate students because they are directly or indirectly related to the audit process. Among them, we

first test their knowledge of earnings management. Only those respondents have been chosen who have shown signs of understanding the concepts of earnings management and auditor's independence in the questionnaire. Taking their input into account, we find out whether earning management is taking place and relate the factors of auditor's independence like audit fees and non-audit services according to their judgments.

The research proceeded with a questionnaire designed based on a Likert 5-point scale. The respondents were chosen based on random sampling. They were asked about their degree of agreeableness on one factor of the auditor's independence with earnings management. It collects primary data collected from Chartered Accountants, Cost Accountants, CA inter-students, CMA Inter Students, and Academicians engaged in teaching Audits. This is further subdivided into age groups namely 18 - 20 years, 21 - 25 years, 26 - 30 years, 31 years, and above.

A total of 386 responses were collected. The Respondents were initially tested on their knowledge of earnings management, out of 386 respondents only 232 valid responses were selected. Out of these responses, only those who had an idea of auditor's independence were selected. This resulted in the total responses for analysis to be 158. These 158 respondents have a clear understanding of the auditor's independence in earnings management and thus will give valid and positive results to the analysis. Their responses regarding how the factors of the auditor's independence affect Earnings management were collected and analyzed using various analytical tools.

LIMITATIONS TO THE STUDY

1. Resource Constraints

Shortage of time and monetary resources have hampered the research project to some extent. The impact of auditors' independence on earnings management is a vast topic and has various factors and to analyse them thoroughly, one needs to invest time and money to study the subject.

2. Sample size

Even though the total candidates were 386, the valid sample size selected for this research study to get justified and valid conclusions is 158 candidates

3. Sample Unawareness

Out of 368 respondents only 158 were aware of the concepts of earnings management and auditors' independence which resulted in excluding a large chunk of the respondents from the analysis.

CONCEPTUAL FRAMEWORK

The analysis proceeds with Descriptive Statistics regarding the opinion of each group of respondents' segregated age-wise. At the foremost, the research shows the method of obtaining an adequate sample from the total responses.

After that Inferential Statistics has been used to show how the respondents agree to the degree to which earnings management (dependent variable) is affected by the factors of Auditors' Independence (audit fees, non-audit Fees) which is the independent variable.

Respondent Group	Mean	Standard Deviation
CA	4.8	0.5
CMA	4.75	0.3
Academicians	5	0.28
CA Inter Students	4.8	0.5
CMA Inter Students	4.6	0.76

Table 1: Showing the Mean and SD of the Various Groups
(Source: Author's Own Source)

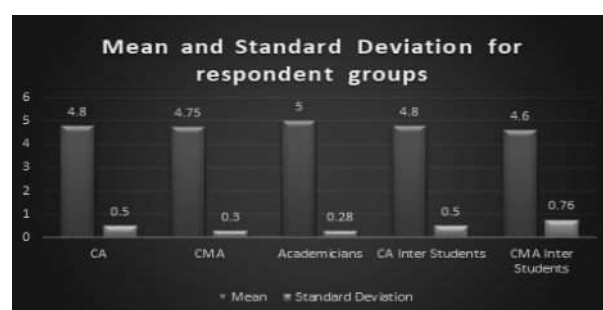


Figure 1: Mean and SD for Respondent Groups
(Source: Primary Data)

The graph visually represents the mean scores with the standard deviation (SD). The higher the SD, the greater the variability in the scores. Academicians show the highest mean with the least variability, while CMA Inter Students show the lowest mean with the highest variability.

DESCRIPTIVE ANALYSIS

Higher the Audit Fees Higher is the Earnings Management

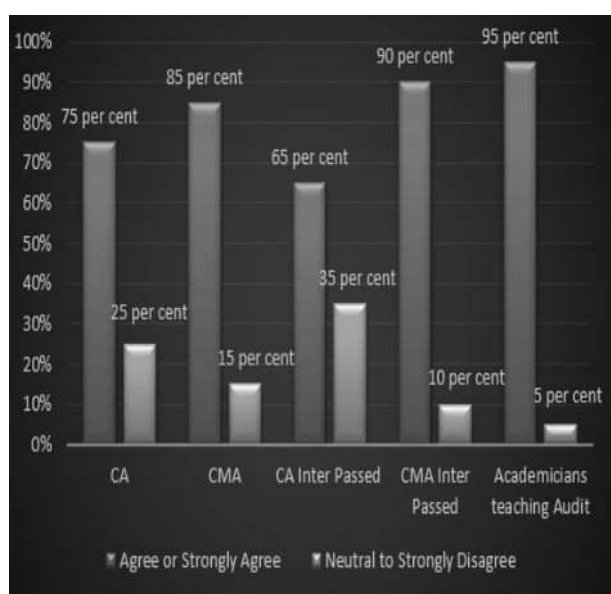


Figure 2: Distribution of Opinions of Different Respondent Groups
(Source: Primary Data)

Inference

From the above figure, it can be absorbed that a higher side of the population believes that Audit fees are related to earnings management in such a way that Higher the Audit fees, higher is the chances of earnings management. Notably, 75 per cent of the CA population and 85 per cent of the CMA population, who play an important role in this aspect, has agreed to the stated argument.

Higher the Non - Audit Fees Higher is the Earnings Management

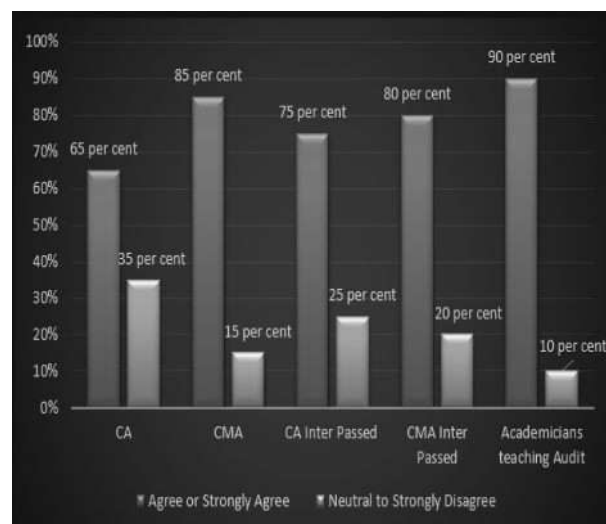


Figure 3: Distribution of Opinions of Different Respondent Groups
(Source: Primary Data)

Inference

From the above figure, it can be absorbed that a higher side of the population believes that non-audit fees are related to earnings management in such a way that Higher the non-audit fees, higher is the chances of earnings management. Notably, 65 per cent of the CA population and 85 per cent of the CMA population, who play an important role in this aspect, has agreed to the stated argument.

Inferential Analysis

Cronbach's Alpha	Cronbach.'s Alpha based on standardized items	Number of items
0.847	0.847	16

Table 2: Reliability Statistics based on All variables (n=16)
(Source: Primary Data)

Cronbach's Alpha shows a score of 0.847 for the reliability measurement and hence the data is considered Reliable.

Model	Rz	R square	Adjusted R Square	The Standard Error of Estimate
1	0.876 ^a	0.717	0.713	0.6436

Table 3: Regression and Correlation Analysis: Predictors Audit Fees, Dependent Variable earnings management (Source: Primary Data)

Model	Un-standardised Coefficients		Standardised Coefficients	T	Sig
1	B	Standard Error			
(Constant)				1.534	0.143
Pearson Co-relation Sigma (2 tailed)	0.378	1.193	0.381	6.826	0.000

Table 4: Coefficient Table (Source: Primary Data)

Inference

To test the association between auditors' independence and earnings management we conducted a regression analysis on the factors of auditors' independence on earnings management. As it can be evidenced from the table the Sigma indicates that Audit fees has a positive impact on earnings management as per the opinion of the respondents.

Model	R	R square	Adjusted R Square	The Standard Error of Estimate
1	0.895 ^a	0.724	0.707	0.57964

Table 5: Regression and correlation Analysis: Predictors non-audit Services, Dependent Variable Earnings Management (Source: Primary Data)

Model	Un-standardised Coefficients		Standardised Coefficients	T	Sig
1	B	Std. Error			
(Constant)				1.770	0.093
Pearson Co-relation Sigma (2 tailed)	0.599	0.72	0.558	8.768	0.000

Table 6: Coefficient Table (Source: Primary Data)

Inference

Non-audit fees and earnings management have shown a positive and significant impact.

Overall Inference

The inferential analysis has been done following the steps of data validation and then co- relation regression analysis. The data validation has been done using Cronbach's Alpha and the score obtained is 0.847 which is higher than the standard value of 0.60. This proves that the responses are valid. This has to be because only those respondents in the sample size have a basic understanding of earnings management and also of Auditors' Independence.

The second part of the analysis deals with establishing a relation between audit fees and earnings management and for that, a regression analysis has been conducted. The sigma values show a positive correlation between the two factors.

Similar in the case of non-audit fees there is also a positive correlation. However, the degree is greater in Audit fees which proves that Audit fees have a greater impact than non-audit fees.

RECOMMENDATION

1. The project in its entirety is based on primary data on the opinion of the respondents. The recommendations would be based on their opinion rather than the filtered opinion of the author. In this background, the very first thing that the project recommends is having a proper guideline regarding Auditors' Independence.
2. Audit fees are primarily based on the quantum of audit work done ethically and should not be based on the tenure of the relationship between the auditor and the client.
3. Though The Companies Act, 2013 has got certain regulations regarding the provision of non-audit services by the auditor to the client, there must be a cease to the consultancy services provided by the auditor.
4. Earnings management is done deliberately. It is the management that does the same to hide certain shortcomings or the other way around, it is mainly

done to set false work standards by the management which sometimes become unattainable by the peers. It must be understood that earnings management will lead to short-term gains but in the end, it is the company's value that is going to wash off once these practices are caught. This is where lies the need and importance of ethical accounting and auditing.

5. The project has revealed that ethics have become a dazzling narrative that is made to be broken or forced to follow. If indeed the importance of ethics needs to be glorified, it must come from within and not forced upon. For this incorporating spirituality in business is of absolute importance.
6. Spirituality will help understand with better clarity the need for ethics rather than the application of it. To begin with, if the company is based on values, it will not at the very first pressurize its management to inflate earnings to show a cosmetic position of the company. If the management is not pressurized, then it would prepare accounts as it is. If the accounts are prepared as it is, then it does not leave the auditor any room to detect or omit earnings management practices as the earnings are not manipulated at all. If the auditor is not required to do any falsification, then the question of compromising his independence does not even arise.

CONCLUSION

This research at the very beginning shows all respondents agree to the fact that 'The higher the non-audit fees, the higher the earnings management.' CAs being on the most actively engaged professionals when speaking of audit has a chunk of them agreeing to the fact that higher non-audit fees lead to earnings management. This is because they believe that if the non-audit fees are high then the auditors will be tempted to take up that audit contract. Not only that they will also try their level best to renew that contract and for that, they have to be in the good books of the client. It is very normal that if they question the credibility of the client on their reporting and detect earnings management, then that would surely not make the auditors look in a favorable light conclusively leading to a compromise on their independence. The same goes for other profession as well. Thus, it can be

said that the higher the non-audit Fees lesser the independence and the higher the earnings management. The entire study can be concluded by meeting the objectives of the study. We can conclude after an in-depth analysis as.

The very fact that the auditors who have understanding of earnings management have acknowledged effect of auditor's independence on earnings management proves that they in their lifetime have gone through such practices and hence the auditors are directly acknowledging the existence of earnings manipulation practices. According to a host of literature reviews, Audit fees and Auditors' Independence are negative related.

More the audit fees more the inclination of the Auditor towards the client and his Independence is compromised. The research shows that the more the audit fees the more the chances of earnings management. This is because the more the Audit fees the higher the chances of the Auditor losing its independence and hence, they will be less likely to detect the earnings management. When it comes to the provision of non-audit Services as represented by Audit fees, it also depicts a positive impact on earnings management.

The reason as said by the respondents is that non-audit fees are related to the provision of non-audit Services. If more will be the non-audit Services provided by the auditor they will get attached to the client and hence their independence will be compromised and they will detect the discretionary accruals less. The less they detect the discretionary accruals and find faults the more will be the Earnings management. Hence, we can say from the study that Auditors' independence is negatively related to earnings management.

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To cater to their customers' changing trends, luxury brands are now venturing into the unexplored markets of Tier 2 and 3 cities by making effective forays through the 'Blue Ocean Strategy.'

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Beyond Metros: The Luxury Awakening in India's Tier 2 and Tier 3 Cities

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ABSTRACT

This article aims at studying the expansion of premium and luxury brands into Tier 2 and Tier 3 cities in India. The main focus is on the market potential, the expansion strategies, and customers' perceptions of luxury purchases in India. Economic growth and the increase in the consumption pattern of individuals have led to such expansion. The primary aim is to evaluate consumer demand and study the consumption patterns of people in India's Tier 2 and Tier 3 cities. The expansion models and optimal expansion

strategy will also be investigated. This article will also aim to gain insights for brands and stakeholders to navigate the opportunities and overcome the challenges of such expansion in the ever-evolving luxury market.

KEYWORDS: Luxury Expansion, Market Potential, Luxury Brands, Tier 2, Tier 3, Consumption Pattern.

INTRODUCTION

Imagine the allure of luxury and premium brands that, once confined to the streets of Kolkata, New Delhi, Mumbai, and Bangalore streets, are now home to many Tiers 2 and Tier 3 cities across the Nation. More than a market strategy, this reflects emerging consumption power and economic growth with a unique charm of upscaling into modern living. Organised retail outlets would be the power outlet for luxury brands and cities such as Jaipur and Indore, Coimbatore, Lucknow, etc., and these cities would be the future for luxury brands in revenue and markets.

It is more than mere marketplace strategy, it is evolving consumption capacity and growth with a flair for upgrading into modern living. An emerging middle-income population and better access to fashionable trends are the key factors explaining rising demand.

This article will explore how such luxury and premium brands found new opportunity markets and mere opportunities to unlock customer experiences that a new stream of customers brought into discovering the changing customer preferences, localised marketing strategies, and growth models.

RESEARCH GAP

Many studies have shown the specifics of luxury consumption in India's metropolitan cities. However, knowledge about luxury consumption in Tier 2 and Tier 3 cities has come to the limelight. This study aims to fill that gap by examining the expansion strategies and local adaptation in the Tier 2 and Tier 3 markets. Knowledge of these patterns can assist brands in correctly positioning their products to conform to regional consumer expectations.

RESEARCH PROBLEM

What strategies do luxury brands currently employ when penetrating Tier 2 and Tier 3 markets, and how are consumers reacting to the brands?

OBJECTIVES OF THE STUDY

1. To analyse the demand and market presence of Luxury brands in Tier 2 and Tier 3 cities.
2. To investigate the market entry strategies that brands employ in Tier 2 and Tier 3 markets.
3. To figure out the consumer preference and understand their behaviour towards the premium and luxury brands.

LITERATURE REVIEW

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 - This research highlights the relationship between luxury purchases and social identity among consumers in Tier 2 cities.

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- This study offers insights into consumer preferences for luxury brands in Tier 2 cities and how local cultures influence purchasing behaviour.

RESEARCH METHODOLOGY

Overview

Therefore, this research used a descriptive research study to understand the growth of luxury brands' outlets in India's second—and third-Tier cities. It implemented sampling techniques, data collection methods, and analysis that provided sound results and captured consumer behaviour and preferences.

Sampling Method

The study utilized a convenience sampling method through structured questionnaires to gain insights into consumer preferences for luxury goods. This approach allowed researchers to efficiently reach respondents who were readily available and willing to participate. The questionnaires were distributed focusing on individuals from diverse demographic backgrounds.

Sample Size and Duration

The study intended to have 112 respondents to gain general information on customers' buying preferences in the selected cities. The sampling was done over four weeks, for instance, between January 15 and February 15, 2024. These periods were chosen to encompass a range of multiple purchases by the consumer; this was necessary in light of differences in shopping patterns

Data Collection

Questionnaire data was administered through a structured questionnaire comprising closed ended questions for the convenience of both the respondents. This format made quantifying data possible while gathering a few qualitative tendencies regarding consumer preferences for luxurious products. The questionnaires were given online to sample an even larger group of individuals. Various kinds of scales were used for this purpose, Likert Scale particularly was used

in most of the questions so that we can easily analyse responders' attitude and likelihood.

Analysis based on both Primary and Secondary Information

Data Analysis

Descriptive statistics were used to summarize the findings of the collected data, as shown in the following subsections. This approach required computations of percentages to give an impressive view of consumer preferences. Means of figures like bar charts were used to present and communicate the data on luxury consumption patterns. It was easy to interpret results using this straightforward analytical method and, therefore, suitable for the readers. For the secondary data various journals, interviews and textbooks were referred to from where basic market entry concepts like 'Strengths, Weakness, Opportunities and Threats (SWOT) Analysis' and Political, Economic, Social, Technological, Legal and Environmental(PESTLE) were studied to research better.

Unexplored Treasures: Market Potential in Tier 2 and Tier 3 Cities

Economic Transformation and Urban Evolution

Tier 2 and 3 cities like Pune, Ahmedabad, Jaipur, Indore, Bhopal, and Patna are changing dramatically. Fast urbanisation and economic growth make such cities the new playground for luxury brands post covid. For example, Pune has a promising IT hub with a youthful population that will bring in premium brands like Louis Vuitton and Gucci. At the same time, Jaipur is steeped in rich cultural heritage and shows interest in luxury jewellery and bespoke fashion.

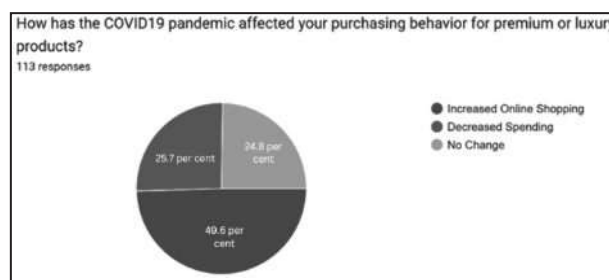


Figure 1: Impact of Covid-19 on Purchase of Luxury and Premium Goods.
(Source: Primary Data)

Key Finding: The findings highlight a significant shift in consumer behaviour towards online shopping, with 49.6 per cent of participants embracing it as a convenient alternative, while 25.7 per cent show cautious spending habits, reflecting the need for companies to adapt their strategies to these evolving customer perceptions.

Aspirations and New-Found Affluence

For these rising cities, purchasing power is not only about buying a product; it becomes a way of life mirrored in aspirations. Hence, luxury brands like Sabyasachi and Tanishq cash in on this new-found affluence by creating products and experiences that mirror the changing tastes and desires in these rising urban centres.

Key finding: The figures indicate a strong preference among consumers for Electronics and Gadgets (75.9 per cent) and Clothing and Accessories (75.9 per cent). Significant interest is also shown in cosmetics and beauty products (51.8 per cent). The lower percentages for gourmet food and cars indicate that people view them as more luxury or infrequent expenditures.

Crafting the Path: Expansion Strategies

Untapped Blue Ocean Market

To cater to their customers' changing trends, luxury brands are now venturing into the unexplored markets of Tier 2 and 3 cities by making effective forays through the 'Blue Ocean Strategy.' The strategy works on the principle of creating new demands in the uncontested space of the market and, therefore, aids in capturing an untapped customer niche accordingly. For example,

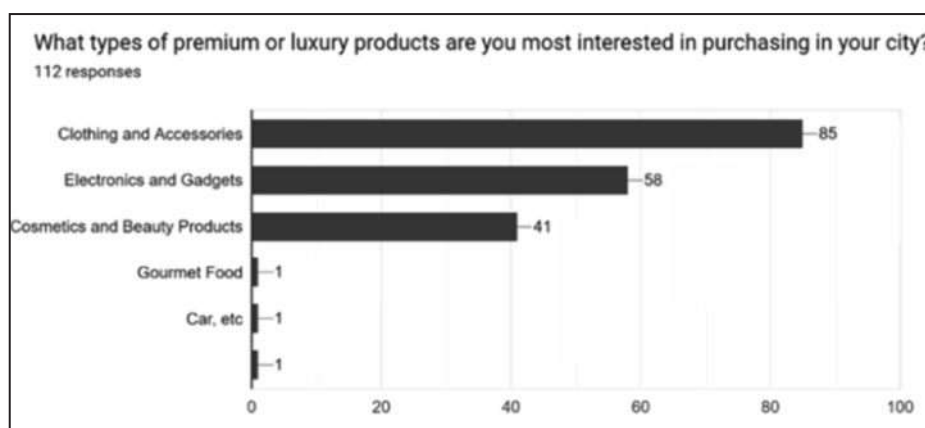


Figure 2: Kind Of Luxury and Premium Goods Consumer Prefer
(Source: Primary Data)

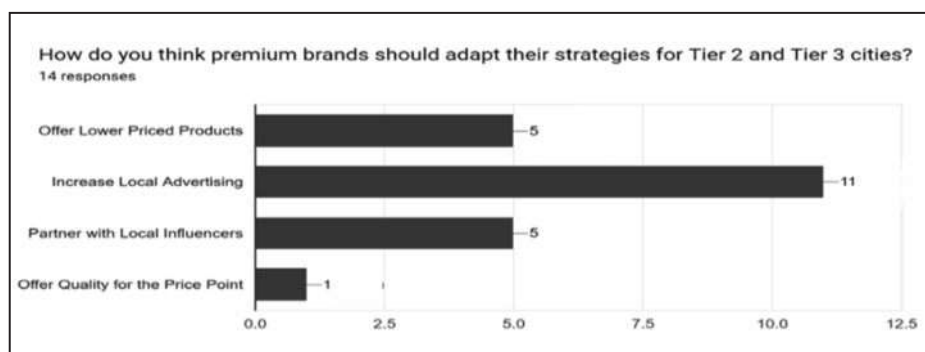


Figure 3: Expansion Strategies That Can Be Adapted in Tier 2 And 3 Cities
(Source: Primary Data)

Tanishq from Titan has effectively done this through exclusive collections catering to regional preferences.

Localization: The ability to adapt to local tastes

Localization is critical to making the brand relevant to local cultures and tastes. It's time to get involved in local research, development, and marketing to create products that speak to consumers' hearts in such cities. That kind of personal touch can lead to loyal customer bases. Take the example of Fabindia, it has succeeded in localizing its product offerings toward the regional aesthetic and skills in craftsmanship.

Key Findings: The results reveal that 78.6 per cent of respondents see local advertising and influencer partnerships as crucial for premium outlets going national, highlighting the importance of tailored strategies that address specific local market needs and customer preferences.

Infrastructure: Building Foundations for Success

Building a solid presence in Tier 2 and Tier 3 cities involves considerable investments in building infrastructure, from setting up physical stores to developing efficient distribution networks. It should facilitate and ensure a seamless shopping experience for customers. This logistical challenge must be surmounted so that luxury products reach the customer without hindrance. Reliance Retail's aggressive expansion into Tier-2 cities is one such model.

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> • Brand Prestige • Quality and Exclusivity • Aspirational • Appeal • Brand Loyalty 	<ul style="list-style-type: none"> • Price Sensitivity • Limited Awareness and Understanding • Distribution • Challenges
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Untapped Market • Potential customisation and Localisation • Digitalization and E-Commerce 	<ul style="list-style-type: none"> • Competition from local and global players • Cultural Sensitivity • Economic Volatility

Table 1: SWOT Analysis
(Source: Primary Data)

Awaken Desires: Consumer Perception

Changing Tastes and Preferences

The consumers of Tier 2 and Tier 3 cities are more sophisticated now. They look for not only good quality products but also the experience associated with luxury. This Engagement will involve a need for special marketing, customer service, and making the customer feel important and understood. Brands like Forest Essentials have created an experience for their customers indistinguishable from luxury.

Aspirational Buying: The Power of Influence

Principal to these consumers is the very important trend of aspirational buying. It is through luxury brands that their lifestyle gets influenced, because of which they yearn to have products that would symbolize their status and success. Social media and digital marketing play very important roles in shaping perceptions and, eventually, driving purchase decisions. Take for instance the brand Manish Malhotra, which uses Instagram to display its luxury collection, connect with aspirational buyers, and engage with them on a personal level.

Overcoming Obstacles

Infrastructure and Logistics

There is a lack of adequate infrastructure and logistics in Tier 2 and Tier 3 cities, which is a challenge itself. There is a need to create road infrastructure, retail infrastructure, and supply chains. To attain this, strategic planning and considerable investment are needed. For instance, Kalyan Jewellers invested heavily in Logistics so that on-time delivery and product availability will be guaranteed.

Competitive Landscape: Standing Out

The competitive landscape is changing fast in Tier 2 and Tier 3 cities. Now, local and international brands have already joined the fray and jostle for space, making luxury brands really differentiate themselves. Innovative marketing, unique product offerings, and superior customer service can make one brand stand out from the rest in such a scenario. For instance, Nykaa's luxury segment has been doing great with their very well-curated selection of high-end beauty products.

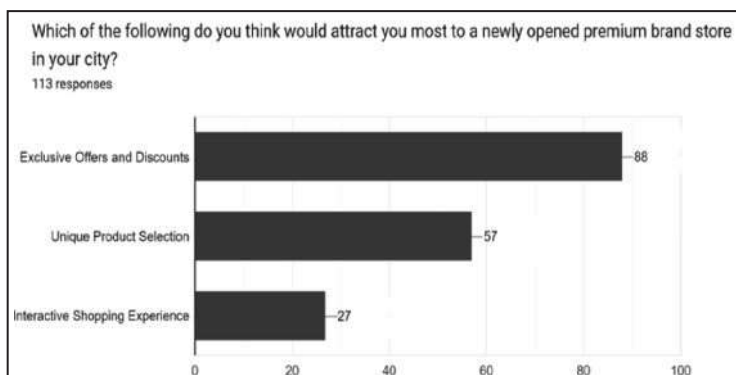


Figure 4: What Will Attract More Consumers from The Tier 2 And 3 Cities?
(Source: Primary Data)

Key findings: The study indicates that offering discounts, special offers, and an interactive shopping experience are key to attracting clients to a new premium brand store, highlighting the importance of engaging incentives and exclusive products.

Mastering the Moment: Grabbing Opportunities

Untapped Markets: The Promise of Growth

Tier 2 and Tier 3 cities are, in effect, untapped markets that have huge potential for growth. Early entry into these markets would help luxury brands to get a strong foothold and advantageous positioning against competition. Growth of the middle class and increasing affluence in these cities indicate the fertile ground for premium products. Many brands like Ritu Kumar have successfully tapped these markets.

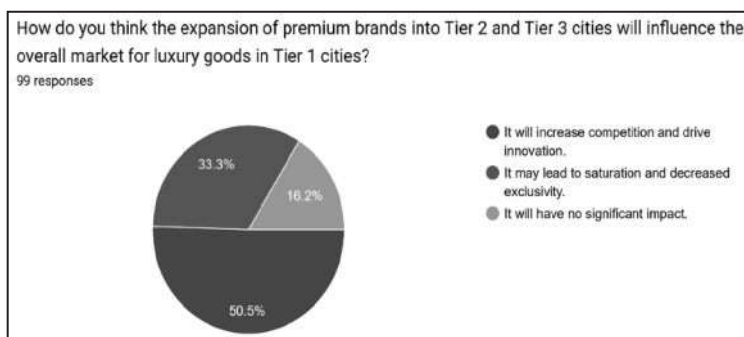


Figure 5: Consumer's Reaction to The Rising Opportunity.
(Source: Primary Data)

Key Findings: The expansion of luxury goods in Tier 2 and 3 market will not affect the Tier 1 market majorly in fact it will increase competition and drive innovation. But still 1/3rd people think it might saturate the market but in the long run it will be beneficial.

Digital Transformation: Reaching Consumers

The digital revolution is radically changing the new ways in which luxury brands are now able to reach consumers based in Tier 2 and Tier 3 cities. These range from e-commerce to social media and digital marketing, which can be used to give coverage to a much bigger consumer base and facilitate personalized shopping experiences. These digital tools will foster brand visibility and customer engagement. For instance, the Luxe section on Myntra has been a case in point of how digital platforms could help in racking up sales of luxury products in small cities.

FINDING AND OBSERVATIONS

- The survey indicated that 72 per cent of consumers preferred Electronics and Gadgets, while 68 per cent favoured Clothing and Accessories. Additionally, 54 per cent showed interest in Cosmetics and Beauty Products.
- A significant 65 per cent of respondents viewed luxury brands as symbols of status, reflecting their aspirations for social mobility.
- Affordability was identified as a major barrier, with 58 per cent of participants expressing concerns. Furthermore, 62 per cent raised worries about the authenticity of luxury products.
- The findings revealed that 75 per cent of consumers preferred brands that incorporated local cultural elements into their offerings, while 70 per cent were more likely to purchase from brands actively engaged with their communities.

FUTURE RECOMMENDATIONS

- Enhance Affordability: Luxury brands should aim to make their products affordable to consumers in Tier 2 and Tier 3 cities or develop sub-brand luxury products that target such consumers.
- Focus on Authenticity: Brands should highlight the

fact of origin and the processes used to assure the quality of the products. This may reduce consumer concern about the magnitude of fake products entering the market.

- **Localized Marketing Strategies:** By so doing, bilingual/nationality-based marketing strategies appropriate and culturally sensitive to the defined regions can add value to these brands.
- **Engage with Communities:** Any virtue associated with sponsorships, events, or partnerships with local artisans will create goodwill among consumers and boost sales.
- **Leverage Digital Platforms:** More brands should engage in e-commerce and related digital marketing since the market has grown in Tier 2 and 3 cities with improved internet connection.

CONCLUSION

This is a new time for expansion and growth of luxury brands in Tier 2 and Tier 3 cities across India. Provided that it could tap such unserved markets, then that would mean commercial success and economic, even cultural, development in budding urban centres. More than just reaching new customers, this journey of discovery and expansion is waking up new possibilities for creating a future in which luxury is available to everybody.

As luxury brands continue expanding their horizons into new territories, they have to basically unlock the unique charm and potential that Tier 2 and Tier 3 cities hold. With a view to riding this exciting landscape and shaping the future of luxury in India, it becomes imperative to understand market dynamics and overcome the challenges through digital transformation, thus building trust between all the stakeholders. It is to recognize and tap this huge unexploited potential of the emerging cities that shall set the path for a vibrant and prosperous future of brands as well as consumers.

For luxury brands, entering Tier 2 and Tier 3 cities in India is more than entering a new market—it is an opening up of new vistas. The brands that really

understand the market potential and expansion strategies, working on the consumer perception, will be those to successfully stride through this dynamic landscape. Localization of offerings, investment in infrastructure, and strong consumer relationships hold the key to success. As these cities continue to grow and evolve, they offer a very promising frontier for luxury brands looking to expand their footprint in India.

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Without government intervention, private water companies could become monopolies, charging exorbitant prices.

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A Study on Urban Water Management in the Face of Water Crisis

- Integrating Water Trading

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ABSTRACT

Urban areas worldwide are grappling with the challenge of water scarcity, a pressing issue resulting from factors such as population growth, rapid urbanization, and climate change.

The severity of scarcity depends on the ratio of total supply to total demand. There has been a steady rise in the prices of water over the past years due to the high demand catalyzed by the fact that water quality has deteriorated and needs additional processing before it can be provided to consumers. Collective mechanisms and price incentives can hold off shortages, however, long-term security depends on stronger institutions and deeper reforms. This is an exploratory study that analyses the factors that affect scarcity, which includes institutions that manage water sources and uses, the rate of water consumption relative to current and projected supplies, and the role of individual decisions in bringing forth collective outcomes. Here we see why trade policy is crucial. It is critical to facilitate outlined investment in water infrastructure, and encourage greater cooperation and collaboration between countries in the management of shared water resources to enhance water management worldwide.

KEYWORDS: Water Crisis, Rapid Urbanization, Climate Change, Water Management, Trade Policy JEL Classification - F19, H12, I31, I118, J11, Q25, Q21, Q28.

INTRODUCTION

This research aims to analyze the influence of water trading dynamics on the effective management of freshwater resources considering both short-term and long-term implications. To understand the different social and private uses of water, let's take a look at the definition of water as a good. It depends on certain factors like,

1. Excludability- A good is known to be excludable when access to its use can be restricted, that is, not everyone can use it.
2. Rivalry- A rival good is a good that is consumed in the process of using it, that is, it cannot be reused.

Once it has been defined, water should be managed prudently with

economic and community based political tools.

It covers the ways in which prices can be used to allocate treated water to municipal and industrial users and untreated water to irrigators. It explores the implementation of successful management of water scarcity while assuming institutional capacity, which is derived from prices that constrain total demand and revenues that are needed to meet the cost of reliable supply. It also takes into account the need for public acceptance of effective water pricing which would require policies that protect the poor and the environment.

DEMAND AND SUPPLY GAP

We use demand to refer to the projected water requirements assuming that efficiency is unchanged. This demand is measured as the actual withdrawals from surface water, groundwater or other non-conventional sources.

The amount of water supply depends on the natural constraints and infrastructural capacity of a region. The total available water resource represents a theoretical upper limit of what can be abstracted from the natural system, be it surface water or groundwater. The problem lies in translating this total resource into accessible, reliable and environmentally sustainable supply. As a result, a much smaller quantity is a more realistic measure of available supply.

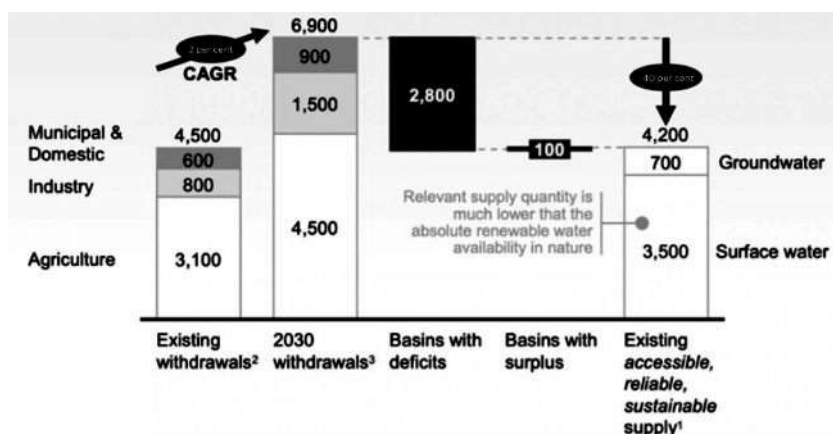


Figure 1: Aggregated Global Gap between Demand and Supply of Accessible Water
(Source: 2030wrg.org)

This suggests that if demand for water keeps increasing without restraint, it will rapidly outrun the current supply infrastructure which is designed to meet present needs and does not take into account future needs.

UNDERSTANDING WATER STRESS

Water scarcity can be divided into two categories- physical scarcity and economic scarcity. Physical scarcity is when there is a shortage of water because of local ecological conditions and economic scarcity is when there is inadequate water infrastructure. The two come together to cause water stress.

Along with this, human factors also play a key role in inducing water stress.

For example, the war in Ukraine in 2022, damaged critical water infrastructure, and left at least six million people with very limited access to safe water.

Nearly every water-related intervention requires some kind of cooperation to alleviate the growing concerns. The concept of game theory can be used to explain the issue of overuse of water by most corporations. To put things into perspective, let's take a look at this example. Imagine a situation where farmers are all trying to get water from an underground reservoir that is running out quickly. Because there are no rules limiting how much water they can take, each farmer wants to pump as much water as possible. As a result, there would not be enough water for anyone, and the crops will die out because of the water shortage. This creates a problem where everyone would benefit if they used less water, but no one wants to be the first to do it. Therefore, in the end, everyone unsustainably depletes the water supply in order to remain economically competitive. This is where the government needs to step in and enforce sustainable practices across the region. This would eliminate the farmers' choices and destroy the prisoner's dilemma.

To understand this issue of water overuse with coordination game, let's look at the following example.

In the Colorado River Basin, multiple U.S. states and Mexico share water from the same river. This includes providing water to major agricultural regions, cities and

industries and is overused. Furthermore, the river experiences severe droughts. Consequently, the river is experiencing depleting water levels in its reservoir. As a result, states need to coordinate their water usage in order to sustain the river.

GAME DYNAMICS

1. Cooperative Choice - Should all states agree to reduce water usage, the river level will potentially stabilize in the long run, ensuring water availability for all users.
2. Should some states reduce usage while others do not, the former will bear the economic burden, in the form of reduced agricultural output, while the latter will continue to benefit from it by exploiting the limited resource without contributing to the solution. This creates an imbalance, thereby discouraging states from unilaterally reducing their consumption.
3. Non-Cooperative Choice- Should all states continue to overuse water and follow the business-as-usual approach, the water levels will continue to drop, leading to critical water shortages.
4. Coordination Efforts- In response to this, the U.S. government and the states concerned have tried to coordinate their water usage through agreements like the Drought Contingency Plan (DCP) signed in 2019, which outlines mandatory water cuts for states based on the reservoir levels. These agreements represent an effort to solve the coordination problem.

UNDERFUNDING

The total expenditure across the sector is estimated at \$685 billion worldwide as of 2021. This number comprises all capital and operating expenditures needed to provide water and wastewater services, including engineering, planning, and construction, technologies (pumps, pipes, valves, filters, membranes), and other input costs. Expenditure by utilities accounts for 70 per cent of the total.

By 2030, annual expenditure in the traditional water sector is projected to grow to \$970 billion.

Ideally, when constraints are imposed on the use and handling of a valuable resource. It should be drawing investments. However, for water which happens to be one of the most constrained and valuable resources, this does not seem to be happening. The water sector is severely underfunded, especially in developing countries that face serious financial gaps.

NEED FOR GOVERNMENT INTERVENTION

Market forces alone struggle to address these complexities. As a result, governments intervene to,

1. Establish water quality standards that industries and water providers must adhere to. This prevents contamination that can lead to illness or environmental damage. For example, in many countries, industries must obtain permits that specify maximum levels of pollutants they can release into water bodies. Governments can also mandate buffer zones between fields and rivers to filter fertilizers or restrict certain pesticide types to protect water quality. In a purely market-driven system, the cost of preventing pollution might be ignored to prioritize profits. Without government regulations, the health of the environment and communities is compromised. **Ensure Equity and Access** - Water is a human right, but market forces can lead to high prices, especially in areas of scarcity. Governments may intervene with price regulations, subsidies, or water provision programs to ensure essential water needs are met for everyone, regardless of income. Further, Governments may offer rebates or tax breaks to encourage the adoption of products like water saving toilets to make these options more affordable for wider populations.

Without government intervention, private water companies could become monopolies, charging exorbitant prices. There are many cities and regions that operate their own water supply systems, preventing a single private company from controlling pricing and access. Government

oversight ensures pricing fairness and service standards. Markets prioritise maximizing profits. This could give an upper hand to high-paying customers or industries over the poor or small-scale farmers. Government intervention aims to balance market forces with human needs.

2. Managing Water Pricing - During a crisis, prices might be hiked to acutely curb demand. This must be balanced with equity – often, a baseline amount for essential needs is kept affordable. In the long run, a crisis might be a catalyst for re-evaluating water pricing altogether. If previously underpriced, rates might be increased even after the crisis passes to promote ongoing conservation.

WATER FOOTPRINT

A nation's water footprint can be viewed from two perspectives - production and consumption. The water footprint of production is the total amount of water withdrawn from local water resources to produce goods and services within the country. Therefore, the water footprint of production measures the amount of pressure that is being put on local water resources. This data helps determine whether they are being used in a sustainable way.

The water footprint of consumption reflects the standard of living and lifestyle choices of the residents of a country. Understanding what percentage of a nation's water footprint is within its borders and the amount of the water footprint that is elsewhere is the first step towards assessing the country's external water dependence and its influence on food and other forms of security.

Together, the water footprint of production and consumption gives us insights into a country's water use and dependence on external water resources, which can be used by the government to manage their water resources and also understand the link between economic development, food security and international trade relations in reference to the water market.

VIRTUAL WATER

The term 'virtual water' refers to the volume of water required to produce a given product. This means that water is also traded when it is incorporated in a product which either contains a significant amount of water or one which requires large volumes of water during its production. The concept of virtual water was first developed to understand the ways in which water scarce countries could provide water-intensive goods including food and clothing to their people. The global trade of goods allows countries with limited water resources to rely on the water resources of other countries to meet their needs by importing products they cannot produce with the same level of efficiency. Consequently, their water footprint follows them in the form of virtual water as well.

BOTTLED WATER

Water prices have witnessed a sharp rise in the past years due to its high demand and the fact that the quality of water has deteriorated and it requires additional processing before it is provided to consumers.

According to recent studies, for the past thirty years, bottled water consumption has been steadily growing in the world. Further, in spite of its excessively high price compared to tap water, water from purifiers or safe public drinking water, its consumption has increased by an average of 12 per cent each year.

The Global Bottled Water Market is expected to grow at CAGR 7 per cent by 2030.

WATER TRADING

While water has always been transferred domestically, mainly through canals and pipelines, the view that bulk water is a commodity that can be traded intensively is a relatively new phenomenon. Initially, countries were reluctant to engage in the export of this natural resource particularly because, for a long time, water was considered a public good which could not be commodified. With time growing scarcity of this resource in some countries resulted in an increase in the

price of water, which made this presently emerging market appealing to both public and private entities.

Despite the high cost of transferring water over long distances coupled with growing public pressure against water trade in exporting countries, there is an increasing momentum for the establishment of an international water market by multinational and domestic corporations.

Water Trading is a water market mechanism that considers water as a commodity and allows users to trade according to their needs. Here, instead of creating their own source of water supply, the water companies buy the water from a third party and sell it to the locals. This is done through the transfer of water rights. Water rights are allocated to each sector and they are free to use it in any way that fulfils their needs, which is as simple as- buying when they need more water and selling the surplus when they require less of it.

DIFFERENT WAYS OF WATER TRADING

Some common ways in which water can be traded are as follows,

1. Formal Contracts - The law allows official contracts to lease or trade water rights. For instance, a city in a rapidly developing basin might establish a long-term contract with a private company owning water rights to meet its growing water needs.
2. Water Exchange Centers - Agencies can use these centers to purchase water rights for multifaceted purposes varying from city use to environmental protection. For example, a conservation organization can use water exchange centers to purchase unused water rights from industrial facilities. It can then retire those rights, ensuring surplus water is not exploited unnecessarily and water stays in the river to restore fish habitats.

ANALYSIS

Primary data was collected for this study which involved conducting a survey on water footprint analysis. The objective of this survey is to assess the level of awareness of individuals in urban water management.

Furthermore, the survey aims to gather insights into consumer behavior related to opinions on policy and governance, water pricing, consumption pattern and community engagement. By understanding the perspectives of respondents on these topics, the survey seeks to identify potential barriers to sustainable water management practices, and opportunities for education and intervention.

The type of sampling used is convenience sampling.
Number of respondents - 108

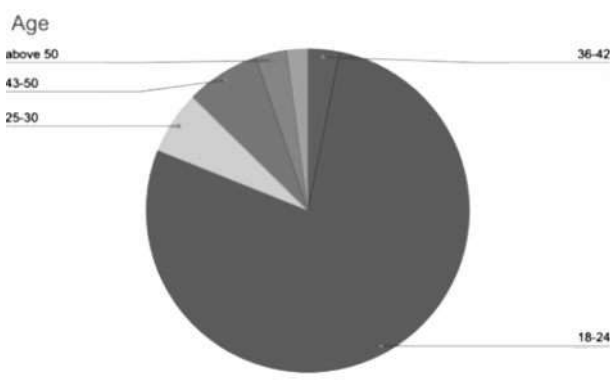


Figure 2: Descriptives
(Source: Primary Data)

Age Distribution

- The majority of respondents fall in the 18 to 24 age group, indicating a significant representation from younger individuals. This demographic insight suggests that the survey responses might largely reflect the opinions and behaviors of the younger population, which could be crucial when analyzing attitudes towards water usage and sustainability.

