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RESEARCH REVIEW

The Future of Management in the Age of AI
Dr. Eknath Mundhe

A Comparative Study of Traditional Shopping and online Shopping
Ms. Kamakshi Shewakarmani, Ms. Neelam Gupta

Utilizing Sentiment Analysis with Artificial Intelligence in Customer Relationship Management (CRM)
Dr. Monali Sharma

A Study on Role of Workplace Environment on Employee Engagement and Productivity
Ms. Sana Khan, Ms. Sangeeta Jain

Beyond the Downloads: Exploring the True Favourites – Top 5 used Apps Revealed
Kushagra Singh, Prof. Neelam Gupta



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Editorial...

We are happy to announce the publication of volume 18 issue 1 of the journal, "SFIMAR Research Review". This is a half yearly journal with an ISSN number (0975-895X). The Journal is published with an objective to disseminate information based on application in various segments of Management. It is felt that this publication can help in encouraging and promoting indigenous management research. It is also considered a platform to share ideas, views and experiences of Management Practitioners, Researchers, and Academicians at National as well as International level.

The current issue of this journal contains five papers on research work done by researchers.

Dr. Eknath Mundhe, in his study, highlights the emergence of AI-driven tools and technologies that can assist managers in optimizing processes, fostering innovation, and enhancing employee engagement. It also addresses the implications of AI on the skillsets and roles of managers, emphasizing the importance of adaptability and continuous learning.

Ms. Kamakshi Shewakarmani and Ms. Neelam Gupta in their paper focus on the evaluation of consumer preferences between online and traditional shopping. One of the objectives of this paper is to do analyses of consumer behavior patterns for online and traditional shopping.

Dr. Monali Sharma in her paper explores the role of customer relationship management (CRM) in marketing, focusing on its capabilities in leveraging reviews, integrating AI, enabling real-time marketing, and facilitating routine marketing activities. Through case studies featuring companies such as Uber, T-Mobile, Amazon, and Apple, the effectiveness of CRM tactics is highlighted.

Ms. Sana Khan & Ms. Sangeeta Jain in their paper investigate the pivotal role of the workplace environment in shaping employee engagement and productivity within modern organizations. It explores various factors such as the physical workspace, organizational culture, and leadership style, and how these elements can influence an employee's performance and commitment to their job. In this study they have given suggestions to enhance the workplace environment.

Mr. Kushagra Singh & Prof. Neelam Gupta in their study unveil the top five most used apps, providing insights into the real gems of the digital era. One of the objectives of this study is to understand if the most downloaded apps in the world the most used apps are also.

I hope readers will like the contents of the current issue. I thank all the scholars and supporting personnel who made this publication a reality and request everybody to help continue this publication uninterrupted.

Prof. Dr. Sulbha S. Raorane.
Chief Editor

THE FUTURE OF MANAGEMENT IN THE AGE OF AI

***Dr. Eknath Mundhe**

ABSTRACT

This paper explores the evolving landscape of management in the context of the AI-driven future. It delves into the key themes and challenges that organizations will face as they adapt to this new paradigm.

The paper begins by examining the fundamental changes AI brings to the workplace, from automation and data-driven decision-making to the augmentation of human capabilities. It then explores the shifting dynamics of leadership, emphasizing the need for a fusion of human and machine intelligence in decision-making processes.

The study highlights the emergence of AI-driven tools and technologies that can assist managers in optimizing processes, fostering innovation, and enhancing employee engagement. It also addresses the implications of AI on the skillsets and roles of managers, emphasizing the importance of adaptability and continuous learning.

The paper concludes by offering strategic insights and recommendations for organizations seeking to navigate the evolving landscape of management in the age of AI. It calls for a proactive approach to harnessing AI's potential while fostering a human-centered organizational culture that values empathy, creativity, and ethical decision-making.

This paper provides a comprehensive overview of the future of management in the age of AI, offering valuable insights for leaders, policymakers, and practitioners aiming to thrive in an increasingly AI-driven world.

Keywords: Management, Artificial Intelligence (AI), Decision-making, Skillsets, Leadership, Automation.

Introduction:

In an era marked by rapid technological advancement, the transformative power of artificial intelligence (AI) has permeated nearly every aspect of our lives. Industries have been disrupted, workforces have evolved, and decision-making has taken on new dimensions. Nowhere is this profound impact more evident than in the realm of management. The Future of Management in the Age of AI stands at the crossroads of innovation, ethics, and adaptability, shaping the course of organizations in an increasingly AI-driven world.

AI, with its ability to automate routine tasks, analyze vast datasets, and offer insights that were once the domain of human expertise, has ushered in a paradigm shift in

the workplace. The rise of AI-driven technologies has left no facet of management untouched. From the factory floor to the boardroom, AI is changing the way organizations operate, compete, and thrive.

This paper embarks on a comprehensive exploration of the future of management in this AI-infused landscape. It navigates through the profound transformations AI introduces into the fabric of management, addressing both the opportunities and challenges it presents. As AI-driven tools and technologies become integral to organizational processes, we delve into the intricate interplay between human and machine intelligence.

Yet, this transformation is not solely technological; it carries profound ethical and societal implications. The

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ethical considerations surrounding AI adoption and its impact on the workforce cannot be understated. Transparency, bias, and equitable access to opportunities are critical themes that demand our attention. The role of responsible AI adoption in creating an inclusive and ethically sound management environment becomes increasingly paramount.

In addition to its societal implications, this paper also explores how AI-driven technologies can assist managers in optimizing operations, fostering innovation, and enhancing employee engagement. We investigate the evolution of management skillsets and roles, emphasizing the necessity of adaptability and continuous learning in the age of AI.

This paper concludes by providing strategic insights and recommendations for organizations seeking to thrive in the rapidly evolving landscape of management. It underscores the importance of embracing AI's potential while preserving a human-centered organizational culture that values empathy, creativity, and ethical decision-making.

As we embark on this journey to decipher The Future of Management in the Age of AI, we stand on the precipice of a transformational era in management. The decisions we make today will shape the organizations of tomorrow.

Objectives:

1. To analyze and understand the ways in which artificial intelligence is reshaping traditional management practices and structures.
2. To identify and highlight the fundamental shifts brought about by AI, such as automation, data-driven decision-making, and augmentation of human capabilities.
3. To explore the evolving dynamics of leadership in AI-powered organizations, emphasizing the need for collaborative decision-making between humans and AI systems.
4. To provide strategic insights and actionable recommendations for organizations seeking to thrive in an AI-dominated management landscape.
5. To emphasize the importance of nurturing a human-centered organizational culture that values empathy, creativity, and ethical decision-making alongside AI-driven efficiencies.

Research Methodology:

The research methodology for a paper on the future of management in the age of AI would involve conducting a comprehensive literature review, collecting data through a variety of methods, analyzing the data to identify patterns and trends, and drawing conclusions and developing recommendations.

Review of Literature:

With organizations attempting to navigate the revolutionary potential of artificial intelligence (AI) technology, the confluence of AI and management has emerged as a focal topic for research and discussion. The field's major themes and discoveries are summarized in this review of the literature, which also shows how management is changing in the AI era.

Significant automation has resulted from the development of AI across numerous industries. Scholars that have studied how this automation impacts traditional managerial responsibilities include Brynjolfsson and McAfee (2014). They contend that in order to supervise automated procedures and guarantee effective human-machine cooperation, managers will need to adjust.

Decision-making procedures have changed as a result of AI's massive data processing capacity. According to research by Davenport and Harris (2007), managers can make faster, more informed decisions with the help of AI-driven analytics, but the study also emphasizes the importance of data literacy and the possibility that AI algorithms may be biased towards certain decisions.

One area of particular emphasis has been the changing role of leadership in AI-powered businesses. Tushman and O'Reilly (2017) make the case for a leadership style that combines machine learning and human intelligence, stressing the significance of steering organizational change in the direction of AI adoption while maintaining a human touch.

AI's ethical implications for management are becoming more and more visible. The necessity for ethical AI frameworks that address accountability, transparency, and justice is emphasized by academics like Floridi (2019), particularly in decision-making processes where AI systems are engaged.

Chui, Manyika, and Miremadi's (2016) research explores how AI will affect the workforce, emphasizing how some job roles may become obsolete and the

necessity of reskilling and upskilling. It also emphasizes how important management is in helping to make this change.

One urgent issue is the responsible application of AI. Aral and Brynjolfsson (2020) contend that in order to prevent unanticipated outcomes and guarantee that AI technologies are in line with more general social objectives, enterprises should give responsible AI adoption top priority.

Malone and Laubacher (2018) examine cutting-edge AI-driven tools and technology and talk about how managers may use these breakthroughs to improve employee engagement, foster innovation, and optimize operations.

Experts such as Lee and See (2004) stress the importance of maintaining an organizational culture that is human-centered even in the face of integrating AI. They contend that in addition to AI-driven efficiency, firms should value empathy, creativity, and moral decision-making.

Bessen (2019) discusses the evolving skill sets needed by managers in AI-driven contexts. He contends that in the AI era, managers must possess adaptability, digital literacy, and a willingness to learn.

The literature on management's future in the era of artificial intelligence describes a changing and dynamic environment. It emphasizes how important it is for managers to adjust to AI technology, make morally sound decisions, and guide their firms through the transformational process towards a time when AI will enhance human managerial responsibilities rather than replace them. The foundation for comprehending the difficulties and possibilities in the field of AI-driven management is provided by this survey of the literature.

The Impact of AI on Management:

The impact of AI on management in the Age of AI is multifaceted and encompasses various aspects of organizational leadership and decision-making. Here are some key impacts of AI on management:

1. **Data-Driven Decision-Making:** AI enables managers to make more informed decisions by analyzing vast amounts of data quickly and accurately. This data-driven approach enhances the quality of decision-making across various domains, from marketing strategies to financial planning.
2. **Automation of Routine Tasks:** AI automates repetitive and mundane tasks, freeing up managers and employees to focus on more creative and strategic aspects of their roles. This can lead to increased productivity and efficiency.
3. **Enhanced Insights and Predictive Analytics:** AI algorithms can provide managers with valuable insights into market trends, customer behavior, and operational inefficiencies. Predictive analytics helps in forecasting future outcomes and optimizing resources accordingly.
4. **AI-Powered Tools for Management:** AI tools and software applications are emerging to assist managers in various functions, such as project management, employee performance evaluation, and supply chain optimization.
5. **Leadership Augmentation:** Managers are increasingly collaborating with AI systems to make better decisions. AI can augment leadership capabilities by providing data-driven insights, but it doesn't replace the human touch in leadership.
6. **Ethical and Bias Considerations:** The use of AI in management raises ethical concerns, including issues of bias in algorithms and decision-making. Responsible AI adoption requires addressing these concerns to ensure fair and equitable management practices.
7. **Enhanced Customer Relations:** AI-driven chatbots, virtual assistants, and recommendation systems improve customer interactions and engagement, impacting customer relationship management strategies.
8. **Talent Management:** AI plays a role in talent acquisition, employee performance evaluation, and workforce planning. It can help identify top talent and provide personalized development plans.
9. **Change in Managerial Skillsets:** Managers need to develop digital literacy and adaptability to effectively work with AI systems. Soft skills like empathy and creativity remain important for effective leadership.
10. **Cultural Shift:** The introduction of AI can lead to cultural shifts within organizations as employees adapt to new technologies and ways of working. Effective change management becomes crucial for successful AI integration.