Correlation Analysis Conducted

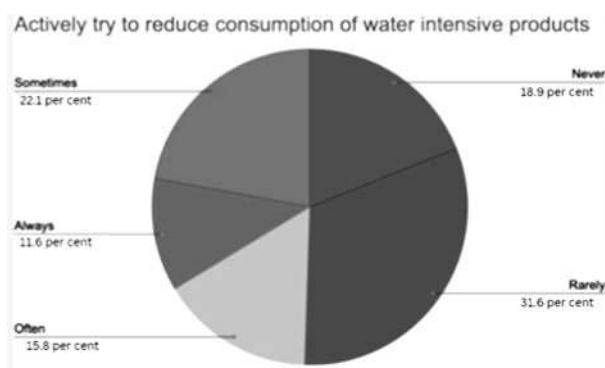


Figure 3: Correlation Analysis on Consumption of Water Intensive Products
(Source: Primary Data)

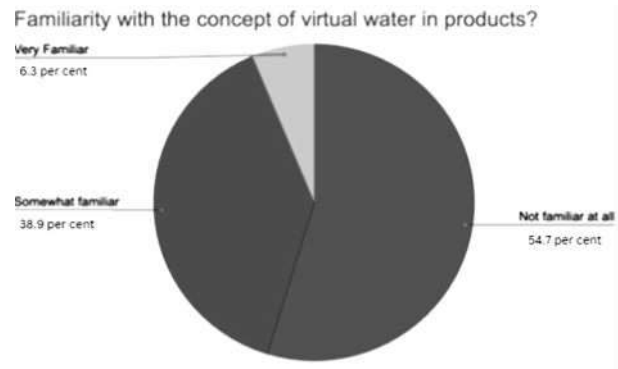


Figure 4: Correlation Analysis on Concept of Virtual Water in Products
(Source: Primary Data)

- Check if virtual water awareness is correlated with attempts to reduce consumption. The correlation coefficient derived as a result of this analysis is 0.41989923. This indicates a moderate positive relation between the two variables. It is very clear from the above analysis that with an increase in the awareness about the consumption of virtual water, consumers are more conscious of their consumption and make an effort to reduce the same.

Although a moderate correlation may be practically significant given the definite association, it is not a perfect predictor. This is because the outcome can depend on other factors too. For example, consumers might feel the need to actively reduce their consumption of water due to the government issuing a mandate to increase the price of water based on levels of consumption in each household.

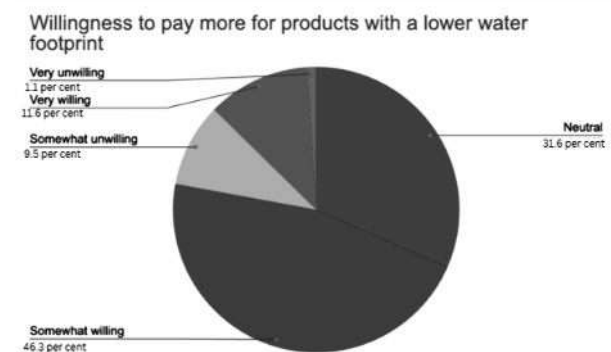


Figure 5: Correlation Analysis on Products with a Lower Water Footprint
(Source: Primary Data)

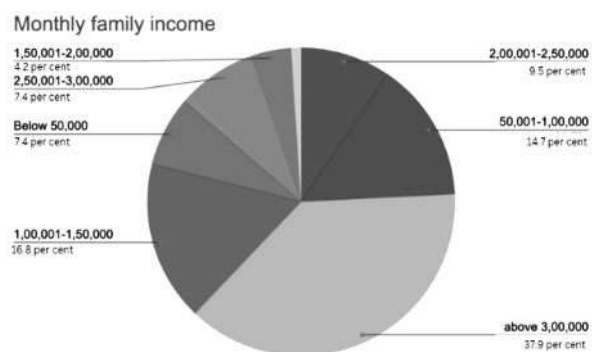


Figure 6: Correlation Analysis on Family Income
(Source: Primary Data)

Examine the relationship between income level and willingness to pay more for products with lower water footprint.

After running correlation analysis to examine the relationship between the two variables, the correlation coefficient derived = 0.11459678. This implies a weak positive relationship between the two variables since the value is close to zero. This means that changes in one variable are not strongly associated and cannot be easily predicted with changes in the other. However, since the value is positive, we can infer that people with higher monthly income are willing to pay more for the products with a lower water footprint to some extent.

CONCLUSION

Population and economic growth are placing water resources under increasing strain. If current trends continue, significant regions of the world will inevitably face a massive water challenge in the years to come. This could have potentially devastating consequences for human health, business and agriculture, international relations, and the environment.

Additionally, climate change could worsen water scarcity in many countries.

In principle, however, most countries have more than enough water supply for their populations' growing

needs along with sustaining their environmental flows. What is missing is a concrete way of integrating decisions on water management into the economic choices of a country. Governments, as well as businesses in sectors as diverse as agriculture, power generation, and manufacturing, know that water is central to their economic activities, and yet management of this resource is generally undertaken in isolation from overall economic strategy. Today, many countries typically plan for development and growth assuming that water will be available when and where it is needed and that the water sector will simply catch up with the rest of the economy. However, it is essential to note that the water sector is not catching up.

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Giving more emphasis on incentivization schemes comprising performance linked increment schemes along with ESOPs (Employee Stock Option Plans) often lead to employee burnout marred by high employee turnover in the long run.



Whispers of Valor: Mapping Sustainable Employee Recognition Initiatives at Workplace in the Light of the ‘AIRe Framework’

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ABSTRACT

In today's extremely competitive business environment, every forward-looking organization strives to unleash the full potential of its workforce in the best possible manner. By implementing sustainable and effective employee

recognition strategies, the 21st century workplace not only fosters long-term employee retention, loyalty and commitment, but also gives an impetus towards creating a positive work culture. Thus, designing a sustainable, competitive and effective employee recognition framework has now become a strategic imperative. This research aims to identify the use of 'AIRE Framework' of sustainable employee recognition programs wherein, Appreciation(A), Incentivization(I), Reinforcement(R) are the key areas, while, Emotional connect(e) being the driving force. Through a comprehensive analysis of primary data gathered from employees across various industries coupled with case studies, this research aims to gather valuable insights on the judicious mix of AIRE elements that can be incorporated in the employee recognition avenues. The study also sheds light on how organizations can leverage the competitive advantage of better quality of life at work due to its supportive and holistic reward culture in the light of this framework.

KEYWORDS: Sustainable Employee Recognition, AIRE Framework, Employee Motivation, Positive Work Culture, Emotional Connect, Competitive Advantage, Quality of Life at Work.

INTRODUCTION

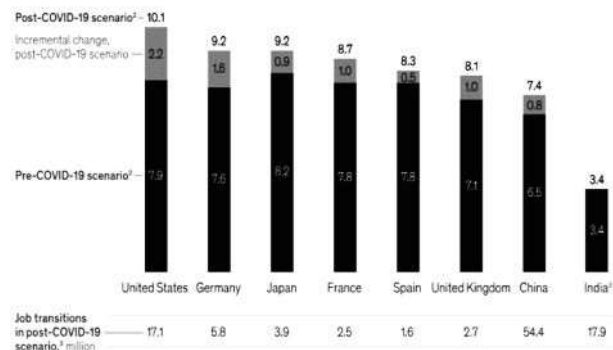
To survive, exist and compete in today's dynamic corporate landscape, businesses and organizations across the globe prioritize 'revenue generation' and 'profitability' as their 'VISION.' However, the term 'VISION' can be used as a mnemonic for the words Volatile, Intricate, Strategic, Innovative, Optimistic and Nimble. These words accurately define the dynamic interplay of the factors affecting the business diaspora of the 21st century. An organization is characterized by its manpower - the people who work tirelessly day in and day out to make the businesses survive and grow. Thus, the top management must frame employee recognition programs in a manner that is engaging, enriching and fosters low employee turnover rates with increased levels of productivity and employee morale. Unlike the prevailing generalized employee recognition practices (hereby referred to as ER), organizations have to go beyond simple gestures of appreciation, incentives,

rewards and make ERs sustainable. Now, for ERs to be sustainable, they must not only conform to the organizational values/culture and bring out the desired employee behavior, but also create a sense of emotional connect within the employer-employee relationship.

According to a study by McKinsey and Company titled, 'Future of Work After COVID-19' (2021), it was found that rampant employee downsizing was at an all-time high. Among eight performing economies, it was found that nearly 10 crore workers (i.e., one in 16 workers), have to step down from their current job role either due to skill redundancy or due to the power of automation using AI (Figure 1). Ambiguous job positions also known as 'Ghost jobs' are also on the rise, though many organizations defend their stand by citing that this method is crucial in creating a talent pool that can be used as and when actual job positions arise. This shows that, Absence of Emotional Connect within the workplace in the employer-employee relationship has increased multifold in the post-pandemic era.

More people may need to transition to new jobs in the post-COVID-19 scenario.

Share of workforce that may need to transition to jobs in new occupations by 2030,¹ per cent



Note: Figures may not sum to total because of rounding.
¹ An occupation transition is defined as a job that has been displaced and does not come back with growth in labor demand overall.
² The pre-COVID-19 scenario includes the effects of eight trends: automation, rising incomes, aging populations, increased technology use, climate change, infrastructure investment, rising education levels, and marketization of unpaid work. The post-COVID-19 scenario includes all pre-pandemic trends as well as accelerated automation, accelerated e-commerce, increased remote work, and reduced business travel.

Figure 1: Job Transition Trends in the Post-Pandemic Era
 (Source: Future of Work After COVID 19' (2021),
 Mc Kinsey and Company)

Thus, around March 2023, the 'Voice of All Things at Work,' US-based, Society of Human Resource Management (SHRM) voiced about the 'AIRE Framework.' This framework has become the Human Resources (HR) Buzzword since then. This framework strives to acknowledge individual and team

contributions by incorporating ‘elements of sustainability’ into the employee recognition programs. A very recent study by Kate Walker (2024) shows that making sustainable ERs an integral component of a holistic approach to talent management brings in positive results. By recognizing and giving due regard to the efforts of the top-performing talents, organizations following this framework can enjoy higher retention rates, increased productivity, and overall elevated levels of employee well-being. In order to effectively manage the talent pool, Corporations need to recognize the criticality of workplace connect and tenability given today’s volatile, uncertain, complex, and ambiguous (VUCA) environment.

DECODING THE AIRE FRAMEWORK FOR SUSTAINABLE EMPLOYEE RECOGNITION

According to the AIRE framework of sustainable employee recognition programs, ERs should focus primarily on appreciating contributions, rewarding exceptional performance and acknowledging achievements. As the famous management adage goes ‘What gets measured gets managed’, adopting a judicious mix involving the elements of Appreciation(A), Incentivization(I), Reinforcement(R) and Emotional connect(e) is the need of the hour. Inconsistent recognition practices, Opacity in selection criteria, Favoritism or bias in recognition, Limited variety of recognition methods and Insufficient frequency of recognition events can act as roadblocks in this process. The elements of the framework in question can be categorized as:

Key drivers: Appreciation(A), Incentivization(I) and Reinforcement(R)

Guiding force: Emotional Connect(e) that brings in the factor sustainability.

BUILDING BLOCKS OF THE AIRE FRAMEWORK

Appreciation (A): This element strives to recognize employees’ contributions by appreciating and acknowledging their dedication levels and hard work. When employees feel appreciated, they are more likely

to demonstrate higher levels of commitment and performance at work. The most common forms of appreciation include acknowledgements, praise, and rewards. ‘Defining the coverage/extent of application’ (i.e. level of employees covered) as well as ‘frequency of appreciation initiatives’ (i.e. how often do the efforts get recognized) often leads to increased job satisfaction and reduced turnover rates. Therefore, according to Paul E. White (2017), appreciation fosters a positive and highly productive work environment where each employee feels valued and are motivated to perform at full throttle, all the time. Introducing ‘Non-Monetary Peer-to-Peer Badges’ for strong interpersonal bonds at workplace can be one such instance.

Incentivization(I): Incentivization strategies should be designed in a manner that align with the overall sustainability objectives of the ER programs (i.e. the rewards/incentives are worth achieving). Organizations can create a ‘dual benefit system’ by linking recognition initiatives with avenues for career advancement with the top talents climbing up the hierarchical ladder and assuming higher perks with added responsibilities. Moreover, ‘eco-friendly perks’ like wellness benefits, rewarding sustainable work practices (say, waste reduction rewards) and flexible work hours can also be incorporated. Lastly, Nandita Goyal et al. (2023) mention that while framing incentive schemes, emphasis must be laid on the ‘clarity’ (i.e. whether the employees clearly understand the reward criteria) as well as its ‘impetus,’ i.e., whether the criteria are meaningful or not. Chalking out a well-devised nomination process with proper metrics can be a way of providing intangible incentives at workplace.

Reinforcement (R): The key strategy of reinforcement is crucial for guiding employees so that they bring about desired behaviors or results at work. This enables the workforce to undergo long-term behavioral change which in turn permeates the organizational values and culture among them. Research suggests that for reinforcement techniques to be effective, they must focus on ‘specificity’ (i.e., well-defined behaviors that merit recognition) and ‘alignment’ (i.e. how do behaviors impact business as a whole). To sum it up, Samoel Haque (2023) opines that consistent and transparent application of reinforcement techniques

leads to a work environment having public acknowledgement, grievance and feedback mechanisms that have a positive impact on employee morale.

Emotional Connect(e): The guiding light of the AIRe framework. This element is all about creating meaningful employer-employee-colleague relationships so that there is a 'deep emotional bond' of mutual trust and camaraderie within the workforce. According to Ian Cristian O. Torres (2024), the most commonly used measures can be a mix of 'personalized gestures,' such as public acknowledgements, badges, leaderboards, wall of fame, a handwritten notes or one-on-one counselling sessions. This element must be kept in mind especially during trying times of the organization (say, employee downsizing, economic recession). Lastly, if these measures are 'personalized' and the 'manner of delivery' is properly gauged, emotional connect enables the workforce to communicate freely and collaborate effectively.

Thus, ERs can be sustainable only if acknowledging performance, incentivizing, and reinforcing desired behaviors of the workforce is done under the umbrella of emotional connect. This brings out the essence of Henri Fayol's famous Principle of Management 'Esprit de Corps' (French term, meaning, 'spirit of the group.')

RATIONALE FOR THE STUDY

In the dynamic business environment powered by the likes of automation, 21st-century corporations face cut-throat competition to survive. While most of them emphasize improving their core product or service, factors like work-life balance, level of employee satisfaction and morale, levels of employee productivity due to motivation, rates of employee turnover and absenteeism do become differentiating factors to stay afloat in competition. Framing sustainable employee recognition schemes often take a back seat with top management taking generalized actions while recognizing or rewarding their talent pool.

Companies of repute like Microsoft, Amazon and Tesla often send generic thank-you emails to their employees and use automated recognition programs to convey

appreciation for their efforts. However, this leads to disengagement among the workforce due to a lack of 'personal-connect.' Furthermore, giving more emphasis on incentivization schemes comprising performance-linked increment schemes along with ESOPs (Employee Stock Option Plans) often lead to employee burnout marred by high employee turnover in the long run. This is because proper attention is not given to non-monetary factors like effectively reinforcing organizational behavior and quality of the work environment. Lastly, due to the high incidence of professionalism in the corporate culture, there is a lack of emotional connect and belongingness among employees at the workplace. Additionally, public events like 'employee of the month programs' can at times feel scripted and biased due to lack of proper rubric of performance measurement and hence become controversial.

Thus, for ERs to be sustainable, the top boss(es) must adopt a judicious mix of Appreciation(A), Incentivization(I), Reinforcement(R). Emotional Connect(e) must be the driving force in all circumstances under which ERs should operate. An organization with no emotional connect can prove fatal for the long-time viability of the organization. Thus, this study aims to bring about a fair idea about the employees' preferences about the constituents of a sustainable ER program in the light of the current recognition initiatives at workplace. A brief section is also dedicated for finding out the extent of integration and relatedness among the AIRe framework factors in the current scenario and the scope of automation for addressing this challenge of framing sustainable ER schemes.

LITERATURE REVIEW

Schaufeli, W. B., et al. in a study titled 'The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. Journal of Happiness Studies' (2002) connoted that Employee recognition is a key driver to enhance workforce engagement, productivity, and retention. Furthermore, the study hypothesized the three-factor structure of engagement (namely, vigor, dedication and

absorption) along with factors affecting burnout (namely, exhaustion and cynicism). It was concluded that in the absence of these factors, employees start feeling bored and hence suffer from mental, physical and emotional burnout, impacting their productivity and performance.

In the Global Culture Report, 2024 published by the US-based employee retention solution company OC Tanner showed that around 80 per cent of employees feel their recognition program is stale and disconnected from what they feel is important to grow and develop in their organization. It also pointed out that slight changes in ER initiatives, especially in reinforcement, incentivization and emotional connect elements led to a 32 per cent increase in retention rates (last reported as per 2021 edition).

Denison and Mishra A.K. in 'Toward a Theory of Organizational Culture and Engagement' (1995) emphasized on four cultural traits: 'involvement, consistency, adaptability, and mission.' This was translated in the form of focusing on long-term sustainability and environmental stewardship while framing recognition programs. In today's world, initiatives like Green Achievement programs (of Google Inc), Carbon neutrality and biodiversity achievement awards (by Green Team, Apple Inc and IBM Corp.) are glaring examples that promote employee well-being as well as build organizational resilience.

Bala Subramaniam R, Thakur Munish Kumar, Patre Smruti in a study themed 'Workplace Gratitude: Literature Review and Future Directions'(2023) highlighted the importance of gratitude as a positive workplace phenomenon. It also stated that there is a positive correlation between achieving business objectives as well as employee motivation or gratitude. A well-designed system of appreciation and rewards forms the building block. Moreover, Appreciation is the dominant theme of AIRE, since it permeates all aspects of employee interactions at work.

Copinath, S. Karthikeyan, Ramamoorthy R in 'Study on Impact of Recognition and Reward on Employees' Motivational Factors in Workplace' (2021) concluded that existing HR practices can be best understood using the Job Descriptive Index (JDI). This index measures

organizational psychology across five key dimensions namely, 'work itself, supervision, co-workers, promotion opportunities, and salary.' This index also sheds light upon the extent of integration of each element of the AIRE Framework in the existing ER schemes as it gives data on performance appraisal (A), rewards (I), and job satisfaction assessment (R and e).

Condly Stewen, Clark Richard E., et al. in a report titled 'The Effects of Incentives on Workplace Performance: A Meta-analytic Review' (2013) concluded that there exists a strong correlation between Incentivization(I) and Reinforcement(R) due to collective Team efforts. A meta-analysis of around 600 studies revealed that average employee performance increased by around 22 per cent across varying job environments and profiles when ERs were team-directed coupled with lucrative monetary incentive programs.

Navas Sharfras, Vijayakumar M, Sulthan N published a research paper titled 'A Review on Employees Emotional Intelligence at the Workplace' (2022). It was found that generalized reinforcement mechanisms do not necessarily bring about desired behavioral changes in the employees. Just like Google Inc. rewards innovative problem-solving behavior, a specific behavior or outcome needs to be highlighted so that it can be followed by employees across the organization. Vide a mathematical relationship, it was found out that EI is twice as valuable as analytical and technical skills applied in job performance.

Maldonado Isabele, et al. in their study named 'Emotional intelligence, leadership, and work teams: A hybrid literature review' (2023) clearly pointed out that Traditional (and somewhat generic) 'employee of the month' programs gives a minute push in employee morale and motivation, contrary to the desired impacts. This is because the impact of these initiatives fades as and when a new 'employee of the month' is announced. Hence, recognition without proper reinforcement or emotional connect has no meaningful impact.

Sharma Vivek, Jain Sonam in their study titled 'Determinants of Happiness at Workplace' (2019) pointed out the factors that can boost workforce mood and morale, thus, creating a sustainable, engaging and

healthy workplace. The key takeaway of this study was that mood and attitudes towards work (being lazy or motivated) impacts employee productivity and efficiency at work.

Bhatiya Ajay, Mohsin Farhat in a study titled 'Comprehensive Literature Review on Workplace Happiness linked to Employee Outcomes Emotional Intelligence, reinforcement, and Emotional Connection (2020)' discussed the role of Emotional Intelligence (EI) in shaping the 'Quality of Work-Life' and creating 'Purposeful and Meaningful work.' While cognitive abilities enable individuals to secure jobs, emotional intelligence significantly contributes to their career advancement.

OBJECTIVES OF THE STUDY

1. To understand the nature and level of satisfaction towards the current Employee Recognition Programs in workplace across varied industries.
2. To find out the most/least desired or preferred component of the AIRe framework from the employees' perspective that can improve overall employee satisfaction and well-being
3. To find out the extent of relatedness and integration among the key areas of the AIRe Framework i.e. Appreciation, Incentivization and Reinforcement under the umbrella of Emotional Connect, the guiding force.
4. To find out the scope of using products of automation and Artificial Intelligence (AI) for fostering and strengthening employee communication and existing feedback mechanism(s).

RESEARCH METHODOLOGY

The study is mostly descriptive and explanatory in nature. Being a primary data-intensive topic, a mix of quantitative and qualitative methods alike are used to achieve the stated research objectives.

Primary Data

The study involves data collected directly from respondents who are employed across various industries of the economy situated in the city of Kolkata. To meet the requirements of the investigation in hand, a questionnaire consisting of 28 questions divided into six sections was floated via Google Forms. Apart from personal connections, professors of my college were kind enough to share e-mail ids of their industry connections, who were approached through cold mail.

Secondary Data

The secondary data sources for this study primarily include articles from the Internet about various studies conducted earlier, published in reputed journals and research papers that focus on concepts used in framing the appropriate and sustainable employee recognition programs at workplace. Additionally, the 1st Global AIRe Benchmarking Report 2022 - 2023 by HR consulting firm, Vantage gCircle and SHRM is also taken into consideration as a part of case study analysis to understand their viewpoint of framing sustainable ER schemes.

Primary Data Analysis

For this study, the primary data collected is confined to the city of Kolkata. The respondents fall in the age group of 18 to 60. For the age group of 18 to 25 years, the respondents (though less in numbers) were young professionals who had just embarked on their corporate journey (say, articleships at Chartered Accountancy (CA) firms and Limited Liability Partnerships (LLPs)). The survey is conducted to find out the employees' perceptions and preferences so that ER schemes become sustainable to bring about the desired positive impact at the workplace.

Sample Size

A sample size of 111 respondents between the age of 18 to 60 years were taken into consideration through interactive methodology for carrying out this research.

Statistical Tools used for Analyzing the Data

1. Percentage method

2. Graphical representation using pie charts and bar diagrams
3. Bivariate Analysis-Chi-Square Test (X²) for hypothesis testing (to ascertain the extent of integration among the elements of the framework in ER initiatives)

DATA ANALYSIS AND FINDINGS

Primary Data Analysis

The primary data gathered from 111 respondents using a questionnaire are segregated into categories of analysis and are analyzed as under:

Demographic Details of the Respondents



Figure 2: Pie Chart Depicting Age of Respondents
(Source: Primary Data)

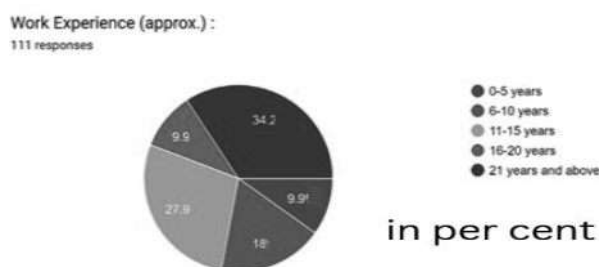


Figure 3: Pie Chart Depicting Respondents' Work
(Source: Primary Data)

Findings and Interpretation:

From Figure 2, we get to know that most of the respondents (28.8 per cent) are people aged 56 years and above. While only 8.1 per cent belong to 46 to 55 years old age group, sophomores and youth professionals have contributed in similar percentages in this study (23.4 per cent each).

Furthermore, Figure 3 indicates that nearly 32.1 per cent of the respondents boast a cumulative work experience of more than 21 years.

This implies that the opinions and perceptions of both competent, senior and experienced professionals as well as young adults are considered.

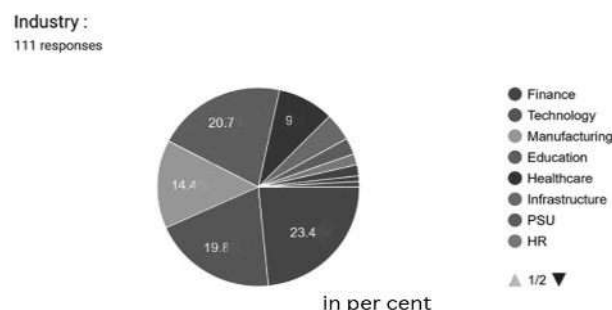


Figure 4: Pie Chart Indicating Industry Segmentation of The Respondents
(Source: Primary Data)

Findings and Interpretation:

Figure 4, on the other hand, sheds light on the industry-wise allocation of the respondents. 37.8 per cent of the employees are employed in Public Sector Undertakings (after clubbing the contributions of Manufacturing entities and a construction-based PSU Organization).

Thus, majority of the respondents are involved in economic development through mixed participation of the public as well as private sector.

Out of the total, remaining respondents are employed in the Finance (20.7 per cent), Healthcare (19.8 per cent), Education and Technology (9 per cent each) sector(s).

This is indicative of the fact that the opinions are skewed towards employees who are employed in organizations having well-defined organizational culture, communication channels and hierarchy.

Level of Management:
111 responses



Figure 5: Pie Chart Showing Level of Management to which the Respondents Belong
(Source: Primary Data)

Findings and Interpretation:

Furthermore, through Figure 5, it can be ascertained that the opinions and perceptions of this study primarily cater to the needs of employees at the middle level of management as 70.3 per cent of the respondents belong therein.

Thus, the perceptions about the extent of contribution and integration of elements of the AIRe framework would be in line with jobs that involve more of coordination, supervision rather than policy formulation and decision-making.

Analysis 1: Overview of the Current Employee Recognition Strategies at Workplace

How satisfied are you with the current compensation and remuneration structure of your organisation? (On a linear scale of 1 to 5)
111 responses

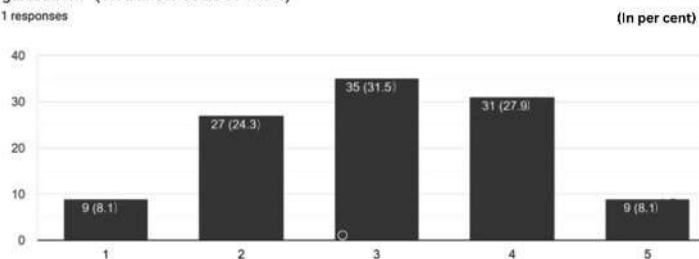


Figure 6: Bar Graph Depicting Satisfaction Level of Compensation and Remuneration
(Source: Primary Data)

Findings and Interpretation:

From Figure 6, we find that the majority of respondents (31.5 per cent) are neutral towards current remuneration initiatives, i.e. they are neither satisfied nor dissatisfied.

However, there seems to be a right skew of 3.6 per cent towards the 'satisfied end' (4 and 5, 36 per cent) over the 'dissatisfied end' (1 and 2, 32.4 per cent).

Thus, there is scope of framing lucrative remuneration schemes by improving the program design (say, collective performance-based bonuses for a team).

Does change in recognition approaches affect your productivity and job satisfaction levels?
111 responses



Figure 7: Pie Chart Showing Responsiveness Due to Change in Recognition Schemes
(Source: Primary Data)

Findings and Interpretation:

Around 91 per cent of the respondents feel that a slight change in ER programs can bring about positive changes in job satisfaction and productivity.

This also throws light upon the current scenario wherein generalized ER initiatives often fail to uplift employee morale and may even lead to workplace burnout. (Figure 7)

Findings and Interpretation:

Furthermore, Figure 8 states that 26.1 per cent of the respondents strive for 'Work-life balance' while 21.6 per cent prefer 'dissemination of fair compensation.'

Which of the following aspects contribute significantly to your overall job satisfaction and productivity?
111 responses



Figure 8: Pie Chart Showing Major Contributors of Overall Job Satisfaction
(Source: Primary Data)

Nearly 20 per cent of the respondents selected 'positive work environment.' Additionally, 16.2 per cent of the respondents opine that getting appreciated and recognized for their efforts affect their job satisfaction levels positively.

Lastly, with 13.5 per cent vetting for growth opportunities at workplace, there were a few respondents (2.8 per cent) who feel all the stated factors as important contributors of overall job satisfaction.

Thus, incorporating these measures can contribute positively by improving job satisfaction and boosting employee productivity and morale.

Findings and Interpretation:

Nearly 29.7 per cent of the respondents' state that the organizations do act upon employee feedback regarding existing recognition initiatives owing to the structured and well-defined communication chains existing in organizations (Public Sector Undertakings (PSUs), in specific).

How often does your organisation seek and act upon employee feedback regarding existing recognition initiatives?

111 responses

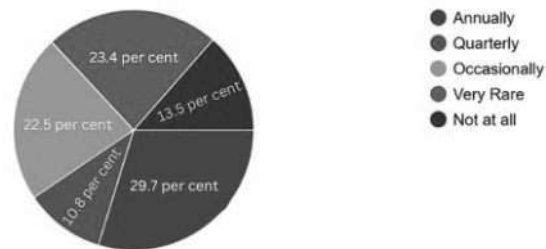


Figure 9: Pie Chart regarding Frequency of Employee Feedback Initiatives
(Source: Primary Data)

However, the key takeaway from Figure 9 is that 45.9 per cent of the respondents reported that the organizations hardly make any regular efforts to consider and evaluate employees' feedback.

Another point to be noted is that 23.4 per cent of the respondents opine that such practices are 'very rare' to their organizations.

It is because of this reason the workplace is far from being healthy and supportive for the employees.

Analysis 2: Initiatives of appreciation (A) at Workplace - Current Trends and Future Scope

From your perspective, how does appreciation impact your job engagement and overall satisfaction? (On linear scale of 1 to 5)

111 responses

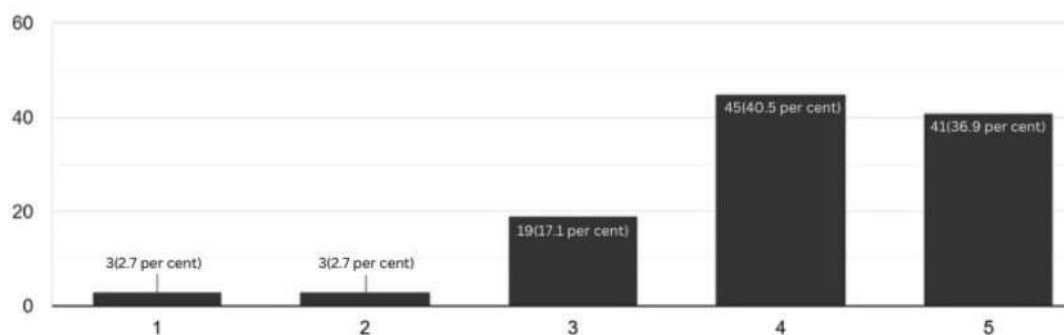


Figure 10: Bar Graph Showing Impact of Appreciation on Job Engagement and Satisfaction
(Source: Primary Data)

How frequently do you receive acknowledgement for your contributions at workplace? (On linear scale of 1 to 5)

111 responses

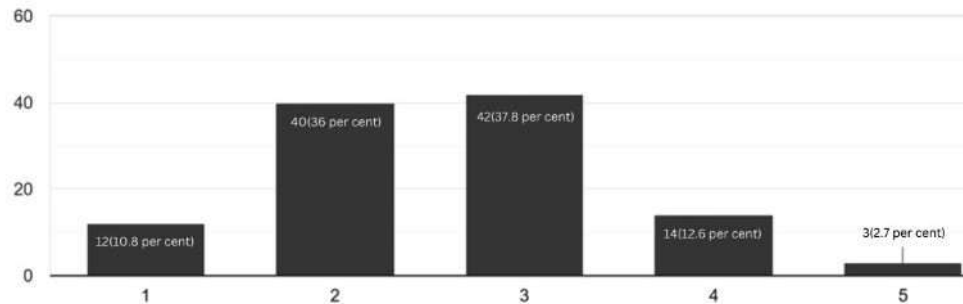


Figure 11: Bar Graph Showing Frequency of Acknowledgment Initiatives at Workplace
(Source: Primary Data)

Findings and Interpretation:

77.4 per cent of the respondents feel that framing appropriate appreciation strategies in ER programs positively impact job engagement and satisfaction levels. (Figure 10)

Additionally, majority of the respondents (42 per cent) opine that the frequency of acknowledgement initiatives at workplace is neither too frequent nor too distant.

However, there exists a skew towards the left side (dissatisfied end of 1 and 2) of approx. 52 per cent of the respondents. This, thus, throws light on drawbacks like opacity in the stated criteria for acknowledgement. (Figure 11)

Findings and Interpretation:

'Awards and Certificates' (36 per cent) are the most preferred mode of recognizing and acknowledging accomplishments followed by Written Appreciation (25.2 per cent).

Team Acknowledgment (18.9 per cent) and Verbal Recognition (17.1 per cent) also have meaningful impact in boosting overall job satisfaction, providing motivation and enhancing productivity levels.

Thus, respondents get motivated when they are provided with tangible appreciation: that too in a formal and public manner, fulfilling their self-actualization and high-level needs. (Figure 12)

Analysis 3: Perception towards incentivization (I) initiatives at the Workplace (current trends and future scope)

In your opinion, which specific form of appreciation has the most meaningful impact on your job satisfaction?

111 responses



Figure 12: Pie Chart Showing the Specific Appreciation Mechanisms that can Elevate Job Satisfaction
(Source: Primary Data)

Does the current incentive programs align with your personal and professional goals? (On a linear scale of 1 to 5)

111 responses

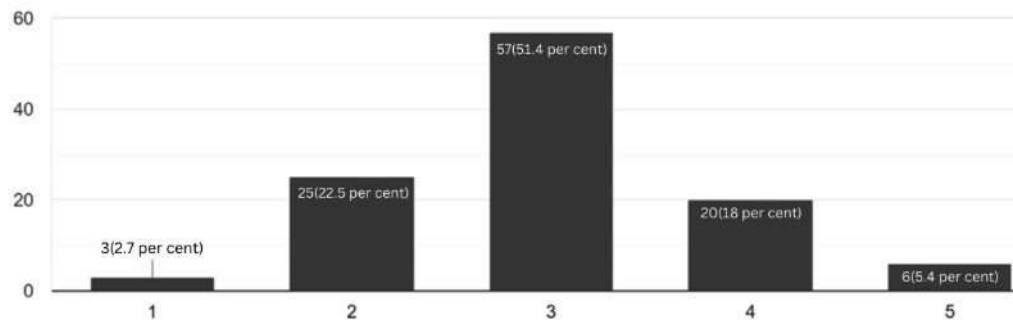


Figure 13: Bar Graph Showing Extent of Alignment of Incentive Programs with that of Personal and Professional Goals
(Source: Primary Data)

Findings and Interpretation:

From Figure 13, we find that the majority of respondents are neutral towards current incentivization initiatives, i.e. they are neither aligned with their personal and professional goals, nor do they completely misalign.

Interestingly, there is only a mere one per cent skewness towards the right when opinions of 'misaligned and aligned' ends are compared

Findings and Interpretation:

To the contrary, 78 per cent of the respondents responded that the remuneration schemes are transparent in regards to their implementation and communication.

This only indicates that current schemes are not attractive enough for the employees such that they strive to achieve them. (Figure 14)

How transparent is the organisation in communicating incentive available for exceptional performance? (On a linear scale of 1 to 5)

111 responses

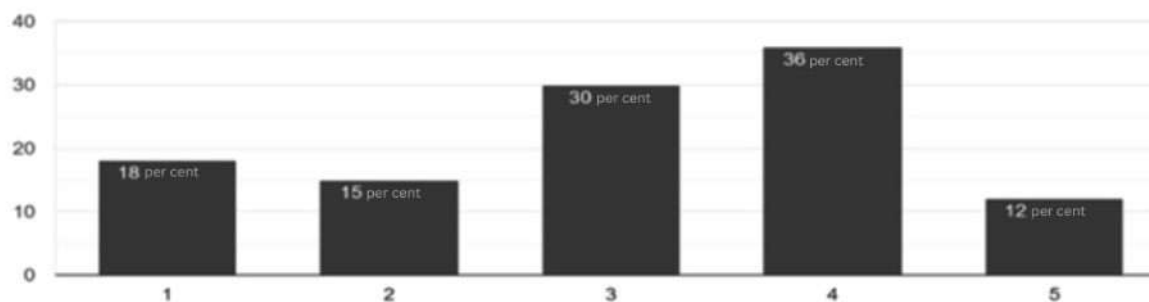


Figure 14: Bar Graph Showing the Level of Transparency in Communicating Incentive Schemes
(Source: Primary Data)

In what ways can a company enhance transparency in communication regarding incentives? (Tick all that apply)

111 responses

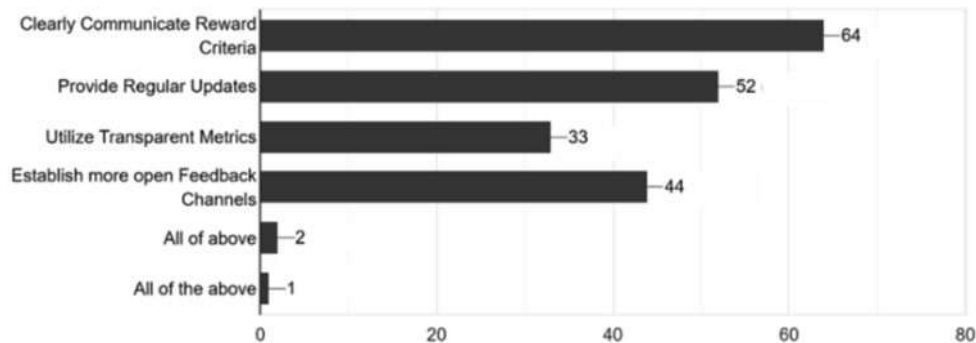


Figure 15: Bar Graph Showing Measures to Achieve Transparency in Incentivization
(Source: Primary Data)

How does the organisation currently reinforce positive behaviour and achievement among employees?

111 responses

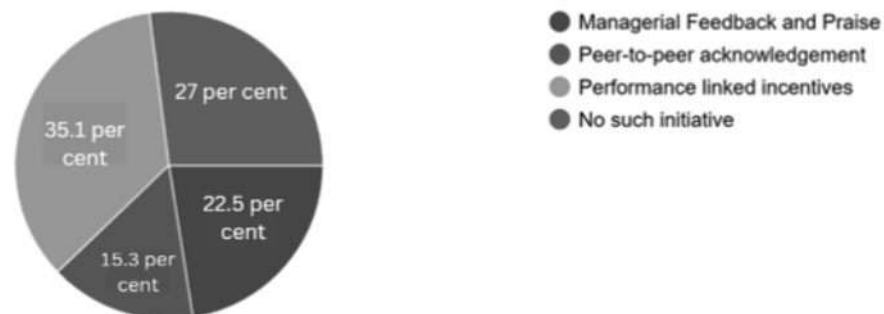


Figure 16: Pie Chart Depicting Current Strategies of Reinforcement
(Source: Primary Data)

Findings and Interpretation:

It is found that while the programs are clearly communicated, the reward criteria is not. Thus, 57.7 per cent of the respondents wanted 'clarity on reward criteria' followed by 'regular updates on the revision of criteria' (46.8 per cent).

Additionally, the problem of effective communication and grievance channels persists, due to which 39.6 per cent of the respondents wanted 'more open feedback channels.' (Figure 15)

Analysis 4: Initiatives of reinforcing organizational behavior (R) at Workplace - current trends and future scope

Findings and Interpretation:

Among the available reinforcement mechanisms, translating the professionalism of the organization by paying 'performance-linked incentives' to top-performing talents is the most preferred strategy (36.1 per cent).

Other strategies include 'peer-to-peer acknowledgment' (15.3 per cent) and 'Managerial Feedback and Praise' (22.5 per cent).

Alarmingly, 27 per cent of the respondents informed that organizations do not take any dedicated step in reinforcing organizational behavior, values and culture.

Thus, detachment from workplace and boredom from tasks have become persistent problems. (Figure 16)

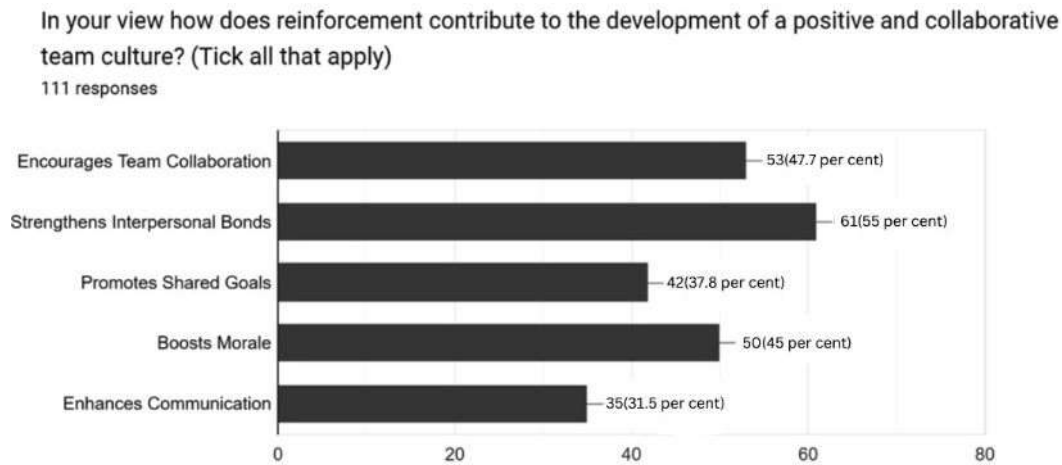


Figure 17: Bar Graph Showing Factors that Contribute to the Development of a Collaborative and Positive Team Culture
(Source: Primary Data)

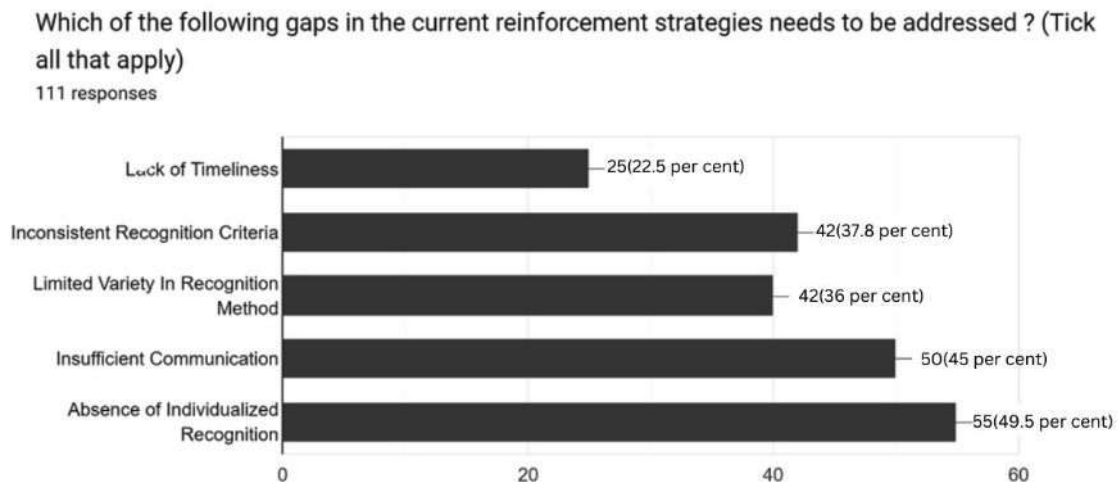


Figure 18: Bar Graph Showing the Major Gaps in Current Reinforcement Strategies
(Source: Primary Data)

Findings and Interpretation:

Among the varied benefits of the reinforcement strategies, 55 per cent of the respondents voted for 'strengthened interpersonal bonds' followed by 'team collaboration' (47.7 per cent) and 'elevated morale' (45 per cent).

Furthermore, majority of the respondents (49.5 per cent) feel that the absence of individualized recognition

initiatives hampers the sustainability and impact of the ER initiatives.

Thus, organizations make sure that the strategies cater to unique preferences and needs of their employees adding sense of personalization. (Figures 17 and 18)

Analysis 5: Perception towards the importance of emotional connect for a healthy work environment (current trends and future scope)

How does the organisation foster emotional connections between the employees and company's mission and values? (On a linear scale of 1 to 5) ●

111 responses

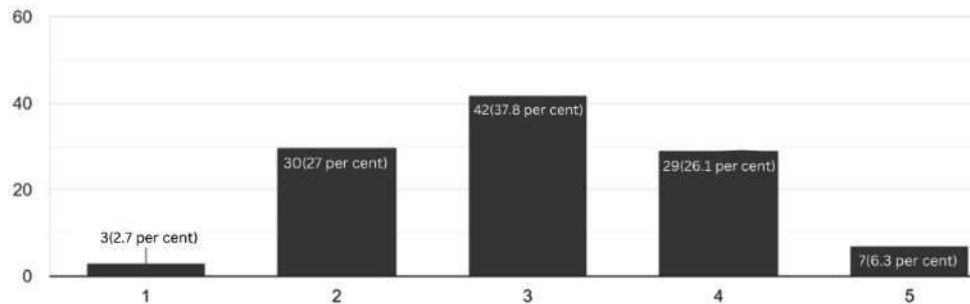


Figure 19: Bar Graph showing Extent of Emotional Connect within the Organization
(Source: Primary Data)

In your opinion, state the reasons for the need of emotional connect at workplace? (Tick all that apply)

111 responses

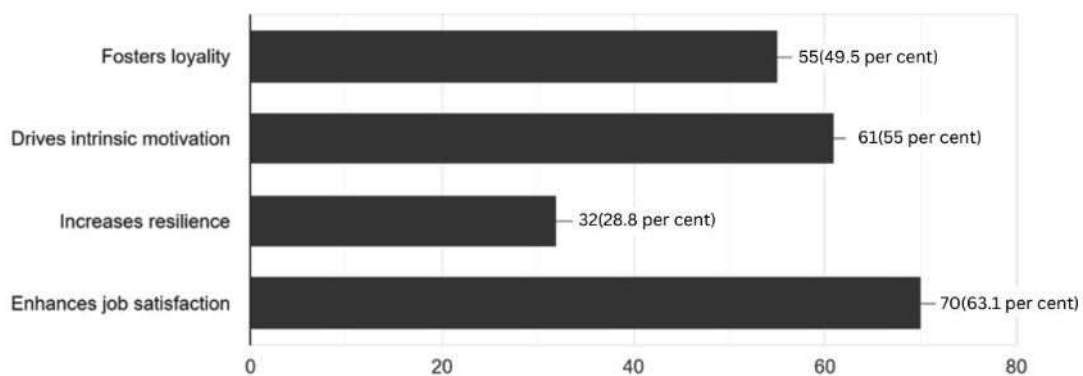


Figure 20: Bar Graph Depicting the Importance of Emotional Connect at Workplace
(Source: Primary Data)

Findings and Interpretation:

Figures 19 and 20 highlights the importance of emotional connect- the element in the absence of which ER schemes remain far from being sustainable. While 63.1 per cent feel that it enhances job satisfaction, 55 per cent of the respondents considered it as an impetus for intrinsic motivation.

Apart from that, such strategies foster loyalty (as responded by 49.5 per cent) and also brings about

increased resilience (28.8 per cent). In the absence of emotional connect, employees are transformed into 'corporate mechanics' with no / very little interpersonal bonds and camaraderie among the employees. However, 21st century organizations try their best to foster emotional connect at workplace (as 70.2 per cent of respondents lie in the 'satisfied end').

Analysis 6: Decoding the impact of emotional connect (e) as the key driver for framing sustainable ER schemes

Are there any perceived disconnects between stated missions or values and actual fostering of emotional connections at your workplace ? (On a scale of 1 to 5)

111 responses

(In per cent)

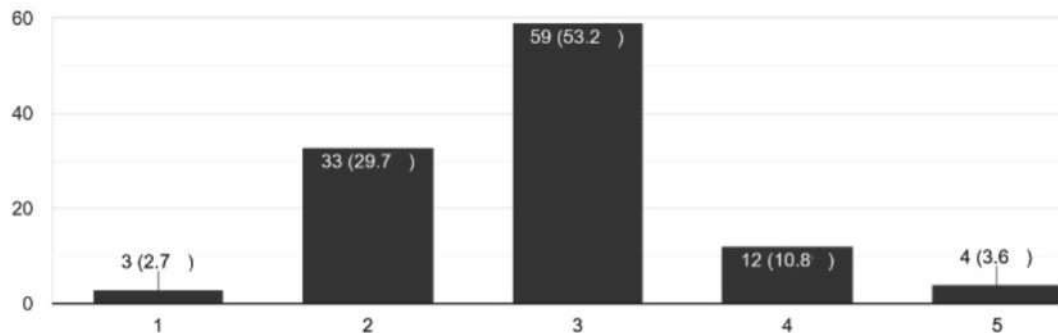


Figure 21: Bar Graph Depicting the Level of Perceived Emotional Disconnects within the Organization
(Source: Primary Data)

To what extent do you perceive holistic integration of Appreciation, Incentivisation Reinforcement guided by Emotional Connect in the workplace? (Rate on a scale of 1 to 5)

111 responses

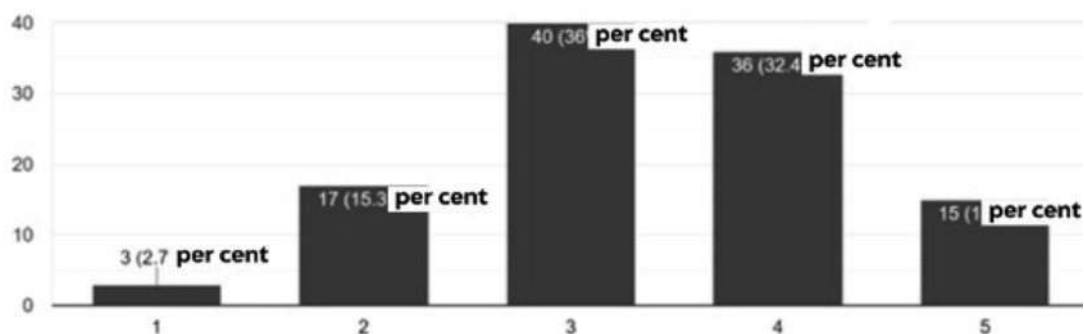


Figure 22: Bar Graph showing the Desired Extent of Integration of AIRE Components in ER Practices
(Source: Primary Data)

Findings and Interpretation:

Figure 21 illustrates the extent of the perceived disconnect that employees may feel to exist between stated missions/values and the actual fostering of emotional connections at the workplace.

While the majority of the respondents have responded neutrally (53.2 per cent), the bar chart as a whole is skewed towards the 'perceived disconnect' end at the left (as high as 85.6 per cent).

Thus, it can be concluded that stated values of the organization have no role to play in preserving and fostering emotional connect (correlation is zero).

Analysis 7: Perception about the extent of integration of the components of the framework, namely, Appreciation (A), Incentivization (I) and Reinforcement (R) under the ambit of the driving force – emotional connect (e)

From Figure 22, we find that the majority of respondents (36 per cent) are neutral towards the extent of integration and relatedness among the factors – appreciation, incentivization and reinforcement, under the ambit of emotional connect.

However, there seems to be a right skew of 27.9 per cent towards the 'satisfied end' (4 and 5, 45.9 per cent) over the 'dissatisfied end' (1 and 2, 18.0 per cent).

Thus, the respondents opine that there is significant association between the respondents' perception regarding the need of holistic integration of elements of the framework and perceived emotional connect at workplace.

Analysis 8: Most/Least Desired Components of the AIRe Framework

In your opinion, which of the following factors of AIRe Framework has the most significant impact on sustaining the employee recognition practices?

111 responses

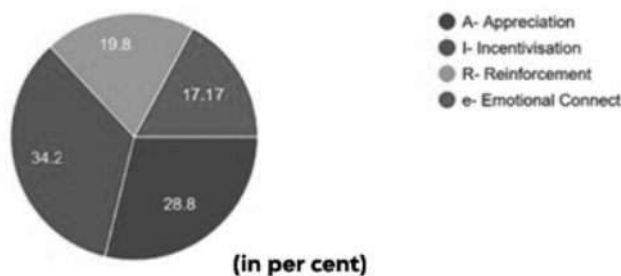


Figure 23: Pie Chart Showing the Most Desired Element(s) of the Framework
(Source: Primary Data)

Findings and Interpretation:

Figure 23 clearly points out the elements of the AIRe framework in descending order of preference:

Incentivization (34.2 per cent) > Appreciation (28.8 per cent) > Reinforcement (19.8 per cent) > Emotional Connect (17.1 per cent)

Since, a large proportion of the respondents belong to the middle-level management, for them getting tangible or intangible rewards based on performance bears much more meaning keeping the other important factors like appreciation, emotional connect and reinforcement aside.

Analysis 9: Preferred mechanisms for devising sustainable ER schemes in future by leveraging power of automation.

Figure 24 explores various mechanisms that can be used by organizations to frame cohesive recognition strategies. Out of the available options, 'Clear Goals' was selected by 68.5 per cent respondents followed by 'Regular Training and Recognition Methods' (57.7 per cent). 'Cross Functional

Collaboration' (24.3 per cent) was the least sought out mechanism.

This means that the current recognition strategies are not well-communicated or well-understood by the employees. This also calls for an adaptable and sustainable recognition strategy that can keep pace with evolving dynamics of the business world.

According to you, how can the organisation improve synergies between these elements to create a more cohesive recognition strategy? (Tick all that apply)

111 responses

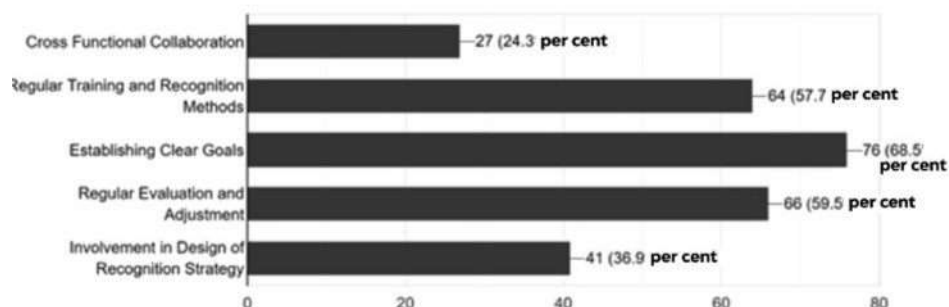


Figure 24: Bar Graph Depicting Synergies between Elements of the Framework for Cohesive Strategy Formulation
(Source: Primary Data)

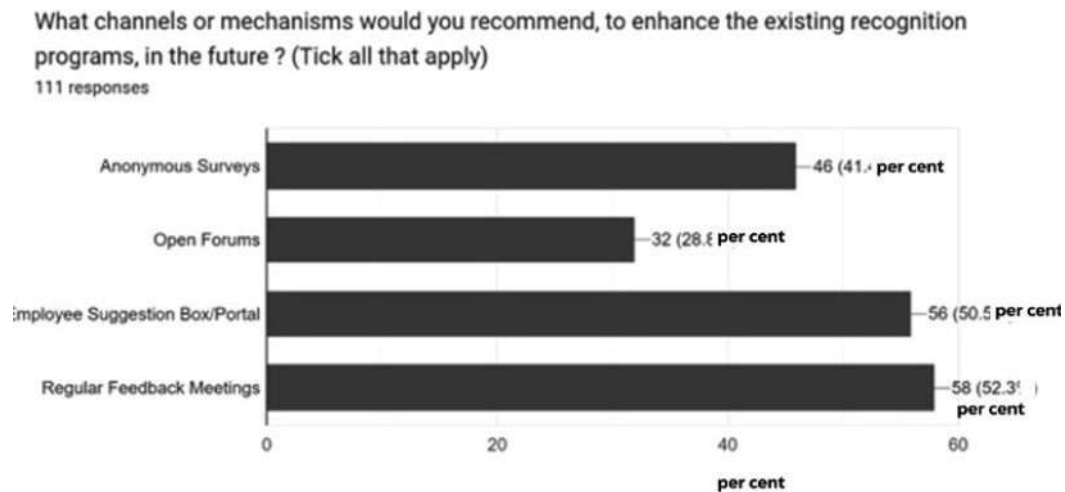


Figure 25: Bar Graph Depicting Mechanisms to Enhance Existing Recognition Programs
(Source: Primary Data)

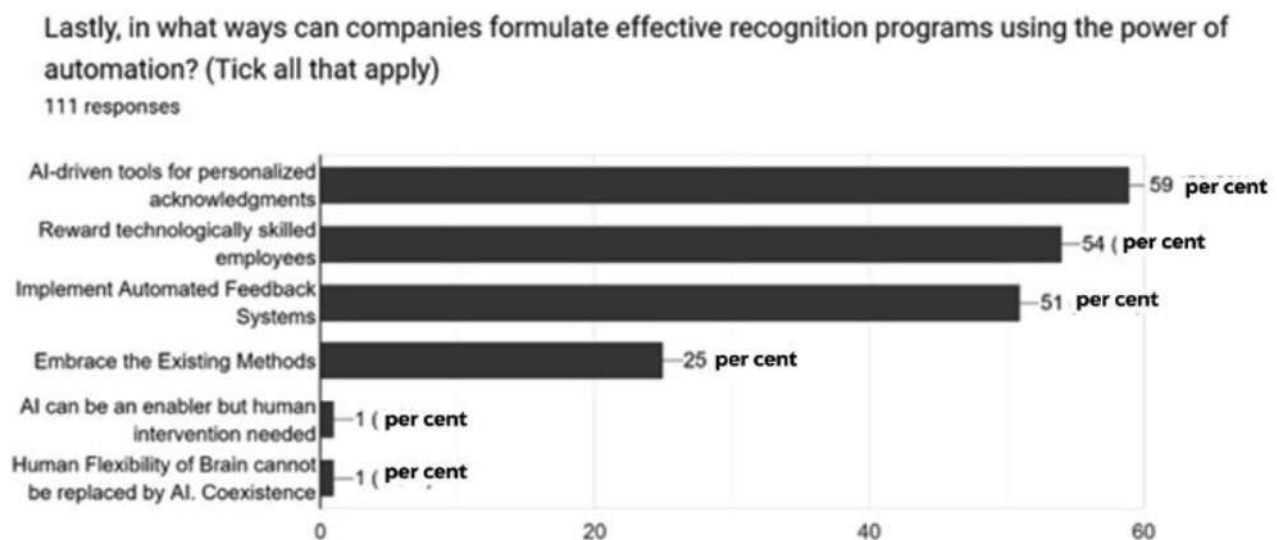


Figure 26: Bar Graph Showing Perception to Leverage Power of Automation
(Source: Primary Data)

Findings and Interpretation:

Figure 25, on the other hand, discusses about the channels of communication that can be used to enhance current ER programs. The preferred channels arranged in descending order are as under:

Regular Feedback Meetings (52.3 per cent) > Employee Suggestion Box (50.5 per cent) > Anonymous Surveys (41.4 per cent) > Open Forums (28.8 per cent)

The lower preferences of suggestion boxes and feedback meetings indicate that employees find these methods to be ineffective or inconvenient ways for making their ideas count.

The largest percentage of respondents (53.2 per cent) voted in favor of AI-driven tools for personalized acknowledgments. Chatbots and robot-advisors can be implemented using Large Language Models (LLMs) and Natural Language Processing (NLP).

However, enabling AI in data computation would require full access to organizational data. In this way, the automated mechanisms can be enablers of proper grievance redressal and communication channels throughout the workplace.

For ensuring data safety, blockchain technology coupled with adequate human intervention needs to be administered alongside.

Lastly, around 22.5 per cent of respondents strived to stick to existing methods, signifying their lack of confidence towards automation. (Figure 26)

STATISTICAL ANALYSIS

From Analysis 6 (Figure 21), we gained insight into the extent of the perceived disconnect between stated missions or values and the actual fostering of emotional connections at workplace. While the majority of the respondents have responded neutrally, followed by the next major proportion opining that disconnects do exist. Thus, for the sake of analysis, we consider the total (i.e., 85.6 per cent) of the respondents who perceive that disconnects exist.

However, from Analysis 7 (Figure 22), we could gauge the fact that the majority of the respondents (i.e., 81.9 per cent) are in favor of holistic integration of the elements of the AIRe Framework while designing sustainable ER programs for a better workplace environment.

As an objective of the study, we tried to find out whether the elements of AIRe framework need to be integrated while framing sustainable ER packages. To find out the relationship (extent of integration), a hypothesis testing method was incorporated. Chi-Square (χ^2), a statistical test, is used to find out whether a correlation (relatedness) among the two categorical variables (namely, perceived integration of AIR and perceived disconnect or, emotional connect- e) elements exists or not.

PEARSON'S CHI-SQUARE TEST

The test is carried out to gather detailed insights about the respondents' perception regarding the need of holistic integration of components of the AIRe Framework while designing sustainable ER programs. Let H_0 be the null hypothesis and H_1 be the alternate hypothesis such that,

H_0 - There is no significant association between the respondents' perception regarding the need of holistic integration of elements of the framework namely, Appreciation (A), Incentivization (I) and Reinforcement (R) under the ambit of the driving force – emotional.

In other words, for ERs to be sustainable, there need not be a judicious mix and integration among the stated factors of AIRe framework.

H_1 - There is significant association between the respondents' perception regarding the need of holistic integration of elements of the framework namely, Appreciation (A), Incentivization (I) and Reinforcement

Observed Frequency Table				
Emotional Disconnect	Extent of integration of AIRe factors			
	Maybe	Dissatisfied side	Satisfied side	Total
Neutral	40	8	1	49
Somewhat Agree	11	5	5	21
Somewhat Disagree		5		5
Strongly Agree	12	4	20	36
Grand Total	63	22	26	111

Table 1: Observed Frequency Table
(Source: Primary Data)

Expected Frequency Table				
Emotional Disconnect	Extent of integration of AIRe factors			
	Maybe	Dissatisfied side	Satisfied side	Total
Neutral	27.8108108	9.711711712	11.47747748	49
Somewhat Agree	11.9189189	4.162162162	4.918918919	20
Somewhat Disagree	2.83783784	0.990990991	1.171171171	5
Strongly Agree	20.4324324	7.135135135	8.432432432	34
Grand Total	63	22	26	111

Table 2: Expected Frequency Table
(Source: Primary Data)

Degree of Freedom	5
p-value	0.0039614

Table 3: Degree of Freedom
(Source: Primary Data)

(R) under the ambit of the driving force – emotional.

In other words, for ERs to be sustainable, there must be a judicious mix and integration among the stated factors of AIRe framework.

Interpretation and Analysis:

The chi-square test undertaken as above was conducted at five per cent levels of significance. The degree of freedom is 6 and the obtained p-value for the chi-square test is 0.0049614, which is less than 0.05 level of significance.

Thus, we reject the null hypothesis and accept the alternate hypothesis for the sample data.

Thus, we can establish the fact that there is significant association between the respondents' perception regarding the need of holistic integration of elements of the framework.

In other words, judicious mix of the correlated elements of this framework can bring about desired changes in workforce productivity, turnover and morale.

SECONDARY DATA ANALYSIS - DECODING THE 1ST GLOBAL AIRE BENCHMARKING REPORT (2022 - 2023) BY VANTAGE CIRCLE

BACKGROUND AND BENCHMARKS

Vantage Circle is an HR consulting firm headquartered in United States of America (USA) with its branches spread across various countries, namely, Canada, India, Australia and Netherlands. The primary offering of this firm is 'Artificial Intelligence-powered Software as a Service employee engagement platform.' These platforms assist in formulating various employee engagement and talent management solutions. The firm is known for its proactive approach in addressing issues faced by employees at the workplace and contemplating upon various HR dilemma, faced by organizations of the 21st century.

Boasting a wide network of professionals across the globe who belong to various industries, the firm uses its industry connections to conduct surveys, gain insights and frame sustainable benchmarks of performance so as to improve the extent of engagement at the workplace.

While mapping employee recognition schemes in the light of Appreciation and Incentivization existed, the approaches were quite generalized and could cater only to short term spike in employee motivation levels. However, organizations were continuously brainstorming and devising ways to make ER programs sustainable, with each time deficits coming up in one area or the other. Peer-to-Peer acknowledgement programs through internal platforms, marred by lack of personal touch, is a glaring example of such efforts.

	Appreciation	Incentivization	Reinforcement	eMotional Connect
Drivers of Authenticity	Coverage: What portion of the workforce is covered by the program?	Clarity: How well do employees understand how awardees are determined	Specificity: How well defined are the behaviors that merit recognition	Personalization: To what extent are the awards and messaging customize for each awardee
Drivers of Impact	Frequency: How often do employees get recognized	Impetus: How meaningful is the value of awards	Alignment: How do the behaviors create business impact	Delivery: In what manner is the recognition shared

Figure 27: Drivers of Authenticity and Drivers of Impact
(Source: 1st AIRe Global Benchmarking Report 2022 - 2023)

It is in the recent past (November 2022), that Vantage Circle along with SHRM devised a completely new approach to map ER initiatives, in the light of Appreciation, Incentivization and Reinforcement under the ambit of emotional connect. This is known as the 'AIRe Framework.' This report gives an elaborate account of the drivers of authenticity as well as drivers of impact under each element. Such drivers are to be taken as benchmarks for defining the measures. (Figure 27)

Once, the benchmarks were defined an automated 'AIRe Assessment Questionnaire' was rolled out among the firms' connections. The firm claims that this report has been framed based on over 550 assessments across various regions, sectors and company sizes.

The responses were subjected to critical analysis and a breakdown of scores along with overall score were laid out. This report defined four zones based on the AIRe score range that would enable companies to adjust their ER Programs.

Zone of Effectiveness (81 per cent - 100 per cent): indicates that ER initiatives are in line with the standards of this holistic framework. However, little modifications and enrichment of the programs are most welcome. Say, using gamification while disseminating tasks.

Cusp (71 per cent - 80 per cent): indicates that the current programs are almost sustainable. Slight changes in program design along with review of suitable metrics will bring the ER programs into the 'Zone of Effectiveness.'

Zone of Opportunity (41 per cent - 70 per cent): indicates that the ER schemes have an optimistic rationale but its execution is half-hearted. Organizations in this zone must solely focus on enhancing the

program design, making it effective. The re-calibrated programs must be implemented post approval from key stakeholders of the organizations.

Zone of Re-Evaluation (21 per cent - 40 per cent): indicates that the organization has not properly implemented the ER schemes. The program design does 'nothing exclusive' to reap the benefits of elevated levels of employee motivation, morale and productivity. The organization should re-design and re-frame the ER programs from scratch and then undertake the assessment, once again.

Key Insights and Takeaways:

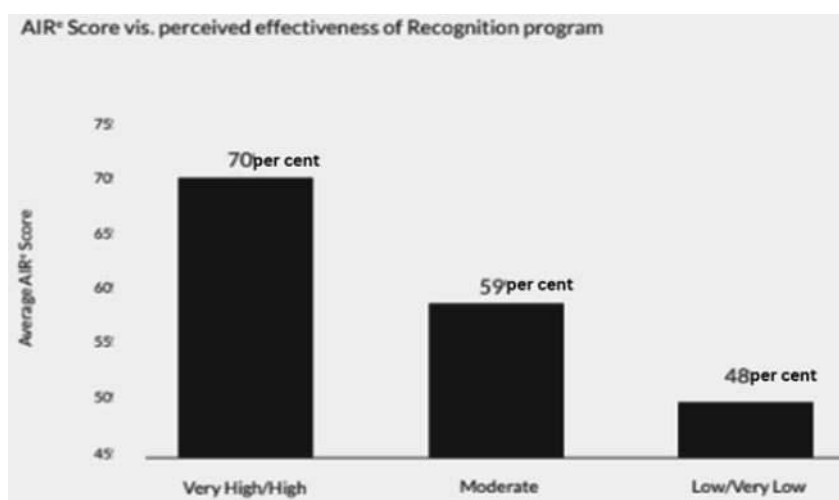


Figure 28: Relation between Average Aire Score and Quality of Program Design
(Source: 1st Global AIRe Benchmarking Report 2022 - 23)

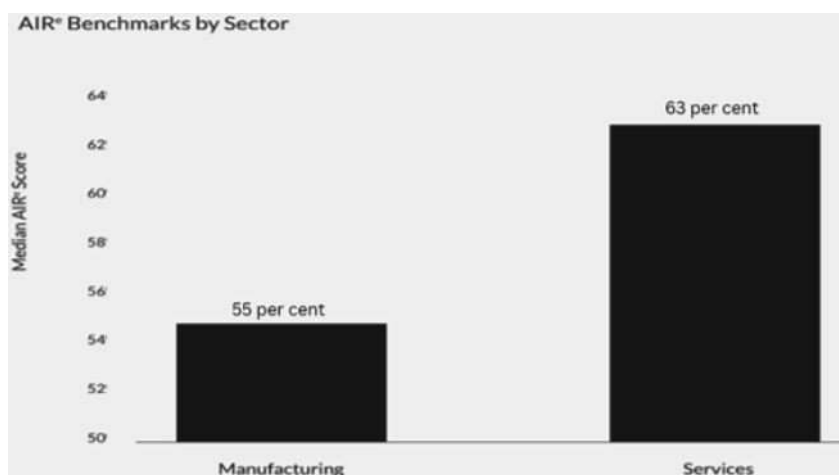


Figure 29: Sector-Wise Aire Benchmarks
(Source: 1st Global AIRe Benchmarking Report 2022 - 2023)

Key Takeaways:

The report opined that program design played an important role in devising AIRe Benchmark scores. The more effective the program designs were, the better were the overall score.

Figure 28 shows that program designs having very high/high effectiveness generated a scaled score of around 70 per cent while low/very low effective designed generated a scaled score of a mere 48 per cent.

Moreover, participants engaged in the services sector demonstrated a higher Median AIRe score of 63 per cent compared to that of manufacturing sector (i.e., 55 per cent) (Figure 29)

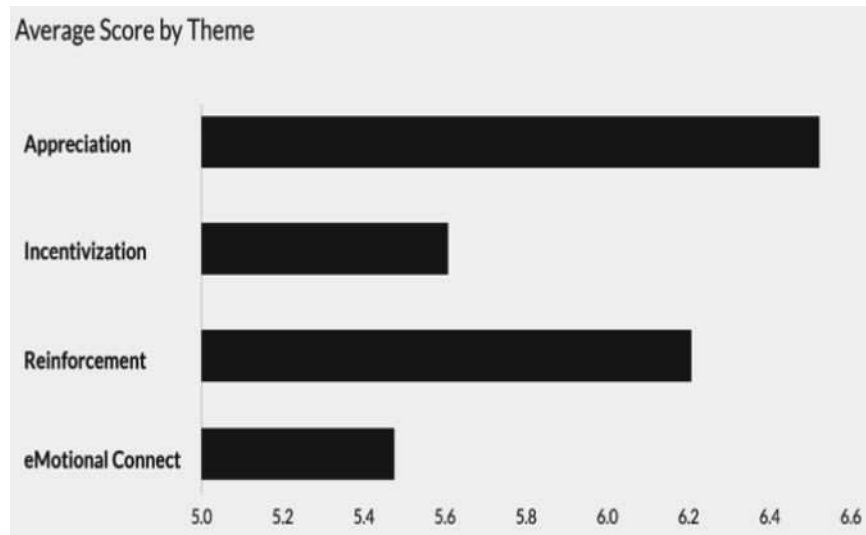


Figure 31: Average Score of each Element of Aire Framework
(Source: 1st Global AIRe Benchmarking Report 2022 - 2023)

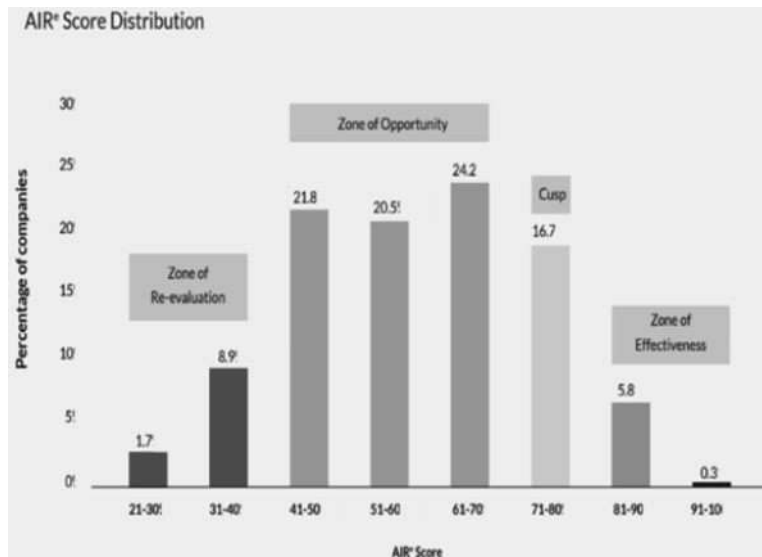


Figure 30: Zone-Wise Aire Score Distribution
(Source: 1st Global AIRe Benchmarking Report 2022 - 2023)

Key Takeaways:

Another interesting takeaway from this report was that the very existence of 'varied Employee Recognition Programs' were more important for the employees than its quality.

Figure 30 shows that nearly, 22 per cent of the participant companies had a median AIRe score between 51 per cent - 60 per cent and hence lied in the 'zone of opportunity.' Furthermore, just 6.1 per cent of the participant companies had an AIRe score of 81 per cent - 100 per cent.

This indicates that only a few companies frame ER programs strategically.

Out of the four elements of this framework, the report stated that Appreciation (with scaled score of 6.5 i.e. 65 per cent) followed by Reinforcement (scaled score of 6.2 i.e. 62 per cent) were the most sought out components used in the ER program design. (ref. Figure 31)

Thus, focusing on these elements can bring about sustainable ER packages at the workplace to enhance employee motivation and productivity.

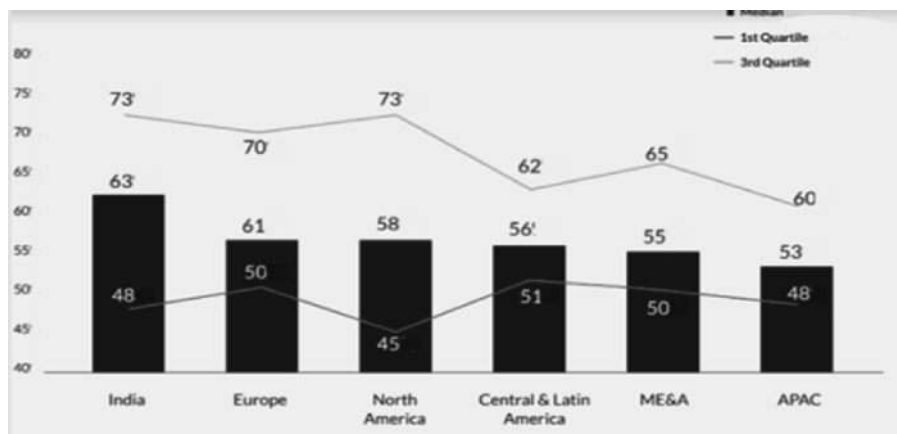


Figure 32: Country Wise Distribution of AIRE Scores
(Source: 1st Global AIRE Benchmarking Report 2022 - 2023)

Key Takeaways:

Figure 32 states that the organizations situated in India and Europe demonstrated stable ER program designs with median scores of 63 per cent and 61 per cent respectively.

Countries in the Asia-Pacific region (APAC) lag far behind (as low as 48 per cent).

AIRE scores of large organizations lie in the range 60 per cent - 72 per cent of while mid-sized lie around 50 per cent, with North America showing the highest gap of a staggering 28 per cent.

Thus, economic powerhouses should step down from the objectives of revenue generation in professionalized work environments and shift the focus on framing ER strategies that have judicious mix of AIRE elements.

To sum it up, this 'AIRE score assessment tool' is a hidden gem that can be used by organizations that would define the zone at which their ER program design currently lies at along with measures and scope of improvement. Through the data in this report, a brief overview of the current state of program designs across nations and organizational complexity is obtained.

CONCLUSION

Recommendations

The following recommendations are put forward to the organizations which can be incorporated while framing employee recognition schemes so that they are sustainable:

1. Training Programs to bridge existing gaps between employees' skill and performance benchmarks:

By reinforcing constructive feedback mechanisms at the workplace, companies can identify the areas that require upskilling. Accordingly, targeted training programs can be implemented so that the workforce is competent enough as per industry standards. This can also lead to healthy employee morale, motivation and turnover rates.

2. Proactive Approach to address Emotional Disconnect in the employer-employee relationship:

Organizations must go beyond the half-hearted ER schemes enveloped under the sake of professionalism and adopt a proactive approach that fosters open communication and collaborative participation among the team members.

3. Framing Immersive and Sustainable ER Packages:

Priority must be given to ER schemes that combine tangible and intangible incentives so that all types of needs across all hierarchical levels say, (the higher-level needs of self-actualization) also gets fulfilled to some extent.

For that, there must be a pre-decided judicious mix among appreciation(A), incentivization(I) and reinforcement(R) that may vary according to the organizational demographics.

4. Timely acknowledgement of the value that employees bring in to the table:

Recognizing and appreciating employees for their contributions in regular, periodic intervals timely feedback and validation to boost morale, motivation, and productivity. Weekly team meetings and one-on-one check-ins can prove to be handy in obtaining timely feedback (from the employees' side) as well as validation (from the employers' side).

5. Refining Communication and Feedback Mechanisms:

Organizations must make sure that communication channels are accessible, scalable, interactive and integrated throughout the organization. Furthermore, feedback mechanisms must be regular, encouraging and transparent. These steps can be used to demonstrate the organizational culture of valuing employees' opinions as and when they arise.

6. Leveraging the power of automation in ERP Software:

The latter half of this decade is all about leveraging the power of automation using Artificial Intelligence. ERP software with AI capabilities, such as, Microsoft Dynamics 365, InforCloudSuite and Workforce Financial Management not only gather data-driven insights but also aids in streamlining employee recognition processes.

7. Use of NLP and LLM Models for employee grievance redressal:

Chatbots and robo-advisors may be constructed using Large Language Models (LLMs) and Natural Language Processing (NLP) can leverage organizational data to assist employees with their doubts or grievances. However, for ensuring data safety blockchain technology needs to be administered alongside.

Limitations of the Study

Limited Time Frame and Period of Study: Due to the limited time of undertaking this research (1.5 months), the sample size is limited to 111 respondents only. This has also catered to rushed analysis.

Limited number of responses: Due to 111 responses at disposal, the conclusion drawn on these might be a little skewed towards one side. Not all segments of the society (industries) could have been considered due to limited responses.

Limited Resources: This is a primary data-intensive study that focusses on the combination of factors/elements employees prefer so that ER schemes are framed accordingly in the future.

Important information which might be very relevant to obtain exact results was not accessible by the general public.

The Bottom Line

In order to grow and survive in the VUCA world, framing sustainable employee recognition programs is the need of the hour. AIRE Framework is a new age concept that enables organizations to recalibrate the ER programs with emotional connect as the driving force. Thus, the adoption of a judicious mix of appreciation(A), incentivization(I) and reinforcement (R) can make ER programs more effective as the current approach of generalized program designs do not bring about the desired outcomes. While the core of the individual elements of this framework remains unchanged, the judicious mix of at least two elements can bring about a positive work culture.

From our study, we could conclude the following in line of the defined objectives:

Current ER practices are quite generalized and are not sustainable due to lack of personal and emotional connect.

For ERs to be sustainable, the respondents vouched for holistic integration of all the factors of the AIRE framework.

In the case of our study, wherein the respondent base majorly belongs to middle management, Incentivization is the most desired element while emotional connect is the least desired element.

Furthermore, incentivization programs must rise above the typical rewards and recognition schemes and focus on intangible incentives as well (say, career advancement through apt performance appraisal using clear and transparent benchmarks).

Organizations must leverage the benefits associated with the productions of automation and artificial intelligence to create robust and sustainable communication and feedback mechanisms.

Ultimately, the benefits of the sustainable recognition programs can be reaped by both employees and the organization alike. Motivated employees working in a healthy work environment have higher levels of productivity, which ultimately increases the revenue generation capacity of the organization. Furthermore, corporations must reap the benefits of automation to create sustainable and transparent feedback mechanisms and communication channels that leads to increased ease of doing work. Robo-advisors, Chatbots, AI-Powered HRP Softwares are the tools for the new normal when framing ER schemes.

Thus, in a talent-driven professional landscape, organizations that frame ER schemes in the light of AIRE framework are more likely to go the extra mile while staying ahead of its competitors in terms of employee well-being. Such organizations can enjoy the perks to retain top talent and attract potential, promising

performers, thereby, obtaining a robust, intangible and indelible competitive edge in the industry.

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The strength in terms of the synergies of coverage and ownership of properties makes it the strongest and almost a monopoly leading to difficulties for the filmmakers as well as target customers.

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PVR-INOX: The Merger of the Multiplexes

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ABSTRACT

The merger of Priya Village Roadshow (PVR) and INOX, India's leading multiplex chains, signifies a pivotal moment in the cinema industry, aiming to address financial struggles exacerbated by COVID-19 and the rise of over the top (OTT) platforms. This paper examines the merger's synergies, including operational efficiencies, expanded market coverage, and enhanced non-ticketing revenue streams. Despite initial losses, the merged entity has shown positive trends in revenue and profits, reflecting improved operational

performance. However, challenges remain, particularly from OTT competition and customer affordability concerns. This study highlights the merger's immediate impact, operational synergies, and future prospects, emphasizing the need for sustained efforts to achieve long-term profitability.

KEYWORDS: PVR-INOX merger, Cinema industry, Operational synergies, OTT competition, Post-merger performance.

INTRODUCTION TO MERGERS AND ACQUISITIONS

Mergers and Acquisitions can be referred to as the consolidation of companies or its assets. In the past few years, we have seen that mergers and acquisitions have been extremely been looked forward to and in the current scenario, the objective of mergers and acquisitions is not only to have a monopoly in the market but also to achieve economies of scale and also gain synergies in terms of revenue, assets, markets and various other factors.

1. Structure of Mergers

a. Horizontal merger

When two directly competing companies that share the same markets and products merge into one.

b. Vertical merger

When two organizations working at different stages of production or distribution systems merge together.

c. Congeneric mergers

Merger of Two businesses that cater to the same customer base, however their way of serving is different.

d. Conglomeration

Merger between two companies that have no commonality between them.

LITERATURE REVIEW

1. RayChaudhuri and Dyondi (2024) made a study of the lifecycle of the multiplex industry in our country

over the past twenty-five years. It specifically focused on the area of the growth of OTT due to the emergence of the COVID-19 pandemic and its impact too.

2. Kal (2022) found in his study that the present and the upcoming generations have lost interest in interacting at a social platform through cinema. One, cannot deny the fact that it has certainly changed the way of consumption of entertainment today. Hence, one must use the same wisely and without hampering the society.
3. Nijhawan (2020) in his research study analyzed the growth of OTT platforms pre and post-pandemic and based on his research concluded about how the habits of people in India changed during the pandemic. It highlighted the reason being diverse content to its viewers, exploring different field and the pandemic.
4. Satapathy and Koushik (2015) in their paper tried to establish and explore the relationship between the stock market and mergers and acquisitions. The result of the research was that there is a positive abnormal return to the shareholders.
5. Srinivas, V. S. (2014) in his paper talked about the evolution of the cinema from celluloid to multiplexes and then to digital cinema and further. The fact that watching cinema is now an experience for the movie goer was the main objective of this research.
6. DeYoung Evanoff and Molyneux (2009) in their research paper also highlighted upon the impact of product and geographic diversification that was achieved by the merger of European and North American Banks.

RESEARCH GAP

Previously published journals on the topic mergers and acquisitions cover a lot of details about the mergers and acquisitions as a whole. Various aspects like impact of mergers and acquisitions, advantages and disadvantages of mergers and acquisitions et al. have been taken into consideration by various researchers.

However, a study on the merger of specific companies as such is very few. The topic of PVR and INOX merger has been cited as one of the examples in many research papers, however, a detailed analysis about the background, future prospects and the results of the merger has not been taken into consideration by any of the papers as such.

RESEARCH OBJECTIVE

1. To highlight the synergies and the effect of the same by analysing the share prices of the company post the merger.
2. The study shall focus on the objectives that led to the merger and the future prospects of the company in the upcoming years.

RESEARCH METHODOLOGY

1. **Source of data** - This study is arrived from the collection of secondary data. Literature survey regarding the topic has been done. To enable a comprehensive analysis for the purpose of study, a wide range of sources were utilized to gather the data, including research papers published in journals, government websites, and other credible online resources.
2. **Type of Data** - The study is mainly based on secondary data with in-depth information about Initial Public Offerings (IPOs) of various companies. The existing data has been collated, summarized and analyzed to arrive at conclusions.

BACKGROUND OF THE COMPANY

The topic of this research paper is 'PVR INOX – The Merger of the Multiplexes'.

PVR Cinemas was founded by Ajay Bijli in 1995, is a chain of multiplexes in India. It is a leading cinema chain in cities like Mumbai

and Hyderabad. PVR marked an achievement by opening a drive-in theatre in Mumbai very recently.

1995	• PVR got incorporated under the Companies Act, 1956
2005	• Made its first public issue of 7.7 Million Equity Shares of ₹10 each.
2009	• DLF's DT Cinemas was acquired for approximately USD 54 million which was one of the biggest acquisitions by PVR.
2016	• Acquired three more subsidiary companies, namely PVR Pictures Limited, PVR Lanka Limited and Zea Maize Private Limited

Figure 1: Chronological Representation of the Changes in Ownerships and Other Mergers and Acquisitions by PVR Ltd (Source: Primary Data)

Incorporated on 9th November, 1999, INOX is a conglomerate indulged in industrial and medical gas manufacturing, cryogenics, and cinema multiplexes. Initially starting with five screens in Mumbai and Bangalore, it expanded to cities like Jaipur and Kolkata and entered a strategic agreement with the Pantaloon Group in 2005 for real estate expansion. INOX was

1999	• INOX got incorporated under the Companies Act, 1956
2006	• Made its first public issue of 16.5 Million Equity Shares of Rs. 10 each at a price of ₹120 Each
2007-08	• Calcutta Cine Private Limited and Prime Skyline Developers Private Limited merged with INOX.
2014-15	• INOX acquired 100 per cent (one hundred per cent) equity shares of Satyam Cineplexes Limited
2015	• INOX invested in Shouri Properties Private Limited ('SPPL'), and currently holds 99.29 per cent of the same
2016	• Satyam Cineplexes Limited merged with INOX
2018	• Swanston Multiplex Cinemas Private Limited merged with INOX

Figure 2: Chronological Representation of the Changes in Ownerships and Other Mergers and Acquisitions by INOX Ltd (Source: Primary Data)

awarded as Technology Adopter of the Year and Most Popular Multiplex in 2019.

The merger of two leading multiplex chains which were direct competitors, aimed to create a stronger position with around 1500 screens and benefit the consumers in all possible ways.