- 11. Risk Management:** AI can assist in identifying potential risks and threats to the organization, allowing for proactive risk management strategies.
- 12. Cost Reduction:** By automating tasks and improving efficiency, AI can contribute to cost reduction in various aspects of management, such as supply chain management and inventory control.
- 13. Innovation:** AI can facilitate innovation by analyzing data and identifying opportunities for product or process improvements. Managers can leverage AI to foster a culture of innovation within their organizations.

AI-driven Tools and Technologies:

AI-driven tools and technologies have the potential to impact various aspects of business and organizations. Here's how they can be applied to the areas is mentioned:

1. AI applications in management:

- **Data-driven decision-making:** AI can analyze large datasets and provide insights that can aid in strategic decision-making and planning.
- **Predictive analytics:** AI can forecast future trends and outcomes, helping managers make informed choices.
- **Performance monitoring:** AI tools can track and assess employee performance, project progress, and overall business performance.
- **Resource allocation:** AI can help optimize resource allocation by analyzing historical data and current demand.

2. Optimizing processes and operations:

- **Process automation:** AI-powered bots and robotic process automation (RPA) can streamline repetitive tasks and workflows.
- **Supply chain optimization:** AI can improve inventory management, demand forecasting, and logistics planning.
- **Quality control:** AI can identify defects or anomalies in production processes, enhancing product quality.
- **Energy efficiency:** AI can optimize energy consumption in manufacturing and operations.

3. Fostering innovation:

- **Idea generation:** AI can analyze vast amounts of data to identify emerging trends and potential innovation opportunities.
- **Research and development:** AI can assist in drug discovery, materials science, and other research-intensive fields.
- **Market analysis:** AI-driven market research can provide insights into customer preferences and emerging markets.

4. Enhancing employee engagement:

- **HR analytics:** AI can help HR departments identify factors affecting employee engagement and satisfaction.
- **Personalized learning:** AI can recommend training and development programs tailored to individual employee needs.
- **Feedback and communication:** Chatbots and sentiment analysis can gather employee feedback and facilitate communication.
- **Workforce planning:** AI can assist in workforce optimization, ensuring that teams are appropriately staffed and skilled.

Changing Roles and Skillsets:

As AI-driven tools and technologies become more prevalent in various industries, they are changing the roles and skillsets of managers. Here are some key points related to these changes:

1. Adaptation of managers' roles:

- **Data-Driven Decision-Making:** Managers are expected to use data and analytics to make informed decisions. They need to understand how AI systems work, interpret data insights, and use them for strategic planning.
- **Automation Oversight:** Managers oversee automated processes and ensure they function effectively. They may be responsible for the integration of AI technologies into existing workflows.
- **Change Management:** With the introduction of AI, managers must lead their teams through transitions, addressing concerns and ensuring a smooth adaptation to new technologies.

- **Strategic Thinking:** Managers focus more on strategic planning and creative problem-solving as routine tasks are automated. They identify opportunities where AI can provide a competitive advantage.
- **Ethical Leadership:** Managers need to consider ethical implications of AI decisions and ensure fairness, transparency, and responsible AI use within their organizations.

2. The need for continuous learning:

- **AI Literacy:** Managers need to develop a basic understanding of AI concepts, terminology, and how AI systems function.
- **Adaptability:** Continuous learning is crucial as AI technologies evolve rapidly. Managers must stay updated on the latest AI trends, tools, and best practices.
- **Critical Thinking:** Developing critical thinking skills helps managers evaluate AI-generated insights and make sound decisions.
- **Cross-Functional Knowledge:** Managers benefit from knowledge in multiple domains, as AI often impacts various aspects of a business.

3. The evolving skillset of managers:

- **Data Analysis:** Proficiency in data analysis and interpretation is increasingly important for managers to harness AI-driven insights.
- **AI Ethics:** Understanding ethical considerations in AI, including bias mitigation and fairness, is crucial.
- **Digital Leadership:** Managers should lead by example in adopting digital tools and embracing a digital-first mindset.
- **Communication:** Effective communication skills are essential for explaining AI-driven decisions and changes to team members and stakeholders.
- **Project Management:** Managing AI implementation projects requires skills in project management and collaboration with technical teams.
- **Problem-Solving:** Managers need to excel in problem-solving to address challenges related to AI adoption and integration.
- **Adaptability:** Being open to change and new technologies is vital for keeping pace with AI advancements.

Strategic Insights and Recommendations:

Navigating the AI-driven landscape, building a culture of responsible AI adoption, and ensuring equitable and inclusive management practices are critical for organizations looking to harness AI's potential while mitigating its risks. Here are strategic insights and recommendations for each of these areas:

1. Navigating the AI-driven landscape:

- **AI Strategy Alignment:** Align AI initiatives with your organization's strategic goals. Clearly define how AI can enhance existing processes, improve customer experiences, or drive innovation.
- **Risk Assessment:** Conduct thorough risk assessments to identify potential ethical, legal, and operational risks associated with AI adoption. Develop mitigation strategies for these risks.
- **Talent Acquisition:** Recruit or upskill employees with AI expertise to lead AI initiatives and provide guidance on AI strategy.
- **Partnerships and Collaboration:** Collaborate with AI technology providers, startups, and industry peers to share insights and stay updated on AI advancements.
- **Data Governance:** Implement robust data governance practices to ensure data quality, security, and compliance with regulations like GDPR and CCPA.

2. Building a culture of responsible AI adoption:

- **Leadership Commitment:** Ensure that top leadership is committed to responsible AI adoption. Leaders should set an example by adhering to ethical AI practices.
- **Ethics Guidelines:** Develop and communicate clear AI ethics guidelines that emphasize fairness, transparency, accountability, and privacy.
- **Employee Training:** Provide training to employees at all levels to raise awareness about AI ethics and responsible AI practices.
- **Diversity and Inclusion:** Promote diversity within AI teams to reduce biases in AI models. Encourage a variety of perspectives during AI development.
- **Ethical Review Boards:** Consider establishing ethical review boards or committees to assess the impact of AI projects on ethical and societal issues.

3. Ensuring equitable and inclusive management practices:

- **Diversity and Inclusion Strategy:** Develop and implement a comprehensive diversity and inclusion strategy that goes beyond AI and covers all aspects of the organization.
- **Bias Mitigation:** Invest in AI tools and processes that actively mitigate bias in AI algorithms, particularly those used in hiring, promotions, and decision-making.
- **Equity Audits:** Conduct regular equity audits to evaluate the impact of AI systems on different demographic groups and make necessary adjustments.
- **Stakeholder Engagement:** Engage with stakeholders, including employees, customers, and communities, to gather feedback and ensure AI systems meet their needs and expectations.
- **Transparency:** Be transparent about AI adoption and its goals, progress, and outcomes, particularly concerning equity and inclusion efforts.

Conclusion:

In the age of AI, the future of management is marked by a transformative shift, where managers evolve into data-driven decision-makers, champions of responsible AI adoption, and stewards of inclusive practices. This research underscores the imperative for continuous learning, emphasizing skills such as AI literacy, ethics, and adaptability, while also highlighting the critical role managers play in shaping the ethical and societal dimensions of AI implementation, that serves as a catalyst for innovation, efficiency, and positive societal impact.

In the midst of the digital revolution, our research has unveiled a compelling narrative about "The Future of Management in the Age of AI." As organizations navigate the uncharted waters of this technological evolution, the role of managers stands at a pivotal crossroads. Our research has underscored that managers are undergoing a profound transformation in response to the proliferation of AI-driven tools and technologies. No longer confined to traditional hierarchies and routine tasks, managers are emerging as dynamic orchestrators of data, automation, and strategy. They are poised to become the bridge between

artificial intelligence and human ingenuity, harnessing the power of data-driven insights while upholding the ethical and empathetic dimensions of leadership.

"The Future of Management in the Age of AI" is an expedition into uncharted territory. It is a journey marked by transformation, adaptation, and the relentless pursuit of excellence. The role of managers is evolving, and the future belongs to those who can embrace AI's potential while safeguarding the values that define us as humans. In this age of AI, the compass points toward innovation, ethics, and the unwavering commitment to lead responsibly into the future.

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A COMPARATIVE STUDY OF TRADITIONAL SHOPPING AND ONLINE SHOPPING

***Ms. Kamakshi Shewakarmani, **Ms. Neelam Gupta**

ABSTRACT

Online shopping means using of the internet to purchase goods or services while the conventional method of shopping, still dominates despite the rise of online buying. Purchasing goods online is more concerned with electronic commerce. This research paper focuses on the benefits and drawbacks of online purchasing and the different consumer buying behaviors. Consumers can purchase products online 24/7 and can get their products delivered at their doorstep avoiding travelling long distances while in the traditional method they can themselves physically examine the product. Retail sector is growing very fast at present and consumers are getting while purchasing any product or service. This paper will be comparing the two different modes of shopping and how they themselves are useful for the customers.

Keywords: *electronic commerce, internet, consumer buying behavior, retail sector*

Introduction :

In the rapidly evolving landscape of retail, shopping has undergone a significant transformation in recent years. With the advent of the internet and the increase of e-commerce platforms, online shopping has become an increasingly popular alternative to traditional shopping. Online shopping, characterized by its convenience and accessibility, has revolutionized the way people procure goods and services. Shoppers can browse an extensive range of products, compare prices, and make purchases from the comfort of their homes or virtually anywhere with an internet connection. Conversely, traditional shopping, which involves physical visits to stores, offers a more tangible and sensory shopping experience, where consumers can see, touch, and try products before making a purchase. This comparative study aims to shed light on the key differences and similarities between online shopping and traditional shopping across various dimensions. We will explore aspects such as consumer behavior, shopping preferences, advantages and disadvantages of online and traditional shopping and the evolving role of technology in shaping these shopping paradigms.

1. Research Methodology:

The research was conducted by using the primary data collection method. A questionnaire was the mode of collecting responses from the consumer for that 11 questions with multiple choices is made in the google form and through a g-mail link shared to the customers.

2. Objectives:

1. To evaluate consumer preferences between online and traditional shopping.
2. To understand consumer behavior and analyze consumer behavior patterns.
3. To study demographic variations.
4. To measure time and convenience and assess price sensitivity.

3. Hypothesis:

H0: Online shopping and traditional shopping have significant difference in the preferences of consumers.

H1: Online shopping and traditional shopping do not have significant difference in the preferences of consumers.

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4. Scope of Study:

The scope of this comparative research study on online shopping and traditional shopping will encompass an examination of consumer preferences, behaviors, and experiences in both online and retail settings. It will assess factors such as convenience, trust, pricing, product categories, and the impact of emerging technologies. Additionally, the study will explore economic implications, environmental considerations, and trends in the retail industry, providing valuable insights for businesses and policymakers in an ever-evolving shopping landscape.

5. Limitations of Study:

The overall research relies on primary data collected through questionnaires.

No personal interaction with the consumer to understand more about their behavior and attitude.

6. Sample:

To collect primary data, consumers were segmented into:

Demographic: Age, Gender- Male/Female

Sampling is based on a non-probability sampling method. Under non-probability sampling Judgement or purposive sample, a method is used. Three google form link has been sent to the selected number of customers through social media to fill the form. The main aim was to collect at least 50 responses from young girls and boys to adult plus old age men and women. For collecting secondary data various websites were referred.

LITERATURE REVIEW

(Swinyard and Smith, 2003): Demographic factors, including age and income, play a role in shopping preferences. Younger consumers and higher-income individuals tend to favor online shopping, while older consumers may prefer traditional shopping

(Riquelme and Román, 2014): Product categories have varying degrees of suitability for online shopping. Tangible items like clothing and electronics are often preferred for online purchases, while perishable goods and luxury items may be favored in traditional stores

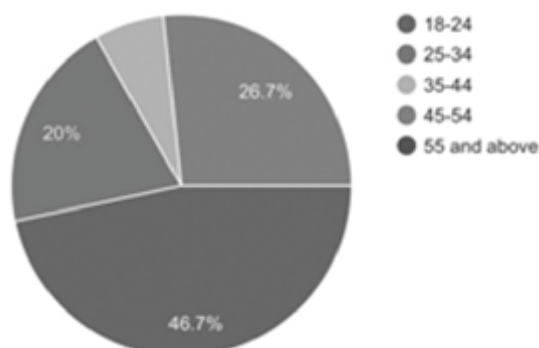
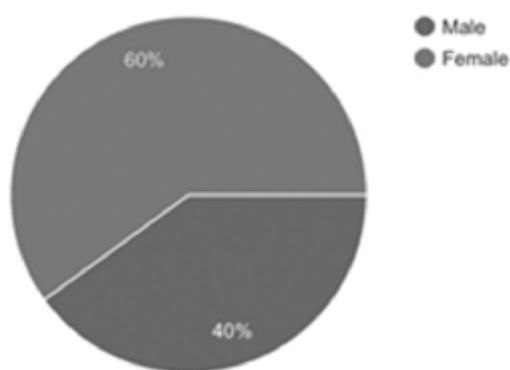
Isabel P. Enrique and sergio Román (2014): The study investigated how various cognitive and psychographic traits of consumers influence their perception of deceptive practices by retailers (referred to as 'perceived deception'). Additionally, it explored the distinct effects on perceived deception related to online shopping compared to in-store shopping.

Chayapa (2011): The process of making decision are very similar whether the consumer is offline or online but some major differences are shopping environment and marketing communication.

(Mathur, 2022): Online purchasing has become increasingly popular in the last decade. Certain consumers perceive that online purchases come with a higher price tag compared to offline transactions. The unique characteristics of online retailers provide benefits that offline stores do not, and vice versa. While online shoppers may need to wait six to seven days for delivery, in-person buyers have the advantage of trying on items before making a purchase, which is not feasible in the online ordering process.

(D & Kaur, 2017): According to the study of business nowadays is characterized by a high level of dynamism. Online shopping is becoming more and more common. The concept of having a competitive advantage is rapidly diminishing due to technological advancements. Online shopping now enables diverse customers to buy goods from anywhere in the world. While traditional shopping allows customers to interact with one another and examine things physically, it also has time limits and expensive travel and search fees.

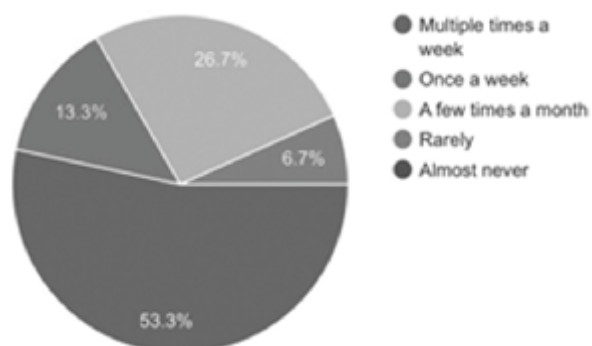
(Gupta, 2015): The research acknowledges how consumers evaluate different channels for their purchases. It introduces a conceptual model that explores consumer perceptions of value when choosing between online shopping and traditional in-person shopping. Interestingly, individuals aged 35 and above tend to be less inclined toward online shopping due to their lower familiarity with technology. However, the study highlights the significance of embracing e-commerce.

DATA ANALYSIS AND INTERPRETATION:**Target Audience****By Age****By Location****Inference:**

Analysis shows that respondents for the survey are between the age group 18-24 years are more than 45% and rest are 20 & above. And 60% of the responses were received from females and rest 40% by males.

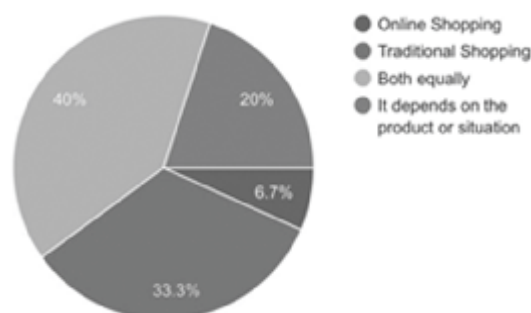
Survey Responses:

1. How often do you shop for products or services?



Inference: 50% of people shop for products and services multiple times a week, as it has become a necessity for the customers to buy the products and services for a good living and comfortable lifestyle.

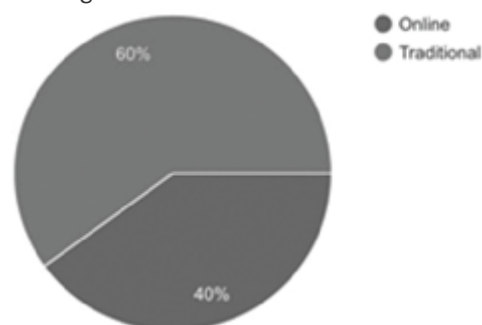
2. Which type of shopping do you prefer?



Inference: 40% of the customers prefer shopping both online as well as in the traditional way, yet in some categories people feel traditional form of shopping is better as products can be seen, touched and felt.

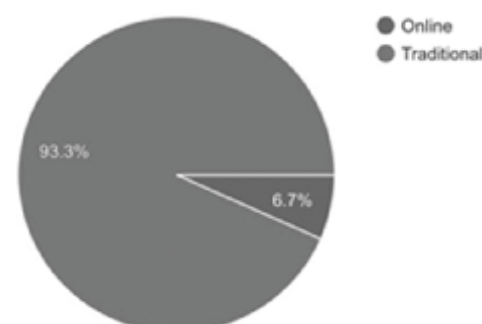
3. Which type of shopping do you prefer for the following product categories?

i) Clothing and Fashion



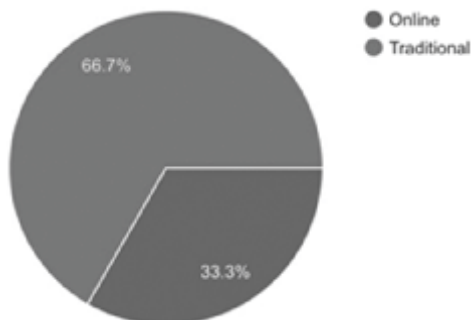
Inference: For buying clothes, 60% of the customers prefer the traditional way of purchasing the clothes as it helps them to check the quality personally as well as a chance to try and test-out the products which is missing in the online platform.

ii) Electronic and Gadgets



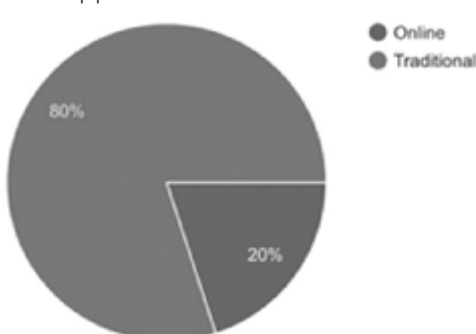
Inference: More than 90% of the people prefer buying electronics and gadgets by physically them going to the stores, checking-out the products and its features and for assistance from the people working in the stores and also it offers easy return and replacements in case of any defects.

iii) Groceries and Food



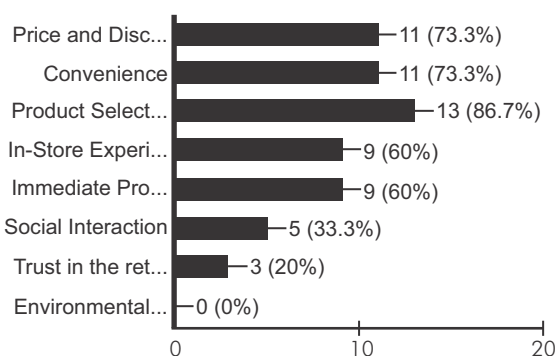
Inference: More than 65% of the customers prefer buying groceries and food stuff from markets rather than purchasing it online as they feel the need to check those items personally and just not rely on an online platform.

iv) Home Appliances and Furniture



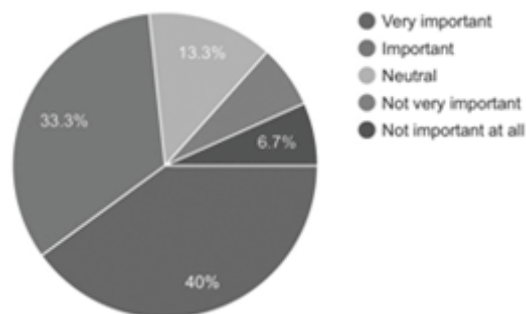
Inference: 80% of the customers buy their home appliances and furniture by visiting to the stores as it gives the better understanding of the various products rather than just seeing them online.

4. What factors influence your choice to shop online or in traditional stores? (Select all that apply)



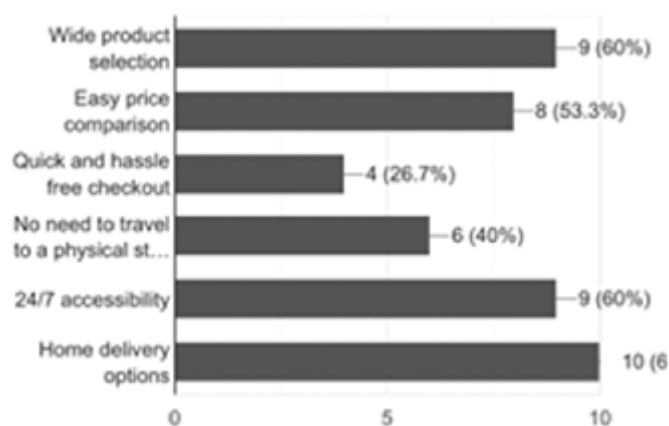
Inference: More than 85% of the people prefer discovering different products and then selecting a final product to purchase, and more than 70% of the people focus on different factors like the prices and discounts, convenience. Different factors influence a customer whether it's in traditional shopping or online shopping.