PRE-MERGER SENARIO

COVID-19 and the rise of OTT proved to be a big threat to the cinema industry which resulted in a decline in revenue and huge losses to both the companies. INOX experienced a dip of almost ninety two percent and for PVR also it dipped for about ninety one percent.



Table 1: Balances According to Annual Reports of the Companies
(Source: Primary Data)

Merger at this stage was extremely necessary to improve the financial position of these companies by cost savings, brand promotion and removal of competition ultimately benefitting both the companies to great extents, its shareholders, customers and most importantly the cinema industry as a whole. The main target market after the merger was to be the Tier 2 and Tier 3 markets and to bring them the great cinema experience and offer them the best possible service.

EXPECTED RISKS AND RETURNS FROM THE MERGER

1. Scale Brings Growth

Particulars	INOX	PVR
Cash Balances	9 Million USD	91 Million USD
Debt Balances	8 Million USD	169 Million USD

Table 2: An Approximate Estimate for INOX and PVR
(Source: Primary Data)

Power to the merged entity be it the customer base, content producers, service providers providing technology and the employees as well.

The synergies could be clearly felt for advertisement revenues, the corporate expenditure, customer base, content producers, service providers providing technology and the employees as well.

2. Upward Trends, Post Pandemic

Post-pandemic both the entities saw a strong reopening because of the release of blockbuster large scale movies by all the industries. As per a report, post pandemic the ticket prices and the average amount spent on food and beverages has also risen compared to pre COVID-19 scenario. In the month of December 2021 both the companies recorded almost 90 per cent of the revenues as compared to that of December 2019.

3. Threat Due to OTT

The management of the companies were pretty ignorant to the factor displaying the growth of OTT. Post pandemic management acknowledged the fact that OTT platforms are affecting the occupancy levels and thus impacting the profitability to a great extent.

However, a section still feels that the presence of OTT is not a threat as it is believed that a movie with a decent budget is fit to be released on OTT platforms but for a theatrical film OTT might not be the perfect choice. The truest form of appreciation for a filmmaker is the huge numbers earned at the box office rather than just appreciation by word of mouth.

4. Risks from Competition Commission of India (CCI)

The biggest threat to the merger was CCI.

Looking at the history of PVR's merger with DT Cinemas it was expected that CCI would again give clearance to the merger only if a few screens were divested in the big cities. However, due to the impact of COVID-19, the revenues were expected to remain low than the limit of CCI and thus the provisions and restrictions of CCI would probably not apply. Still, before the merger, it was seen as one of the major risks of the deal.

VALUATIONS AND DETAILS OF THE MERGER

For the valuation of the companies SSPA and Co, Chartered Accountants and Drushti Desai Partner at Bansil S. Mehta and Co. were appointed by PVR and INOX respectively

As per ICAI Valuation Standards 2018 by ICAI (Institute of Chartered Accountants of India) the valuers determined an independent swap exchange ratio based on financial statements for the period of 1st April, 2021 till 31st December, 2021.

Particulars	PVR	INOX
Number of cities catered	73	72
Number of screens offered	871	675
Number of properties held	181	160

Table 3: Conclusion After Valuations
(Source: Primary Data)

After determination of the valuation by both the valuers and rounding off it was finally decided that the ratio shall be fixed at 1:0.3 which basically implies that each shareholder holding ten shares of INOX Limited shall be issued three shares of PVR Limited.

After the valuation was completed a fairness opinion was obtained by Ernst and Young Merchant Banking Services LLP and Axis Capital for INOX and PVR respectively.

Particulars	SSPA and Co, Chartered Accountants	Drushti Desai
Valuation determined for PVR	22.08 USD	21.85 USD
Valuation determined for INOX	6.70 USD	6.59 USD
Ratio determined	3.29 (Approximately)	3.31 (Approximately)

Figure 3 and 4: Structures of Both Companies Pre-Merger
(Source: Primary Data)

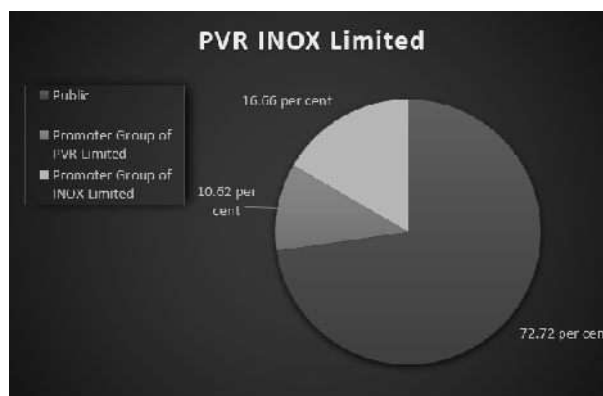


Figure 5: Structure Determined Post-Merger
(Source: Primary Data)

IMMEDIATE IMPACT OF THE MERGER

The merger was announced on 27th March, 2022. On the very next day the shares of both the companies rose and reached the 52 - week high. The shares of PVR rose by about four per cent which made the share price go at 1886 whereas the shares of INOX Limited were priced at 524.90 which rose to about 12 per cent on that day which shows a positive response of the investors.

17th February, 2023 was determined as the record day of merger on which the shares were allotted to the shareholders in the determined ratio.

POST MERGER OPERATIONAL EFFICIENCIES AND SYNERGIES ANALYSIS

In the month of May 2023, the stocks of PVR INOX fell by about 4.12 per cent. It was observed that even though the EBITDA as well as the revenue rose for the company, there was a loss of 333 crores for the year ended on March 2023.

Second quarter can be regarded as one of the best quarters in the history of INOX and PVR. The footfalls as

well as the occupancy both increased which portrays that the growth of the company is very content centric as the box office performed exceedingly well in September. The company recorded its highest ever ticket price of 276 (Average) during the month of September.

In this quarter the company reported an impressive profit of 166.3 crores which was 53.3 per cent increase as compared to the last quarter. The EBITDA also rose from 353 crores to 706.8 crores which basically marked a substantial increase in the EBITDA as well.

Overall Analysis of the Synergies

1. Operational Efficiencies as well as Cost Savings

The integration resulted into Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) synergy benefits of about 124 to 143 crores and about 17 to 21 crores was observed in the first half of the financial year 2023-24.

2. Locational Synergy

It has been observed that PVR dominates the Northern and Southern part of the country whereas the prime focus of INOX is in the Eastern and Western part of the country, which basically makes the merged company cover the whole of India.

3. Synergy for the Total Coverage

As mentioned above the merged entity has 1546 screens in the entire country which almost makes them almost a monopoly. Also, the combined number of properties held and the coverage of 109 cities also play a very important role in the strengthening of the merged entity.

4. Constant Growth Focus

The merged entity has plans to expand further and expects to add on about 200 screens every year. Pre-merger the target was to add about 60 or 80 screens every year.

5. Composition of Income

When compared, the composition of non-ticketing income for PVR is comparatively higher than INOX. Thus, the merged entity enables better performance in that space as well.

TREND ANALYSIS

1. Stock Prices

The stock prices (closing) of the merged entity have been shown below from the dates 20th February, 2022 to 20th February, 2023. The dates have been chosen



Figure 6: Closing Stock Prices of Merged Entity
(Source: Primary Data)

because the period related to the time period just after the record date of the merger.

As seen in the chart given above, the company's share prices are pretty unaffected by the merger. However, it recorded its highest share prices in the month of September with the highest closing on 8th September, 2023. Again, in the month of December, it was observed that the share price again reached near to 52-week high, close to 1800s as a result of the stellar performance of movies at the box office.

2. Revenue and Profit Analysis



Figure 7: Revenue and Profit Analysis
(Source: Primary Data)

As it can be visibly seen, the profits are directly linked to the revenue. As the revenue increases the profits also increase and vice versa. The quarter ended September recorded the highest revenue and thus the profits were also the highest in that quarter. The losses have been reduced to great extents post merger and the company is moving towards being a profitable entity projecting the synergies created due to the merger.

OVERALL IMPACT OF THE MERGER

1. The strength in terms of the synergies of coverage and ownership of properties makes it the strongest and almost a monopoly leading to difficulties for the filmmakers as well as target customers.
2. The merger has helped the entity to capture widespread markets which has a positive impact on the merged entity but also to the film industry as a whole.
3. The conversion from a loss-making company to a profit-making company post pandemic is one of the major impacts of the merger.
4. Remarkable achievements like opening of a fourteen screen megaplex in the city of Pune at Phoenix Mall, one of the biggest theatres with six screens in a mall in Faridabad have been noticed.

FUTURE EXPECTATIONS AND PROJECTIONS ABOUT THE COMPANY

The merged entity is in a profitable state but the performance is not as per expectation. There has been a steady increase in the prices of non-ticketing goods sold by the company because of the fact of monopoly. One of the customers of the company went to twitter and posted that the total amount paid for the popcorn and soft drink, 450 and 360, respectively total amounting to 810 is very close to the annual subscription cost of the annual plan for Amazon Prime which clearly puts forward the inclination

of consumers towards OTT platforms.

Thus, the future of the company is not a cakewalk and constant efforts even after the merger is necessary to make the company a sustainable one and help the company grow as much as possible.

CONCLUSION

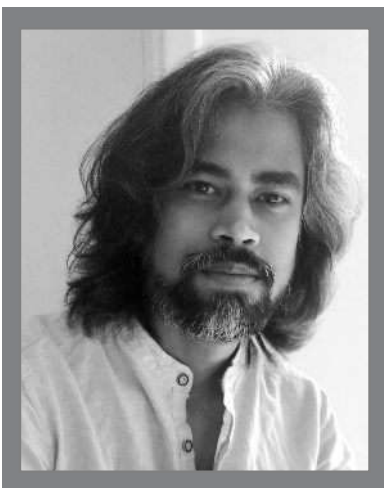
After conducting the research, we can conclude that the merger is profitable for both the companies and synergies in respect of operations, coverage, performance, location and asset position makes the entity the most powerful in this industry.

The post-merger impact on share prices is pretty negligible and it has also been observed that the company's performance is directly related to the performance of the cinema industry. The growing profits and positive trends show that the company shall prosper in the future. However, it can clearly be seen that the maximum potential of the company is yet to be achieved and competing with OTT is the biggest challenge for the company in the present competitive scenario.

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In the 21st century firms do more than just sell products they champion social causes and build an era of brand activism.

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Artificial Intelligence (AI) in Healthcare Sector and its Potential in India and Worldwide

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ABSTRACT

The world is changing, and both the technological landscape and people's daily lives are seeing significant shifts. Even though life expectancy has been increasing over the past few decades, a significant shift is anticipated in this regard. As per the projections of the World Health Organization (WHO) and

the United Nations (UN), by 2025, the majority of illnesses would be caused by chronic, coexisting ailments. These kinds of illnesses frequently require healthcare professionals to give them more and on-going attention. To meet the rising demand for healthcare it is necessary to adapt to the rapid technological advancements. Use of AI for better understanding of the emotional state of a patient/user and provide support, AI-powered robotic surgeries, Predictive AI algorithm, et al., are being used to capture a patient's health status and predict potential risks. This paper attempts to understand the potential usage of AI in healthcare by analysing the accuracy of disease diagnosis by AI. The paper also tries to identify the inherent challenges and gives potential solutions to address them which can be a pathway for utilising AI in healthcare in a more efficient way.

KEYWORDS: Artificial Intelligence, Healthcare, Challenges, Solutions, India.

INTRODUCTION

AI is the term used to describe how technology, especially computer systems, can simulate human intelligence processes. These methods include machine learning, which involves training algorithms on large datasets to find patterns and provide predictions, and deep learning, a subset of machine learning that uses artificial neural networks to study and learn from data. The phrase 'artificial intelligence' was first used in a formal sense in 1956 by John McCarthy, an American computer scientist. Scientists focused on research of artificial intelligence as it can relate to practical problems, such diagnosing diseases. AI is utilized in the medical field for robotic surgery, drug development, medical imaging analysis, predictive analytics, and customized medicine.

AI systems are able to recognize these elements and recommend tailored treatments. Additionally, it can lessen negative effects. Artificial intelligence is quickly changing the healthcare landscape and offering an effective approach in a variety of areas, including medication development, diagnostics, disease detection, and patient monitoring. In India, AI has the ability to significantly improve access to necessary

treatment in India by bringing both efficiency and price savings. It offers the opportunity for affordable disease management and pursuit for rapidly spreading illnesses. AI is not attending to replace doctors however are a perfect middle layer to bridge the demand and provide gap between patients and doctors.

CONCEPTUAL BACKGROUND

The term Artificial Intelligence known as AI appeared for the first time in 1956 at a small conference at Dartmouth College, New Hampshire. Since that time, the question of what constitutes has been debated in numerous scientific domains, including computer science and philosophy. AI refers to computer programs or robots that possess the capacity to learn and develop in order to address problems that are typically handled by humans or intelligent subjects. The term AI was first used by John McCarthy in 1956 when he called a group of researchers from various fields, including quality theory, vegetative cell nets, language simulation, and more, to a summer workshop known as the Dartmouth Summer Research on AI to discuss what would eventually become the sphere of AI.

In India, radiography was the first field to apply AI, mostly for the treatment of diseases like tuberculosis (TB). With a population of over 1.4 billion, India continues to fall behind in terms of health infrastructure. India has only 64 doctors per 100,000 people, while the world average is 150 doctors per 100,000 people. The hospitals are severely strained by this. Automation and are greatly lowering pressure and speeding up the diagnosis process.

Even though AI in healthcare is still in its early stages in India, its proportion of the industry is expanding quite rapidly. National Association of Software and Services Companies (NASSCOM) estimates that by 2025, the use of data and AI in healthcare could boost India's Gross Domestic Product (GDP) by almost \$25 billion. Along with other international partners, the Indian government is already working on developing regulations for artificial intelligence.

LITERATURE REVIEW

AI being a recent technological innovation has not many studies credited to its name. However, with its growing importance in the field of science, it is gaining the limelight for various studies to be conducted on its applied field. Few researchers have carried out their studies on the increasing significance of artificial intelligence in healthcare.

King Jr. (2018) in his work stated that with the development of Computed Tomography Scan (CT), Magnetic resonance imaging (MRI), Polyethylene Terephthalate (PET), and ultrasonic scanning technologies, radiology has advanced significantly. AI's use of the imaging data presently available from imaging technologies like ultrasound, CT, PET, and MRI will lead to the next major advancement. He asserts that artificial intelligence in radiology most likely develops gradually, with the first stage having already materialized. AI systems automatically segregate different structures within CT and MRI images in the first stage.

Zaidi (2018) discussed that robotics is considered minimally invasive whereby large incisions are replaced with a series of quarter-inch incisions and utilize miniaturized surgical instruments. To enhance surgical results, doctors also incorporate data from patients' pre-operative medical records with operational parameters that are updated in real-time. One example is the da Vinci Surgical System having robotic limbs, which gives a high quality, enlarged, three-dimensional picture of the surgery site.

The volume and scope of medical data collection have increased dramatically in recent years. For example, massive amounts of data are generated by patients, researchers, and medical professionals. Autoniou et al. in their work (2018) concluded that these data include Electronic Health Records (EHRs), medical imaging data, and other data from various monitoring devices, such as health tracking apps and devices, which people are increasingly using in everyday life outside of emergencies.

RESEARCH GAP

After analysing the whole data and findings, the following gaps or loopholes can still be found in the project -

1. Can Artificial Intelligence take over the work of the doctors and other health care providers and have the decision-making ability as of the doctors?
2. How can AI technologies be customized to meet the particular needs and preferences of various patient populations, including individuals with variable degrees of health literacy or people from different cultural backgrounds?

RESEARCH OBJECTIVES

1. The objectives of this research are as follows -
2. To identify and analyze the accuracy of proper diagnosis of diseases using various Artificial Intelligence techniques and algorithms.
3. To understand potential usage of AI in healthcare facilities.
4. To evaluate the challenges in using AI in existing healthcare facilities and what potential solutions can address these challenges.
5. To assess the Government initiatives in promoting AI in healthcare.
6. Strengths, Weakness, Opportunities and Threats (SWOT) Analysis of AI in healthcare.

METHODOLOGY AND DATABASE

This study includes findings from various articles and research papers that have been published online as result of already conducted research on the matter. Efforts have been made to collect primary data from various hospitals but no relevant information was provided to me. Thereby, the research is highly secondary in nature as there is no access to required resources for conducting primary research. Efforts have been made to determine how artificial intelligence AI

can fill in the gaps in the current healthcare system. Data has been gathered on a wide range of subjects, including possible applications for AI, the advantages of applying AI in certain contexts, the difficulties of doing so, and the roles played by the public and commercial sectors in the application of AI in healthcare. SWOT analysis has been done as a part of this research and suggestions will be given as per the analysis results. The research will conclude with a statement of findings that includes a clear acknowledgment of all references.

ARTIFICIAL INTELLIGENCE IN HEALTHCARE

In research by Wojtusiak (2011), a Machine Learning (ML) application was built in order to enable the AI system to merge rules that were previously established for claim rejection with newly discovered rules that the AI algorithms had identified. Because healthcare is a dynamic field and this architecture allows the system to adjust to new developments in the field, the AI's capacity to generate new rules was especially crucial. New mistakes that had escaped the system were successfully detected by the system. For the same groups, the false-positive rates were comparatively low, ranging from 5 per cent to 30 per cent.

AI can offer an advanced method for healthcare procedures and techniques. The world's biggest cause of death is heart disease. Over the course of nine years, the study, which involved 243 institutions and almost 600,000 heart attack cases, revealed that about one-third of cases had been initially misdiagnosed. The investigation also examined a number of variables that impacted survival rates. A few of these variables included staffing levels, the availability of specialized hospital facilities, and treatment wait times. Long-term patient cardiac status monitoring is now feasible because of new sensing technology and portable Electrocardiogram devices. A cloud service can keep the data from multiple technologies that measure the patient continuously.

APPLICATION OF AI

The contribution of artificial intelligence has the potential to change the way cancer is studied,

diagnosed and treated. AI has the potential to reduce cancer mortality with earlier and more accurate diagnosis. The fact that this technology gives clinicians a 'extra pair of eyes' will be very helpful because misdiagnosed cancer increases cancer mortality. In general, pathology reports, genetic profiles, cancer site, and tissue of origin allow doctors to draw conclusions about a group of patients. A large range of biopsy pictures may be seen by computer systems, which encourages the customization of efficient treatment regimens. Furthermore, photography can be integrated with data from other sources, like demographics and information gathered from exceptional facilities. In research involving 58 dermatologists from around the world, including 30 specialists, artificial intelligence AI beat a dermatologist's diagnosis of skin cancer.

DeepMind and the Moorfields Eye Hospital NHS Foundation Trust carried out the project in 2016. They collaborated to use five thousand Optical Coherence Tomography (OCT) scans to identify and diagnose significant eye diseases. The sample size reflects the number of OCT scans performed by the hospital each week. Based on guidelines from the National Health Service (NHS), AI concentrated on 53 important diagnosis factors. Results revealed that, having only been trained on 14,884 scans, the AI matched or beat several specialists in eye diseases, with an accuracy of 94 per cent.

CHALLENGES IN IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE

When it comes to the technology itself, there are worries that it can malfunction or not function as planned, leading to an unwanted outcome. Artificial intelligence systems are still vulnerable in a few areas, like as the event of a hacker attack that can cause fatal mistakes. Programs with artificial intelligence that lack comprehension of input and output may encounter unforeseen mistakes and untraceable intrusions. Errors could therefore endanger patient safety and result in harm or even death. There may be communication gaps between the patient and the computer when using AI tools in healthcare. Also, this will lessen in- person interactions between medical professionals and

patients. During the encounter, some patients could merely seek human social interaction and not want to change.

This is why many hospitals hesitate to implement new machine learning systems and instead rely on proven methods of manual data entry. Additionally, implementing machine learning systems requires a large investment of both time and resources to ensure that the data is accurate and secure. Finally, many hospitals lack sufficient technical staff or expertise to manage such complex systems, further hindering adoption. These applications must contend with the influence of various biases, some of which are unique to AI systems and are therefore not considered required verification and validation activities of existing software security standards.

The requirement for enormous amounts of data during the training stages of AI algorithms is one of their major hurdles, as most diseases do not always provide for such an abundance of data. Data labelling is another difficulty, it calls for professionalism and experience and is quite expensive and time-consuming. Accurate model development for uncommon or emerging diseases may become challenging as a result.

GOVERNMENT INITIATIVES IN PROMOTING AI IN HEALTHCARE

The National Institution for Transforming India (NITI) Aayog is spearheading the nation's AI agenda with a focus on research. NITI Aayog is trying to increase the productivity of existing radiologists and pathologists using AI image recognition in its pilot projects. It is also working on early diagnosis and detection of cardiac risk and diabetic retinopathy based on AI models. Such models can be used in the long term to help patients by demonstrating proactive medication in the early stages compared to reactive treatment in the later stages. This improves the chances of survival and reduces the cost of treatment.

As a pilot project, NITI Aayog is working with Microsoft and Forus Health to deploy technology for early identification of diabetic retinopathy. Nethra is a portable gadget designed by Forus Health that has the

ability to identify common eye diseases. Nethra device operators are now able to access AI-based insights even when working on eye control camps in distant places with spotty or non-existent cloud connectivity. In addition to addressing quality difficulties in picture capture, the resulting technological solution performs on-site system tests to assess the utility of the obtained image.

According to the National Health Profile 2018, India is among the nations with the lowest public health spending. With a daily health spending of just ₹3, the Indian government intends to live up to its pledge of providing health guarantee to all or any Indians. The Indian government intends to spend money on the following healthcare applications –

1. Surgical Assistance by Robots
2. Automated Image Diagnosis
3. Clinical Trial Participation
4. Drug Testing Simulations
5. Dosage Error Reduction
6. Virtual Nursing Assistants

The Ministry of Health and Family Welfare has set up the National eHealth Authority to look after the development of an integrated health information system in India. An integrated health information system will be developed along with the application of telemedicine and mobile health in collaboration with various stakeholders. Its main objectives included formulating a 'National eHealth Policy and Strategy' for the coordinated adoption of eHealth, establishing state health record repositories and Health Information Exchanges (HIE) to facilitate interoperability, establishing data governance, privacy and security policies, guidelines and patient health records.

Four Committees have been formed to create policy framework and develop ecosystem of AI in India Committee on -

1. Platforms and data for AI
2. Leveraging AI to identify National Missions in various Key Sectors

3. Mapping Technological capabilities, Skilling, Re-skilling, RandD and Key policy enablers
4. Cybersecurity, Legal, Safety and Ethical issues

SWOT ANALYSIS OF AI IN HEALTHCARE

Global Healthcare Artificial Intelligence is predicted to grow at 51.9 per cent compound annual growth rate from 2018 to 2023 due to increase in the adoption rate of AI solutions among healthcare providers. AI is considered as the next frontier of healthcare innovation. Potential utility of AI spans across healthcare verticals. AI can play an important role in dealing with some of the major issues posed by the existing healthcare facilities.

Strengths –

The government along with private players are taking the initiative in promoting AI in healthcare. NITI Aayog eyes AI research initiative. NITI Aayog is trying to increase the productivity of existing radiologists and pathologists using AI image recognition in its pilot projects.

The adoption rate of AI will increase due to the increasing number of applications of AI for healthcare along with the increasing demand for medical research. These healthcare applications can collect vast amounts of patient data and then systematically manage it for analysis. This data can be used to analyze the healthcare system to highlight problems in treatment, inefficiencies in work procedures and prevent unnecessary hospitalizations.

More patients, particularly those from the lower income category, will be able to afford and benefit from robotic surgery with the introduction of this insurance.

Weaknesses –

Absence of qualified and trained human personnel who can use AI systems to augment their work, as they may not be able to take advantage of decisions made by AI systems. Proper training needs to be provided as there may be an old generation of healthcare workers where

the adoption rate of new technologies is very low.

There will be fear among healthcare workers that AI could take their jobs, so this could further delay their adoption of AI solutions. Proper training should be done and these workers should be allowed to coexist with AI systems. Their AI myths should be debunked well in advance of implementing any AI system.

Like any machine, a robot is susceptible to malfunctions and failures. According to FDA data on adverse events related to robotic surgery, there were over 8,061 (75.9 per cent) device failures and 1,535 (14.4 per cent) adverse events with major poor patient outcomes, such as injuries (1,391 instances) and fatalities (144 cases).

Opportunities –

AI in healthcare can be used to expand access to healthcare services in rural areas where physical access to preventive and curative healthcare services is a major challenge. AI can be used for digital consultations based on patient records in these areas where a doctor is not present.

Artificial intelligence can be used to develop drugs faster than the usual approach to clinical trials. In the event of an outbreak, artificial intelligence can be used to scan existing ones and reengineer them to create new drugs to treat the disease.

By use, robotic-assisted surgery is one of the most promising areas where AI can be used. It offers flexibility and high precision even when performing complex procedures.

Threats –

Job losses will occur if people are not sufficiently qualified to work with AI systems, unable to understand AI algorithms and make decisions based on them. AI systems can completely eliminate the need for human intervention in some areas. In such cases, new jobs should be created where humans can co-exist with artificial intelligence systems, but existing healthcare professionals are not adaptable enough to deal with this change.

People can lose control of the systems they have developed. In that case, the systems take matters into their own hands and can make decisions that can be disastrous for humanity.

One of the most obvious threats is what happens when an AI system goes wrong. It could lead to deaths. If an AI system recommends the wrong drug to a patient or misdiagnoses a disease or misses a tumour on radiology, it can lead to serious deaths. Also, the patient may react very differently to these errors compared to human errors.

DATA ANALYSIS AND FINDINGS

Data analysis is the method via which order, meaning and structure can be provided to the data that is collected. Data analysis helps in ascertaining relationships among the various categories of raw data.

Data analysis

From secondary sources, the following data are collected –

Year	Market size in billion USD
2020	\$10.50
2021	\$11.06
2022	\$15.10
2023	\$20.65
2024	\$28.24
2025	\$38.66

Table 1: Artificial Intelligence in Healthcare Market Size Worldwide from 2020 to 2025
(Source: Primary Data)

Analysis – The table presents the market size of Artificial Intelligence AI in healthcare worldwide from 2020 to 2025.

Trend - The market size demonstrates a consistent growth trajectory over the specified period. The growth rate accelerates noticeably from 2020 to 2023, with the

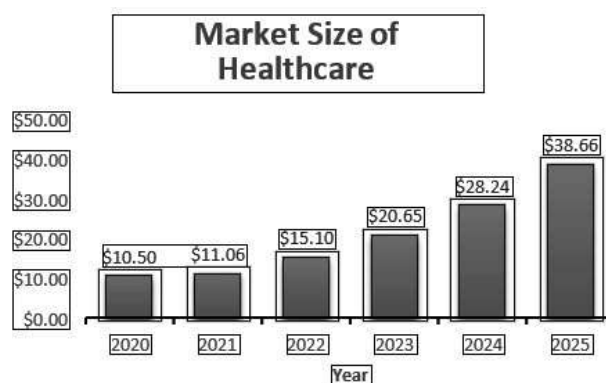


Figure 1: Market Size of Healthcare
(Source: Primary Data)

market size more than doubling from \$10.50 billion to \$20.65 billion. This indicates a growing adoption of AI technologies in healthcare, possibly driven by advancements in AI algorithms, increased computing power, and the growing recognition of AI's potential to revolutionize healthcare delivery.

Projection - The projection for the subsequent years (2024 and 2025) suggests a continuation of this rapid growth trend, with the market size expected to reach \$28.24 billion in 2024 and \$38.66 billion in 2025. This projection indicates a compound annual growth rate (CAGR) that is likely to remain high, reflecting sustained investment and innovation in AI applications within the healthcare sector.

Average Annual Growth Rate = (Ending value) / (Beginning value)^{1 / Number of Years - 1}

$$= \{38.66/10.50\}^{1/6-1}$$

$$= 24.25 \text{ per cent}$$

Organization	Funding Amount (in lakhs)
Sigtuple	408
Qure.ai	160
Tricog	150
Oncoslem	170
Niramai	61

Table 2: Funding of Top 5 AI Organizations in India
(Source: Primary Data)

Analysis – The table provides information on the funding amounts (in lakhs) received by the top 5 AI organizations in India.

Funding Distribution - The funding amounts vary considerably among the organizations, with Sigtuple receiving significantly higher funding compared to the rest of the organizations. Sigtuple stands out as the leading recipient of funding among the top 5 AI organizations in India, indicating strong investor confidence and recognition of its potential in the AI sector. The substantial funding received by Sigtuple suggests that it may have

demonstrated promising technological advancements, market traction, or strategic partnerships that have attracted significant investment.

Investment Trends - The distribution of funding among these organizations reflects ongoing investment trends in AI, particularly in healthcare-related applications, where AI has shown significant potential for improving diagnostics, treatment, and patient care. Investors are likely attracted to AI organizations that demonstrate innovation, scalability, and potential for addressing critical healthcare challenges in India and globally.

With continued investment and support, these organizations can further develop their technologies, expand their market presence, and contribute to the advancement of AI adoption in India and beyond.

Year	Market size in billion USD
2020	5.4
2021	6.1
2022	7.8
2023	8.6
2024	9.3
2025	10.4

Table 3: Global Robotic-Assisted Surgical Market from 2020 to 2025
(Source: Primary Data)

Global Robotic-Assisted Surgical Market

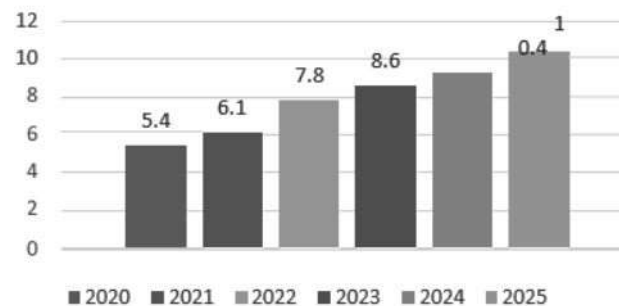


Figure 2: Global Robotic- Assisted Surgical Market
(Source: Primary Data)

Analysis – The table presents data on the market size in billion USD over a span of six years from 2020 to 2025. The market size shows a consistent upward trend over the years. From 2020 to 2025, there is a clear pattern of growth. Between 2020 and 2021, the market size increased by 0.7 billion USD. From 2021 to 2022, there was a larger increase of 1.7 billion USD. The rate of growth continues to fluctuate but generally shows an increasing trend.

Average Annual Growth Rate = $\frac{(\text{Ending Value})}{(\text{Beginning Value})^{1/\text{Number of Years} - 1}}$

$$= \{10.4/5.4\}^{1/6-1}$$

$$= 11.54 \text{ per cent}$$

The consistent growth in market size suggests a healthy and expanding market, which could indicate opportunities for businesses operating within this market. Investors may find this data useful in assessing the potential returns on investments in companies within this market sector.

Correlation – Let us find the Pearson's correlation between the Market size of AI in healthcare and the Market size of Robotic surgery over the values of year 2020 to 2025. Pearson Correlation coefficient is 0.940. This indicates a very strong positive correlation between these two variables. The correlation coefficient of 0.94 suggests that there is a strong linear relationship between the market sizes of AI in healthcare and robotic surgery. This means that advancements in AI are driving the development and adoption of robotic

surgical systems, and vice versa. Both markets have significant growth potential as they are mutually reinforcing.

The correlation reflects the growing trend of integrating AI capabilities into robotic surgery systems. AI can enhance robotic surgery by providing real-time data analysis, decision support, and improved precision, leading to better patient outcomes. Companies operating in both AI and robotic surgery sectors may find synergies in their research, development, and marketing efforts. Collaboration between AI developers and robotic surgery manufacturers could lead to innovative solutions that further drive market growth. Given the rapid growth of AI and robotic surgery in healthcare, there may be regulatory and ethical considerations regarding safety, privacy, and equity that need to be addressed to ensure responsible innovation and adoption.

FINDINGS

Global Context –

The Average Annual Growth Rate of the market size of AI in Healthcare sector worldwide is 24.25 per cent, whereas the Average Annual Growth Rate of the market size of Robot Assisted Surgeries worldwide is 11.54 per cent. If this trend continues the market size of AI in Healthcare sector and Robot Assisted Surgeries would reach \$114.5 and \$18, respectively.

Robotic surgery is most commonly used to treat prostate cancer (27.8 per cent) and thyroid cancer (38 per cent). It is becoming more and more well-liked in many other disciplines, growing at a pace of about 12 per cent every year. In 2020, its global volume was 1.24 million, with 70.6 per cent of its operations taking place in the United States.

Robotic surgery procedures are expected to expand at a 10.5 per cent CAGR in the United States between 2020 and 2030. The medical robotics sector, which includes nursing robots, is expected to bring in \$14.5 billion by 2030.

There were over 47,400 interventions in 2020 and over

89,000 in 2021. This represents an increase of 87.8 per cent compared to the previous year.

Robotic surgery has an average success rate of 95 per cent.

Robotic assistance was used in about 11 per cent of knee repair procedures in 2020. Over 700,000 robotically assisted knee repair surgeries will be carried out globally by 2030.

Indian Context –

Nearly 12,000 robot-assisted surgeries will be performed in India by 2022.

In India, the success rate for robotic surgery is over 94–100 per cent.

In the first two months of 2023, Apollo Hospitals performed over 450 robotic procedures in India; this number continued to rise throughout the year.

CONCLUSION

In conclusion, the exploration of Artificial Intelligence AI in the healthcare sector in India reveals a landscape brimming with potential and promise, yet also marked by unique challenges and considerations. As India navigates its journey towards harnessing AI to enhance healthcare delivery, several key themes emerge. Artificial Intelligence can revolutionize the healthcare industry in India. The opportunities and benefits of artificial intelligence look promising and could change the face of healthcare.

Firstly, AI presents unprecedented opportunities to address longstanding issues such as limited access to quality healthcare services, especially in remote and underserved areas. Secondly, the successful integration of AI in Indian healthcare hinges upon robust infrastructure development, data governance frameworks, and digital literacy initiatives. Investments in digital infrastructure, including high-speed internet connectivity and electronic health record systems, are imperative to support the adoption and scalability of AI technologies across the healthcare ecosystem.

Artificial intelligence is used for CT scans, x-rays, data entry and examinations. Robot-assisted surgery is another field that requires expertise. Artificial intelligence needs to be used extensively in cancer diagnosis and treatment. It should be used in making medicine. As India navigates the complex terrain of AI adoption in healthcare, it must prioritize inclusivity, equity, and ethical stewardship to maximize the transformative potential of these technologies while addressing societal needs and safeguarding public health. By leveraging AI as a tool for empowerment, India can enter in the new era of patient-centered, data-driven healthcare delivery that is accessible, affordable, and equitable for all its citizens.

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The Power Research Centre has noted that 24 per cent of adult having annual income of below 2.53 crores do not have smartphone and 40 per cent lower income do not have either a computer and home-based broadband connection.

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Navigating the Era of Energy Sector Reforms: India's Scoresheet of Paris Protocol Initiatives

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INTRODUCTION

Climate finance encompasses financial flows, public, private, and alternative- to support initiatives, policies, and laws addressing greenhouse gas emissions, climate change impacts, and sustainable development. It is

essential for transitioning to a low-carbon, climate-resilient economy through investments in renewable energy, energy efficiency, resilient infrastructure, ecosystem protection, and aiding vulnerable populations. Climate finance includes grants, loans, equity investments, guarantees, and insurance products tailored to diverse stakeholders' needs.

'Announced in September 2020, the European Union set ambitious new climate objectives with the focal objective of attaining net-zero greenhouse gas emissions by 2050.' As stated by John D. Podesta (Center for American Progress).

The International Energy Agency (IEA) stated in a recent statement that 'India will add almost 14 Gigawatt of renewable power in 2020, raising the nation's total installed capacity to above 100 Gigawatt. However, because of variables like uncertainty and fluctuation, integrating variable renewables into the grid continues to be a difficult task.'

While numerous studies have examined global energy sector reforms in alignment with the Paris Protocol, there remains a research gap concerning a detailed analysis of India's specific progress towards achieving its commitments under the agreement. Many studies focus on either analyzing global performance or evaluating individual country efforts without adequately integrating both aspects to provide comprehensive policy recommendations. While numerous policy recommendations exist for advancing energy sector reforms in accordance with the Paris Protocol, there is often a lack of empirical research evaluating the actual implementation and impact of these policies on the ground. Bridging this gap is essential for ensuring the relevance and applicability of policy suggestions in diverse national contexts.

The objectives of the paper are as follows –

1. The paper aims to evaluate the extent to which countries have implemented energy sector reforms in alignment with the commitments outlined in the Paris Protocols.
2. The paper aims to conduct an assessment of the progress made by India towards fulfilling future policy commitments towards achieving Net-Zero.

The methodology of this paper focuses on analyzing, combining and mapping various literatures and secondary databases and aims to review Government regulated Ministry reports (Ministry of New & Renewable Energy, Government of India), regulatory body reports (like ClimateActionTracker.Org, International Renewable Energy Agency, International Monetary Fund, the World Bank, United Nations Framework Convention on Climate Change, Reserve Bank of India), peer-reviewed academic journals, top publications regarding climate finance which aims to present data regarding the outline of various policies introduced and implemented in adherence to the Paris Agreement.

FUNDAMENTAL PRINCIPLES OF THE PARIS AGREEMENT

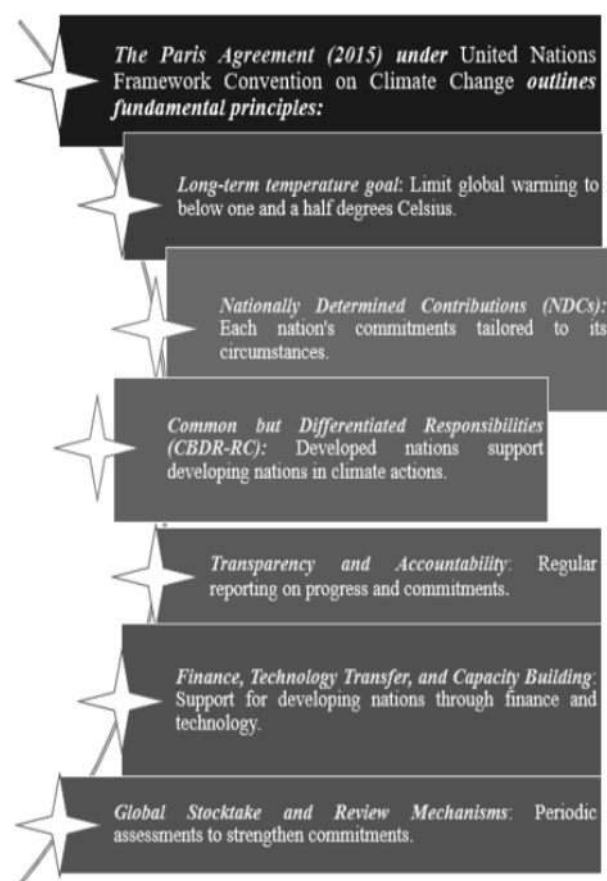


Figure 1: Fundamental Principals of The Paris Agreement
(Source: Primary Data)

Data Analysis

Net-Zero Target – Initiatives and Performance

Net-Zero refers to the balancing out of the greenhouse gases coming into the atmosphere and removal by the atmosphere. The aim to get 'Net-Zero' can only be achieved by overall reduction of greenhouse gas emissions and by producing sinks to remove existing emissions. The Paris Agreement underlines this concept and can be noted as the principal idea to be implemented in order to combat climate change and global warming.

It can be noted, that on point of reaching net-zero means to completely stop global warming. The Convention charts out a target to achieve global net-zero by the second half of the 21st century.

Evaluation of Net-Zero Performance

In order to evaluate whether the scope, architecture, and transparency of each nation's net zero goal align with the Convention's definition of good practice, the Climate Action Tracker (CAT) has defined ten essential components (Figure 1). The assessment methodology is still only relevant to national governments' net zero targets; it is not transferable to other subnational or non-state actors (particularly companies).

The net zero target architecture has to be improved by governments. The framework of net zero deadlines encompassing an aggregate of 75 per-cent of world emissions remain inadequate overall, consistent to the

Good practice for ten key elements of national net zero target setting			
Scope	Target year		
	Emissions coverage	International aviation and shipping	Reductions or removals outside of own borders
	All sectors and gases covered	The net zero target fully covers emissions from international aviation and shipping	Reaching net zero within own borders
Architecture	Legal status	Separate reduction & removal targets	Review process
	Legally binding target	Separate targets for emission reductions and removals	Legally binding review of target and progress against it at regular intervals
	Carbon dioxide removal	Comprehensive planning	Clarity on fairness of target
Transparency	Transparent & scientifically robust assumptions on LULUCF and carbon removals & storage	Transparent and scientifically robust pathway / intermediate targets with clear measures for achieving net zero	Clear statement on why the target is fair

Figure 2: Ten Parameters to Assess The National Net-Zero Target Setting
(Source: CAT.org)

CAT's 'good practice' net-zero assessment (Figure 2). The CAT covers 41 nations, accounting for 7 per-cent of global GHG emissions; just five of these countries have established their net zero deadlines in a fashion that the CAT deems 'acceptable' on grounds of transparency & design.

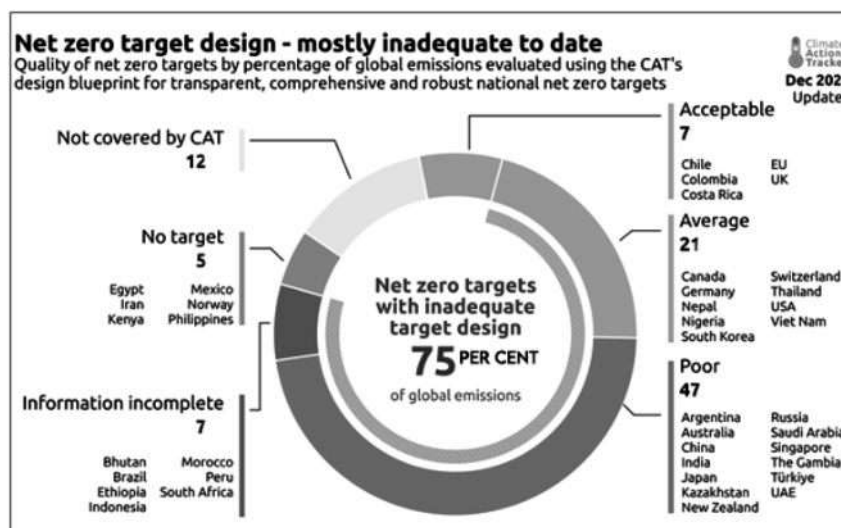


Figure 3: Quality of Net-Zero Targets as Percentage of Universal Emissions
(Source: ClimateActionTracker.Org)

The emissions scenarios adjusted with the 1.5°C temperature restrain set by the Paris Protocols are unequivocal, accomplishing net-negative worldwide outflows as before long as attainable, nearby considerable diminishments over all segments of the economy. This requires a fast heightening in worldwide Carbon Dioxide Removal (CDR) endeavors (Geden et al., 2023; Smith et al., 2023).

To reduce global carbon dioxide and greenhouse gas emissions to net zero by 2050 to 2070, well-thought-out and ambitious net zero targets are essential. This is required to maintain the 1.5°C Celsius temperature limit set by the protocols. In the short to medium term, ambitious net zero targets could also serve as a roadmap for implementing Paris-aligned initiatives, particularly 2030 carbon reduction targets. In its worst cases, net zero aims are ambiguous or unsupported by practical measures. Governments might 'hide' behind aspirational net zero targets, diverting attention from the pressing need for significant emissions limitations if short-term actions are incompatible for achieving the 2030 targets. Governments will have little chance of reaching net zero unless they take immediate action.