5. When shopping, how important is finding the lowest price to you?



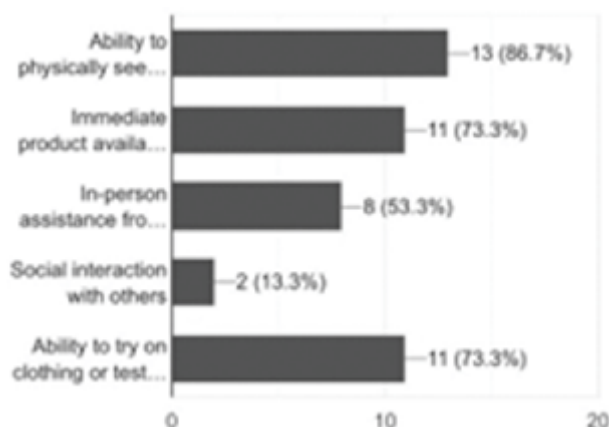
Inference: Price is the most important factor for a customer while he is shopping; about 40% of the people prefer shopping at the lowest price and rest 10% have a neutral opinion relating to the price. Thus, price is an important factor.

6. What aspects of online shopping do you find most convenient? (Select all that apply)



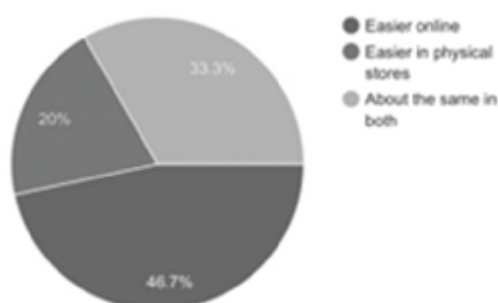
Inference: As home delivery option is available in online mode of shopping more than 65% of the people find this convenient. And for the rest of the people the wide range product selection, 24/7 accessibility makes online shopping a convenient way.

7. What aspects of traditional shopping do you find the most convenient? (Select all that apply)



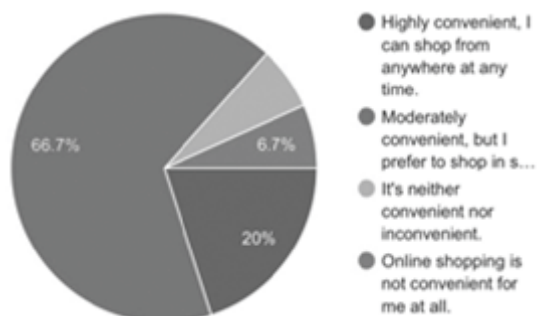
Inference: The ability to physically see and touch the products is the most important aspect in traditional shopping as more than 85% of the people prefer this as well as the immediate product availability and ability to try on clothing and test the products account for more than 70%.

8. In your experience, do you find it easier to locate specific products and brands when shopping online or in physical stores?



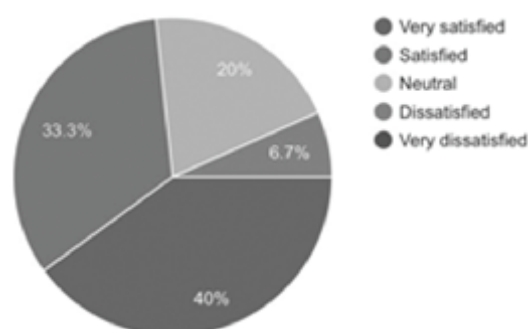
Inference: As per customer's experiences, it's easier for them to locate specific product online than in the traditional shopping, more than 45% of people find locating products easier online while for the 30% of the people it's almost equal in both traditional and online shopping.

9. Which statement best describes the convenience of online shopping for you?



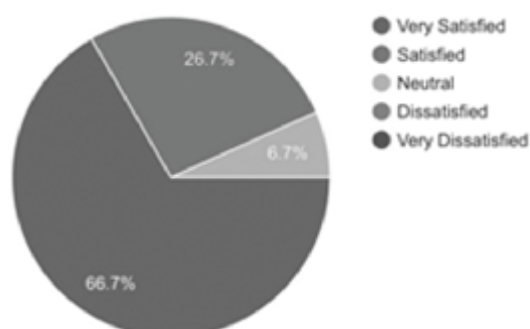
Inference: More than 65% of the customers find online shopping as moderately convenient, but at times they refer to buy certain products from the stores itself. And for the 20% of the people online shopping is very convenient as they can shop from anywhere at any time and for the 6% of the people shopping online isn't convenient.

10. How satisfied are you with your online shopping experiences?



Inference: About 75% of the people are very satisfied to satisfied with their online shopping experiences and 20% of the people have an neutral opinion yet the rest of the people aren't satisfied with their online shopping experiences.

11. How satisfied are you with your traditional shopping experiences?



Inference: More than 90% of the customers are satisfied with their traditional shopping experiences and the rest 10% of the people have a neutral opinion about traditional shopping.

Conclusion

Customers prefer shopping online and in the stores both but for the certain categories of the products like the electronics, furniture and big purchases they prefer to physically touch, try and test-out the products and then only make a buying decision. Online shopping is convenient as well but the ability to touch and feel the product is missing, with more advancement in technology people will prefer shopping online too but yet a certain age group of people would always go for the traditional way of shopping. Changes can be brought with time and so we would see the rise in online shopping too. Price also plays a important part in section of the medium. So, a customer would always make a conscious decision seeing the price, quality and his/her convenience for the product and then only choose a method to shop.

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UTILIZING SENTIMENT ANALYSIS WITH ARTIFICIAL INTELLIGENCE IN CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

***Dr. Monali Sharma**

ABSTRACT

This paper explores the role of customer relationship management (CRM) in marketing, focusing on its capabilities in leveraging reviews, integrating AI, enabling real-time marketing, and facilitating routine marketing activities. Through case studies featuring companies such as Uber, T-Mobile, Amazon, and Apple, the effectiveness of CRM tactics is highlighted. CRM provides benefits such as centralized data management, enhanced marketing and sales efforts, and improved customer support. Furthermore, the essay discusses the ethical, privacy, security, adoption, and scalability challenges associated with AI implementation in CRM. Overall, CRM facilitates data-driven decision-making and customer insights, leading to increased growth, loyalty, and engagement.

Keywords: CRM (Customer Relationship Management), Marketing, Analytics, Customer data, Personalization, Campaigns, AI (Artificial Intelligence)

Introduction :

In the era of digitalization, customer relationship management (CRM) has emerged as a pivotal aspect of marketing strategy. This paper aims to explore how contemporary CRM strategies and technologies empower companies to transform critical aspects of their marketing operations. It delves into how CRM facilitates highly personalized and real-time consumer engagement, enhances the effectiveness of marketing endeavors, and facilitates data-driven decision-making. By reviewing relevant literature and analyzing case studies of leading firms, this study seeks to showcase the revolutionary potential of CRM across various domains, including campaign management, digital marketing, customer experience optimization, and evidence-based strategy formulation.

The primary findings underscore how an integrated CRM approach can provide companies with a unified view of each customer, facilitating personalized interactions and communications tailored to individual

needs and preferences. By aggregating and synthesizing customer data from diverse channels and touchpoints, CRM generates actionable insights that inform marketing strategies.

The study illustrates how data-driven CRM strategies have enhanced conversion rates, customer lifetime value, and loyalty, as evidenced by the experiences of industry leaders like Apple and Amazon. While CRM is increasingly becoming predictive and customized through AI and advanced analytics, ethical considerations remain pertinent.

Overall, the research and case studies emphasize CRM's capacity to support customer-centric decision-making, streamline multichannel distribution, enhance marketing efficiency, and ultimately drive growth. The study concludes by asserting that CRM has evolved into an indispensable component of modern marketing. When implemented effectively, CRM empowers companies to make data-driven decisions, enhance cross-channel interactions, and gain deeper insights

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into their customer base. Consequently, consumers are attracted to, engaged with, and retained by highly tailored brand experiences. However, coordinated planning, user adoption strategies, and ethical data practices are imperative to fully harness the potential of CRM. In competitive markets, a well-executed CRM strategy can confer a significant competitive advantage to firms, owing to its customer-centric capabilities and data-driven approach. CRM is essential for cultivating enduring customer relationships and loyalty, which are instrumental in driving business success in today's experience-driven economy.

Review of Existing Research

1. How CRM works in marketing

According to Kumar et al. (2019), CRM in marketing involves collecting customer data, storing it centrally, and using it to personalize communication and tailor marketing efforts. Through segmentation, businesses target specific customer groups with relevant messages. CRM manages customer interactions across channels, enhancing engagement and satisfaction. It facilitates lead management, guiding prospects through the sales process. Analytics from CRM provide insights into marketing performance, enabling optimization of strategies. Ultimately, CRM empowers businesses to understand, connect with, and serve their customers effectively, driving loyalty and growth. CRM analytics offer perceptions into marketing effectiveness, facilitating strategy optimization. In the end, CRM helps companies better understand, engage with, and cater to their clients, which promotes growth and customer loyalty (Hinge et al., 2021).

2. Evidence-Based Marketing Through CRM

Evidence-based marketing through CRM involves the utilization of data which is gathered from customers. By analyzing customer behavior, needs, wants feedback, etc... so the business can market it better to meet the needs of the target audience, resulting in customer satisfaction. By analyzing consumer behavior, needs, wants, feedback, etc., businesses may improve their marketing and better serve their target market, increasing customer happiness (Sharma & Sikarwar, 2021).

How evidence-based marketing through CRM works: -

Data collection: CRM software collects customer feedback data and stores it.

Data Analysis: These data are then further analyzed to identify different trends, patterns, and perceptions about customer behavior and preferences.

Targeted marketing: Using the insights gained from the analysis of CRM data, businesses can develop campaigns that are targeted to customer segments.

Campaign Evaluation: After getting all these insights, the business uses CRM data to track its performance and effectiveness, by comparing the results of the campaign and those before.

CASE OF HUBSPOT:

Leading CRM company HubSpot is a prime example of evidence-based marketing since it uses client data to inform targeted advertising. HubSpot uses CRM analytics to customize messaging for example, they use user interaction analysis to forecast the behavior of customers. Through constant strategy optimization grounded in CRM data, HubSpot improves customer engagement (Hubspot, 2021).

3. Marketing carried out in real-time with CRM

T-Mobile is leveraging data acquisition and integration tools like Salesforce Marketing Cloud and Adobe Experience Cloud to track user behavior and location. The company is addressing challenges such as data volume and integration complexity, while also focusing on personalized targeting and segmentation techniques. T-Mobile is integrating personalized messages across channels, ensuring seamless communication across devices and customer preferences. To guarantee smooth communication across devices and client preferences, T-Mobile is integrating personalized messaging across channels (T-Mobile, 2020). To improve advertising performance, the organization is also putting A/B testing tactics into practice. T-Mobile uses KPIs including conversion rates, return on investment, and customer lifetime value to assess the success of their real-time marketing initiatives (Hinge et al., 2021). The company is also implementing A/B testing strategies to enhance campaign performance. T-Mobile measures the effectiveness of its real-time marketing campaigns using metrics like conversion rates, ROI, and customer lifetime value.

4. Use of CRM to increase routine marketing activities

CASE OF ORACLE(SIEBEL)

According to Oracle (2021), Campaign Management is used to improve finances, planning, and execution for customized campaigns. It boosts group output with approvals and collaboration tools. Financial modeling and real-time tracking can help the company to allocate funds more efficiently. By email marketing our CRM helps the company to send large-scale, channel-integrated, permission-based email campaigns. This easily tracks consumer consent, measures success, and manages lists. Organize and manage live and virtual events, such as webinars and trade exhibits. Handle follow-up leads, payments, and registration effectively. Evaluate outcomes and make future events better. Management of Marketing Resources by planning finance, carrying out, and assessing international marketing initiatives. For maximum effectiveness and resource efficiency, automate critical procedures. Internet Promotion utilizes consumer data to tailor surveys and online offerings. For a smooth experience, coordinated with other cross-channel marketing initiatives. Marketing with Loyalty should be carried out to develop and oversee all-inclusive loyalty programs using sophisticated analytics. Recognize customer lifetime value and create specialized marketing campaigns. Loyalty based on Engagement (Oracle CrowdTwist): Monitor consumer behavior on several digital platforms. For automated marketing and real-time customer response, integrate with Siebel CRM. Integrate with Siebel CRM for real-time customer response and automated marketing. Boost lead generation while cutting the expense of bringing on new clients, (Johnson, 2022). Overall, from planning and execution to analysis and optimization, Oracle Marketing Cloud offers a comprehensive suite of solutions for managing all aspects of a business's marketing (Hinge et al., 2021). Enhance lead generation and lower the cost of acquiring new customers. All things considered, Oracle Marketing Cloud provides a full range of solutions for handling every facet of a company's marketing, from strategy and execution to analysis and optimization.

5. Making changes based on reviews using CRM software

A calculated strategy is needed when implementing changes to reviews using CRM software. Start with

customizing feedback forms to obtain thorough answers pertinent to your company's goals. Automate follow-ups to guarantee timely and reliable interaction, increasing response rates and obtaining immediate feedback. Utilize CRM analytics to glean valuable insights from customer data, allowing for a thorough comprehension of preferences and issues. Customizing the CRM system to meet your unique requirements improves the review process as a whole and encourages more effective and individualized customer interactions. This enhances consumer satisfaction while also providing your company with useful data for ongoing improvement and well-informed decision-making (Sharma & Sikarwar, 2021).

CASE OF AMAZON

Employing CRM software, Amazon customized feedback forms to collect particular data to maximize consumer reviews. Follow-up automation improved response rates and guaranteed prompt feedback. By utilizing CRM analytics, the business was able to obtain practical insights that allowed it to quickly detect and resolve recurrent delivery delays. By streamlining the review process, the personalized CRM system is enabled, (Bezos, 2019). Amazon to improve the entire customer experience and make well-informed decisions, which in turn promoted sustainable growth.

6. AI Initial Scrutiny of CRM

Using AI in the initial scrutiny of CRM systems can make things faster and more accurate. AI tools can help in understanding what customers want by analyzing lots of data, like sales records and customer feedback. They can also help in picking the best CRM vendor by looking at their past performance and customer reviews. AI can suggest how to customize the CRM system to fit the company's needs and make sure it works well with other systems. It can also help in cleaning up and moving data smoothly. AI can train users on how to use the system and provide support when needed. It can even help in testing the system and finding any problems quickly. AI can monitor how well the CRM system is doing and predict future trends. AI is able to forecast future trends and track the effectiveness of the CRM system. All things considered, AI can streamline and improve the process (Hinge et al., 2021). Overall, AI can make the whole process easier and more effective.

CASE OF APPLE

Apple's CRM strategy excels in seamlessly integrating customer data across its ecosystem, enhancing the user experience. This strategy, seen in products like iPhone and services like iTunes, extends beyond data collection. Apple utilizes CRM insights for targeted marketing and efficient customer support through tools like the Apple Support app. The retail integration and platforms such as iTunes and the App Store showcase how Apple's CRM contributes to a personalized and consistent experience for users, underscoring the company's commitment to customer-centricity.

1. Sentiment Analysis Process

The T-Mobile reviews were taken from internet sources. The retrieved reviews underwent preprocessing, which involved changing the text to lowercase, taking the date, and filtering the data to remove stop words like "the," "an," and "a," as well as numbers, leaving only relevant words in the text. We performed topic modeling on these reviews. Topics were defined using the latent Dirichlet allocation method of topic modeling. In addition to being extracted individually, keywords were also represented by the word cloud that was created. Using the VADER approach, which further analyzes the statement as positive, negative, and neutral, the sentiment analysis in this issue was completed.

2. Data Interpretation and Analysis

Tableau is a powerful data visualization tool that's perfect for examining word counts and sentiments in customer evaluations. First, review data such as text, word count, and sentiment analysis would be gathered. To show the distribution of positive, negative, and neutral sentiments, you would create visualizations like bar or pie charts after importing this data into Tableau. Histograms or box plots could be used to display the distribution of review lengths for word count analysis. Deeper insights can be obtained by combining visualizations, such as scatter plots that correlate sentiment and word count. Incorporating these visualizations into an interactive dashboard would allow users to dynamically explore the data. Tableau is a great tool for analyzing word counts and customer sentiment because of its robust capabilities and easy-to-use interface. It provides a thorough grasp of consumer sentiment and feedback patterns.

Table 1. Count of user reviews as per business size

Business Size	Count
Small scale	11
Mid-market	23
Enterprise	12
others	172

Table 2. Weights of words

Words	Weight
Easy	33
Flexible	16
Slow	23
Useful	51
Provides	53
Managing	62
Implementation	75

3. Word cloud

To identify the keywords that make sense and were important from the perspective of the company to understand which aspects of their product or service need to be improved further to enhance the customer experience, the extracted reviews were preprocessed, and topic modeling was applied. A word cloud represents words in the form of a cloud, arranged based on a weight assigned to each word. It accords weights to words according to their number of occurrences, arranged in descending order of their weight. In the center of the cloud, the words with the highest weight are in bold and larger font sizes, and as the weight of the words decreases, the font size also decreases. HubSpot, T-Mobile, Saibal, Accenture, and Dropbox user reviews were also analyzed using sentiment analysis methodology to understand the usefulness of this CRM software. Users' emotions, counts, and percentages are displayed. We can infer that 67% of users were angry with the application, 93% were satisfied, 37% were grateful, 48% were frustrated, 52% were confused, 31%

were relieved, 60% trusted, and 40% were empowered – these were a few emotions shown by the customers in the review.

Table 3. User emotions expressed

Emotions	Count
Anger	67
Satisfaction	93
Gratitude	37
Frustration	48
Confusion	52
Relief	31
Trust	60
Empowerment	40

4. Ethical Issues and Challenges Using AI in CRM

The promise of artificial intelligence (AI) in CRM management and its actual use are very different. The potential of artificial intelligence (AI) to improve customer relationship management (CRM) is restrained by issues with deployment that are both practical and ethical. Companies like Uber need to be aware of possible hazards when they include machine learning and predictive algorithms in their CRM systems. Privacy is a significant ethical consideration when utilizing AI for CRM. AI systems use customer data analysis to find trends and trigger automatic actions. Although this can enhance consumer experiences, it also runs the danger of infringing privacy if personal information is used without authorization or appropriate anonymization safeguards. It's critical to have strict data control and openness about how algorithms use client data. Before implementing AI, businesses should evaluate the privacy implications, provide users the option to refuse data gathering and allow algorithmic judgments to be explained. Accountability presents another moral dilemma. If AI systems produce inaccurate forecasts or suggestions that adversely affect clients, companies need to have procedures in place to identify malfunctions and promptly fix them. Accountability can be maintained through ongoing human monitoring, auditing procedures, and automated decision-making

validation. It's also critical to establish limits and guidelines for what AI can and cannot do on its own in light of ethical issues.

Consideration must also be given to broader societal effects. For instance, responsible action must be done to prevent negative effects if algorithms unintentionally discriminate against or exclude specific populations, or if automation affects occupations disproportionately. AI ought to strive for equity, inclusivity, and conformity to societal norms.

Practically speaking, user adoption is a barrier. The benefits of integrating AI with frontline staff will be restricted if they feel uncomfortable doing so. Users can better grasp AI-driven tools through change management via engagement and training. Adoption is increased by a gradual rollout and iterations depending on user feedback. People ought to feel empowered by technology, not replaced by it.

AI systems also need to scale appropriately as volumes of data and traffic increase. Even the greatest algorithms are useless if the infrastructure fails when things get busy. Crucial elements include cost optimization, cloud-based flexibility, and performance testing. But number alone shouldn't come at the expense of quality. Contextual, high-fidelity data are necessary for meaningful insights. Proactively addressing these moral and practical issues is necessary for the ethical application of AI in CRM. Organizations can fully utilize the potential of technology while avoiding risks by implementing appropriate governance, transparency, user focus, and hybrid human-AI decision-making. Human-centric AI that upholds moral principles gives employees more autonomy, and improves consumer experiences ought to be the aim.

CASE OF UBER

Uber, a ride-hailing service, has incorporated artificial intelligence (AI) into its CRM system to enhance user experiences and streamline business processes. Uber now has practical and ethical issues as a result of implementing this cutting-edge technology, which must be handled carefully. Privacy protection for customers is a major concern when algorithms are used to analyze data, find trends, and make decisions automatically. Uber must establish stringent data governance, notify users about the use of their information, permit opt-outs, and provide an explanation for automated decisions. Another ethical requirement is accountability

for potential biases or algorithmic faults, which calls for continual human inspection and corrective action. Uber needs to proactively evaluate how AI will affect jobs and equity in society. There are further practical adoption obstacles, such as change management to guarantee workers' use of AI. It's also critical to scale AI capabilities to manage increasing volumes of data and traffic without sacrificing performance or quality. Preserving human judgment and discretion while avoiding excessive reliance on algorithms is arguably the most challenge. Uber must carefully balance the use of automation and human judgment. The organization can reap significant benefits and steer clear of major problems if it prioritizes the ethical, transparent, and thoughtful integration of AI into its CRM activities, keeping the customer experience in mind. Gaining benefits without compromising public confidence or causing harm requires responsible AI governance and practices.

Conclusion

In summary, when employed thoughtfully, Customer Relationship Management (CRM) tactics and software offer numerous benefits for enhancing marketing endeavors and overall company performance. The literature demonstrates how CRM leverages analytics and cross-channel integration to facilitate data-driven, personalized marketing initiatives. Modern CRM systems enable real-time personalized marketing, while centralizing data and interactions to enhance customer satisfaction and engagement. To fully harness these technologies, organizations must strategically tailor CRM to their specific needs and ensure adequate staff training. By adopting an integrated, customer-centric CRM approach, businesses have the potential to increase revenue and cultivate customer retention and loyalty, as exemplified by industry leaders like Apple and Amazon.

Although the integration of AI into CRM promises increased automation and predictive capabilities, ethical considerations such as algorithmic bias and data privacy remain paramount. Nevertheless, research underscores the importance of CRM in contemporary marketing operations, emphasizing the necessity for careful planning and ethical data usage. Companies that view CRM as a strategic initiative rather than mere software stand to forge enduring relationships with their customers and maintain a competitive edge in the marketplace.