Aggregate Emission Share per-cent	per-cent
Nations with similar net zero commitments	33
European Union	7
China	28
United States of America	14
India	7
Countries with no net-zero commitments	11
Aggregate net-zero targets	89

Table 1. Major nations contributing to global GHG emissions
(Source: CAT.org)

Data Findings

Analysis of India's Progress Towards Her Net-Zero Commitments

India has made outstanding progress in conveying renewable energy capacity, positioning fourth all inclusive in 2022. In any case, her dependence on fossil powers proceeds to develop due to the need of running coal and gas-fired control plants at greatest capacity amid periods of increased power requirements, especially amid outstandingly hot summers. To

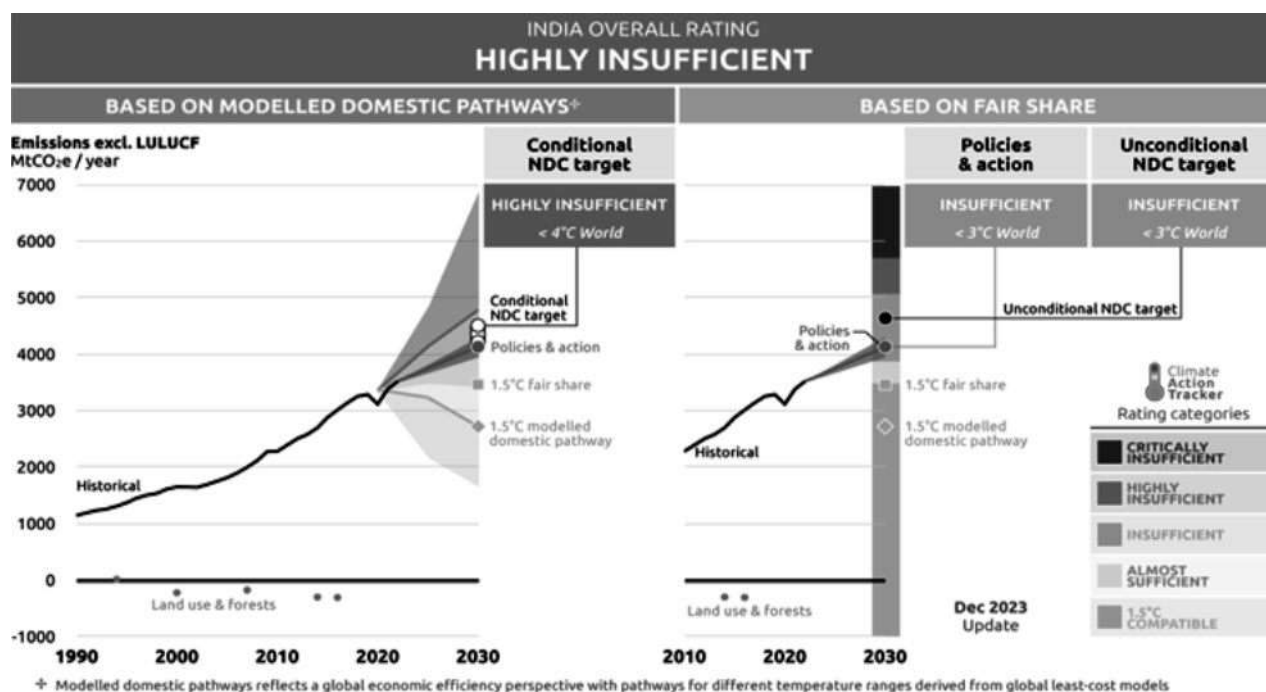


Figure 4 India's ClimateActionTracker.Org rating (as on December 2023)
(Source: CAT.org)

successfully oversee its fluctuating energy utilization due to moving climate designs, India must embrace proactive arranging measures. Both India and the worldwide community must prioritize a total shift from fossil fuels to realize the nation's more yearning development targets. In spite of the fact that the expanded selection of renewable energy and decreased outflows from the control segment have driven to a marginally lower assess of 2030 emissions beneath current arrangements, it is still anticipated that India's add up to outflows will outperform current levels past 2030. To guarantee a reasonable commitment to worldwide climate endeavors, India's emissions must stay underneath those anticipated beneath existing approaches.

The Indian government has actualized a few administrative activities to reinforce renewable energy, counting capacity targets, streamlined authoritative strategies, motivations for household sun powered innovation fabricating, and a noteworthy uptick in green hydrogen generation. In any case, the driven renewable energy objectives are tempered by the continuous dependence on coal control.

The National Electricity Plan (NEP 2023), endorsed in May 2023, diminishes dependence on atomic control over the decade and dispenses with modern gas control increments at first planned for 2022–2027. Whereas there's a slight diminishment in wind control estimates, overall non-hydro renewable energy capacity is set to extend by 21 Gigawatt, to a great extent due to a 31-Gigawatt surge in introduced sun-based capacity.

Concurring to the IEA's World Energy Viewpoint 2023 (WEO2023), India's energy-related outflows are anticipated to crest around 2035 beneath the Stated Policies Scenarios (STEPS), with control segment outflows cresting around 2030. Coal-based control era is anticipated to

stay at roughly 55 per-cent, somewhat lower than the up rise for 2022.

To enhance its climate activity, India ought to:

1. Promise to stage out fossil fuels at Conference of the Parties (COP)28, emphasizing the require for universal help to attain this objective.
2. Terminate including modern coal-fired control capacity and plan a reasonable and maintainable arrange for the early retirement of existing capacity, quickening the arrangement of renewables and capacity options.

Total Rating: Profoundly Insufficient

India's climate desire and approaches are appraised as 'Profoundly Insufficient' by the CAT, meaning that they do not adjust with the 1.5°C warming limit set forward within the Paris Understanding. In spite of the fact that India's moment NDC expanded its paper-based commitments, it would not result in any more real-world emanation decreases than it is as of now doing in terms of climate activity. Comparing its outflows escalated objective to India's reasonable share commitment, it is regarded 'inadequately.'

Shares of different schemes in overall energy savings (percent)

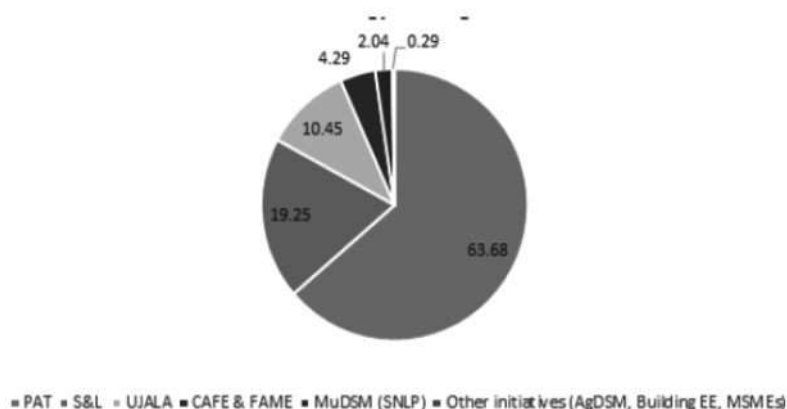


Figure 5 – Shares of different schemes
(Source: International Monetary Fund - IMF)

Conditional NDC Target Against Modelled Domestic Pathways: Insufficient

India's Nationally Decided Contributions (NDC) comprise of three essential components:

1. An emissions-intensity target pointing for a 45 per cent lessening underneath 2005 levels by 2030.
2. An objective to attain 50 per cent of total electric control introduced capacity from non-fossil fuel-based energy assets by 2030.
3. Foundation of a carbon sink of 2.5 to 3 gigatonnes of CO₂ identical through extra woodland and tree cover by 2030.

In spite of India's sign in its overhauled NDC that accomplishing the 50 per cent non-fossil capacity target requires worldwide back, the country is as of now on course to outperform this objective, pointing for 60 per cent or more non-fossil capacity by 2030 beneath existing approaches. In any case, this target falls altogether brief of the decreases required for India to adjust with demonstrated household pathways conducive to restricting warming to 1.5°C, in this way justifying considerable enhancement and worldwide help to direct onto a 1.5°C direction.

National Development Council Target Against Fair Share: Not Sufficient

India's emissions-intensity target, whereas speaking to a commitment to constrain worldwide warming to 1.5°C, is regarded 'Inadequately' in comparison to its fair share commitment. The unlimited objective for 2030 requires considerable improvements to adjust with the 1.5°C restrain, falling brief of India's reasonable share unless other countries essentially increment their endeavors. This target is arranged at the less prohibitive conclusion of a reasonable share of worldwide exertion, with worldwide warming anticipated to surpass 2°C or indeed reach 3°C in the event that embraced generally. The measurement of this target changes based on Gross Domestic Product estimation and 2030 projections, proposing room for

enhancement in straightforwardness with respect to India's target components.

Forestry and Land Utilization: Insignificant

India had a net carbon sink of 308 megatonnes of Carbon Dioxide comparable in 2016. The country aims to increase its woodland cover by 2.5–3 gigatonnes of Carbon Dioxide by 2030, adjusted with the revised National Development Council objective for land and forestry. National Mission of Green India serve as the foundational system for this goal. India's yearning to attain 33 per cent woodland cover, laid out in the 1988 National Forest Policy, contrasts with the current timberland and tree cover of 24.6 per cent as of 2021, showing negligible increase from 24 per cent in 2013.

Net Zero Target: Poor

India declared her target to attain net zero emissions by 2070 at COP26 in 2021, went with by the introduction of its 'Long-Term Strategy for Low Carbon Development' (LTS) amid COP27. In spite of these commitments, India's net zero objective is evaluated as 'Poor.'

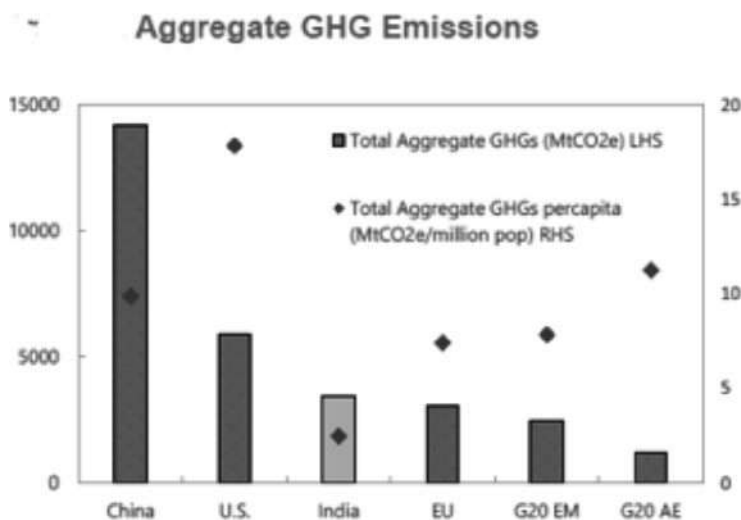


Figure 6: Aggregate Green House Gas Emissions
(Source: International Monetary Fund - IMF)

Recommendations

Moderating climate change requests both inner and universal endeavors. It is basic to consider variables that seem encourage countries in coming to understandings on more forceful nursery gas (Greenhouse Gases) decrease targets. A later IMF examination uncovers that indeed, in case, all existing nation commitments are met, worldwide outflows will diminish by 11 per cent by 2030 compared to 2019 levels. This falls essentially short of the 25–50 per cent decrease fundamental to restrain worldwide warming to 2°C to 1.5°C (Dark S. et al., 2022).

Worldwide participation is vital for the victory of the Paris Convention. India has underscored the need for commitments to be bolstered by climate back and innovation exchange, whereas guaranteeing value, common but unmistakable obligations, and particular capacities are appropriately regarded around the world (Service of Environment, Timberland and Climate Change, 2021).

Climate Financing Options

At COP15 in 2009, developed countries swore to mobilize \$100 billion every year in climate fund for poorer countries, commencing in 2020. However, the clarity of this commitment was lacking. Developing countries have observed that a substantial amount of materialized financing comes from privately leveraged sources and multilateral development banks, meaning that a big percentage of it are loans and not transfers. Genuine financing, whether within the frame of advances or gifts, has fizzled to meet the commitments made. The present yearly cashflows are assessed to surpass \$80 billion, indeed beneath the broadest definition (Black S., et al., 2022).

Estimates propose that by 2030, exchanges totaling \$60 billion will be required to balance the decrease costs of countries with per capita salaries underneath \$4,500 on pathways reliable with constraining warming to underneath 2°C Celcius. These estimates stem from a situation outlined to meet a worldwide 2°C emissions lessening objective, considering the climate financing needs essential to repay lower-income countries (counting India) for their decrease costs (Black S., et al., 2022).

1. **Equity & Necessity:** Middle-income and low-income countries get exchanges based on their populace offers, whereas high-income countries contribute in extent to their emissions share.
2. **Catch-up Component:** Affluent countries contribute based on their rate of outflows. Exchanges are dispensed incrementally, coordinating the nation's decrease costs until coming to an add up to of \$60 billion (or \$30 billion). In this situation, India gets full stipend of \$60 billion and halfway emolument of \$30 billion.
3. **Emissions per Capita:** Whether a country is a payer or beneficiary of payments depends on its deviation from the worldwide normal in per capita residential emissions. Districts with per capita emissions higher or lower than the worldwide normal get exchanges based on the deviation increased by the region's populace and a worldwide carbon motivating force (GCI). The GCI, balanced to guarantee add up to exchanges sum to \$60 billion, stands at \$4 per ton of CO₂ in 2030.

Due to its huge population and comparatively low energy outflows per capita, India receives payments in all scenarios (30–39 per cent of add up to exchanges). Studies predict that the worldwide shift from fossil powers and direct climate financing will lead to lower fossil fuel import costs, boosting India's Gross Domestic Product (GDP) over all scenarios. Significantly, carbon taxes in high-income countries might reasonably fund all scenarios. The commitment from high-income countries sums to 3.4 (1.7) per cent of carbon charge incomes, adequate to attain the \$60 bn objective.

CONCLUSION

India faces challenging approach choices in reaction to climate alter, however it can accomplish greener, more strong, and impartial development. With over one billion individuals, India points to move forward living benchmarks whereas essentially decreasing worldwide nursery gas outflows, recognizing its position as one of the biggest outright polluters. The government has actualized different measures to advance renewable energy generation and utilization, counting Production Linked Incentive (PLI) plans, Renewable Purchase



Figure 7: India's Analysis Under the Ten Parameters
(Source: ClimateActionTracker.Org)

Obligations (RPOs), Perform Achieve and Trade (PAT) plot, and as of late, a carbon exchanging advertise. In any case, assist endeavors are fundamental to realize the 2070 net zero target.

India is embracing a multifaceted approach to move absent from coal, recognizing its noteworthy commitment to the economy and business. Whereas coal powers over 70 per cent of India's power and contributes almost 40 per cent of CO₂ emissions, approach activities such as appropriations for renewable energy, administrative necessities for energy proficiency, and Renewable Energy Certificates (RECs) have encouraged outflows diminishment. However, without extra measures, emissions are anticipated to rise quickly, requiring expanded speculation in renewable energy, leveraging innovative exchanges, outside subsidizing, and nearby credit markets.

The move to cleaner energy will involve costs and benefits. Whereas GHG outflows diminishment may

briefly affect development and have distributional results, the long-term benefits, counting moved forward wellbeing results and expanded efficiency, exceed these costs. Policy mediations ought to prioritize reskilling and back for communities influenced by the move to guarantee no one is cleared out behind. Deferring the move will heighten costs and reduce long-term benefits.

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Training of personnel in AI use becomes a must for companies if their workers are to be fit for this new tech life.

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Are We Ready for the Artificial Intelligence Revolution?

How Technology is Redefining the Future of Work

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ABSTRACT

In 2011, IBM Watson, a Natural Language Processor (NLP), beat the world champion in Jeopardy. Since then, we've made tremendous progress in Generative AI over the past 13 years. Large language model systems (LLMs) like GPT-4 and image generators like Midjourney have become extremely good at generating text, images, code and even videos. But more importantly than that they have been getting better at an ever-faster rate. GPT 3.5 which was launched for public use in December 2022 had failed to clear UPSC Prelims Exam Paper with 54 out of 100 questions right but GPT-4 got 88 questions right passing the preliminary round of the third most difficult exam on Earth. This article is about understanding the ability of AI to bridge skill gaps across organizations, quantify productivity gains from AI-augmented workflows, and assess whether technology can shift human effort from routine activities to more strategic levels while future proofing their operations against growing uncertainty and discovering new frontiers of productivity.

KEYWORDS: Generative Artificial Intelligence, AI-Driven Automation, Workforce Transformation, Employee Productivity.

THE NEW ARTIFICIAL INTELLIGENCE ERA: REDEFINING JOBS, SKILLS, AND THE FUTURE OF WORK

Artificial Intelligence can be characterized as the imitation of human intelligence with the help of computer systems. The dynamic progress of artificial intelligence is steering the world for a new regime that supremely reshapes corporate reality and creates new work as well. This technological revolution has initiated a crucial discussion regarding the future of work and the impacts of AI on employee productivity.

There are specific job roles which were traditionally considered immune from automation but now could be automated with aid from AI technology. The question 'What happens to jobs? What skills will be needed? What does 'work' mean anymore?' becomes more pertinent than ever.

Technological disruptions are not new, similar concerns were raised during the advent of computers, which many feared would replace human jobs. In spite of the fact that disruptions are present, it is also a chance that the meaning of productivity will be constantly redefined, and the new limitations of human potential might come into light. Step by step, AI based automation eliminates a worker's repetitive functions, and this, in turn, can lead them to invest their energy in critical thinking, strategic planning, and high-level business objectives.

LITERATURE REVIEW

1. AI, Labour, Productivity, and the need for Firm-Level Data (Seamans and Raj, 2018)

The research identifies and summarizes the latest scientific findings about the AI technology influence on jobs and productivity and finally emphasizes the importance of business-level information accumulation.

2. The impact of artificial intelligence on labour productivity (Calvino, Criscuolo, Marcolini, and Squicciarini, 2020). This paper investigates the complicated link between artificial intelligence (AI) and how it affects the productivity of workers in many different fields
3. Productivity Performance, Distance to Frontier and Ai Innovation: Firm-Level Evidence from Europe (Venturini, 2023) This paper investigates how the use of AI tools affects the productivity of businesses in different European countries and showcases that using AI may significantly boost productivity, especially for companies that are not sufficiently advanced along in technology.
4. Experimental evidence on the productivity effects of generative artificial intelligence (Noy and Zhang, 2023). The research shows that the adoption of generative AI tools such as ChatGPT increases productivity because it shortens the time taken to complete a task as well as improves the quality of the work done, thus transforming the nature of mid-level writing activities among professionals.

RESEARCH METHODOLOGY

Approach: Secondary Data Analysis

This research obtained and used secondary data. The secondary data sources include a collection of government published statistics and other variables that evaluate its performance and determine its course in relation to the growing artificial intelligence landscape.

Sources: Such organizations from where data was collected are AI Policy Research Monitor, World Bank, ABI Research, Precedence Research, Massachusetts Institute of Technology.

The acquired data is subjected to multiple tests to verify its validity as well as enable the drawing of appropriate conclusions.

OBJECTIVES

1. Quantify productivity gains from AI-augmented workflows: The study looks for the direct gains in employee productivity that follow from the use of AI tools alone or alongside existing workflows, giving judgement about whether AI improves performance quantitatively or not in that context.
2. Assess whether technology can shift human effort from routine activities to more strategic levels: The research examines the possibilities of AI to perform rote and repetitive operations, as a consequence, the employees will reinitialize their attention on high-value and strategic activities that need humans to be creative and analytical.
3. Provide practical guidance for companies navigating an increasingly technology-dominated landscape by combining the strengths of both humans and machines: The study is fundamentally driven by offering contextually valuable information and directions to the organizations on how to make the most use of AI technologies while capturing unmatched power of human workers.

AI INVESTMENT SURGE: GLOBAL LEADERS AND FUTURE MARKET OUTLOOK

The fast-growing industry of artificial intelligence is boosted by a constantly growing demand for solutions that are new and innovative. Globally, the AI market grew significantly from \$84 billion in 2022 to \$133 billion in 2023, the latter of which showed an annual compound rate of 18.5 per cent (see Figure 1).

Among all the AI spendings in the whole world (see Table 1 and Figure 2), Singapore is leading when this is assessed as a share of the country's GDP. Notwithstanding being a small amount when compared to other countries which amount to \$7 billion, it makes up 15.2 per cent per 1,000\$ GDP. Sweden ranks second with 14.13 per cent of the GDP allocated to AI development. This mega capital investment is one more example of Sweden's legacy of embracing new tech and fostering a culture that is open to innovation.

India is also increasingly becoming a significant investor in Artificial Intelligence worldwide. On March 7th, 2024, the Indian government set out a plan for spending INR 103B(\$1.25B) in artificial intelligence projects. This includes building infrastructure for computing, developing large language models, financing startups working on AI and other technologies, providing software for state structures as per the recommendations of the IT industry body. Moreover, the 2027 market for artificial intelligence in India is forecast to reach \$17bn. There will be a staggered growth between 25 per cent and 35 per cent from 2024-2027.

AI'S ADVANTAGES ACROSS INDUSTRIES: PERCEPTIONS AND IMPACT

According to the data collected by AI Policy Research Monitor (see Table 2), the most distinct perceived benefit, out of 43.1 per cent, is the possibility of AI to increase productivity. In this context, employees recognize the ability of artificial intelligence to make processes run easier, automate tasks and improve productivity. Following productivity, about 39.4 per cent of the workforce thinks that AI can further augment the decision-making abilities in their work. This shows

that AI can give data-oriented insights, look at complex knowledge and support clear decision-making processes. Through AI-powered suggestions that augment the role of human judgement, firms have the potential to prevent inaccuracies and lateness regarding such decisions and thus gain better results.

However, 4.1 per cent of the audience considered AI has no factual benefit on their work. Although the percentage is comparatively small, however, this depicts the problem that employers face in successfully instructing their workforce on the benefits and opportunities of Artificial Intelligence and addressing any scepticism they may have.

According to Ankle Brachial Index (ABI) Research, different sectors will be having different levels of value addition through implementation of artificial intelligence, Retail and E-Commerce shows the highest potential while Marketing and Advertising is second (see Figure 3). Retail and e-commerce estimated creation would rise nearly up-to hundred times between 2023 and 2030 while marketing and advertising one was expected to grow almost twenty times within this same period.

The possible reasons for the exponential growth in Retail and E-Commerce and Marketing and Advertising could be the use of AI for personalization, operational efficiency, and value creation through targeted communication with customers.

THE AI REVOLUTION: CUTTING TASK TIME BY HALF AND BOOSTING QUALITY BY 18 PER CENT

Relationship between use of AI and Time Taken to complete Tasks

Source of Data: 'Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence,' by Massachusetts Institute of Technology

Null Hypothesis (H_0): There is no difference in mean time taken to complete tasks with and without using Artificial Intelligence Tools

Alternate Hypothesis (H_1): There is a difference in mean time taken to complete tasks with and without using Artificial Intelligence Tools

Paired T-Test Table				
Variable	Mean	N	Standard Deviation	Standard Error Mean
Time taken without the use of AI tools	25.06	215	2.084	.142
Time taken with the use of AI tools	17.00	215	2.029	.138

Table 1: Paired T-Test Table
(Source: Author's Own Compilation)

Paired Samples T-Test						
	Paired Differences				T	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95 per cent Confidence Interval		
				Lower	Upper	
Time taken with and without the use of AI tools	8.060	.336	.023	8.015	8.106	351.361

Table 2: Paired Samples T-Test Table
(Source: Author's Own Compilation)

Since the significant value is less than the p-value (0.05), the null hypothesis will be rejected and the alternate hypothesis will be accepted instead. Hence, the test indicates that using Artificial Intelligence tools induces a significant reduction in completing tasks among employees

RELATIONSHIP BETWEEN USE OF AI AND TASK GRADES

Source of Data: 'Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence', by Massachusetts Institute of Technology

Null Hypothesis (H_0): There is no difference in mean grade received with and without using Artificial Intelligence Tools.

Alternate Hypothesis (H_1): There is a difference in mean grade received with and without using Artificial Intelligence Tools.

Paired T-Test Table				
Variable	Mean	N	Std. Deviation	Std. Error Mean
Grades received with the use of AI tools	4.5214	215	.26862	.01832
Grades received without the use of AI tools	3.8209	215	.26717	.01822

Table 3: Paired T-Test Table
(Source: Author's Own Compilation)

Paired Samples T-Test								
	Paired Differences				T	df	Sig. (2-tailed)	
	Mean	Standard Deviation	Standard Error Mean	95 per cent Confidence Interval				
				Lower	Upper			
Grades received with AI and without AI	.70047	.05426	.00370	.69317	.70776	189.303	214	0

Table 4: Paired Samples T-Test Table
(Source: Author's Own Compilation)

Since the significant value is less than the p-value (0.05), the null hypothesis will be rejected and the alternate hypothesis will be accepted instead. Hence, the test indicates that using Artificial Intelligence tools induces a significant increase in task grades.

Findings

The importance of AI tools for increasing the efficiency of work is evident, as their use in business can significantly decrease the time taken to complete tasks and improve the quality of the end result. Massachusetts Institute of Technology (2023) had

conducted a study and found that the use of AI tools caused a 47.41 per cent reduction in the time taken to complete tasks and an increase in work quality by 18.32 per cent as compared to the previous level of quality. This two-fold advantage demonstrates AI's ability to streamline processes, eliminate repetitive tasks, and enable workers to focus on more valuable tasks, which in turn increases productivity and work quality.

This shows the support for the proposition that AI tools can greatly increase work throughput and are therefore crucial tools for today's competitive business environment. AI technologies are gradually being incorporated into organizations, and these tools should become increasingly important in increasing productivity and creating value.

UNLOCKING AI'S FULL POTENTIAL: STRATEGIC RECOMMENDATIONS FOR MAXIMIZING PRODUCTIVITY

Development of a comprehensive AI strategy: There must be an AI plan in place within organizations which must follow business objectives that must not conflict with the core values of the company.

Fostering a culture of continuous learning: Training of personnel in AI use becomes a must for companies if their workers are to be fit for this new tech life. This is especially because learning must be continual so as to ensure personnel have skills and knowledge to use the tools well and adjust to the dynamic work environment. It could range from creating unique AI technologies courses, enabling connections between different educational establishments or workforce units through to nurturing a growth mindset among the workforces.

Promotion of Human-AI collaboration: Collaborative cooperation between machines and human beings must be at the centre of organizations understanding that the mission of humanity is to be fulfilled with the help of AI systems. Through fusing human knowledge

with that of machines, organizations can click into top gear and drive innovation.

Such companies will be able to use AI to their benefit, to get over the challenges of a difficult environment due to creation of a more innovative and competitive environment in a changing scenario. AI, its adoption and industrialization, should be considered in a comprehensive way, considering technical as well as organizational problems and the human factor. The future of work is facilitated by AI through the evolution of learning, collaboration, and responsible deployment.

In conclusion, organizations that embrace AI will not only unlock its full potential but also deliver their employees and operations from the constraints of the past, ensuring a future where innovation and productivity are boundless. However, as we stand on the brink of this AI-driven future, the question remains: Are we ready to embrace this transformation and redefine our roles, or will we be left behind in the wake of this technological advancement?

TABLES AND FIGURES

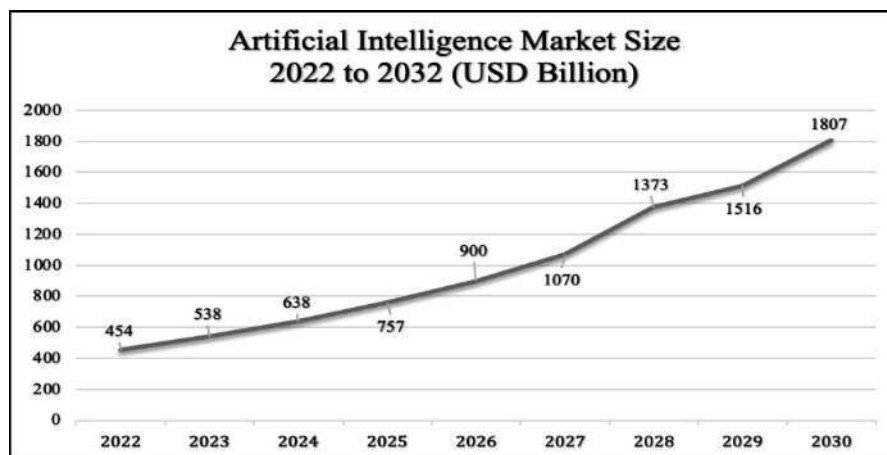


Figure 1: AI Market Size (2022 - 2032)
(Source: Precedence Research (an extract))

Country	Sum of Investment in last five years	Investment in past five years (per thousand \$ GDP)
United States of America	\$328.548B	12.90
China	\$132.665B	7.39
United Kingdom	\$25.541B	8.32
India	\$16.147B	4.77
Canada	\$12.457B	5.82
Singapore	\$7.005B	15.01
Sweden	\$8.281B	14.13

Source: AI Policy Research Monitor (AIPRM) and World Bank

Table 5: Global AI Investment Summary (2019-2024)
(Source: Primary Data)

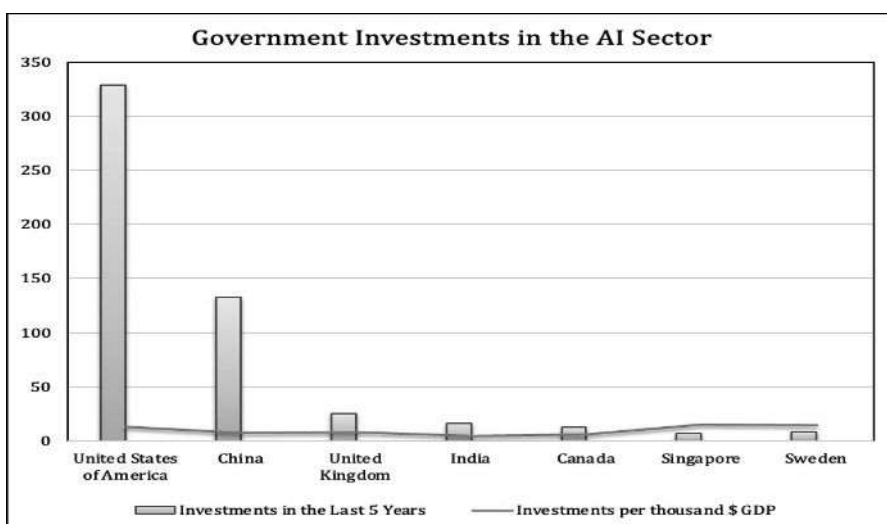


Figure 2: Government Investments in AI: Total vs. Investment per Thousand \$ GDP Across Major Economies (2019-2024)
(Source: AIPRM and World Bank)

Increase in Productivity	Enhanced Decision Making	Reduction in risk of errors	Reduced Customer Response Time
43.1 per cent	39.4 per cent	35.3 per cent	34.0 per cent
Streamline Job Process	Improving Customer Relationships	Increase in Profits	None
30.9 per cent	30.8 per cent	44.9 per cent	4.1 per cent
Source: AI Policy Research Monitor (AIPRM) Survey Data			

Table 6: Employee Perceptions of AI's Benefits in the Workplace
(Source: AIPRM Survey Data)

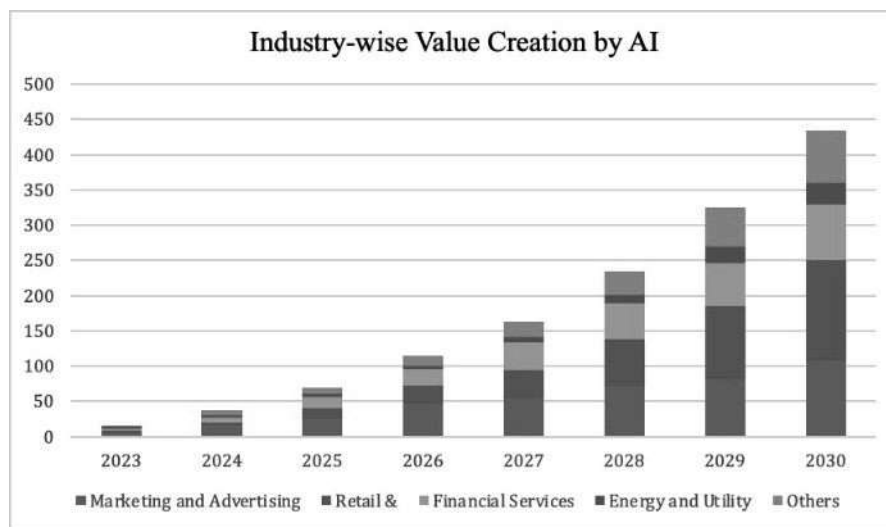


Figure 3: Projected Industry-Wise Value Creation by AI (2023-2030)
(Source: ABI Research, *Generative AI in Business*)

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In this glittering universe of marketing, celebrity endorsements have the power to steal the spotlight with their captivating association and benefits that they offer to the brand.

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The Impact of Celebrity Endorsements on Customers' Perception

Prof. Rebecca Gasper
Department of Commerce (Evening)

Ayushi Jain
Department of Commerce (Evening)

ABSTRACT

This study aims to understand the impact of celebrity endorsement on customers' perceptions. Its focal point has been on the pros and cons of celebrity endorsements. Current trends reflect that while celebrity

endorsements have long been a staple for marketing strategies, a significant rise in the popularity of social media influencers can prove to be a game changer.

A mix of primary and secondary sources of data has been used to collect and analyze information with the help of visualizations. Through this study, an attempt has been made to shed light on the reasons behind why customers are inclined to purchase a product as a result of celebrity endorsements, the product categories that are more prone to it, and to determine the qualities in celebrities that appeal to the customer the most. The findings of this research reveal a compelling contradiction to the initial hypothesis. Despite the widespread belief that celebrity endorsements influence customer perceptions, the data collected at some intervals disagree with this commonly accepted notion. Findings also indicate a disparity between perceived and actual influence.

KEYWORDS: Celebrity Endorsement, Customer Perception, Indian Celebrities, Brand Endorsement, Celebrity Valuation.

INTRODUCTION

Background of the Study

From the glitz and glamour of the red-carpet events to their crafted social media posts and philanthropic activities, celebrities and influencers leave no stone unturned to unveil the power of their stardom and create a magnificent image of the brands they endorse. Owing to the efforts of celebrities and their Public Relations team, celebrity endorsements as a marketing strategy have paved its way to the top in a constantly changing marketing terrain. Marketers have recognized a symbiotic relationship between celebrity endorsement and customers' perception. i.e., they act as a catalyst in influencing the customers about a particular brand or product. In this glittering universe of marketing, celebrity endorsements have the power to steal the spotlight with their captivating association and benefits that they offer to the brand.

Celebrity Endorsement

Endorsements can be defined as a form of advertising that makes use of celebrities or influencers to spread awareness about the brand, the basic features of the product, or even its USP (Unique Selling Point). These celebrities or influencers are said to command a high degree of respect in society and are followed by the masses. The brands seek approval from such a class of people so that their products do not only gain the required recognition but also their validation which could ultimately influence their target customers resulting in profit generation. Endorsements can have a large impact on the image of a particular brand. This impact is not always necessarily positive. It also depends on the congruence between the endorser and the brand personality.

Studies say that the more congruent the personality of the endorser and the respective brands they are promoting the more influence it will have on the minds of the masses.

According to Steve Olenski, celebrity endorsements strike the right balance between sales which is a short-term phenomenon, and brand awareness which is a key factor for success in the long run.

Customer Behaviour

1. A customer is a person (individual, company, organisation, entity) which purchases goods or services from a supplier in exchange of a consideration.
2. Behaviour refers to the actions or responses of an individual in response to certain stimuli, situations or circumstances.
3. Now, customer behaviour can be defined as the actions, reactions and responses to certain factors while purchasing a product (goods or services), i.e. their response while selecting a product.

Customer Vs Consumer

A person might wonder that in this study we will be talking about customers or consumers, and are they the same or two entirely different terms. The answer to this would be there is certainly a difference between the two highlighted terms.

1. A customer is an individual, or organisation who makes the purchase of the product from the seller in exchange of the consideration.
2. However, in contrast, the consumer covers the consumption aspect i.e., it refers to the individuals or entities that use or consumes the product, regardless of whether they have made the purchase or not.

So, in a nutshell, a customer can be a consumer, but a consumer may not always be the customer.

The present study concentrates on understanding the influence of Celebrity Endorsements on customer perceptions. Customer perception is a reflection of their choices and expectations. Hence, there is a need to also discuss the factors that affect consumers' perceptions.

Factors Affecting Consumers' Perception

Customer perception about a product or brand is a culmination of various factors that may vary from person to person, from one region to another, from one economic status to the other, and so on. Some of the key factors that may influence a person's perception of a brand or a product in particular are given as follows:

1. **Product Quality:** If the quality of a product meets, or exceeds, the expectations of the consumer, it plays a key role in contributing positively to their perception of the product.
2. **Price:** Higher prices often are associated with their quality by luxury brands like Louis Vuitton, Versace, Dior et al., while lower prices indicate affordability.
3. **Brand Image:** The image or personality of the brand widely impacts and helps shape the perception of the consumers.
4. **Advertising and Marketing:** The way a brand presents itself Infront of its potential customers and consumers have a great impact on their perception about the brand. It increases its visibility and credibility.
5. **Packaging and Presentation:** The visual appeal of the product, adds a layer to its image, increases its desirability and hence impacts consumers' perception.

Celebrity Endorsements is also a vital factor that is said to impact customer perception and make them inclined towards a particular brand or product. To build a brand image through advertising and marketing, celebrity endorsements are widely used by marketers as the celebrity confers their image to the brand that they are promoting.

LITERATURE REVIEW

Former studies on celebrity endorsements conducted in the last decade indicate that past research has circulated certain central themes. One such theme revolves around the argument whether celebrity endorsements are effective to impact brand image. June (2023) et al. has attempted to examine whether a celebrity endorser's key associations complement and help improve a brand's low corresponding association for both unknown and well-known brands. The result relied on various statistical techniques for the analysis part and concluded that when consumers have no prior knowledge about a brand, celebrity endorsers hold the power to influence brand image by transferring their benefits to the brand.

Few authors have delved deep into understanding the qualities within a celebrity that influence purchase decisions. Ahmed (2015) et al. have attempted to study the characteristics of a celebrity that attracts or appeals more to the public at large, and whether brand influence supersedes celebrity endorsement. This research paper has adopted an integrated model for analyzing the relationship between customer perception and celebrity endorsement. The entire study has been conducted by a mixture of primary as well as secondary data sources making the study descriptive and quantitative at the same time. Through the analysis of primary data, the researcher has concluded that celebrity advertisements are more attractive and influence the perception of customers, the result of which is a boost in sales and purchase of the product.

Similar research was jointly conducted by Rafique and Zafar (2012) who have strived to explore the different elements and factors that influence customer attitude and purchase intention. The researcher has considered

physical attractiveness, source credibility, and celebrity/brand congruency as the independent variables to test whether customers' buying behavior is dependent on these variables. The research is solely based on data collected through a questionnaire circulated in different areas of Pakistan. From the analysis of collected data it was concluded that celebrity endorsement is not just an influential factor but rather a casual factor that affects customer perception of a product positively and helps to increase its sales.

In a recent publication, Al-Mutairi and Siddiqui (2023) have endeavoured to unravel the factors that are most effective in influencing purchase decisions among consumers in Saudi Arabia. The research concluded that purchase decisions are most influenced by celebrity attractiveness and trustworthiness, having a long-lasting impact on the consumer's mind.

Another central theme around which former studies have circled is whether demographic variables like gender or age have an impact on consumers' minds in the context of celebrity endorsements. Chan and Fan (2022) have aimed to study the effectiveness of celebrity product endorsement among mature adult consumers. Persons aged 50-64 have been defined as mature adults in this study. A qualitative study was conducted in the research process. Interviews were conducted to fulfill the research objectives. The results stated that the mature society is not as influenced by celebrity endorsements as compared to young adults. The qualities in celebrities that appeals to them the most are ethical and moral standards practiced by the celebrity and their discharge of civic responsibilities.

Similarly, Lazar (2020) has tried to figure out whether gender has any impact on customer perception of celebrity endorsements. Her research findings indicate that there are certain significant differences between men and women concerning their response to celebrity endorsements. Women agree with the fact that celebrity endorsers guarantee the quality of products they promote while on the other hand, men are more realistic and undemonstrative in their approach.

Mahana (2019) et al. give a more holistic and comprehensive view of the impact of celebrity endorsements on the buying behavior of consumers

belonging to different age groups, genders, occupations, and income levels. Primary as well as secondary data were considered while undergoing this research. The researchers' main objectives were to find out which categories of celebrities persuade consumers the most to buy a product, examine the attributes of a celebrity that affect the purchase intention, and study the types or categories of product that the consumers prefer to buy if they are being influenced by a celebrity endorsement. The study concluded that Celebrity Endorsements help create awareness but have no direct impact on consumer purchase intention. Hence, it is not as important to a consumer as other factors such as price and quality of a product.

A cluster of research articles in the post-pandemic era were orchestrated on the theme of celebrity endorsements through digital marketing and their impact on customers online. Sutia (2023) et al. conducted a study on celebrity endorsements in the social media context. The purpose of this study was to examine the effects of online marketing strategies on repurchase intention. The data collection technique in this study was quantitative and involved distributing questionnaires to 175 respondents in the city of Jakarta. The study concludes that celebrity attractiveness and trustworthiness do have an impact on repurchase intention while expertise does not play a significant role.

Hameed (2023) et al. have made an effort to understand the mediating effect of consumer attitude and the buffering role of celebrity in the age of digital communication. The study used a deductive approach with an online survey technique. The researcher found out that people follow celebrities from all over the world to stay updated about the products and brands these celebrities endorse or promote whether on their social media handles, television commercials, or through any other mode. Consumers derive inspiration and recommendations from these celebrities while purchasing a product. Hence, the study concluded that celebrity endorsement has a significant moderating impact on shaping the attitude of customers.

Macheke (2024) et al. devised their study to bring to light whether online reviews on social media and websites of beauty products have an impact on the

purchase intention of female consumers. The target population for this study was the young female student community. This paper has relied on the data collected using convenience sampling, a non-probability sampling technique. The results stated that celebrity attractiveness and brand loyalty do not have an impact on young female consumers' purchase decisions of beauty products.

RESEARCH GAP

A meticulous review of the past literature has led to the identification of the following gaps in the existing literature:

1. **Updated Endorsement Values of Celebrities:** After reviewing former studies, it has been observed that several authors have deliberately left out the identification and listing of celebrities on the basis of their endorsement values and impact on the customer purchase decision. There is a need to present an updated list of Indian celebrities based on their endorsement values to highlight the additions, subtractions, and movements within the existing statistics reported by Brand Valuation Indexes.
2. **Inherent Qualities in Celebrities that Appeal to the Customers:** Understanding which characteristics found within a celebrity are most capable of impacting customer purchase decisions, is another partially neglected area of study. Analysing the reasons why celebrity endorsements influence purchase decisions is incomplete without a thorough identification of the inherent qualities found within a public figure that is considered appealing and influential to the masses.
3. **Product Categories that are most susceptible to Celebrity Endorsements:** There are different types of product categories based on the frequency of the purchase, the funds disbursed, the availability of the products, and the perceived importance of the purchase decision in the mind of the customer. Based on the above factors, goods can be broadly classified into: Shopping, Convenience, and Specialty products. Examining which product

category is most susceptible to celebrity endorsements thereby influencing the minds of customers, is another unexplored area that gives scope for the development of a distinctive study.

OBJECTIVES OF THE STUDY

The main objectives of the study, stemming from the research gap in the existing literature, are delineated as follows:

1. To determine the top 10 Indian Celebrities based on their endorsement values.
2. To analyse the perception of customers towards celebrity endorsements.
3. To determine the qualities in celebrities that appeal to the customer.
4. To ascertain the product categories that customers are inclined to purchase as a result of celebrity endorsements.