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A STUDY ON ROLE OF WORKPLACE ENVIRONMENT ON EMPLOYEE ENGAGEMENT AND PRODUCTIVITY

***Ms. Sana Khan, **Ms. Sangeeta Jain**

ABSTRACT

The environment where the employee works plays the most important role which affects their employee productivity. This research paper investigates the pivotal role of the workplace environment in shaping employee engagement and productivity within modern organizations it explores various factors such as the physical workspace, organizational culture, and leadership style, and how these elements can influence an employee's performance and commitment to their job. Moreover, this study doesn't stop at identifying the issues. It goes a step further by providing actionable recommendations to enhance the workplace environment. These suggestions aim to foster a more conducive and engaging workspace that can boost employee morale, increase productivity, and ultimately contribute to the organization's overall success. In short, this research serves as a comprehensive guide for organizations seeking to create a positive and productive work environment for their employees. It's known that the workplace environment, its design, the culture in the workplace, and how bosses lead all play a big role in employee satisfaction and job performance.

Keywords- Workplace, Productivity, Employee, Work culture, Leadership style.

Introduction :

No matter how effective any organization's strategies are it will not be successful unless it is implemented by the employees of that organization. The success of any organization is directly related to how productive the employees are. Employees play the most crucial role in success or downfall of any company. It is important to understand the factors that lead to productivity of the employees so they can engage in the organizational activities and make any plans successful. One of the most important factors is the environment where these employees work, workplace environment like the infrastructure, organizational culture, structure and other affects the working capacity of the employees, this study reveals how the work place environment affects overall wellbeing of the employees. Through a comprehensive survey based on the objectives of this study that is factors affecting workplace satisfaction and

productivity including physical environment, organizational culture, leadership styles, and propose actionable improvements, this research uncovers the influence of the workplace environment on the overall well-being and productivity of employees. It sheds light on how a conducive work environment can enhance workplace satisfaction and, in turn, contribute to the organization's success.

Research Methodology

This research was conducted using primary data, the research design for this study is descriptive in nature. This design is suitable as it aims to describe the current conditions prevailing among the employees of different organizations. The data was collected using a Google Form, an online survey tool. This method is advantageous as it allows for easy distribution and collection of responses. The sample consisted of 70

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respondents, all of whom are employees from different organizations. The instrument used for data collection was a questionnaire consisting of 11 questions, each questions were framed related to the objective of this study.

1. Objectives

- To study the impact of physical environment on the employee.
- To study the influence of organizational culture.
- To study the leadership style and their impact on the employees.
- To find practical way to improve workplace environment.

2. Hypothesis

H0: There is no relationship between various workplace factors

1) comfortable workspace 2) leadership training and development 3) personal workspace customization 4) recognition and award 5) communication transparency 6) flexibility in working hour 7) organizational culture and productivity/engagement of employee .

H1: There is a positive relationship between various workplace factors

1) comfortable workspace 2) leadership training and development, 3) personal workspace customization 4) recognition and award 5) communication transparency 6) flexibility in working hour 7) organizational culture and productivity/engagement of employee .

3. Scope of Study

The scope of this study is to understand how the environment where the employees are working i.e. physical environment, organizational culture and leadership style motivate the employees to engage in organizational activities and increase their productivity which ultimately lead to success.

4. Limitation

- The research is based on the survey conducted through well-structured data collected through google forms that leads to no personal interaction with the employees.

- Each organization has unique attributes, including its culture, management practices, and industry, which can influence results and limit generalizability.
- The research faced a limitation in terms of the sample size. The study was able to gather only 70 responses due to the specific requirement that all participants be employees. This made finding respondents a challenging task. Despite this constraint, the collected responses still provide valuable insights into the research topic.

Literature Review

(Dr. K. Chandrashekar, 2011) Mr. Chandrashekar in the research 'workplace environment and its impact in organizational performance in public sector organizations' concluded that the workplace environment has a strong impact on employee motivation and performance. Managers should set goals, clarify roles, and give feedback. Providing incentives, resources, and coaching is essential. Public sector organizations excel in creating such environments, benefiting employee performance.

(Anitha J, GRG School of Management Studies, Coimbatore, India, 2014) founded that team, coworkers relationship and working environment is the major variable that have impact on the employee engagement.

(Hashim, J. and Wok, S, 2014) In their research 'Predictors to employees with disabilities' founded that the employees are satisfied with their job because of the conducive organization climate, comfortable work environment and reasonable adjustment for their employees with disabilities. Employees are found loyal and committed.

(Abdul Raziq and Raheela Maulabakhsh / Procedia Economics and Finance 23, (2015), 717 – 725) in their research 'Impact of Working Environment on Job Satisfaction' concluded that good working environment has positive impact on employee and bad working environment restrict employee to show their full potential, the study impacts the future performance of the business by taking working environment seriously to motivate the employees within the organization.

Data Analysis and Interpretation

How would you rate your overall satisfaction with your current workplace environment?
70 responses

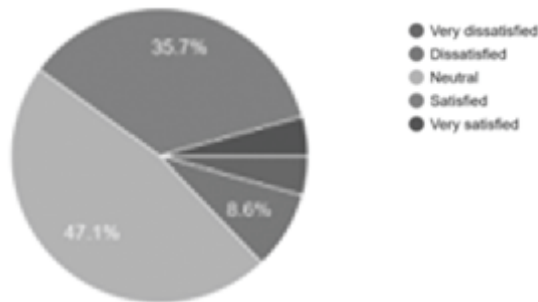


FIGURE 1.1

In the above fig 1.1, 47.1% of the employees are neither satisfied nor dissatisfied with their current workplace environment, 35.5% are satisfied, 4.3% are very satisfied, but at the same time 4.3% are very dissatisfied too, 8.6% of the employees are dissatisfied.

Which aspects of the physical workspace design do you find most important for your productivity?
(Select up to three)
70 responses

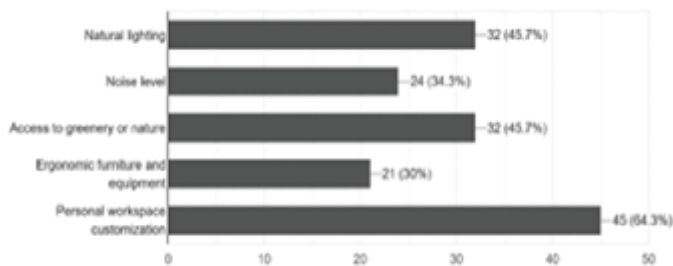


FIGURE 1.2

In the context of workplace environment's role in employee engagement and productivity, from the fig 1.2, the data from 70 responses indicates that personal workspace customization emerges as the paramount factor, with 64.3% of participants valuing the ability to personalize their workspace. Almost equally important are access to natural lighting and access to greenery or nature, both cited by approximately 45.7% of respondents, reflecting the significance of a well-lit and nature-infused workspace. Noise level, noted by 34.3%, and ergonomic furniture and equipment, highlighted by 30%, also play roles but to a slightly lesser degree.

Do you believe the physical environment of your workplace affects your overall well-being?
70 responses



FIGURE 1.3

In the fig 1.3 almost all the respondent that is 95.7% believes that physical environment of the workplace does affect overall wellbeing of the employees.

How would you describe the culture in your workplace?
70 responses

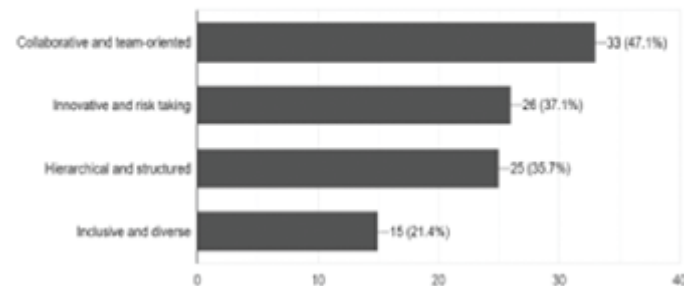


FIGURE 1.4

When asked about the description of the workplace of the respondent in fig 1.4, 47.1% of employees have collaborative and team oriented workplace, 37.1% have innovative and risk taking workplace, 35.7% have hierarchical and structured workplace and rest 21.4% have inclusive and diverse workplace. This gives us the insight of various type of workplaces employees are working

Has the organizational culture positively influenced your sense of belonging and engagement in your work?
70 responses

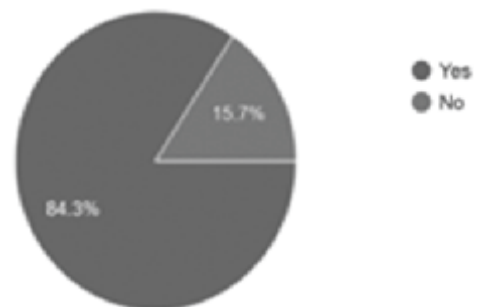


FIGURE 1.5

In the above fig 1.5, organizational culture has influenced sense of belonging and engagement of 84.3% of the respondent rest 15.7% have no influence



FIGURE 2.1

When asked about what could enhance their engagement and satisfaction, in fig 2.1, 51.4% of the employees selected communication transparency and flexibility in work hours and remote work options, 47.1% selected employee recognition programs and team building activities, and 24.3% selected diversity and inclusion initiatives.

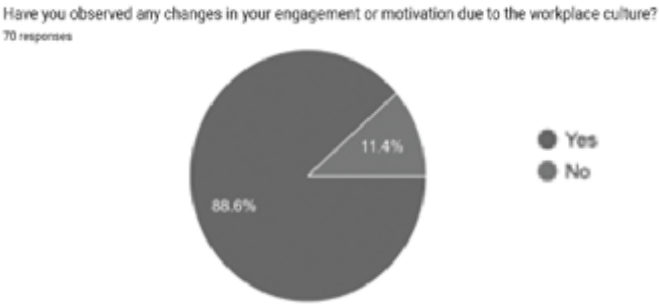


FIGURE 2.2

From the above fig 2.2, we found out that 88.6% of the employees observed changes in their engagement and motivation due to the workplace culture, rest it doesn't affect the 11.4% of the employees that is 8 out of 70 respondent.