RESEARCH METHODOLOGY

Research Design: The research design is descriptive in nature. To achieve the first objective, statistics from several secondary sources of data have been studied and assembled to put together a list of celebrities based on their endorsement values. A quantitative approach has been applied to achieve the next three objectives, as it has employed quantitative data collection instruments (questionnaire-based survey) to gather information from the respondents.

Sample Design: The study has been conducted on 90 respondents from West Bengal, aged between 15-60. The non-probabilistic convenience sampling method was applied to determine the study sample. The respondents were surveyed through a structured close-ended questionnaire.

Sources of Data: The data has been collected from both primary and secondary sources. The primary data has been collected from the respondents by circulating a self-administered close-ended questionnaire on a five-point Likert scale. Secondary data has been

gathered from books, journals, research reports, and articles.

Tools Used: The collected data has been screened, categorized, coded, and then fed into Microsoft Excel for evaluation and analysis through trend lines, bar graphs, and pie charts.

Period of Study: The period taken to collect the data, analyse, and draft the findings was approximately 3 months.

Analysis of Data

Objective 1: To Determine the Top 10 Indian Celebrities Based on Their Endorsement Values

According to the eighth edition of Celebrity Brand Valuation Study 2022: 'Beyond the Mainstream' launched by Kroll, the following celebrities capture the top positions.

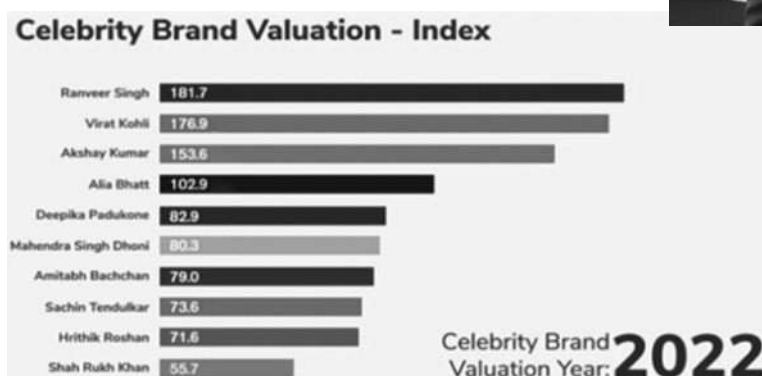


Figure 1: Top 10 Indian Celebrities Based on Endorsement Values
(Source: Kroll.Com, Celebrity Brand Valuation-Index)

1. Ranveer Singh



Figure 2: Image of Ranveer Singh
(Source: Internet)

1. Most Valued Celebrity as per the report
2. Brand Value: - \$181.7million
3. As per 2021 Brand Rank he occupied: second rank
4. Brands Endorsed: - Make My Trip, Kotak Mahindra Bank, Ching's Secret, Jack and Jones, et al.

2. Virat Kohli



Figure : Image of Virat Kohli
(Source: Internet)

1. Slips to the second position as per the report
2. Brand Value: - \$176.9million
3. As per 2021 Brand Rank he occupied: first rank
4. Brands Endorsed: -Myntra, Puma, Manyavar, Star Sports et al.

3. Akshay Kumar



Figure 4: Image of Akshay Kumar
(Source: Internet)

1. Cements himself at the third position as per the report
2. Brand Value: - \$153.6million
3. As per 2021 Brand Rank he occupied: third rank
4. Brands Endorsed: -Dabur, Dollar, Kajaria, Catch Salts and Spices et al.

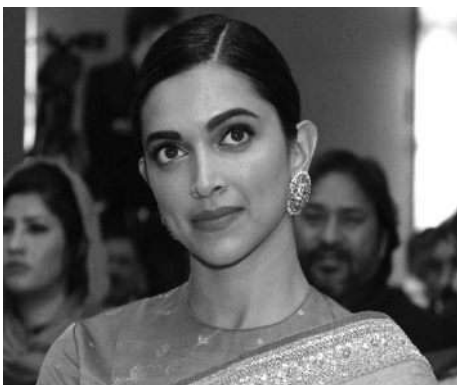
4. Alia Bhatt



*Figure 5: Image of Alia Bhatt
(Source: Internet)*

1. Steady at the fourth position as per the report
2. Brand Value: - \$102.9million
3. As per 2021 Brand Rank he occupied: fourth rank
4. Brands Endorsed: -Manyavar, Make My Trip, Lays, Maybelline et al.

5. Deepika Padukone



*Figure 6: Image of Deepika Padukone
(Source: Internet)*

1. Jumps up the ladder to occupy fifth position as per the report
2. Brand Value: - \$82.9million
3. As per 2021 Brand Rank he occupied: seventh rank
4. Brands Endorsed: - Lloyd, Louis Vuitton, Oppo, Lux et al.

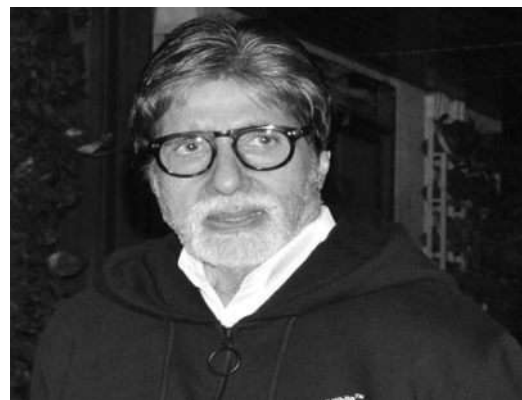
6. Mahendra Singh Dhoni



*Figure 7: Image of Mahendra Singh Dhoni
(Source: Internet)*

1. Slips to sixth position as per the report
2. Brand Value: - \$80.3million
3. As per 2021 Brand Rank he occupied: fifth rank
4. Brands Endorsed: - Oreo, Skipper pipes, Indian Tobacco Company (ITC), Orient et al.

7. Amitabh Bachchan



*Figure 8: Image of Amitabh Bachchan
(Source: Internet)*

1. Slips to seventh position as per the report
2. Brand Value: - \$79million
3. As per 2021 Brand Rank he occupied: sixth rank
4. Brands Endorsed: - Navratna Oil, Kalyan Jewellers, Dabur Chyawanprash, FirstCry et al.

8. Sachin Tendulkar



Figure 9: Image of Sachin Tendulkar
(Source: Internet)

1. Moves up to eighth position as per the report
2. Brand Value: - \$73.6million
3. As per 2021 Brand Rank he occupied: 11th rank
4. Brands Endorsed: - Boost, Unacademy, Apollo Tyres, Jio Cinema et al.

9. Hrithik Roshan



Figure 10: Image of Hrithik Roashan
(Source: Internet)

1. Secures ninth position as per the report
2. Brand Value: - \$71.6million
3. As per 2021 Brand Rank he occupied: 10th rank
4. Brands Endorsed: - Bisk Farm, Zomato, Arrow, Probus et al.

10. Shah Rukh Khan



Figure 11: Image of Shah Rukh Khan
(Source: Internet)

1. Secures the tenth position as per the report
2. Brand Value: - \$55.7million
3. As per 2021 Brand Rank he Occupied: 12th Rank
4. Brands Endorsed: - Realme, Myntra, D'yavol, Byju's Et Al.

Analysis of Objective 1- To Determine the Top 10 Indian Celebrities Based on their Endorsement Values

The Celebrity Valuation Report 2022 reports a jump of about 29 per cent in the brand value of top 25 Indian Celebrities. In this research project we have just covered the top 10 Celebrities. The cricket sensation Virat Kohli lost the top position to Ranveer Singh. Virat Kohli led the list for five consecutive years. While the top positions still remain captured by known Bollywood faces, the year 2022 also reflects the emerging importance of sport stars and the rise of Tollywood faces. Stars like Allu Arjun (Rank 20; \$31.4 Million),

Rashmika Mandanna [Rank 25; \$25.3m] have made to this list for the very first time. Olympics Gold Medalist Neeraj Chopra has also secured 23rd Rank with a brand value of \$26.5m.

So, we can conclude that majority of the coveted top positions predominantly remain captivated by the Bollywood stars but the rise of these new faces suggests an impending shift in the hierarchal landscape.

In order to analyze the other two objectives, a questionnaire was prepared which was circulated among a range of respondents with varying age. The questionnaire contained 12 questions relating to celebrity endorsements and customers' perception on the same. It received around 90 responses. Below are the interpretations of each question and analysis of each objective based on the data collected through this questionnaire. It is an attempt to study this topic with the data collected. The data collected paints the analysis portion with its colours.

Objective 2- To Analyse the Perception of Customers Towards Celebrity Endorsements

AGE	RESPONSES	PERCENTAGE
15-29	76	84.4
30-45	9	10
46-60	4	4.4
Above 60	1	1.1

Table 1: Distribution Of Respondents on The Basis Of Their Age
(Source: Primary Data)

Age
90 responses

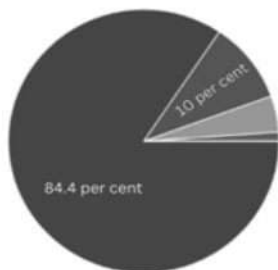


Figure 12: Distribution Of Respondents on The Basis Of Their Age
(Source: Primary Data)

Interpretation

Out of 90 respondents, we can see that the highest responses are from the age group 15-29 at 84.4 per cent. We have received very insignificant responses from the other age brackets. 30-45 age group with 10 per cent, 46-60 with 4.4 per cent, and only one respondent in the age group of 60 and above.

GENDER	Female	Male	Other
RESPONSES	65	25	0
PERCENTAGE	72.2	27.8	0

Table 2: Distribution Of Respondents on The Basis of Their Gender
(Source: Primary Data)

Gender
90 responses

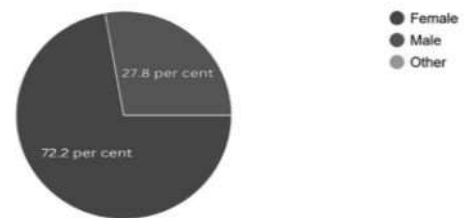


Figure 13: Distribution Of Respondents on The Basis of Their Gender
(Source: Primary Data)

Interpretation

Out of 90 respondents, we can see that the active participants have been females with 72.2 per cent. Only 27.8 per cent of males have participated in this survey. Hence, the ideals and thought processes of females may outweigh the cogitation of males. We have also not received any response from any other gender. So, this survey fails to reflect and convey their perception about the topic of this research.

	RESPONSES	PERCENTAGE
Self-Employed	7	7.8
Service	10	11.1
Student	71	78.9
Unemployed	2	2.2

Table 3: Distribution Of Respondents On The Basis Of Their Occupation
(Source: Primary Data)

RANK	RESPONSES	PERCENTAGE
1	17	18.89
2	16	17.78
3	29	32.22
4	11	12.22
5	17	18.89

Table 4: Distribution of Respondents on The Basis of Rank Given to Celebrity Endorsement.
(Source: Primary Data)

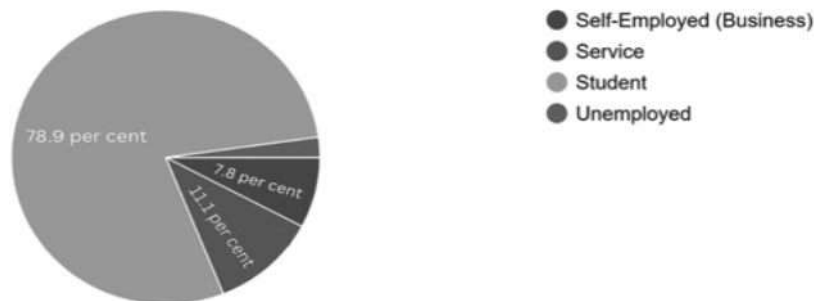


Figure 14: Distribution Of Respondents On The Basis Of Their Occupation
(Source: Primary Data)

to consider the viewpoint of students who fall under the age bracket 15-25, as the topic was more relatable to them and they were capable of identifying characteristics of celebrities that influence their purchase decision the most.

Interpretation

According to the above pie chart, the highest responses around 71 are from respondents who are students, followed by people in service and self-employed with 11.1 per cent and 7.8 per cent respectively. So, in this research report, the perception of students on celebrity endorsements will be more visible when compared to the respondents belonging to other categories. The number of student responses is more compared to working professionals and those engaged in business because most former studies while reviewing the past literature have stated that young adults are more susceptible to getting influenced by celebrity endorsements. Hence, it was more conducive

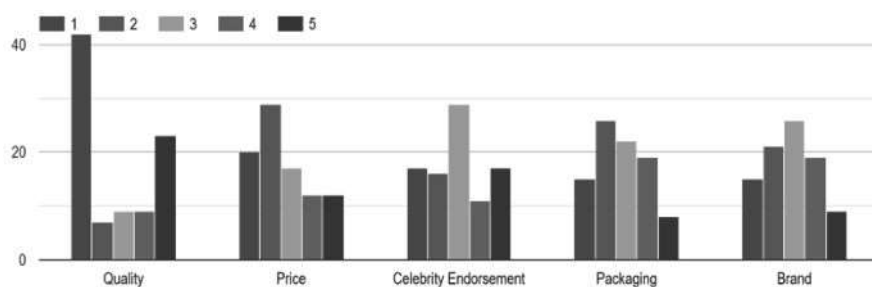


Figure 15: Distribution of Respondents on The Basis of Rank Given to Celebrity Endorsement.
(Source: Primary Data)

Interpretation

Through the questionnaire, respondents were asked that which parameter do they pay most attention to while purchasing a product. 42 people accorded Rank 1 to quality, 20 people to Price, 17 to Celebrity

Endorsement, 15 to Packaging, and 15 to Brand. If we consider the ranks attributed by respondents to Celebrity Endorsement, we find that a set of 17 people out of 90 respondents pay most attention to this parameter while purchasing the product. Also, another 17 people attribute last rank to Celebrity Endorsement making it the least considered parameter to them while they purchase a product. So, this reflects a kind of mixed and conflicting conclusion where for some it is the most important factor and for others it does not even count.

	YES	NO	MAYBE
RESPONSES	31	17	42
PERCENTAGE	34.4	18.9	46.7

Table 5: Distribution of Respondents on The Basis of Whether They Find Advertisements with Celebrities Appealing or Not
(Source: Primary Data)

2. Do you think ads having celebrities in it are more appealing?
90 responses



Figure 16: Distribution Of Respondents on The Basis of Whether They Find Advertisements with Celebrities Appealing or Not
(Source: Primary Data)

Interpretation

When asked whether they find advertisements with celebrities more appealing when compared with those without them, 34.4 per cent responded with YES, 18.9 per cent with NO and 46.7 per cent with MAYBE. So, respondents do agree that the presence of celebrities in the ads make it a little more appealing and attractive than those without them.

	FILM STAR	SPORTSPERSON	SOCIAL MEDIA INFLUENCERS
RESPONSES	36	32	22
PERCENTAGE	40	35.6	24.4

Table 6: Distribution of Respondents on the Basis of Which Celebrities Persuade Them More
(Source: Primary Data)

3. Which celebrities persuade you more to purchase a product?
90 responses

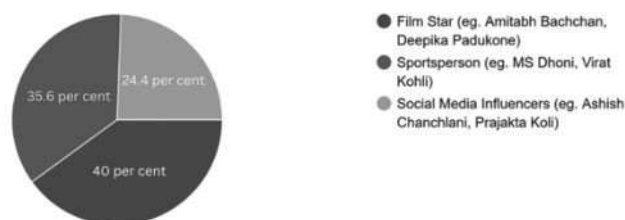


Figure 17: Distribution of Respondents on the Basis of Which Celebrities Persuade Them More
(Source: Primary Data)

Interpretation

Respondents were asked which type of celebrities persuade them more to purchase a product to which they responded as follows: Around 40 per cent of the people get influenced by Film Stars, 35.6 per cent by sports stars and the rest 24.4 per cent people get influenced by influencers. So, we can figure out that the influence of social media influencers is increasing and will surpass the other celebrities in just a matter of time. Even film stars nowadays regularly update their social media handles with new trends to stay in the buzz.

	YES	NO	MAYBE
RESPONSES	7	72	11
PERCENTAGE	7.8	80	12.2

Table 7: Distribution of Respondents on the Basis of Responses Regarding Purchase of a Product to Fit in the Social Circle.
(Source: Primary Data)

12. Do you make a purchase of a product endorsed by a celebrity to fit right in your social circle?

90 responses

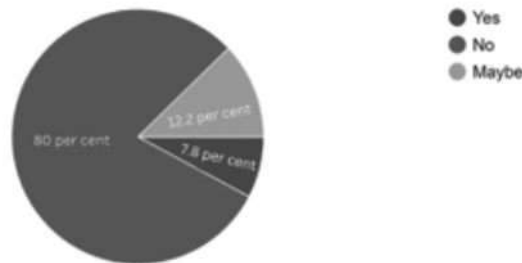


Figure 18: Distribution of Respondents on the Basis of Responses Regarding Purchase of a Product to Fit in the Social Circle.
(Source: Primary Data)

Interpretation

The question of whether a customer purchases a product endorsed by these celebrities to fit right in the social circle garnered 80 per cent responses for NO, 12.2 per cent responses for MAYBE and only 7.8 per cent responses for YES.

Analysis of Objective 2: To Analyse the Perception of Customers Towards Celebrity Endorsements

The questions above give us the opportunity to dive deep into customers' perception about celebrity endorsement i.e. whether and how does their purchasing decisions get influenced by the celebrities promoting or endorsing a brand in exchange of a lumpsum consideration. We received significant responses from respondents of different age groups ranging from 15 to 60, highest responses coming from 15-29 years old. Impressive participation of females is observed with a spectacular 72.2 per cent. Most of the respondents were found to be students. So, this survey captures the essence of their perception in its truest sense.

When the question of whether advertisements with celebrities are more attractive than those with their absence was asked, highest response was received for 'MAYBE' while the second highest for 'YES'. So, it reflects that subconsciously majority of the respondents agree that they do get attracted towards advertisements with famous celebrities in it endorsing the brands i.e. they enjoy those ads more comparatively.

Now, if they do get influenced by these celebrities then what categories of celebrities are more influential and powerful in asserting their thoughts about a brand to their followers, we find that even today around 40 per cent of the respondents get influenced by film stars. However, sportspersons are not left far behind. With many sports stars

occupying top ranks in Celebrity Brand Valuation Study, it is evident that more than 35 per cent of the respondents get persuaded by them while making a purchase.

Through the data collected, we also found that though people accept that they do get influenced by the celebrity endorsements, 80 per cent people decline to agree that they purchase it to fit into their social circle. Only 7.8 per cent respondents agree that their social circle also has a relation to their purchase of a celebrity endorsed product. This maybe also related to the types of product consumers often purchase getting influenced by celebrities. This has been further elaborated in the analysis of Objective 4: To determine the category of products customers are likely to buy on getting influenced by celebrity endorsements.

Objective 3: To Determine the Qualities in Celebrities That Appeal to The Customers

	Credibility	Attractiveness	Popularity	Knowledge
RESPONSES	43	26	40	24
PERCENTAGE	47.8	28.9	44.4	26.7

Table 8: Distribution of Respondents on the Basis of Responses Regarding Qualities That Appeal to the Customer
(Source: Primary Data)

5. Which of the qualities listed below influence your purchase of celebrity endorsed products?

90 responses

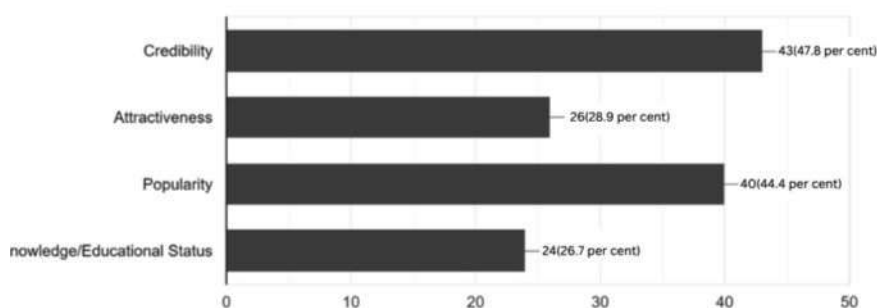


Figure 19: Distribution of Respondents on the Basis of Responses Regarding Qualities That Appeal to the Customer
(Source: Primary Data)

Interpretation

When asked about the qualities in a celebrity that appeals to the customers and influence them to make a purchase of the celebrity endorsed product, it garnered almost equal responses for Credibility and Popularity with 47.8 per cent and 44.4 per cent respectively. Followed by Attractiveness and Knowledge/Educational status with 28.9 per cent and 26.7 per cent respectively.

	Always	Often	Rarely	Never
RESPONSES	8	42	31	9
PERCENTAGE	8.9	46.7	34.4	10

Table 9: Distribution of respondents on the basis of responses regarding congruency of brand image with that of the celebrities
(Source: Primary Data)

6. Is the brand your favorite celebrity is endorsing congruent with their image?

90 responses

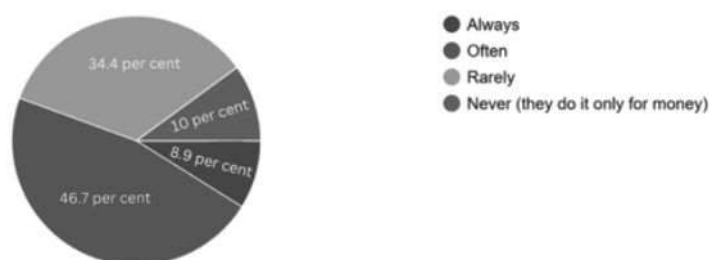


Figure 20: Distribution of respondents on the basis of responses regarding congruency of brand image with that of the celebrities
(Source: Primary Data)

Interpretation

Out of 90 respondents, 42 people feel that often the brands that these celebrities endorse are congruent with the image that they have in public. 31 respondents feel that rarely there is any congruency between the brand image and the image of the celebrities. 8 people vote for Always i.e. while endorsing any brand celebrities always keep a check on whether or not it is in alignment with their public image. However, 9 respondents

feel that they do it only for money i.e. they promote any and every kind of brand.

	Expert	Quite Knowledgeable	Unqualified
RESPONSES	5	45	40
PERCENTAGE	5.6	50	44.4

Table 10: Distribution of Respondents Based on Responses Regarding Knowledge of the Product Being Endorsed
(Source: Primary Data)

4. Are these celebrities/influencers expert of the brand they are promoting?

90 responses

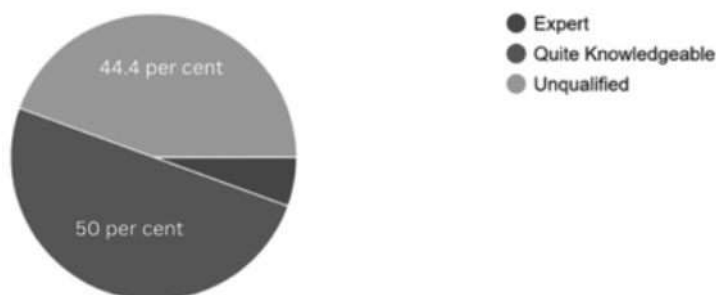


Figure 21: Distribution of Respondents Based on Responses Regarding Knowledge of the Product Being Endorsed
(Source: Primary Data)

Interpretation

When asked whether they think that these influencers or celebrities are experts or have knowledge about the brand they are promoting, only 5.6 per cent feel that they are experts, majority of the people think that they have a good amount of knowledge while a significant percentage (44.4 per cent) of people think that they are even unqualified to promote the brand and mostly have never even used the product they are endorsing.

	YES	NO	MAYBE
RESPONSES	61	8	21
PERCENTAGE	67.8	8.9	23.3

Table 11: Distribution of Respondents Basis of Opinion on the Limit That Should Be Set for Endorsing the Products.
(Source: Primary Data)

7. Do you think celebrities should endorse a limited number of products to maintain credibility?

90 responses

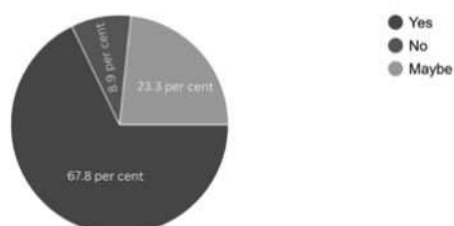


Figure 22: Distribution of Respondents Basis of Opinion on the Limit That Should Be Set for Endorsing the Products.
(Source: Primary Data)

Interpretation

When as per Table 3.1, around 47.8 per cent of respondents place their utmost reliance on Credibility while making a purchase of the celebrity endorsed product. They also will expect the celebrities to maintain this credibility and not break the trust and faith placed in them. Hence, out of 90 respondents, 61 believe that in order to maintain this credibility, celebrities should limit the number of products they endorse. Followed by

23.3 per cent people who are unsure about this and 8.9 per cent who feel that it is not necessary to limit the number of endorsements to maintain credibility.

Analysis of Objective 3 - To Determine the Qualities in Celebrities that Appeal to the Customers

The questions and the responses received give us an insight into the qualities of the celebrities that appeal to the customers. Through this research, we find that Credibility is of most importance to the customers. Hence, celebrities should do everything possible in order to maintain the trust and faith placed by the public in them. One of the major tricks to maintain credibility would be to limit the number of brand endorsements so as to endorse only those brands that are congruent to their image.

Presently, a good chunk of respondents still believe that celebrities 'OFTEN' promote those brands that are congruent to their image. But there are many examples which display a different story altogether.

CASE STUDY OF PAN BAHAR

This product was once endorsed by Pierce Brosnan of James Bond and attracted huge controversy. It was due

to the heated dispute between the image of Pierce Brosnan and the image portrayed in the advertisements and commercials of Pan Bahar. He is considered to be classy while Pan Bahar is said to be used by desi people. When it was disclosed that he was not even aware of the detrimental impact of the product, it led to a lot of hue and cry on social media platforms and other media.

So, it is a classic example where both the product and the celebrity endorsing it received flak from the public for betraying their trust and confidence. The credibility of the celebrity was put at stake and jeopardized for failing to make a thoughtful and responsible decision when choosing product endorsement.

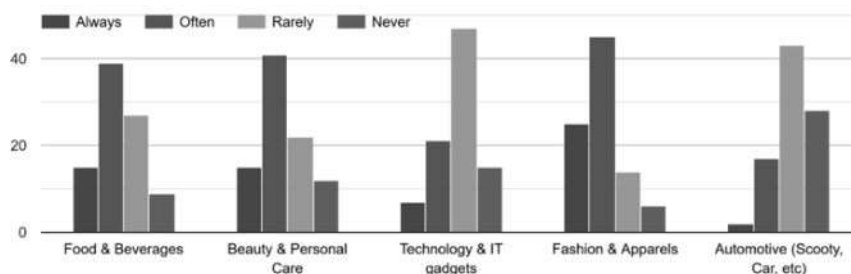


Objective 4: To Ascertain the Product Categories That Customers are Inclined to Purchase as a Result Of Celebrity Endorsements

	Always	Often	Rarely	Never
Food and Beverages	15	39	27	9
Beauty and Personal Care	15	41	22	12
Technology and Gadgets	7	22	47	15
Fashion and Apparels	25	45	14	6
Automotives	2	17	43	28

Table 12: Distribution of respondents on the basis of opinion on the category of products more likely to be purchased.
(Source: Primary Data)

8. Which category of products are you more likely to purchase on being influenced by celebrity endorsements?



on The Category of Products More Likely to Be Purchased.
(Source: Primary Data)

Interpretation

When asked about the category of products customers usually buy by getting influenced by celebrity endorsements, we received responses wherein Fashion and Apparel was the most voted category followed by Beauty and Personal Care and Food and Beverages among the five nominated categories. The least number of votes were received for the Automotive category.

	YES	NO	MAYBE
RESPONSES	13	50	27
PERCENTAGE	14.4	55.6	30

Table 13: Distribution of Respondents on The Basis of Responses Regarding the Adoption Of Too Yumm! Instead Of Regular Chips.
(Source: Primary Data)

9. Would you switch from your regular chips brand to Too Yumm! endorsed by Virat Kohli?

90 responses

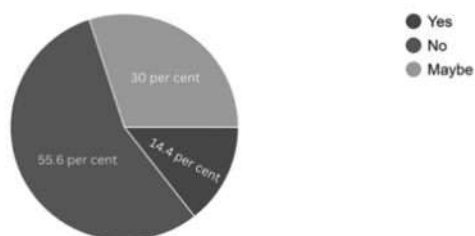


Figure 24: Distribution of Respondents on The Basis of Responses Regarding the Adoption of Too Yumm! Instead Of Regular Chips.

(Source: Primary Data)

Interpretation

Respondents were asked that whether they would switch from their regular chips brand to Too Yumm!, a brand endorsed by Virat Kohli as a healthy alternative since they are baked and not fried. Out of 90 respondents, only 14.4 per cent people were found to be loyal to Virat Kohli, 55.6 per cent people answered 'NO' and 30 per cent responded with a 'MAYBE'.

	YES	NO	MAYBE
RESPONSES	21	19	10
PERCENTAGE	42	38	20

Table 13: Distribution Of Respondents on The Basis of Responses Regarding Atleast Giving Too Yumm! One Shot.
(Source: Primary Data)

Interpretation

When asked whether they would at least try Too Yumm! because it is promoted by Virat Kohli, the response of around 42 per cent people was 'YES', followed by 38 per cent responses for 'NO' and then 20 per cent for 'MAYBE'. This question was optional. Only the 55.6 per cent people who answered 'NO' in the above question were directed to this question.

	YES	NO	MAYBE
RESPONSES	7	68	15
PERCENTAGE	7.8	75.6	16.7

Table 14: Distribution of Respondents on The Basis of Responses Regarding Purchase of Lux
(Source: Primary Data)

10. Would you buy Lux to have a flawless "Chand sa Roshan Chehra" like Kareena Kapoor?

90 responses

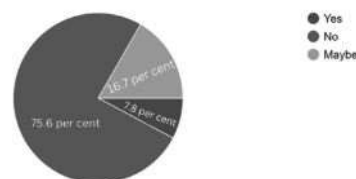


Figure 26: Distribution of Respondents on The Basis of Responses Regarding Purchase of Lux
(Source: Primary Data)

Would you at least try Too Yumm! just because it is promoted by the legendary Virat Kohli?

50 responses

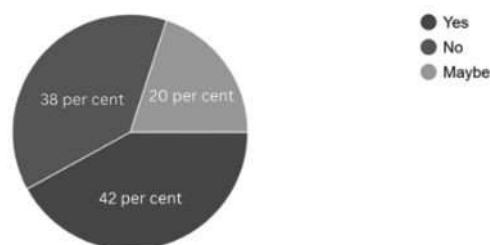


Figure 25: Distribution of Respondents on The Basis of Responses Regarding Atleast Giving Too Yumm! One Shot.
(Source: Primary Data)

Interpretation

The respondents were asked whether they would buy Lux to have a flawless skin texture like Kareena Kapoor who was the brand endorser of Lux. 75.6 per cent people declined to make its purchase, while only 7.8 per cent agreed to make its purchase as result of the celebrity endorsing it. 16.7 per cent of the respondents in this case answered 'MAYBE'

	Check the ingredient list	Big B is always right
RESPONSES	78	12
PERCENTAGE	86.7	13.3

Table 15: Distribution of Respondents on the Basis of Responses Regarding Trust on Celebrity.
(Source: Primary Data)

11. Would you take an effort to check whether "Navratna Oil" actually has Ayurvedic ingredients or trust Big B and make a purchase?

90 responses

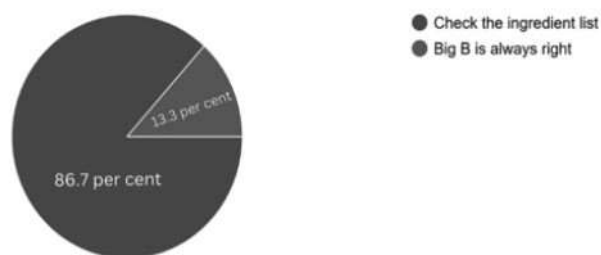


Figure 27: Distribution of Respondents on the Basis of Responses Regarding Trust on Celebrity.
(Source: Primary Data)

INTERPRETATION

The fan following of Mr. Amitabh Bachchan is immense. So, when the question of whether people will trust Big B that the brand he is promoting actually has Ayurvedic ingredients as claimed by him in the advertisement, it was expected that majority of the people will answer Option B i.e. Big B is always right. But, contrary to the above expectation, out of 90 responses 78 people argued that they would make an effort to check the ingredient list of the product rather than blindly following what is said by Big B and only a small section of the sample i.e. around 13.3 per cent chose Option B.

ANALYSIS OF OBJECTIVE 4: TO ASCERTAIN THE PRODUCT CATEGORIES THAT CUSTOMERS ARE INCLINED TO PURCHASE AS A RESULT OF CELEBRITY ENDORSEMENTS

According to the data collected through the questionnaire, it can be understood that categories like 'Fashion and Apparel', 'Beauty and Personal Care' and 'Food and Beverages' are the categories that are mostly bought on being influenced by celebrity endorsements. While categories like 'Technology and Gadgets' and 'Automotives' are rarely purchased only as a result of celebrity endorsements.

Through this data, it can be concluded that 'Specialty Goods' are not usually purchased just because a famous personality is endorsing or promoting it. This is because these are high-valued products which cost a huge percentage of the disposable income. So, products like car or televisions, washing machines are rarely or never purchased in influence.

However, goods that belong to 'Convenience' and 'Shopping' category are usually inexpensive. Hence, customers can afford to purchase these in the influence of their favourite celebrities.

Now, as per Table 4.1 where 'Food and Beverages' and 'Beauty and Personal Care' emerged as categories with a higher chance of inclination, we exemplified brands from both these sectors to investigate and further drill down this matter. We took an example of:

1) Too Yumm! endorsed by Virat Kohli:

Too Yumm! fall in 'Food and Beverages' category, so it was expected that people would easily agree to buy this category of product as a result of endorsement by Virat Kohli, but irrespective of the popular expectation, majority of the respondents responded that they would

not switch from their regular brand, but might give it a try.

2) Lux endorsed by Kareena Kapoor:

Lux also falls under 'Beauty and Personal Care' category. But, 75.6 per cent respondents declined to use it getting influenced by Kareena Kapoor or her flawless skin.

Therefore, it is not always mandatory that all the products under the categories of 'Fashion and Apparel', 'Food and Beverages' and 'Beauty and Personal Care' will be purchased as a result of celebrity endorsement.

FINDINGS OF THE STUDY

The major findings of the study have been summarized as given below:

1. The Celebrity Valuation Report 2022 reports a leap of 29 per cent in the brand value of top 25 Indian Celebrities. The cricket sensation Virat Kohli lost the top position to Ranveer Singh. Virat Kohli led the list for five consecutive years. While the top positions still remain captured by known Bollywood faces, the year 2022 also reflects the emerging importance of sports players and the rise of Tollywood faces. Stars like Allu Arjun [Rank 20; \$31.4m], Rashmika Mandanna [Rank 25; \$25.3m] have made this list for the very first time. Olympics Gold Medalist Neeraj Chopra has also secured 23rd Rank with a brand value of \$26.5m. So, we can conclude that majority of the coveted top positions predominantly remain captivated by the Bollywood stars but the rise of new faces suggests an impending shift in the hierarchal landscape.
2. When asked whether respondents are influenced by celebrity endorsements, the highest response received was 'Maybe' while the second highest was 'Yes'. So, it reflects that subconsciously majority of the respondents agree that they do get attracted towards advertisements with famous celebrities endorsing the brands i.e. they enjoy those ads more comparatively. When asked what categories of celebrities are more influential and powerful in asserting their thoughts about a brand to their followers, 40 per cent of the respondents said that they are influenced by film stars. However, sportspersons are also not left far behind. With many sports stars occupying top ranks in the Celebrity Brand Valuation Study, it is evident that more than 35 per cent of the respondents get persuaded by them while making a purchase.
3. Through the data collected, we also found that though respondents have accepted that they do get influenced by celebrity endorsements, 80 per cent of respondents declined to agree that they purchase commodities to fit into their social circle. Only 7.8 per cent of respondents agree that their social circle influences their purchase decision of a celebrity-endorsed product.
4. The quality within celebrities that appeal the most to customers is Credibility. Hence, celebrities should do everything possible to maintain the trust and faith placed by the public in them. One of the major tricks to maintain credibility would be to limit the number of brand endorsements so as to endorse only those brands that are congruent to their image. Presently, the majority of the respondents still believe that celebrities 'Often' promote those brands that are congruent with their image. The Pan Bahar commercial by Pierce Brosnan is a classic example where both the product and the celebrity endorsing it received flak from the public for betraying their trust and confidence. The credibility of the celebrity was jeopardized for failing to make a thoughtful and responsible choice of product endorsement.
5. According to the data collected through the questionnaire, it can be concluded that categories like 'Fashion and Apparel', 'Beauty and Personal Care' and 'Food and Beverages' are the categories that are mostly purchased due to being influenced by celebrity endorsements. While categories like 'Technology and Gadgets' and 'Automotives' are rarely purchased only as a result of celebrity endorsements. Through this data, it can be concluded that 'Specialty Goods' are not usually

purchased just because a famous personality is endorsing or promoting it. This is because these are high-value products that cost a huge percentage of the disposable income. However, goods that belong to the 'Convenience' and 'Shopping' categories are usually inexpensive. Hence, customers can afford to purchase these products under the influence of their favourite celebrities.

CONCLUSION

After analysis of the data collected, the conclusion can be drawn that Celebrity Endorsements are a key factor in determining the perception of customers about a particular brand or a product. It helps increase the brand's visibility and credibility by imparting the qualities of the celebrity to the brand. This way, the image of both the celebrity and the brand is congruent. There are many advantages of celebrity endorsement for the celebrity, brand, and even the public at large. However, there are also certain repercussions of the same which might have to be faced both by the celebrity and the brand. It includes dilution of trust and credibility, loss of market share, flak from social media and the public at large, and many more.

With this being said, the findings of this research study reveal a compelling contradiction to the initial hypothesis. Despite the widespread belief that celebrity endorsements influence customers' perceptions, the data collected at some intervals disagrees with this commonly accepted notion. There could be a variety of reasons for this sort of discrepancy, one of them being the reluctance of respondents to openly acknowledge their susceptibility to influence. Even though they express a different view through their responses, there is still a chance that individuals are influenced on a subconscious level, yet hesitate to admit it outright owing to the complex human nature. Hence, this creates a further scope for more indepth research in this area.

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Governments all around the world are avidly supporting the EV industry by providing concessions and subsidies to attract consumers towards green vehicles.

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Revolutionising Mobility: A Pilot Study into The Consumer Perception And Purchase Intention Of Electric Vehicles In Kolkata

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ABSTRACT

In this era of modernization and dynamic technological change, Electric Vehicles have emerged as the leading innovation disrupting the transportation sector. With volatile and rising oil prices, electricity has come

across as the perfect substitute for fossil fuels to power vehicles. This research study aims to study and analyses the Consumer Perception of Electric Vehicles in Kolkata and the parameters influencing the Purchase Intention of these consumers. For this study, 'Primary Data' of 150 respondents was collected through convenience sampling and statistical analysis like correlation and regression was conducted on the data. The research found that consumers in Kolkata have a favorable attitude towards Electric Vehicles, but infrastructural development is a major barrier inhibiting the widespread adoption of Electric Vehicles. The research found that 'Environmental Impact' and 'Price' are the primary and most statistically significant parameters influencing the purchase intention of consumers of Electric Vehicles in Kolkata.

KEYWORDS: Electric Vehicles (EVs), Consumer Perception, Purchase Intention, Environmental Impact, Price Sensitivity, Government Incentives, Technological Adoption, Infrastructural Barriers.

RATIONALE BEHIND THE STUDY

In this zenith of technological advancement, Electric Vehicles are a revolution that is significantly going to alter the course of human commuting for the first time since the introduction of Internal Combustion Engine (ICE) Vehicles in 1863. Governments all around the world are avidly supporting the EV industry by providing concessions and subsidies to attract consumers towards green vehicles.

Electric Vehicles have ushered in a new era of transportation and mobility and since, Electric Vehicles are being promoted by the Government, it is essential to know about the consumer's perception about this upcoming concept. It is essential to understand whether consumers have been able to gauge this concept and fully accept this transition in the automobile sector or do they still have doubts about its reliability and sustainability.

This paper researches consumers' perception towards Electric Vehicles and the essential factors that might

influence their purchase intention of the same. A sample data is collected using a survey administered through a questionnaire to analyse the said consumer market.

OBJECTIVES

1. To understand the consumer perception about Electric Vehicles in Kolkata.
2. To examine the awareness of consumers about Electric Vehicles in the Kolkata Automobile Market.
3. To study the parameters influencing the shift in consumer preference to Electric Vehicles.
4. To identify the key factors influencing the purchase intention of consumers of Electric Vehicles.

RESEARCH METHODOLOGY

Area of Study: To understand the consumer perception of Electric Vehicles in Kolkata.

Type of Study: To conduct this study, Descriptive Research Methodology is used.

Period of Study: The period of study is February and March, 2024.

Data Collection and Sampling: Primary data of a sample population of one hundred and fifty people was collected using an online survey questionnaire through Google Forms.

Tools Used: To understand the data and our findings clearly, we utilise visual aids like bar graphs, pie charts, correlation and regression Analysis of Variance (ANOVA) tables. Correlation is used to test the relationship between different variables and regression analysis to analyse the impact of the different independent variables on the dependent variable (i.e., purchase intention of consumers). Correlation and regression are run using Microsoft Excel as the software.

RESEARCH FINDINGS

Which type of vehicle do you currently own?

150 responses

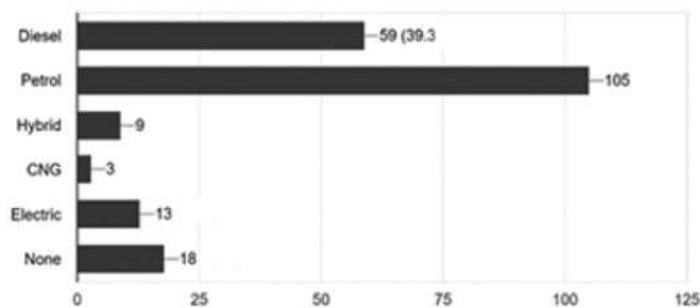


Figure 1 shows that the majority of the respondents own a conventional fossil fuel vehicle. 39.3 per cent own diesel-powered vehicles while 70 per cent own a petrol-powered vehicle. Only 13 respondents own electric vehicles.

Figure 1: Type of Vehicles Owned by the Respondents
(Source: Primary Data)

Which type of vehicle would you ideally buy?

150 responses

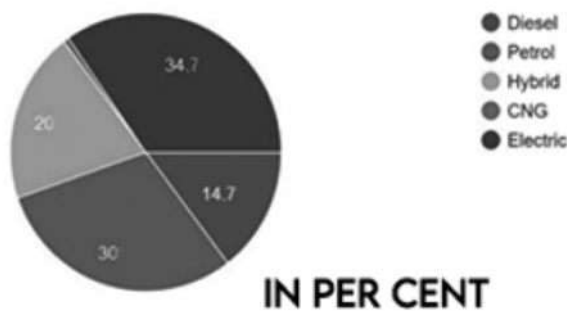


Figure 2 shows that 34.7 per cent, would ideally buy electric vehicles, 30 per cent still prefer petrol vehicles, 20 per cent would prefer hybrid vehicles, 14.7 per cent prefer diesel vehicles and the remaining 0.6 per cent prefer COMPRESSED NATURAL GAS vehicles. This shows that the respondents are not yet entirely confident about electric vehicles.

Figure 2: Type of Vehicle the Respondents Would Ideally Buy
(Source: Primary Data)

Which of these factors influence your decision to buy an Electric Vehicle?