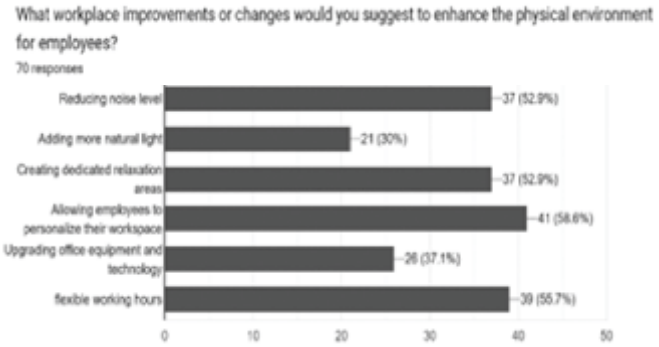


FIGURE 2.3

From the above fig 2.3, the data suggests that allowing employees to personalize their workspace (58.6%) is the most favored change to enhance productivity and engagement. Reducing noise levels and creating relaxation areas (both 52.9%) are also highly recommended. Flexible working hours (55.7%) are considered crucial for work-life balance. Adding more natural light (30%) and upgrading office equipment (37.1%) are recognized but slightly less prioritized improvements in the workplace environment to boost productivity and engagement

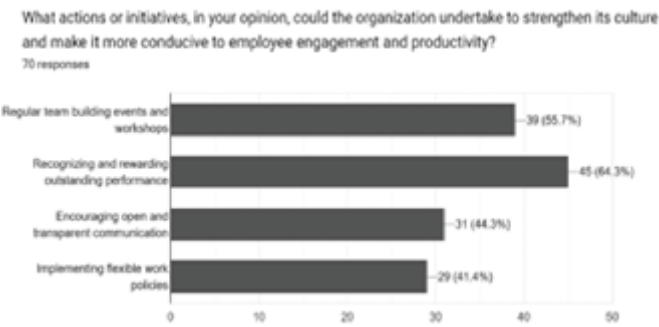


FIGURE 2.4

In the context of enhancing an organization's culture for improved employee engagement and productivity, from the fig 2.4, the data reveals that recognizing and rewarding outstanding performance holds the highest significance, with 64.3% of respondents endorsing this approach. Following closely behind, 55.7% of participants emphasize the value of regular team building events and workshops, while 44.3% stress the importance of encouraging open and transparent communication. Additionally, 41.4% recognize the benefits of implementing flexible work policies.

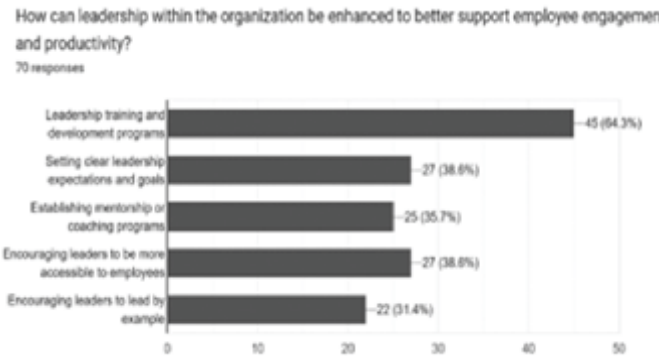


FIGURE 2.5

In the context of improving employee engagement and productivity, from the fig 2.5, the data from responses indicates that the majority of participants (64.3%) prioritize the implementation of leadership training and

development programs as the most effective strategy. This underscores the significance of investing in leadership skills to better support and guide employees. Additionally, a substantial percentage (38.6%) emphasizes the importance of setting clear leadership expectations and goals, highlighting the need for well-defined leadership roles. An equal percentage (38.6%) underscores the value of leaders being more accessible to employees. Lastly, establishing mentorship or coaching programs (35.7%) and encouraging leaders to lead by example (31.4%) also play important roles in enhancing leadership within the organization.



FIGURE 3.1

From the fig 3.1, the data shows that most people strongly agree (55.7%) and agree (25.7%) that a comfortable workplace environment boosts their productivity. Only a small percentage disagree (1.4%), with some staying neutral (14.3%). This indicates that a comfortable workspace is widely seen as important for getting work done effectively. 14.3% have a neutral belief, 2.9% (that is 2 out of 70) strongly disagrees and rest 1.4% (1 out of 70) disagrees.

1. Hypothesis Testing

For purpose of testing the hypothesis we have stated further hypothesis for each variables in the workplace environment effecting the engagement and productivity of the employee.

Here are the hypothesis for each factors and its testing

1) Comfortable workspace environment

Ho: There is no relationship between comfortable workplace environment and productivity of employee

H1: There is a positive relationship between comfortable workplace environment and productivity of employee

Based on the data collected from the figure 3.1, "a comfortable workplace environment affects my productivity"

We have performed the chi square test, for that, we will use observed and expected frequencies

Observed frequencies	Expected frequency
Strongly agree: 55.7%	Strongly agree: $(55.7\% \times 70) / 100 = 39.19$
Agree: 25.7%	Agree : $(25.7\% \times 70) / 100 = 17.99$
Disagree: 1.4%	Disagree; $(1.4\% \times 70) / 100 = 0.98$
Neutral: 14.3%	Neutral; $(14.3\% \times 70) / 100 = 10.01$

Formula: $\sum (O-E)^2 / E$ is used to calcite the chi- square value

$$X^2 = (55.7 - 39.19)^2 / 39.19 + (25.7 - 17.99)^2 / 17.99 + (1.4 - 0.98)^2 / 0.98 + (14.3 - 10.01)^2 / 10.01 = 12.27$$

To compare this chi-square statistical value with critical value we used significance level of 0.05 and degree of freedom = 3

Df is calculated as $(r-1)$ the data provided for the "Comfortable Workspace Environment" factor has 4 options (Strongly Agree, Agree, Disagree, Neutral).

as per the above chi-square distribution table the critical value is approximately 7.815 and $df=3$ and $\alpha=0.05$

Degrees of freedom (df)	Significance level (α)							
	.99	.975	.95	.9	.1	.05	.025	.01
1	-----	0.001	0.004	0.016	2.706	3.841	5.024	6.635
2	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210
3	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345
4	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277
5	0.554	0.831	1.145	1.610	9.236	11.070	12.833	15.086
6	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812
7	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475
8	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090
9	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666
10	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209
11	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725
12	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217
13	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688
14	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141
15	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578
16	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000
17	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409
18	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805
19	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191
20	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566
21	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932
22	9.542	10.982	12.338	14.041	30.813	33.924	36.781	40.289
23	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638
24	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980
25	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314
26	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642
27	12.879	14.573	16.151	18.114	36.741	40.113	43.195	46.963
28	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278
29	14.256	16.047	17.708	19.768	39.087	42.557	45.722	49.588
30	14.953	16.791	18.493	20.599	40.256	43.773	46.979	50.892
40	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691
50	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154
60	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379
70	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425
80	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329
100	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116
1000	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807

as our chi-square statistic value is 12.27 which is greater than the critical value we reject our null hypothesis. Therefore our alternative hypothesis hold true.

2) Leadership Training and Development, Recognition and Award, communication transparency, flexibility in working hour, Organizational Culture, and Productivity/Engagement:

H0: There is no significant relationship between Leadership Training and Development, Recognition and Award, transparency, flexibility in working hour Organizational Culture, and Productivity/Engagement:

H1: There is a positive relationship between Leadership Training and Development, Recognition and Award, transparency, flexibility in working hour Organizational Culture, and Productivity/Engagement:

- From the figure 2.5, out of 70 respondent 64.3% prioritized leadership training and development among various other options.

- Recognition and reward is being selected by 64.3% as per the fig 2.4 which is the highest as compared to other options provided
- As per the fig 2.1, 51.4% of responded prioritized communication transparency, flexibility in working hour
- As per the fig 1.5 84.3% respondent are influence by organizational culture

For the dependent variable that is productivity/engagement for the productivity/engagement we have considered this as a composite measure based on several factors mentioned throughout the research.

Given the percentage of the above variables the qualitative analysis reveals a positive relationship between the dependent and independent variable

Thus we reject the null hypothesis and accept the alternative hypothesis.

3) Personal workspace customization and productivity/engagement

- From the fig 1.2, 64.3% selected personal workspace customization among various other options
- From fig 2.3, the data suggests that allowing employees to personalize their workspace (58.6%) is the most favored change to increase the productivity and engagement

For the productivity/engagement we have considered this as a composite measure based on several factors mentioned throughout the research.

Given the percentage there is strong indication of the positive relationship between personal workspace customization and employee productivity and engagement.

Thus we deny the null hypothesis and accept the alternative hypothesis

As per all the null hypothesis of each variable is rejected and alternative hypothesis is accepted

It is concluded that we reject our actual hypothesis and our actual alternative hypothesis holds true.

2. Findings

As our alternative hypothesis is accepted the following are the findings of the entire research

- A comfortable workplace environment strongly leads to increase in the productivity and engagement of the employee in the organization.
- Leadership training and development programs are prioritized by the respondent among various factors showcasing its importance in increasing engagement
- Communication transparency, recognition of the work of employee, flexible working hour, are the factors that respondents believe are important for their satisfaction and productivity
- 84.7% of the respondent believes that organizational culture plays an important role in influencing their productivity
- Though various factors like reducing noise level, access to greenery, creating areas for relaxations, upgradation of office equipment and technology

helps in the productivity but the most prominent factor among these is personal workspace customization to enhance the productivity of employee

3. Suggestions

Based on the research findings. There are various steps to increase the engagement of the employee but the organization should firstly focus on creating a comfortable environment for the employee. Employee feels comfortable when organization allows the customization of workplace by encouraging them to personalize their place of work therefore workplace customization should be incorporated in the organization. Paying attention to the organizational culture, training and development programs is the must for increasing the productivity of employee.

Organization should also recognize and reward the work of employee for motivating them, there should be transparency in the communication and flexibility in working hour to ensure that there is the positive environment in the organization that will ultimately lead to the productivity of the employee.

Conclusion

As employees are the most prominent part of any organization utmost responsibility is to be taken to deal with the factors that contribute to their productivity, engagement and motivation. This research paper explores the critical role of the workplace environment in shaping employee engagement and productivity in modern organizations. It goes through how factors like the physical workspace, organizational culture, and leadership styles impact employee satisfaction and job performance. The study emphasizes the significance of recognizing Personal workspace customization, access to natural lighting, and reduced noise levels as among the prominent factors impacting employee engagement and productivity. An overwhelming majority of employees believe that the physical workplace environment significantly affects their overall well-being. Different workplace cultures were identified, including collaborative, innovative, hierarchical, and inclusive, reflecting the diversity of work environments. The majority of employees observed changes in their engagement and motivation due to workplace culture, emphasizing culture's role in employee enthusiasm.

Leadership training and development programs are favored as effective strategies for enhancing leadership within the organization, there is significance of investing in leadership development to support a productive and engaged workforce. The finding suggest a multifaceted approach is necessary to optimize leadership for improved employee engagement and productivity. This research provides the information that is crucial for the companies looking to make their workplace better, improve their work culture, and develop leadership methods that leads to more productive and welcoming work setting.

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BEYOND THE DOWNLOADS: EXPLORING THE TRUE FAVOURITES – TOP 5 USED APPS REVEALED

***Kushagra Singh, **Prof. Neelam Gupta**

ABSTRACT

In a world where smartphones have become indispensable companions, our research delves into the daily digital habits of users. While app stores overflow with a plethora of choices, we aim to shed light on the apps that truly dominate users' screens. Contrary to the popularity based on downloads, this study unveils the top 5 most used apps, providing insights into the real gems of the digital era. Through meticulous examination of screen time data and user preferences, we reveal the apps that have secured a prominent place in users' daily routines. Join us on this captivating journey beyond the app icons as we explore the nuanced landscape of mobile app usage and present a fresh perspective on what truly captures our attention in the digital realm.

Keywords: Smartphones, Applications, Most used applications, Most downloaded applications, Screen time, App usage.