150 responses

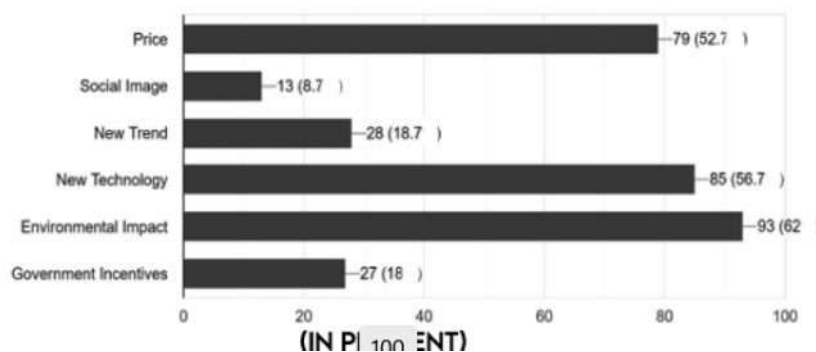


Figure 3. Factors Influencing the Consumers' Decision to Buy an Electric Vehicle
(Source: Primary Data)

Figure 3 shows that environmental impact is the most important factor influencing the consumers' decision to purchase an electric vehicle. This showcases that people have started becoming more conscious of the environmental issues and are willing to incorporate changes to their lifestyles to make the living conditions better. Price is the second most important factor followed by the new technology. India as a country is developing technologically, and the citizens have started adopting modern practices to replace the traditional ones.

Factors inhibiting the widespread adoption of Electric Vehicles according to you:

150 responses

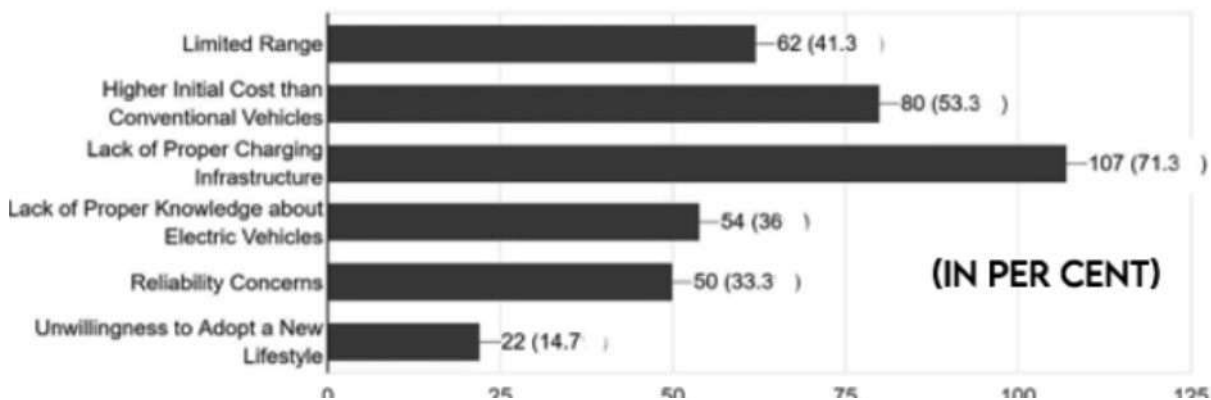


Figure 4. Factors Inhibiting the Widespread Adoption of Electric Vehicles
(Source: Primary Data)

Figure 4. shows that lack of proper charging infrastructure is the predominant reason for the inhibition of widespread adoption of electric vehicles amongst consumers, followed by higher initial cost and limited range.

What do you see as the main advantages of Electric Vehicles?

150 responses

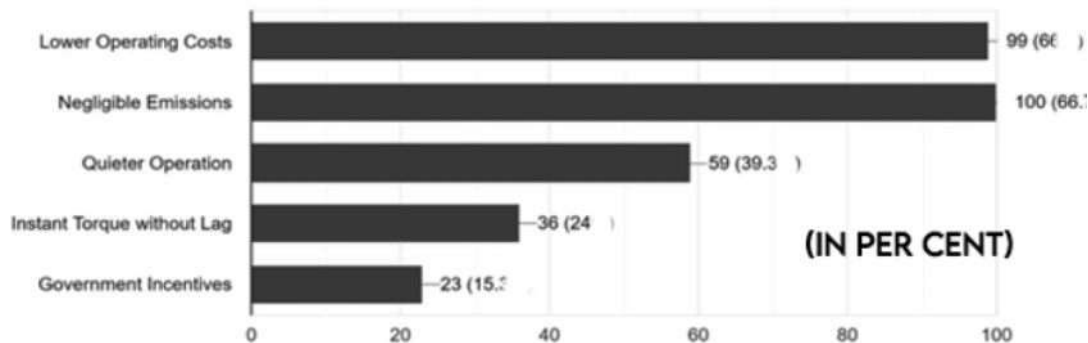


Figure 5: Advantages of Electronic Vehicles
(Source: Primary Data)

Figure 5. shows that the main advantage of an electric vehicle is the negligible emission (66.7 per cent), followed by lower operating costs (66 per cent), quieter operation (39.3 per cent), instant torque without lag (24 per cent) and Government incentives (15.3 per cent). This showcases the mindset of the environmentally conscious individuals who are bothered by the automobile emissions, wanting to conserve the environment and realise lower operating costs.

Are you aware of incentive schemes like the FAME India Scheme through which the Government of India is promoting Electric Vehicles?

150 responses



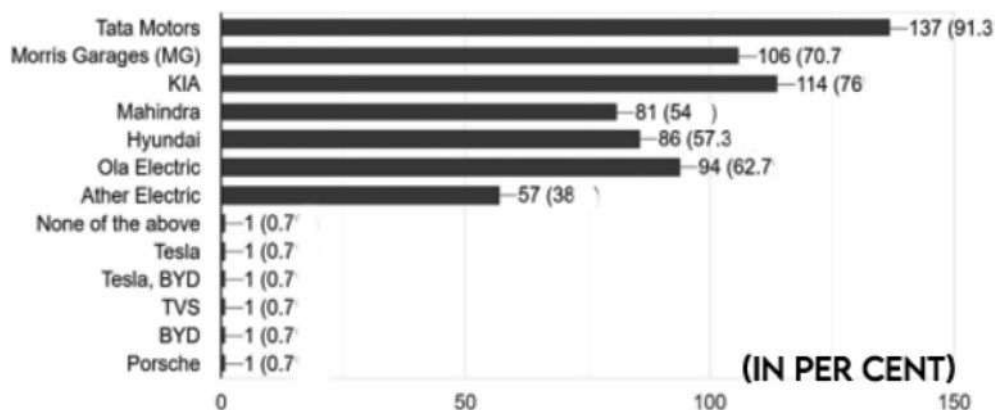
(IN PER CENT)

*Figure 6. Awareness about Government Incentives
(Source: Primary Data)*

Figure 6 shows that the majority of the respondents (50.7 per-cent) are unaware about Government schemes like FAME India. Only 38.7 per-cent are informed about these initiatives.

Which of the following brands (in the context of Electric Vehicles) are you aware about?

150 responses



(IN PER CENT)

*Figure 7. Awareness about Electric Vehicle Brands
(Source: Primary Data)*

Figure 7 shows that the majority of the consumers are aware of the brands like Tata Motors, KIA and Morris Garages. Moreover, brands like Mahindra, Hyundai and Ola are also well known. This is testament to the fact that consumers are slowly becoming more aware about electric vehicles and how each company is taking more efforts to launch new models every year.

Statement 1: 'Electric Vehicles are good substitutes for regular vehicles.'

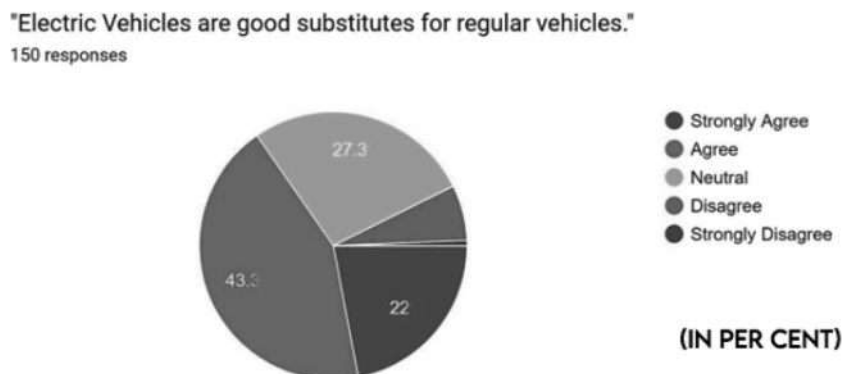


Figure 8: Electric Vehicles are Good Substitutes for Regular Vehicles
(Source: Primary Data)

Figure 8 shows that 22 per cent of the respondents strongly agree and 43.3 per cent agree with the statement. This depicts the changing mindset of the consumers towards electric vehicles.

Statement 2: 'Electric Vehicles contribute positively to environmental protection by reducing emission of Greenhouse Gases.'

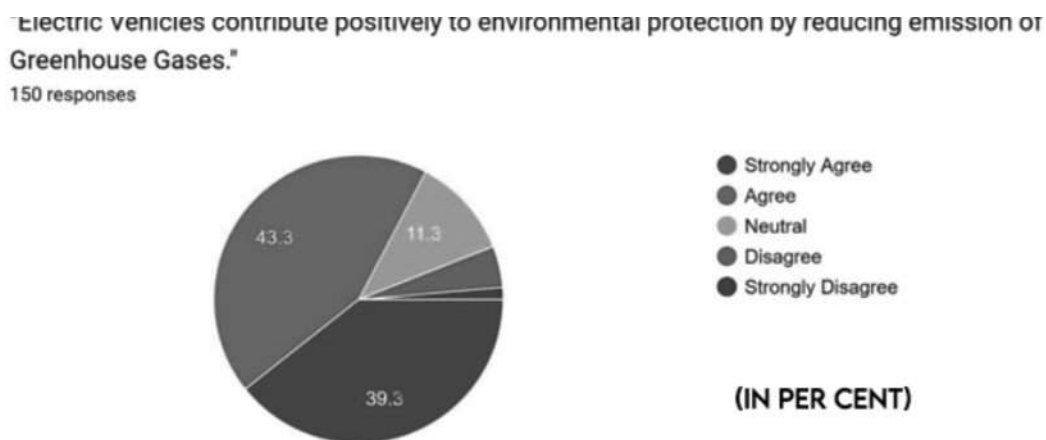


Figure 9: Electric Vehicles Contribute Positively to Environmental Protection by Reducing Emission of Greenhouse Gases
(Source: Primary Data)

Figure 9 shows that 39.3 per cent of the respondents strongly agree and 43.3 per cent agree with the statement. This depicts that consumers believe that adopting electric vehicles is a positive step towards environmental conservation.

Statement 3: 'Electric vehicles can be used only as commuter vehicles because of their limited range.'

Electric Vehicles can only be used as commuter vehicles because of their limited range."

50 responses



Figure 10: Electric Vehicles Can Only Be Used as Commuter Vehicles because of Their Limited Range
(Source: Primary Data)

Figure 10 shows that 15.3 per cent of the respondents strongly agree and 35.3 per cent agree with the statement. This depicts consumers' skepticism towards adopting electric vehicles due to range anxiety, which is one of the factors inhibiting the widespread adoption of electric vehicles.

Statement 4: 'Electric Vehicles are less expensive to operate than conventional vehicles.'

Electric Vehicles are less expensive to operate than conventional vehicles."

50 responses

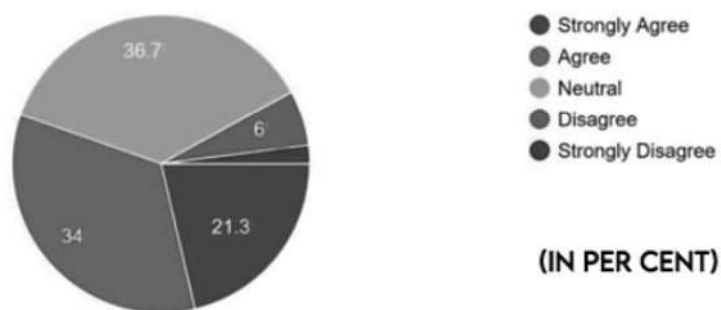


Figure 11: Electric Vehicles are less expensive to operate than conventional vehicles
(Source: Primary Data)

Figure 11 shows that 21.3 per cent of the respondents strongly agree and 34 per cent agree with the statement. This depicts that consumers are aware of the long-term monetary benefits realised by using electric vehicles.

Statement 5: 'Electric vehicles are not yet entirely safe to drive.'

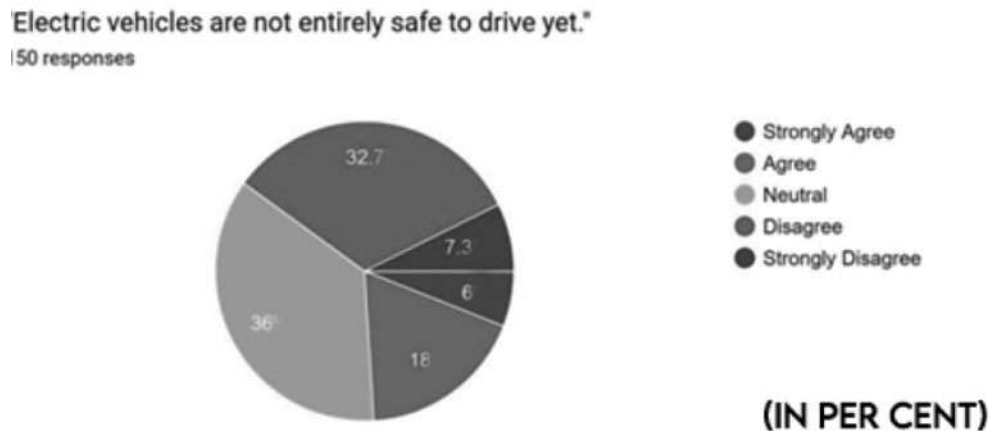


Figure 12: Electric Vehicles Are Not Yet Entirely Safe to Drive
(Source: Primary Data)

Figure 12 shows that only 6 per cent of the respondents strongly agree and 18 per cent agree with the statement, indicating that the general perception of consumers is changing positively towards electric vehicles.

Purchase intention of Consumers

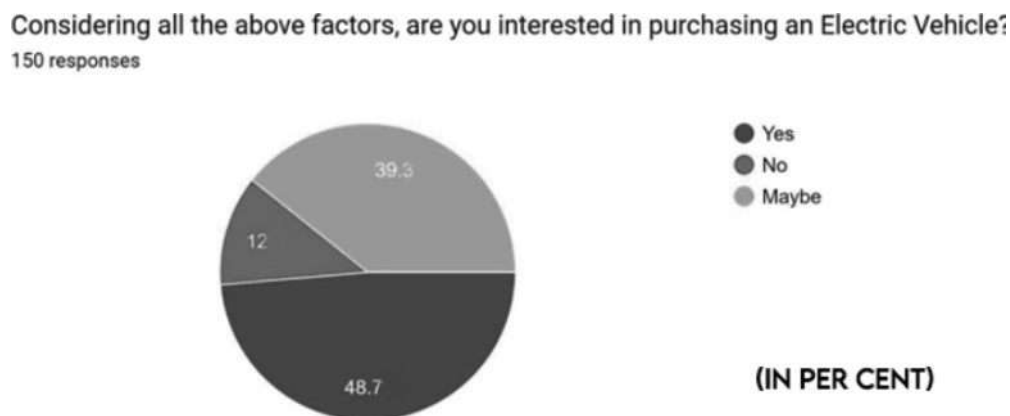


Figure 13. Purchase Intention of Consumers
(Source: Primary Data)

Figure 13 shows that most of the respondents (48.7 per cent) are willing to purchase an electric vehicle. This is a very strong indication of the changing consumer perception. A mere 12 per cent are still sceptical.

ANALYSIS OF RESEARCH FINDINGS

Correlation Analysis

Correlation between the General View of a Consumer regarding Electric Vehicles, Demographic Variables and General Awareness

on an average, does not interfere with his/her understanding and view of electric vehicles.

Perception of Electric Vehicles and General Awareness about Government Incentives (0.073985377): There is a weak (almost negligible) positive correlation. This

	General Perception of Electric Vehicles	Age of the respondent	Gender of the respondent	Average Annual Income	General Awareness about Govt. Incentives
General Perception of Electric Vehicles	1	0.005105	0.220653	-0.00857	0.073985
Age of the respondent	0.005105	1	-0.1377	0.281048	-0.06768
Gender of the respondent	0.220653	-0.1377	1	-0.01968	-0.08827
Average Annual Income	-0.00857	0.281048	-0.01968	1	0.05068
General Awareness about Govt. Incentives	0.073985	-0.06768	-0.08827	0.05068	1

Table 1. Correlation Between General View of a Consumer Regarding Electric Vehicles, Variables and General Awareness
(Source: Primary Data)

Interpretation

Perception of Electric Vehicles and Age of the Respondent (0.005105024): There is an extremely small, almost negligible positive correlation. This implies that a consumer's perspective towards the use of EVs is not affected by the age of that individual.

Perception of Electric Vehicles and Gender of the Respondent (0.220652917): This correlation shows a moderate positive association. This means that women (represented as '1') more often tend to have a positive perspective regarding electric vehicles in comparison to men (represented as '0').

Perception of Electric Vehicles and Average Annual Income (-0.00857036): There is an almost negligible negative correlation between perception of consumers towards electric vehicles and their average annual income. This means that a consumer's annual income,

suggests that awareness about Government incentives might drive consumers towards having a positive perspective towards electric vehicles.

Regression Analysis

Electric vehicles are well-recognized by the public due to their environmental benefits and government-provided incentives. However, there are several other factors having an influence on the preferences and purchase intentions of the consumers. These factors might be pricing strategies, social image in society, and technological advancement. Thus, we regress a model on the purchase intention of the consumers of Kolkata with respect to electric vehicles with the independent variables being the different factors that might cause an effect to study their significance and conduct future predictions.

Hypotheses Development

Null Hypothesis: There is no significant influence of the factors namely, price, social image, new trend, new technology, environmental impact, and government initiatives on the purchase intention of consumers towards Electric Vehicles.

Alternate Hypothesis: There is significant influence of the factors namely, price, social image, new trend, new technology, environmental impact, and government initiatives on the purchase intention of consumers towards Electric Vehicles.

Multiple R	0.280147
R Square	0.078482
Adjusted R Square	0.039817
Standard Error	0.319493
Observations	150

Table 2: Regression Statistics
(Source: Primary Data)

Multiple R has a value of 0.28 which denotes a weak positive correlation. R Square value of 0.0785 represents that 7.85 per cent of the total variation in the consumers' purchasing intention has been explained by the factors causing an effect on it. This suggests that the model does not explain much of the variability in the outcome.

	df	SS	MS	F	Significance F
Regression	6	1.243159	0.207193	2.029796	0.065413
Residual	143	14.59684	0.102076		
Total	149	15.84			

Table 3: ANOVA
(Source: Primary Data)

ANOVA table represents the significance of the fit of the model through the significance F value where the factors affecting the purchase intention works as a group.

Significance F value (p value) = 0.065 > 0.05

Thus, there is no statistically significant influence of the factors working as a group, namely, price, social image, new trend, new technology, environmental impact, and government initiatives on the purchase intention of consumers towards Electric Vehicles. We accept null hypothesis.

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.679999	0.066048	10.29549	6.08e-19
Price	0.148356	0.054264	2.733983	0.007049
Social Image	0.068858	0.097426	0.706768	0.480861
New Trend	0.029082	0.070962	0.409827	0.682546
New Technology	0.070394	0.053734	1.310044	0.192282
Environmental Impact	0.127286	0.055991	2.273318	0.024497
Government Incentives	-0.04082	0.070573	-0.57845	0.563872

Table 4: Coefficient and Significance of Factors
(Source: Primary Data)

The regression equation is,

Purchase intention of EV = 0.679999 + 0.148356 (Price) + 0.068858 (Social Image) + 0.029082 (New Trend) + 0.070394 (New Technology) + 0.127286 (Environmental Impact) - 0.04082 (Government Incentives)

INTERPRETATION

1. Intercept (0.679998756): The expected value of the dependent variable when all the predictors are zero. This is statistically significant as its p-value is less than 0.05.

2. Price (0.148356295): For every unit increase in price, there is an increase of approximately
3. 0.148 units in the intention of consumers to purchase an electric vehicle, holding all other factors constant. Price is a statistically significant factor.
4. Social Image, New Trend, New Technology: The coefficients for these variables are not statistically significant since their p-values are greater than 0.05.
5. Environmental Impact (0.127286465): This is a significant predictor where for every unit increase in environmental impact, there is an increase of approximately 0.127 in the intention of consumers to purchase an electric vehicle, holding all other factors constant.
6. Government Incentives (-0.040822651): This coefficient is not statistically significant and suggests a slight decrease in the intention of consumers to purchase an electric vehicle, holding all other factors constant, for every unit increase in government incentives.

CONCLUSION

In conclusion, the study on the consumer perception of electric vehicles in Kolkata provides valuable insights into the tastes, preferences and purchase intentions of the consumers. The findings of the study suggest that the majority of the consumers, although a little skeptical, have a positive outlook towards electric vehicles in general and are willing to adopt them in the future.

The analysis of the demographic variables like age, gender, and income level reveal that the electric vehicle segment appeals to a wide variety of consumers. The younger consumers have a slightly higher inclination towards electric vehicles. Females tend to have a slightly more positive outlook towards electric vehicles than males. Additionally, awareness about Government incentives and income level has a very minor significance in shaping the preferences of the consumers.

The study has also tried to identify key parameters influencing the purchase decision of the consumers of electric vehicles, with environmental impact emerging as the most important parameter. Consumers in Kolkata seem concerned about the environmental degradation and are willing to adopt modern methods to combat it. The other significant factors are price and the new technology.

Moreover, the study also showed that lack of proper charging infrastructure inhibits the growth of electric vehicles, followed by initial cost and limited range. Countering these issues through Government initiatives will allow for the rapid growth of adoption of electric vehicles in Kolkata.

The regression analysis conducted to reveal the parameters affecting consumer preference and purchase intention reveal that the price, social image, new trend, new technology, environmental impact, and awareness about Government initiatives, do not have a statistically significant influence. However, when examined individually, the parameters, environmental impact and price emerge as significant predictors.

Overall, the study provides a thorough understanding of the electric vehicle market in Kolkata and provides valuable insights into the consumer perception and purchase intention of electric vehicles. The findings highlight the growing potential for electric vehicles in Kolkata, but also indicate the

challenges faced for wider adoption. By analyzing these factors and taking the necessary steps to counter the challenges, stakeholders can work together to accelerate the adoption of electric vehicles and work towards a more sustainable transportation system in Kolkata.

RECOMMENDATIONS

The fuel prices are highly volatile and are increasing rapidly which can be countered using electric vehicles.

1. The Government of India taking active initiatives and reducing tax on electric vehicles helps to promote their widespread adoption by the consumers.

2. By developing the required infrastructure and charging stations, consumers will be more accepting of electric vehicles.
3. Consumers should put more emphasis on electric vehicles not only because they are environmentally better than their conventional counterparts but also for their own monetary gain given the lesser operating costs.
4. General awareness about the benefits of adopting electric vehicles and the Government subsidies should be spread.

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In the 21st century firms do more than just sell products they champion social causes and build an era of brand activism.

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Exploring Brand Activism and Its Impact on Consumer Perception and Behaviour

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ABSTRACT

Brand activism has emerged as a powerful force in the world of contemporary marketing, with companies building rising support and growing influence to champion social and environmental causes. This research paper focuses on providing an overview of brand activism and exploring its dynamics and impact.

Using a combination of primary and secondary sources of information, vis a vis studying existing literature and collecting primary data through a close-ended questionnaire, the study aims to explore the mechanisms through which brand activism campaigns are helping companies influence consumer perceptions, attitudes, and behaviours. Along with this, few case studies of successful and unsuccessful brands are explored to identify various factors leading to an effective and efficient brand activism, including authenticity, credibility, and alignment of brand values with consumer values.

KEYWORDS: Brand Activism, Consumer Behaviour, Brand Authenticity, Social Change, Marketing Strategy.

INTRODUCTION

In the 21st century firms do more than just sell products they champion social causes and build an era of brand activism. In this era, consumer demands are beyond quality and cost. Businesses have started making statements on various issues including political, environmental, and societal. But what is this called? What are the consequences of this shift? How does it affect Consumer Behaviour and perceptions? What are some of the leading examples following this trend? This study aims to add to the debate on brand activism by answering these questions.

BACKGROUND

A biography of Michael Jordan, published in 1997, laid stress upon his, as well as other players' contribution to the success of the National Basketball Association's global international television coverage, and rise in sports equipment sales. Despite the growth in his popularity, Michael Jordan avoided any political activity and stated, 'Republicans buy sneakers, too.' However, the recent campaigns of Nike have shown a shift underlining a strong link between brands and the external environment.

Sarkar and Kotler (2018) first defined brand activism as 'the business efforts to promote, impede, or direct social, political, economic, and/or environmental

reform with the desire to improve society'. Scholars define it as a 'developing marketing strategy (Shoenberger et al., 2021)', 'a positioning tactic (Schmidt et al., 2022)', or 'a social marketing approach (Smith et al., 2021)'.

CONCEPTUAL FRAMEWORK

Keeping in mind the literal meaning, brand activism seems to be a converging point of the environment, society, politics, and marketing where companies interfere and raise their voice on sensitive and disputable topics. This technique is called as a 'double-edged sword' as, on one side consumers wants and demands that businesses to make increasing contributions to society, but on the other side, they may react negatively to the acts of brand activism, even to the extent of boycotting the brand.

Thus, brand activism is crucially defined by its risk and uncertainty factor and if there is no proper evaluation and implementation, it has the potential to cause negative business image and hamper the reputation, as well as cause financial and economic damage. The risk component of brand activism is associated with conflicting and opposing opinion of the public on controversial issues, problems, or incidents. Furthermore, it should be recognised that there is no universally acceptable solution or a one-size-fits-all method; hence, the applicability of activism depends from firms to firms by comparing the influence of brand activism and the response of stakeholder.

REASONS FOR ACTIVISM

1. **Authenticity:** A brand can embody authenticity and gain trust by aligning its practices and initiatives with a cause which is believed in by the brand. By doing so people values are drawn to the real efforts by a brand that go beyond traditional marketing methods.
2. **Differentiation:** The decision to take a stance is based on several factors; however, companies majorly see it as a chance to differentiate themselves from their rivals by delivering authentic

value to public and connect with others having same values by developing a sense of belongingness.

3. **Impact:** Brand activism helps to have a major impact outside of the primary business by addressing social, environmental, or humanitarian problems and increasing the brand's recognition and goodwill.
4. **Consistency:** Brand activism is an ongoing long-term commitment rather than a one-time initiative. To preserve credibility and have a lasting impression on consumers consistency is crucial.
5. **Education:** Ensuring that the companies target audience is familiar with the companies cause that they want to put forth.

CONTRAST BETWEEN BRAND ACTIVISM AND CORPORATE SOCIAL RESPONSIBILITY (CSR)

There are various distinct features that distinguish from brand activism. CSR is a strategy for strengthening a brand's position by offering benefits to society and

following the principle 'do well by doing good', whereas activism is tied to a brand's identity, which frequently determines the success of an activism campaign. To summarise, Korschun (2021) points out, two characteristics which clearly distinguish brand activism from CSR: the first is a publicly expressed opinion on problematic matters, and the second is advocacy. Here is a summarised contrast between the two (Figure 1).

LITERATURE REVIEW

Nowadays, a majority of brands are supporting social good by raising their voice on societal issues such as gender inequality, Black Lives Matter, racial discrimination, and climate change. In a survey conducted among marketing leaders, Moorman (2020) discovered that 18.5 per cent of the respondents agree that brands should take a stance on politically motivated issues while 47 per cent of them believe that business should modify their products and services in response to politically charged concerns. In a society where there is growing acceptance of activist

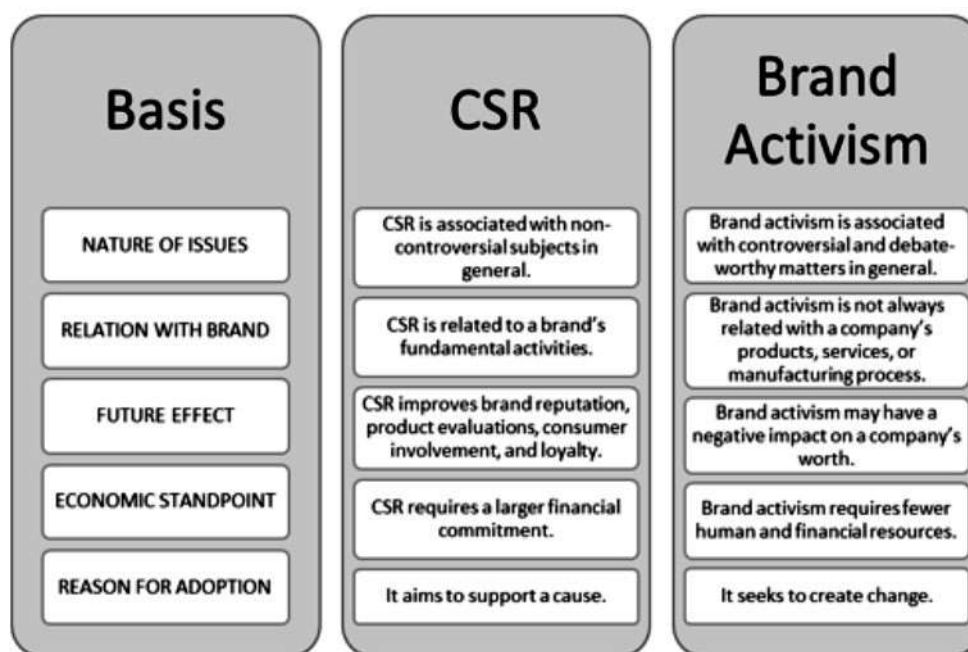


Figure 1: Comparison between CSR & Brand Activism
(Source: Primary Data)

campaigns launched by brands, it becomes imperative to understand which factors lead to enhancing the effectiveness of such campaigns.

Vredenburg et al. (2020) emphasised this point by stressing the need to align marketing messages with brand values and achieve authenticity instead of indulging in woke brainwashing. Companies should showcase genuine commitment to socio-political causes to gain consumer trust in a marketplace already overcrowded with inauthentic activism campaigns.

Further, Miguel & Miranda (2023) highlighted the positive and negative consequences of brand activism campaigns on brand value. Positive outcomes include rising market value, customer support and increased reputation. However, in case of false activism, there is a risk of making the customer unhappy, damaging reputation, and boycotts. They recommend that brands should engage in activist movements after taking into consideration the social needs of their stakeholders and the type of industry they are operating in. They further suggest that brands should launch campaigns only if they operate in a democratically inclined political, economic and cultural environment. They have also thrown light on building authenticity by aligning the brand's value with the cause of the campaign, thus gaining consumer trust.

The effectiveness and acceptance of authentic brand activism have been reiterated by several researchers. Shetty et al. (2019) studied the insight of millennials towards brand activism. It was established that millennials, born between 1980 and 2000, favour brand activism that aligns with their personal beliefs and values and in some cases are willing to pay a premium for that brand. However, any false or deceptive activism may result in negative repercussions. There is no major impact of gender and income on millennial perceptions of brand activism. Thus, brand managers should try to understand millennial tastes and adopt genuine activism or else there is a high risk of backlash and boycott by millennial consumers.

Several authors have conducted case studies on specific brands engaged in brand activism and the impact of their campaigns on their overall image.

Eyada (2020) conducted a case study on Nike's advertisement addressing sociopolitical issues such as disabilities, gender inequality, and racial discrimination. The campaigns resulted in mixed reactions: creating controversies on one hand, while on the other, leading to growth in sales and brand visibility. This success of some of its campaigns is tied to Nike's emotional storytelling and the iconic slogan 'Just Do It', showcasing its ability to influence social change.

Confetto et al. (2023) discuss the case of two mainstream brands showing a long-term commitment to societal concerns but using two very different approaches. Dove, through its brand activism, stands up for diversity and authenticity to combat low self-esteem and stereotypes, while L'Oréal claims to foster human rights and gender equality through its product innovation. Consumers see Dove as a more communicative brand activist, whereas L'Oréal is a silent brand activist.

Mukherjee & Althuizen (2020) highlighted Starbucks' decision to hire 10,000 refugees when the US was accepting Syrian refugees, which led to a drop in its Buzz score, which indicates a public perception of the brand. In contrast to this, Chick-fil-A's sales surged during the marriage equality debate. This reconfirms that, campaigns on divisive issues carries both potential rewards as well as risks. Thus, brand activism necessitates an understanding of consumer thought processes to contribute to effective research.

Dauvergne (2017) highlighted the limitations of brand activism while investigating the environmental issue related to deforestation in Malaysia and Indonesia caused due to the rising usage of illicit palm oil products. Various activist groups have targeted palm oil companies engaged in unsustainable practices through palm oil plantations. Such farms are linked with deliberately creating forest fires to clear land, leading to further destruction of rainforests. Firms like Nestle and McDonald's have been encouraged to commit to a zero-deforestation policy, but still, there are several obstacles to implementation. While brand-focused activism is able to increase awareness, it has still not been effective in completely eradicating the concerns.

Some authors have studied the role played by social media on brand activism movements. Gray (2019) explored the link between brand activism campaigns and social media engagement, especially through Twitter. Tweets of eight different brands, including Nike, Puma, Airbnb, and others, were interpreted and analysed through RStudio and Twitter APIs to determine the brand's alignment with the campaign. Poisson regression analysis was used to evaluate this relationship. Indicators such as favourites and retweets helped to find out that businesses should contribute to the field of activism, particularly on Twitter, by focusing on individuals rather than society as a whole and targeting both genders rather than being gender specific.

Patni & Dev (2021) highlighted that customers look forward to brands taking a stance on social issues, but at the same time, they are also expected to assess their messages uploaded on social media platforms and consider the impact of their words on their target demographic. The brand Zomato adopted a policy of delivering food regardless of religious preferences, which led to facing severe backlash and criticism on social media. Zomato's case was stereotyped as a typical example of 'blatant hypocrisy' in the name of brand activism. In reality, Zomato failed to identify the socio-cultural implications of its campaign in a religion-centric country.

Cammarota et al. (2021) explored consumer response brand activism based on the comments received on the Instagram profile of the concerned brands. Four case studies have been discussed in this paper. Airbnb #weaccept campaign was praised by consumers but also received severe critical comments for being political. Gillette's #TheBestManCanBe campaign was praised for the brand's social influence though it got criticised for lacking credibility and misalignment with customer ideals. Victoria's Secret's #ProudToBeVS campaign for the Lesbian, gay, bisexual, and transgender (LGBTQIA+) community got positive feedback supporting the community rather than the brand. However, it also received negative feedback criticizing the inconsistency of the brand and misalignment of the brand's value with the cause of the movement. Victoria's Secret's #Collective campaign

aimed at inclusion and received the most unfavourable feedback among the given examples. To sum up, brand activism may bring both positive and negative reactions, depending on various factors such as alignment of brand values, trustworthiness, and the authenticity of the campaign.

RESEARCH GAP AND OBJECTIVES OF THE STUDY

Research Gap

Brand Activism has been a growing area of interest in the past decade. Research in this area is still developing and there is a emerging need for investigation particularly about its effectiveness on the consumer's mind. There have been a limited number of former studies examining the impact generated by brands that participate in brand activism on consumers' viewpoint and opinions regarding Brand Authenticity. There is a scarcity of research that searches through the thought process of consumers and tries to find out the impact on consumer perception, thoroughly investigating the level of impact. Moreover, there is scope for in-depth research focusing on consumer attitudes, behaviour and responses towards brand activism campaigns.

Furthermore, the role of brand activism in social media engagement particularly on specific platforms like Instagram, Facebook and X; and understanding how social media networks promote and escalate brand activism campaigns are a few other areas which are insufficiently explored.

OBJECTIVES OF THE STUDY

1. To assess the impact of brand activism on consumer perceptions and behaviour
2. To review the role of social media in brand activism
3. To analyse successful and unsuccessful brand activism campaigns

RESEARCH METHODOLOGY

Research Design

To achieve the first two objectives, a quantitative research approach has been applied, as quantitative data collection instruments (survey-based questionnaire) have been employed to gather information from the students.

To analyse the third objective, which involves assessing successful and unsuccessful brand activism campaigns, a qualitative approach has been applied, using past literature and case study methods.

Sample Design

The study is majorly conducted on students, working professionals and homemakers residing in the state of West Bengal, India. The Snowball sampling method was applied to determine the sample of the study. The participants were surveyed through a close-ended questionnaire consisting of 19 questions. A total of 105 responses have been considered for the study. The survey took place between January 2024 and March 2024.

Sources of Data

A combination of primary and secondary sources has been used to collect data. Respondents have filled out a self-administered close-ended questionnaire based on a five-point Likert scale to gather the primary data. Secondary data is collected from research articles available on Google Scholar.

Tools Used

The acquired data has been filtered and categorised before being entered into Microsoft Excel for further assessment. The analysed data has been presented using various forms of visualizations such as bar graphs, pie charts, line charts, area charts, stepped area charts, scatter charts, column charts and clustered column charts.

LIMITATIONS OF THE STUDY

The participants considered for the survey are predominantly comprised of the younger age group ranging between ages 18 to 25. Thus, generalizing the results for other age groups might not be possible as the sample is not representative of other age groups. Moreover, the sample size is limited to 105 respondents and may not give a clear picture of the entire population, indicating there is much scope for future research at a greater scale.

Another drawback of the present study is that all the current brand activism campaigns have not been considered for the study. This paper has focussed on a few larger campaigns by a restricted number of brands.

ANALYSIS AND FINDINGS

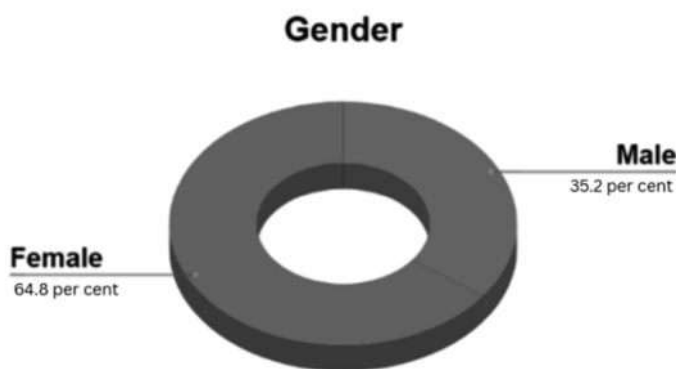


Figure 2: Gender Distribution
(Source: Primary Data)

A majority of respondents were female that is 64.8 per cent whereas male respondents account for 35.2 per cent of the total.

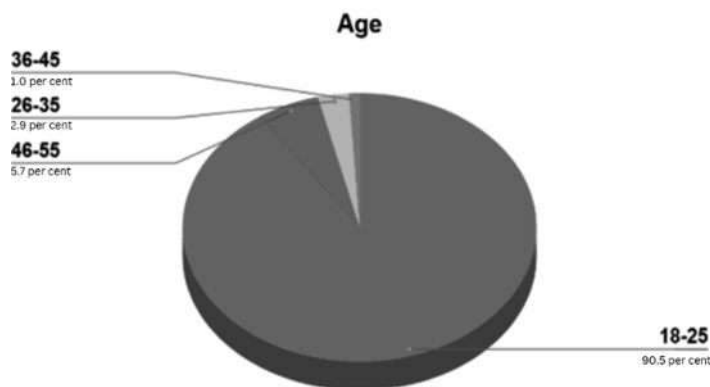


Figure 3: Age Distribution
(Source: Primary Data)

This showcases that the majority (90.5 per cent) of respondents are within the 18-25 age range suggesting that there was an incline towards more younger age groups.



Figure 4: Occupation Status
(Source: Primary Data)

Students are 88.6 per cent of the total respondents which suggests that the analysis has got more responses from the younger demographic.

To assess the impact of brand activism on consumer perceptions and behaviour

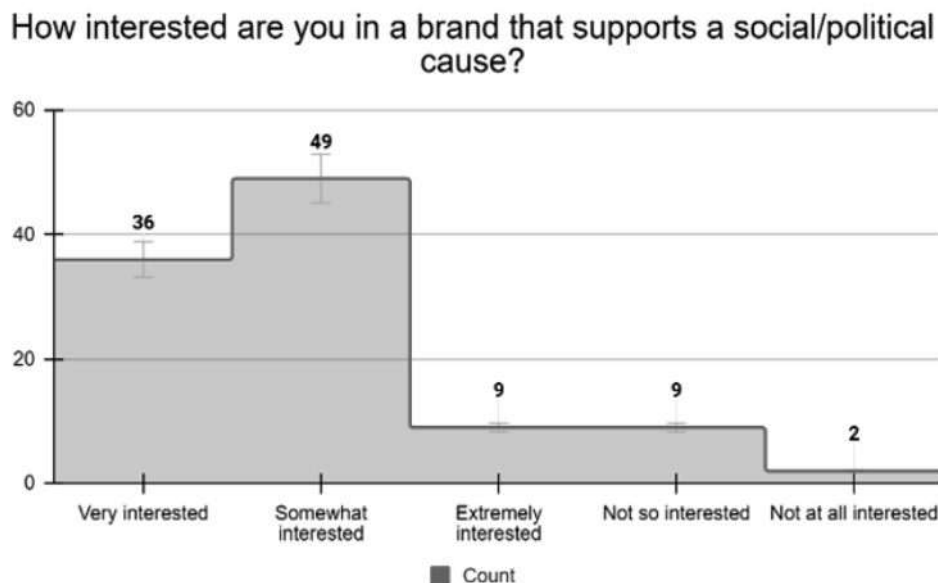


Figure 5: Interest towards Brand Activism
(Source: Primary Data)

The interested respondents (89.5 per cent) are most likely to get involved in brand activism whereas the rest 10.5 per cent may not appreciate such initiatives. Overall, a major section of the respondents has at least some level of interest towards brands that support social or political causes and will help the brand succeed.

What do you feel about companies engaging in discussions on social/political issues?

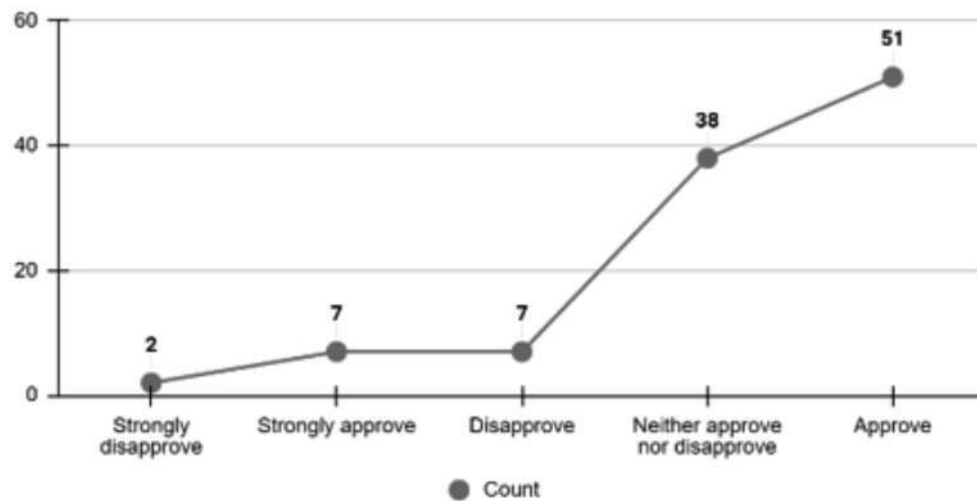


Figure 6: Opinion towards Brand Activism
(Source: Primary Data)

The highest percent of respondents falls under the 'approve' category, supporting companies which takes a stand on social/ political issues thus showcasing a positive attitude. The next significant portion is under the 'neither approve nor disapprove' category, highlighting an indifference toward companies' involvement in such matters.

Do you believe that a brand's involvement in activism influences your purchasing decisions?

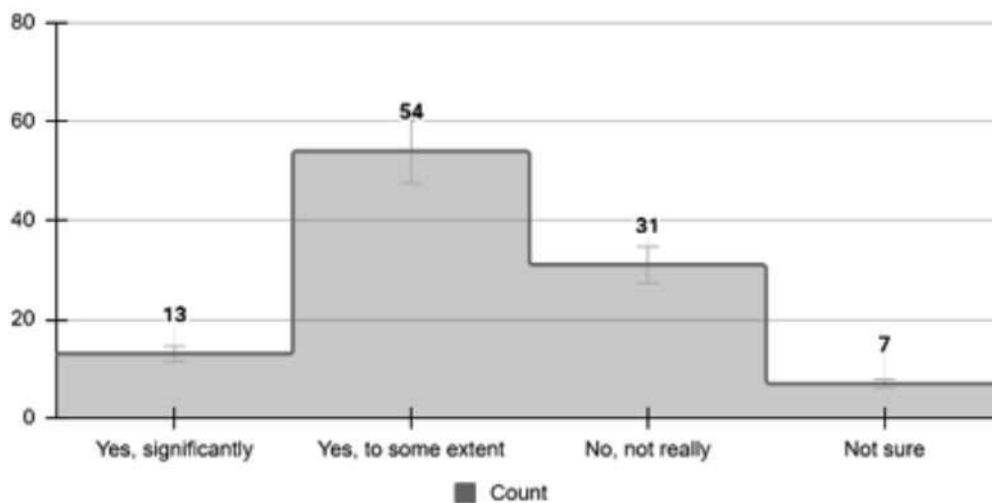


Figure 7: Effect on Purchasing Decision
(Source: Primary Data)

A dominating number of respondents believe that to some extent brands involvement in activism influence their purchasing decision. As well as a significant portion of 29.5 per cent are not really influenced but this percentage is lower than the positive influence.

How likely are you to purchase from a brand that actively supports a social or environmental cause over a brand that stays neutral in these matters?

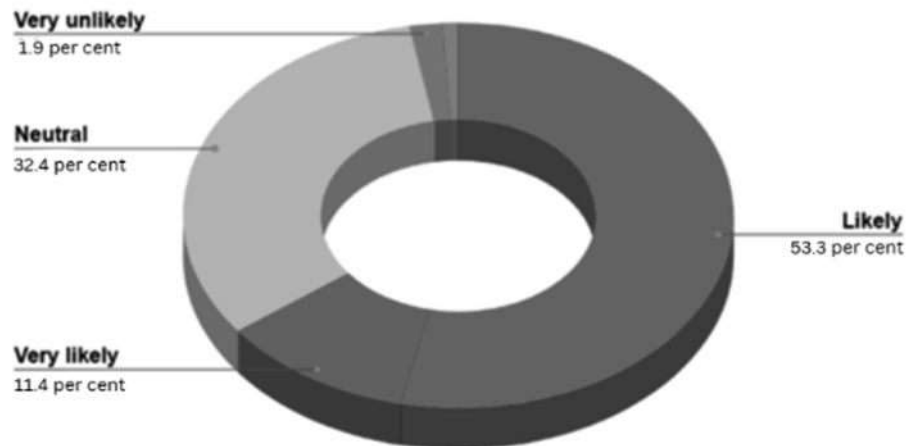
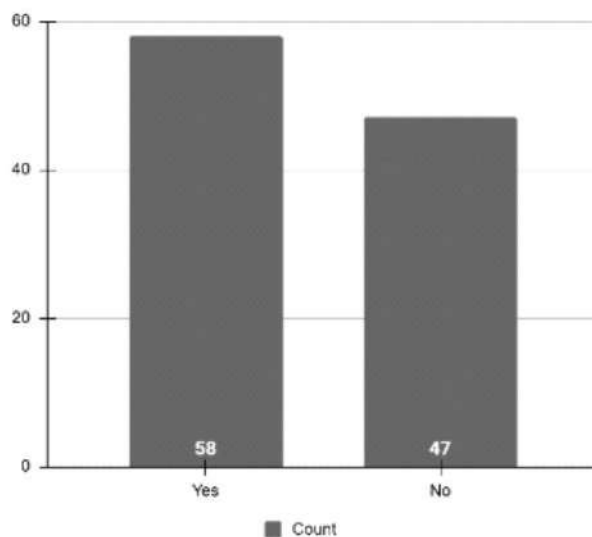


Figure 8: Comparison between Brands
(Source: Primary Data)

The responses give away that 53.3 per cent are likely to prefer brands that support such causes thus showing a scope of positive response towards corporate support in social and environmental cause. Meanwhile 32.4 per cent have a mixed opinion leading an opportunity for the companies to create this indecisiveness into a positive response.

Have you ever switched from one brand to another because of the former's stance on social or environmental issues?



A higher proportion of respondents have switched over brands because of former's stance on social & environmental issues thus signifying consumers' willingness to align their purchase behaviour with brands values regarding environmental or social responsibility.

Figure 9: Decision to Switch between Brands
(Source: Primary Data)



Figure 10: FabIndia Post
(Source: Primary Data)

Based on the above FabIndia post for Diwali celebration respondents had to answer the following statements.

Step 1: This campaign seems to be effective in sending a message

Step 2: This campaign changed your views towards the brand

Step 3: This campaign focuses on a long-term impact

Step 4: Do you support this campaign

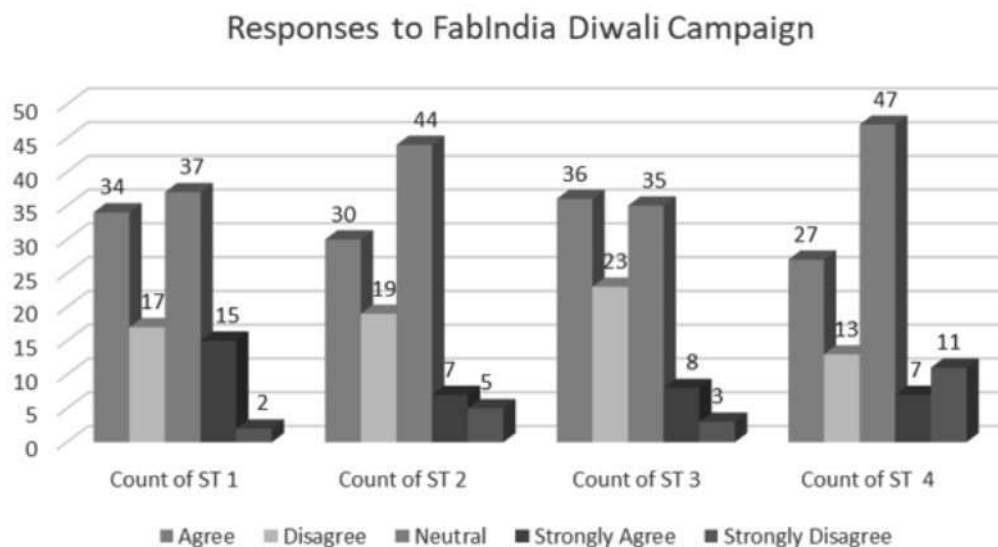


Figure 11: Responses to FabIndia Diwali Campaign
(Source: Primary Data)

Step 1: Combining the Strongly agree and agree, nearly half of the respondents feel the campaign to be effective in sending a message. A significant portion remains neutral having a lack of Strong opinion.

Step 2: Majority respondents have a neutral stance therefore; the campaign did not significantly altered views. But nevertheless, a significant percentage agreed that the campaign changed their views to some possible extent.

Step 3: Majority believes that the campaign focuses on a long-term impact.

Step 4: Most respondents express neutrality, showing a lack of Strong support or opposition for the campaign.

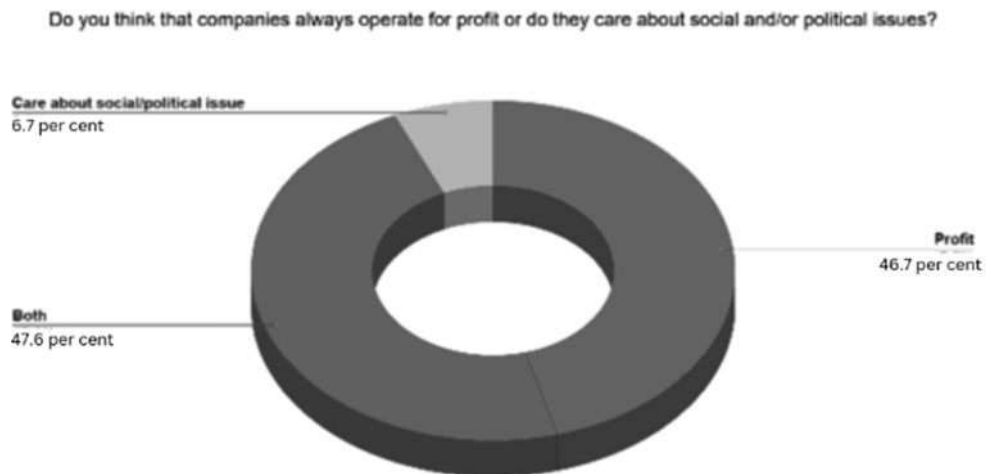


Figure 12: Profit vs social cause
(Source: Primary Data)

A very small percentage of 6.7 per cent believes that companies genuinely care about social and/or political issues. But many respondents perceive company to be balancing profit-seeking motive along with caring about social and/or political issues.

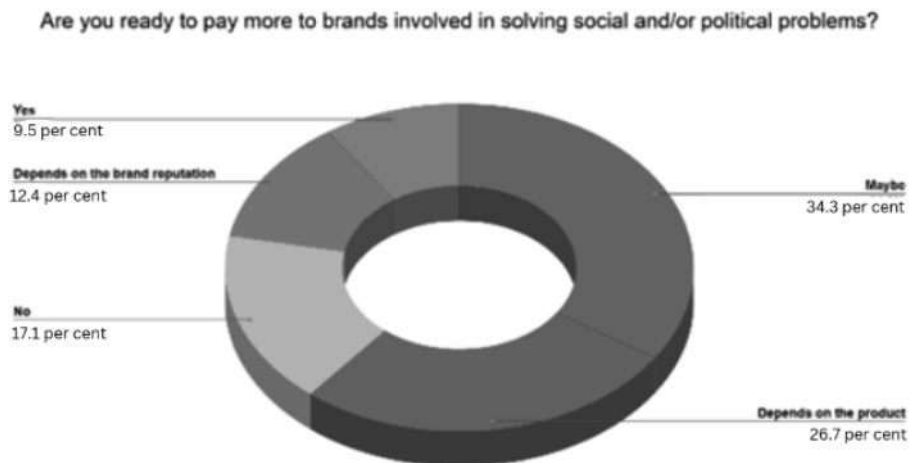


Figure 13: Paying premium for brands
(Source: Primary Data)

34.3 per cent of respondents are in the maybe category, indicating uncertainty on willingness to pay more as they will consider other factors to pay premium price. A substantial proportion of 26.7 per cent respondents have the willingness to pay more depending on the specific product thus consumers will consider both social responsibility as well as the quality and utility. 17.1 per cent respondents indicate a Strong unwillingness to pay more for such brands and prioritize other factors only.

To review the role of social media in brand activism

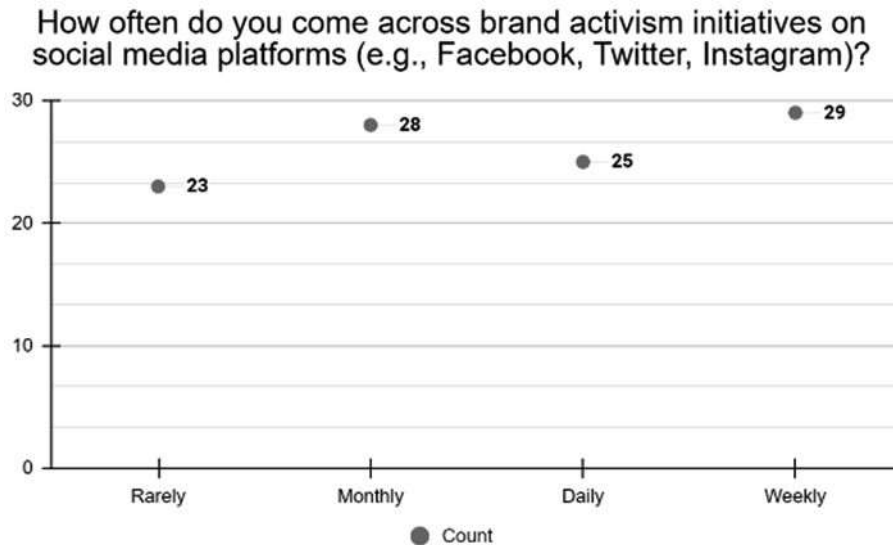


Figure 14: Frequency of engagement of brand activism posts
(Source: Primary Data)

This fig aims to understand the frequency of an individual's encounter with brand activism initiatives on social media platforms. Shockingly none of the respondents reported never encountering with a brand activism initiative on social media platforms. Thus, suggesting that brand activism content is slowly becoming the new trend on social media platforms.

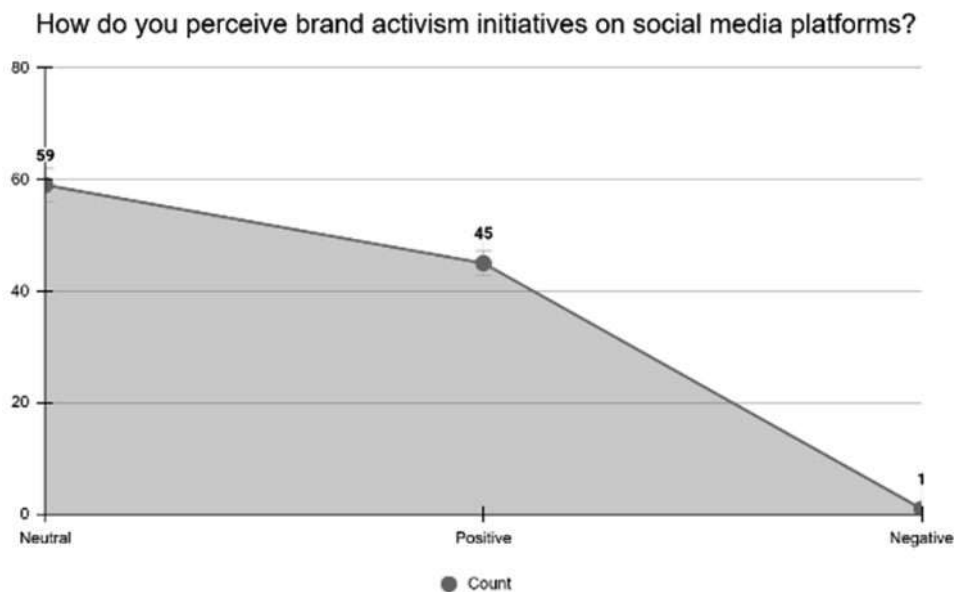
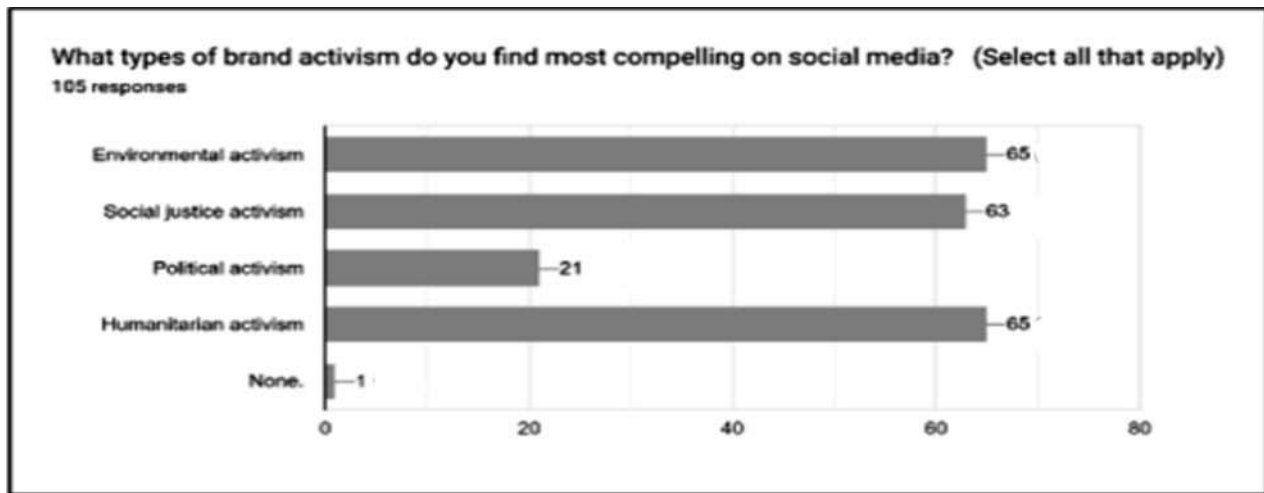


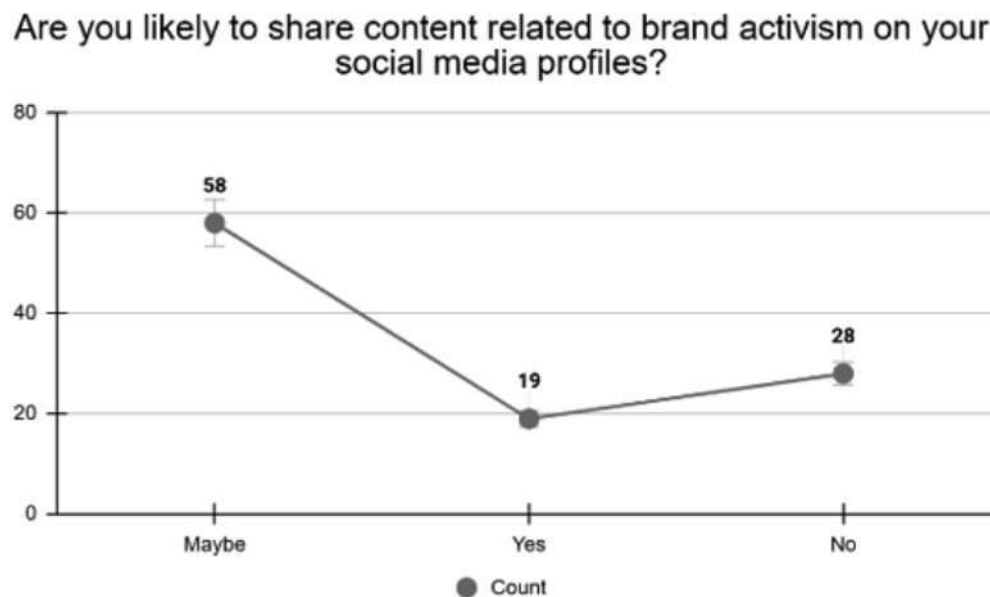
Figure 15: Types of brand activism on social media
(Source: Primary Data)

Here, respondents had the option to choose multiple sources. Among the multifaceted nature of individuals point of view towards brand activism on social media authenticity of brands stance gained a majority of 58.1 per cent highlighting the importance of genuine commitment.



*Figure 16: Possibility of sharing brand activism content on social media
(Source: Primary Data)*

Most respondents have an impartial view towards brand initiative thus providing scope to companies to influence individuals' choice to evoke positive sentiments as only a minimal 1 per cent respondent have a negative perception.



*Figure 17: Views on brand activism on social media
(Source: Primary Data)*

Here, respondents had the option to choose multiple sources. Individuals find environmental activism, humanitarian activism and social justice activism to be almost equally compelling. Only 20 per cent find political activism as compelling thus, suggesting it to be less universally appealing compared to another activism.

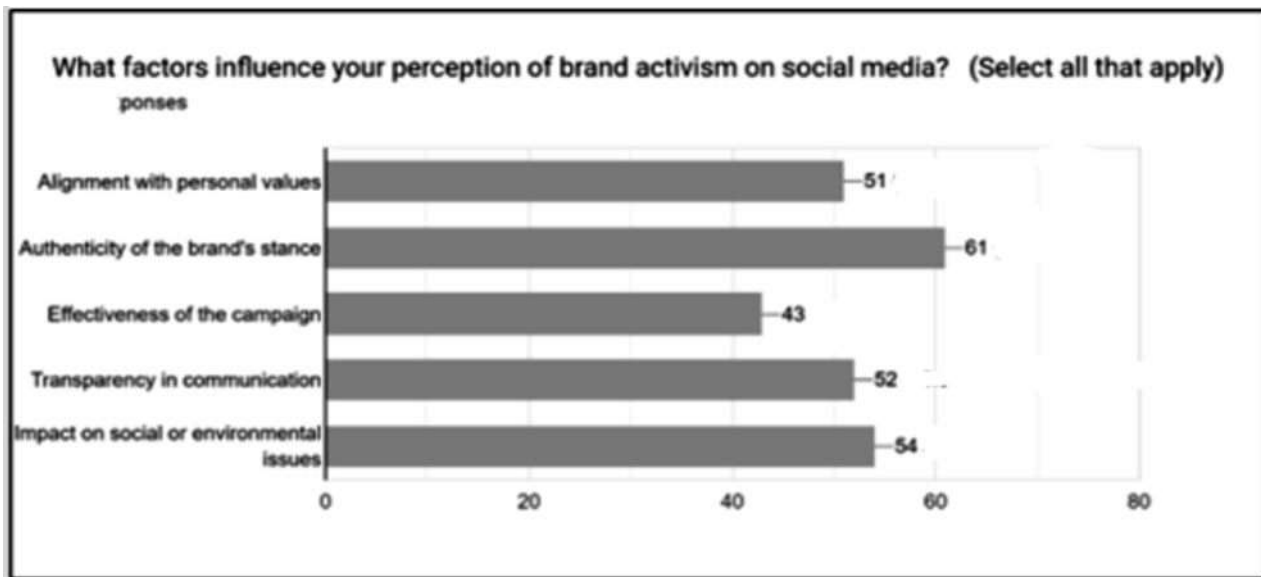


Figure 18: Factors influencing perception on brand activism
(Source: Primary Data)

The survey shows that the largest group of respondents are uncertain about sharing brand activism content, showcasing their hesitation. Overall, there is a scope for companies to develop brand activism campaigns as per individuals' values to bring about a positive influence.

CONCLUSION

There is a significant proportion of respondents who were engrossed in brands that align their values with social, environmental, political, and humanitarian causes showcasing the growth of awareness among consumers regarding brand activism. Support was visible from a considerable segment but there also remains a sense of scepticism and uncertainty as the respondents remained neutral in some cases displaying a sense of doubt among consumers on brand activism. But 67.6 per cent of respondents have a strong and absolute believe that brands will be effective in creating positive social change.

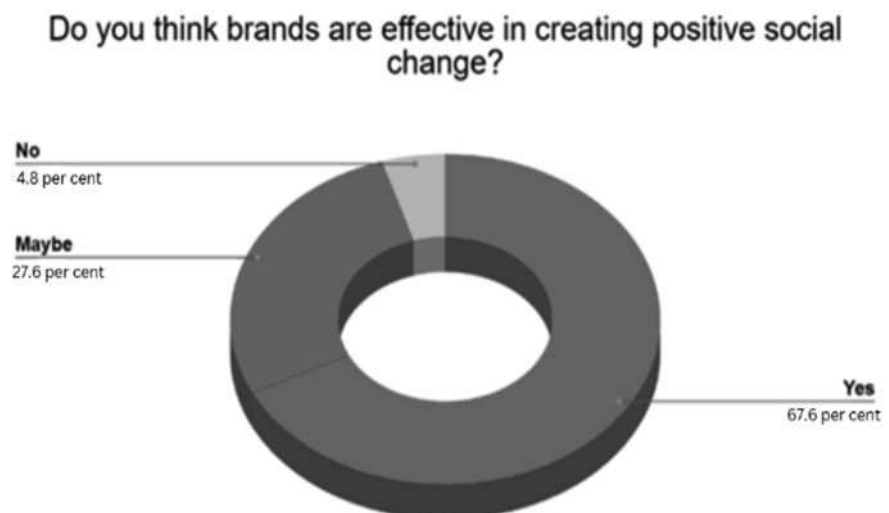


Figure 19: Brands effectiveness in creating positive social change
(Source: Primary Data)

The level of engagement and support of brand activism on social media is seen to be varying among respondents irrespective of the increasing prevalence of brand activism content on their social media feed. Therefore, there is a need for brands to be effective in communicating its message.

The various literature helps investigate the fact that brand activism has been evolving from being a simple communication campaign to a strategy filled with complexity and have potential to influence individuals towards or against the brand as well. In recent times, consumers have been rejecting campaign which do not seem to be authentic or does not align with the values embedded in the brand itself and to some extent boycott inauthentic brands.

Based on this there are references to various successful and unsuccessful scenarios of brand activism which dwells in the positive outcome because of effective planning by brands as well as their carelessness in understanding the consumers the right way.

Overall, the findings indicate the changing nature of consumers attitude towards brand activism in consideration with various factors such as alignment with brand values, overall impact, authenticity, link between personal values and brand values, engagement, and perceptions and transparency play a crucial role in shaping consumer response. This concludes that brands must have a notable level of consumer understanding and a commitment to genuine engagement with social and environmental issues, to align authentically with societal concerns, effectively communicate their values and inspire action to drive a positive social change.

RECOMMENDATIONS FOR IMPROVEMENT

Some recommendations to companies involved in brand activism campaigns are suggested as follows:

- Companies should give greater importance to understanding their target markets' beliefs and values and then try to align with these values so that the consumers can relate to and support the campaigns.

Brands should focus more on honesty and authenticity to secure consumers' trust and faith and be further successful in generating an impact.

- There should be a mechanism for constant evaluation and adaptation of brand activism initiatives. Along with this companies should monitor feedback to incorporate the learned lessons for future campaigns. It is key to analyse and study the long-term impact of such campaigns, along with the effectiveness of brand activism on the issue that it deals with. The companies should also dedicate time and effort towards understanding factors like brand image, consumer engagement and financial performance.

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“

The astounding growth of technology has triggered a bewildering growth in mobile commerce.

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Evaluating the Factors Influencing Customer Adoption and Usage of Food Applications: Insights from Kolkata Metropolis

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ABSTRACT

The pyrotechnics exhibited by mobile marketing has been one of the spectacular revelations of the 21st century resulting in a whirlwind proliferation of food applications such as Swiggy, Zomato, Uber Eats, Food

Panda, et al. The stunning juggernaut of these mobile applications have accentuated among consumers, disposing them to pay a premium for these havoc-free and comfy food order and delivery apps. The present research study purports to investigate the perceptions of customers as well as their adoption and usage mechanisms with reference to food apps which shall be explored with the application of Technology Acceptance Model (TAM). The study has been undertaken in the metropolitan setting of Kolkata city because of the erudite respondents who are eager to embrace new-fangled technology in their quest for a convenient lifestyle.

KEYWORDS: Food Apps, Mobile Commerce, Attitudes and Behavior, Technology Acceptance Model (TAM), Kolkata.

BACKGROUND OBSERVATIONS

In this fast-paced world, the *modus vivendi* of the consumers and their consumption trajectories have spawned certain luxuries in the monthly budget of Indian bourgeoisie as accentuated by a bewildering discernible upsurge in their disposable incomes over time. The spontaneous intensification in the use of app-centric food order and delivery services by a large proportion of the middle and upper middle-class segments of the Indian society bears a strong testimony to the fact these individuals have a penchant for more comfort and convenience. The study is primarily based in Kolkata, where a few years back consumers were subjected to travails of securing food order and delivery. The malaise lay either in relatively late deliveries or mostly complete unavailability of food ordering and delivering facilities. Truth to be told, because of the latter, consumers were compelled to visiting the restaurants, more often than not standing in a queue, sometimes being the victims of erroneous orders and sometimes subjected to cavalier behaviour from the restaurant staff. With the advent of these food apps such as Swiggy, Zomato, Uber Eats, Food Panda, et al., a major chunk of consumers was instantaneously prepared to pay a premium for expedient and havoc-free services. This rudimentary idea is in fact, the essence of our purported endeavor.

INTRODUCTORY REFLECTIONS

It is a no-brainer that the rapid globalizations and the new technological innovations has fuelled the growth of electronic devices especially smartphones. The face of technology is witnessing a seismic shift with each passing day because of a plethora of instauration thereby boosting a spectacular proliferation in mobile internet. This has triggered metamorphic consumption patterns among the Indian consumers, thus retreading prototypal business paradigms and prompting numerous debates and deliberations among corporate hotshots as well as other potential stakeholders. By capitalizing on the latest technological vantages, this agile application enables customers to order food and grab delivery through the restaurant's own website or mobile app, or through a multi-restaurant's website or app. It enables the customers to choose restaurants of their choice, scan the menu items, choose items and ultimately choose for it to be delivered. Not only this, the website and app also inform the customer of the food quality, duration of food preparation and the amount of time it will take for delivery. With such prolific amelioration in these mobile apps, customers are unshackled of the traditional stranglehold of food ordering and delivering. According to the data provided by medium.com in 2018, the market share of Swiggy is perched at 37 per cent, followed by Zomato not very far away at 31 per cent. We also have Uber Eats pegged at 17 per cent and Food Panda at 15 per cent. One of the arduous tasks for academic researchers is to augment the present level of cognizance of multiple factors that influence the acceptance and adoption of the food online order and delivery apps, in light of the TAM where the crux objective is to unfurl the underlying motivations, perceptions, attitudes and behavioural intentions of respondents towards these apps. Indeed, the TAM is a robust, yet parsimonious theory, which has proven to be constructive in fathoming the facets of user behaviour towards information system implementation. In this study, we have slightly modified the model to rejig the domain of 'Subjective Norm.' Albeit many a few researches in the past have blended various components of the 'Attitude-Intention-Behaviour', we shall focus on the conventional TAM with minor modifications in this study.

REVIEW OF ASSOCIATED LITERATURE

Extensive research in the domain of food applications is much needed as there exists only a few literatures which deliberate upon the present topic. Over the years a host of theories and models have been pioneered and developed for the purpose of explaining and prognosticating consumer behaviour towards a technological innovation. TAM is an extension of 'Theory of Reasoned Action' (TRA) and is pillared on four conventional variables which are 'Perceived Usefulness' (PU), 'Perceived Ease of Use' (PEU), 'Attitude towards Usage' (ATU) and 'Behavioral Intentions' (BI).

Fred Davis defined 'Perceived Usefulness' (PU) as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. Fred Davis (1989) defined 'Perceived Ease of Use' (PEU) as 'the degree to which a person believes that using a particular system would be free from effort'. Davis (1993), also explained that 'Behavioral Intention' (BI) can be 'determined jointly by the users' attitude towards the use of the system and the perceived usefulness'.

With the passage of time, TAM started gathering more flexibility in its concept and framework which also included the integration of novel concepts.

Thorough research is still being done in TAM and the factors which can be accumulated in TAM is also being expanded. In this light, it is imperative to mention 'TAM 2 (Venakatesh & Davis 2000 & Venkatesh 2000)' and 'Unified Theory of Acceptance and Use of Technology (UTUAT, Venkatesh et al. 2003)'. Besides, TAM 3 has also been proposed in the context of e-commerce to include 'trust' and 'perceived risk' on system use (Venkatesh & Bala 2008).

OBJECTIVES OF THE STUDY

1. To propose a new research model of TAM specifically in the

context of food applications.

2. To examine and analyze the attitudes and behavior of customers towards food applications

RESEARCH MODEL & HYPOTHESIS FORMULATION

The present study aims at developing a conceptual research framework of the user acceptance and intention of app-based food order and delivery services, pillared on a marginally modified Technology Acceptance Model (TAM). Hence, the following hypotheses have been developed and substantiated through a valid research model.

- H₁: 'Perceived Usefulness has a positive influence on the Attitude towards Usage'
- H₂: 'Perceived Usefulness has a positive influence on the Behavioral Intention'
- H₃: 'Perceived Ease of Use has a positive influence on the Perceived Usefulness'
- H₄: 'Perceived Ease of Use has a positive influence on the Attitude towards Usage'
- H₅: 'Subjective Norm has a positive influence on the Behavioral Intention'
- H₆: 'Attitude towards Usage has a positive influence on the Behavioral Intention'

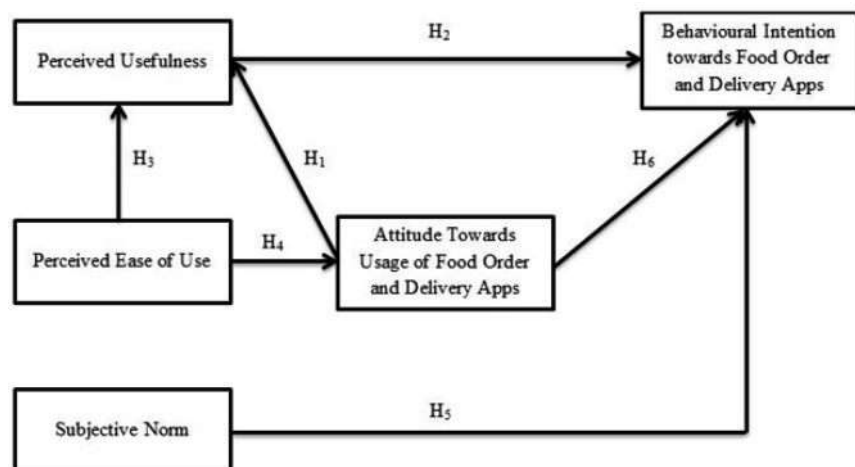


Figure 1: Research Model of The Present Study
(Source: Primary Data)

The research model represented in Exhibit 1 caters to the present research study and is quite different from the traditional TAM model as the extra construct of 'Subjective Norm' has been incorporated. Therefore, the present research study comprises of five essential constructs.

RESEARCH METHODOLOGY

Both 'secondary data' and 'primary data' has been used. An anonymous survey was has been conducted on a sample of 168 respondents who are all users of food applications. For scouting secondary sources of data, scholarly articles of various authentic databases have been accessed. For primary data, a questionnaire has been developed. The questions have been adapted from previous scales. The respondents were asked to provide their responses towards a total of 20 questions under five heads, namely, Perceived Usefulness (PU), Perceived Ease of Use (PEU), Attitude towards Usage of food order and delivery app (ATU), Subjective Norm (SN) and Behavioural Intention (BI). A five-point Likert scale (5=Strongly Agree and 1=Strongly Disagree) was used to measure the concepts. The 'Cronbach's Alpha test' has been used to test the reliability of items used in the questionnaire. The data collected has been meticulously processed using International Business Machines (IBM) Statistical Package for Social Science (SPSS) v23. The final valid responses stood at 145 after rejection and elimination of some responses. For representation of demographic variables, 'pie charts' have been used. Whereas, for testing of hypothesis has been done by a robust analysis of statistical tests like 'correlation test' and 'regression test'.

ANALYSIS OF DATA

Demographic Profiling

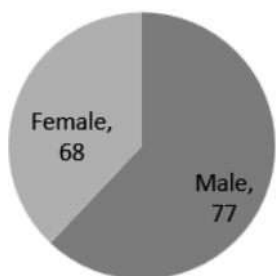


Figure 2: Male-Female Ratio
(Source: Primary Data) (Source: Primary Data)

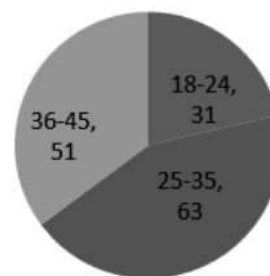


Figure 3: Figure 3: Age Group
(Source: Primary Data) (Source: Primary Data)

Thus, we can see that the male and female ratio is moderately balanced in the proportion 77:68. The age group of 25-35 years constitute major chunks of the population respondents.

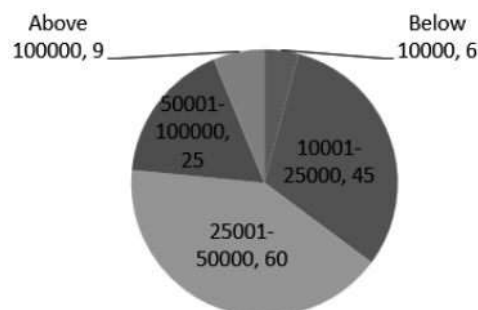


Figure 4: Income of Respondents
(Source: Primary Data)

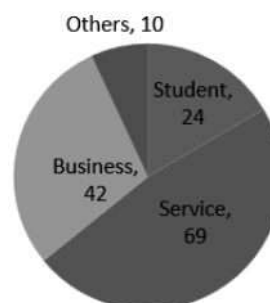


Figure 5: Occupation of Respondents
(Source: Primary Data)

Here we see that a large proportion of respondents are employed in service. It is also observed that most of the respondents have an income level of 5001-50000.

Reliability Test

Reliability analysis is conducted 'to check the internal validity and consistency of the items used for each

factor.’ According to Nunnally (1978), ‘questionnaire for various factors of food order and delivery app were judged to well reliable measurement instrument, with the Cronbach’s Alpha scores being all above 0.8.’

Factor	Items	Cronbach’s Alpha
Perceived Ease of Use (PEOU)	3	0.987
Perceived Usefulness (PU)	6	0.988
Attitude Towards Usage (ATU)	4	0.989
Subjective Norm (SN)	4	0.960
Behavioural Intention (BI)	3	0.982

*Table 1: Reliability Test
(Source: Primary Data)*

Correlation Analysis

The ‘correlation test’ has been conducted to check for the association between the variables, which would give a measure of their inter-relationship with each other.

Factor	PEOU	PU	AT	SN	BI
Perceived Ease of Use (PEOU)	1	0.639**	0.692**	0.496**	0.552**
Perceived Usefulness (PU)	0.639**	1	0.782**	0.665**	0.822**
Attitude Towards Usage (ATU)	0.692**	0.782**	1	0.543**	0.753**
Subjective Norm (SN)	0.496**	0.665**	0.543**	1	0.612
Behavioural Intention (BI)	0.552**	0.822**	0.753**	0.612**	1

*Table 2: Correlation Matrix
(Source: Primary Data)*

The ‘correlation’ table shows that the ‘correlation between all the variables are positive and significant’ as evidenced by their respective correlation score and significance level (p-value).

Regression Analysis

Table: Predictors: PU & PEOU → Dependent Variable: ATU

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.786 ^a	.616	.612	.50940

a. Predictors: (Constant), PU, PEOU

Coefficients ^a					
Model	Unstandardized Coefficients		Standard Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.287	.190		1.522	.133
PEOU	.330	.051	.349	6.766	.000
PU	.598	.059	.543	10.545	.000

a. Dependent Variable: ATU

*Table 3: Regression Test
(Source: Primary Data)*

The ‘regression test’ has been performed ‘to check for the degree and direction of relationship between the variables.’ To further ameliorate the findings, running a ‘regression test’ is important to test the various hypothesis the H1 and H2. The table below shows the result of regression.

In Table 3, the value of ‘R square’ indicates that the two predictors (PU, PEOU) explained 61.6% variations in ATU. The standardized coefficients (β) shows that PU

($\beta=0.543$) have a larger impact than PEOU ($\beta=0.349$). Also, the 'significance level' indicates that 'both of the predictors have a significant and positive impact' on ATU scores at the 0.01 level.

Table: Predictors: PU, SN & ATU \rightarrow Dependent Variable: BI

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.792	.626	.622	.49937

a. Predictors: (Constant), PU, SN, ATU

Coefficients^a					
Model	Unstandardized Coefficients		Standard Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.316	.181		1.758	0.84
PU	.608	.071	.556	8.934	0.000
SN	.288	.062	.290	4.673	0.000
AT	.389	.068	.398	6.352	0.000

a. Dependent Variable: BI

Table 4: Regression Test
(Source: Primary Data)

From Table 4, it is confirmed that all the three predictors (PU, SN, AT) have 'a significant and positive influence' on BI, with ($\beta=0.556$), ($\beta=0.290$) and ($\beta=0.398$) respectively for each predictor.

Table: Predictors: PEOU \rightarrow Dependent Variable: PU

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.639 ^a	.391	.387	.72348

a. Predictors: (Constant), PEOU

Coefficients^a					
Model	Unstandardized Coefficients		Standard Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.287	.190		1.522	.133
PEOU	.330	.051	.349	6.766	.000

a. Dependent Variable: PU

Table 5: Regression Test
(Source: Primary Data)

In Table 5, the R Square value is 0.391, indicating PEOU explained 39.1 per cent variations in PU. Based on 'standardized coefficient' ($\beta=0.349$), PEOU has a 'significant and positive impact' on PU.

FINDINGS AND DISCUSSIONS

The current research study has been successful in exploring the liaisons among the traditional TAM components and subjective norm. The study is highly relevant in the context of an intriguing metamorphosis of smartphones along with the eye-twitching revolution in food applications. The study revealed that 'perceived usefulness' had a significant impact on 'attitudes towards usage' and 'behavioral intention'. An explanation would be that the users are willing to adopt a beneficial application which could increase their convenience. It was also observed that 'perceived ease of use' was associated with 'attitudes towards usage'. Furthermore, the influence of 'social circle' had a significant impact on the 'behavioral intention' towards food apps. This is essential as local clubs, colleagues or opinion leaders shape the perception of people towards new technology. The study also indicated that 'perceived ease of use' had a strong influence on 'perceived usefulness'. This essentially hints at providing proper user training is mandatory for enhancing perception of users towards the usefulness of a new technology. Ultimately, it is believed that the attitude of consumers towards food applications has been instrumental in shaping the behavioural intention of consumers, as both the 'mental and physical faculties' play a highly crucial role in developing the perceived likelihood of customers.

CONCLUSIVE REMARKS

The astounding growth of technology has triggered a bewildering growth in mobile commerce. The contemporaneous smartphones exhibit uncanny while the mobile applications do intrigue customers' frame of mind. The study has been crucial in highlighting certain key elements under the TAM constructs, which shall guide future researches. People in Kolkata highly value

food apps which are offered by Swiggy, Zomato, Uber Eats, Food Panda. This can be manifested in the adoption and usage of the mobile applications which has witnessed a sudden upsurge. Truth to be told, TAM has been persistently criticized because of its 'debatable heuristic value', 'constrained explanatory and predictive power' and 'triviality'. Despite the pitfalls, it continues to be the most popular theoretical model for research in the milieu of academia. The study has been robust enough to provide valuable conclusions concerning consumer behaviour displayed towards food apps. The transition of the society from 'tech-less' to a more seamless 'tech-savvy' *modus vivendi* has been one of the stunning highlights of the 21st century world. The advent of 'mobile commerce' has further strengthened the impact of mobile applications. Both companies as well as customers are benefitting from the transition which seems to be the way forward.

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MESSAGE

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On this occasion, I extend my best wishes for the success of the publication.

(Narendra Modi)

18 August, 2016
New Delhi

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Personalisation & Customisation

Your dreams matter, TCC will help fulfill it.

COMPUTER LABORATORY



At last the mouse bells the CAT

CORPORATE PRESENTATION



Hard- & Soft-Skills Development

CONFERENCE ROOM



Group Discussion and Brainstorming

Experience a premier business school before going to one or, for that matter, even without going to one.

PERSONAL INTERVIEW



360° Appraisal, Feedback, Playback

FUTURE READY



Overall Development

ALUMNI MEET



Eternal emotions and memories

Get 'FUTURE READY' at TCC.



**World-Class Education & Training for Life
resulting in
Transcendent Achievements**

TCC MANAGEMENT SYSTEMS
Home of Crystal Clear Concepts

All the images are real and any resemblance to any TCC student is purely intentional.