Introduction :

In an age where the screens of smartphones have become windows to the world, the mobile app ecosystem has thrived, offering users a myriad of choices to enhance their daily lives. The app stores teem with an astonishing array of applications, each vying for attention and downloads. Yet, in the bustling marketplace of digital offerings, a fundamental question often goes unanswered: Which apps do users truly embrace and incorporate into their daily routines? This research embarks on a fascinating journey to uncover the hidden truths behind app usage patterns. While the world tends to celebrate the apps with the highest download counts, we venture beyond mere numbers to reveal a more profound narrative. It's a narrative that highlights a paradox: the most downloaded apps are not always the most used. In the ever-evolving landscape of digital interaction, it's the apps that secure a lasting place on users' screens, commanding their precious screen time, that deserve closer examination. In order to do so, we will be using the Top 5 Most Downloaded Apps in the world

according to Wikipedia. However, we will be excluding every Google App except YouTube as well as any of the default Samsung apps since they come preinstalled within Android/Samsung devices. Based on this criterion, the rankings would be

1. YouTube
2. Facebook
3. WhatsApp
4. Messenger
5. Instagram

In the following pages, we invite you to join us in this exploration. We will unveil the top 5 most used apps, offering a fresh perspective on the digital world we inhabit. Through a combination of screen time analysis and user preferences, we aim to paint a vivid picture of the apps that have become integral to our daily lives. So, prepare yourself as we embark on a journey that goes beyond app icons and into the heart of digital existence, where our smartphones and the apps they house become indispensable extensions of ourselves.

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1. Research Methodology:

The research was conducted using the primary data collection method. A questionnaire was the mode of collecting responses from smartphone users. For that, 13 questions with multiple choices were made in Google form and shared with the audience through a link.

2. Objectives:

1. To know about the most routinely used apps by smartphone users.
2. To understand if the most downloaded apps in the world are also the most used apps.
3. To analyze the average amount of time, spent by each user on their smartphones.
4. To study the average amount of time users spend towards their favourite apps.

3. Hypothesis:

H0: The Most Downloaded Apps in the world are also the Most Used Apps

H1: The Most Downloaded Apps in the world are not the Most Used Apps

4. Scope of Study:

To know about the most used apps by smartphone customers on a regular basis. The scope of research is to know what are the apps that smartphone customers spend the most time on so that they can be used for numerous purposes including marketing, public relations, and consumer behaviour. The research will give companies an idea of which apps to focus on and which ones to ignore, despite their high download number.

5. Limitations of Study:

The overall research relies on primary data collected through questionnaires. No personal interaction with the consumer to understand more about their behaviour and attitude towards their favourite apps. The sample was mostly limited to Mira Road, Thane, Maharashtra. And so, it might not perfectly correspond to the general audience.

6. Sample:

To gather primary data for this research, we divided our target audience into two key categories:

Demographic:

- Age: Ranging from young adolescents to older adults.
- Gender: Male, Female, and Others

Geographic:

- Location: Primarily focusing on the area of Mira Road, Thane - 401107, Maharashtra, India.

Our sampling methodology follows a non-probability sampling approach, specifically employing a Judgment or purposive sample method. We distributed the survey link via social media channels to a carefully selected pool of respondents. Our primary objective was to collect a substantial number of responses that accurately represented the diverse spectrum of our target audience. We aimed to obtain insights from both young individuals and adults, encompassing individuals of all genders. Additionally, we sought responses from individuals residing in both urban and rural settings within the specified geographic location. For the demographic aspect, we aspired to acquire a minimum of 85 responses to ensure comprehensive data representation. This sample size was chosen to encompass a wide age range, from young boys and girls to adult and elderly men and women. In the geographic context, our goal was to collect a minimum of 50 responses from residents of Mira Road, Thane - 401107. These responses were vital in understanding the app usage patterns within this specific geographic area.

Literature Review:

(Eric Malmi, Ingmar Weber, 2016): This research explores the predictability of user demographics based on their app usage, a critical consideration for app developers aiming to refine their marketing strategies. It builds upon existing work by extending the analysis to new demographic attributes, including age, race, and income. Notably, gender emerges as the most predictable attribute, with an accuracy rate of 82.3%, while income proves the most challenging to predict at 60.3%. Furthermore, it explores the effects of training set size and app count on predictability, revealing significant impacts on prediction accuracy. Notably, as app usage surpasses 100, prediction accuracy declines, indicating nuanced user behaviour. Identifying influential apps, such as dating apps for singles and LinkedIn for high-income individuals, provides actionable insights for app developers. Future

research avenues include simultaneous prediction of demographic attributes, examining biases in popular apps' user bases, and understanding usage patterns among diverse demographic groups, promising a more profound understanding of user behaviour in the digital realm and enhancing targeted app development and marketing strategies.

(Reolid-Martínez, 2016): The advent of the internet has profoundly transformed communication patterns, particularly among young individuals. This study's primary objective is to examine the frequency of internet usage among teenagers and identify the most commonly used applications among them. This cross-sectional study, conducted in November 2013, involved students from two compulsory secondary schools in Albacete. The research employed a self-administered questionnaire that included both closed-ended and open questions, with data collected either online or through traditional pen-and-paper methods. Statistical analysis encompassed comparisons of proportions and mean/median values. The findings, based on 967 student participants, revealed a mean age of 13.8 years, with the majority residing in urban areas. Internet usage was pervasive, with 73.4% going online daily. WhatsApp, social networks, and music apps emerged as the most frequently used applications. Gender differences were apparent, with girls favouring social networks, WhatsApp, Instagram, and music apps, while boys exhibited a preference for web browsing, Skype, gaming, and watching movies or TV shows. In conclusion, the study underscores the substantial role of the Internet in adolescents' lives, primarily as a means of communication. WhatsApp and social networks were identified as the dominant apps among this demographic, highlighting the centrality of these platforms in contemporary teenage social interactions. This research provides valuable insights into the digital behaviours of adolescents and their preferred modes of online engagement.

(Ma'azer Al Fawareh, H. and Jusoh, S., 2017): This study delves into the use and consequences of smartphone adoption among academic staff at a university level, with a specific focus on the Kingdom of Saudi Arabia. Employing a survey-based approach, questionnaires were distributed to 66 academic staff members at Northern Border University. The research reveals that smartphones have taken on multifaceted roles, often replacing traditional tools like computers, digital cameras, watches, and even digital storage.

Among smartphone applications, email systems emerged as the most widely used among academic staff, indicating the importance of mobile communication in their work. Despite the advantages, the study uncovers negative effects. Smartphones were found to divert academic staff's attention at work, leading to "check habits" and fostering artificial relationships. Over 90% of respondents admitted to placing their smartphones beside their beds before sleep, and a significant portion reported feelings of incompleteness when separated from their devices. Furthermore, the analysis suggests that smartphones do not necessarily expedite job assignments for academic staff. Instead, they often hinder in-person interactions and meetings, as staff members engage with their devices during these events. While smartphones prove valuable tools for supervising students and facilitating knowledge sharing among academic staff, their pervasive presence has raised concerns about their potential to disrupt work focus and personal relationships. This research highlights the complex interplay between smartphones and academic productivity, shedding light on the need for a balanced approach to their use in the academic setting.

(Li, T., Zhang, M., Cao, H., Li, Y., Tarkoma, S. and Hui, P., 2020): The study introduces the "carat" platform, collecting app usage data from 1,465 users spanning from 2012 to 2017. It offers a macro-level and micro-level analysis of the long-term evolution, focusing on app categories and individual apps. Findings suggest a recurring pattern: an initial growth stage triggered by technological advancements, followed by a plateau stage due to strong correlations between app categories and the Pareto effect in individual app usage. Intra-category competition leads to an elimination stage. Interestingly, while app-category usage tends to homogenize over time, individual app usage becomes more diverse. This divergence indicates that users increasingly explore a variety of individual apps within a category. The implications are significant for app developers, market intermediaries, and service providers. Developers can benefit from understanding how app popularity and diversity evolve, aiding in decision-making and enhancing competitiveness. Market intermediaries can use this knowledge to manage app platforms effectively and deliver high-quality services. In conclusion, this study provides a comprehensive analysis of the long-term evolution of mobile app usage, shedding light on

the dynamic nature of user behaviour over time. The insights gleaned from this research hold valuable implications for the mobile app ecosystem.

(Ricoy, M.C., Martínez-Carrera, S. and Martínez-Carrera, I., 2022): This study explores the impact of Information and Communication Technologies (ICTs), with a particular focus on smartphone use by teenagers, on the dissemination of news from digital newspapers. The research, primarily qualitative, analyzes 1,704 news items to understand the multifaceted relationship between teenagers, smartphones, and news consumption. Positive outcomes of teenage smartphone use are highlighted, including the development of digital competence, academic opportunities such as gamification and mobile learning, and access to digital tools for both educational and leisure purposes. However, the study also underscores the prevalence of negative consequences, including health deterioration, stress, psychosocial issues like sexting and nomophobia, academic challenges, and economic problems related to online shopping and gambling. A notable observation is the seasonal variation in news coverage, with major newspapers tending to publish more positive news about smartphone use by teenagers in December, while negative effects garner attention in September. In summary, the study reveals that teenage smartphone use is associated with a range of practice patterns, primarily beneficial ones that enhance digital skills and motivation. Nevertheless, it's also linked to adverse effects, emphasizing the importance of a balanced approach to smartphone usage among teenagers. The findings provide valuable insights for parents, educators, and policymakers to guide responsible smartphone use among adolescents.

(Cheng, Y., Sharma, S., Sharma, P. and Kulathunga, K.M.M.C.B., 2020): This study looked at why people keep using mobile news apps, like the ones on their smartphones. They used a theory called UTAUT2, and they added a new idea called "personalization" to see if it makes a difference. They also checked if "personalization" changes how other things affect people's decision to keep using these apps. They asked 309 people in India who use news apps to answer some questions. They did some math stuff to understand the answers. They found out that people keep using news apps mainly because they think the app will work well (performance expectancy), they are used to it (habit), they find it fun (hedonic motivation),

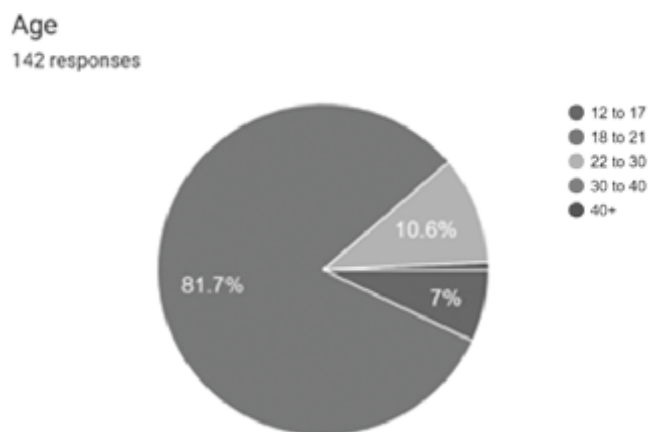
and it's easy to use (facilitating conditions). They also found that personalization can make a difference, especially with how well the app works and how used to it people are. In conclusion, this study helps us understand why people in India keep using news apps on their phones. It shows that making the app work well, making it fun, and making it easy to use is important. And personalization can make these things even better. This information can help app developers in India create apps that people will keep using.

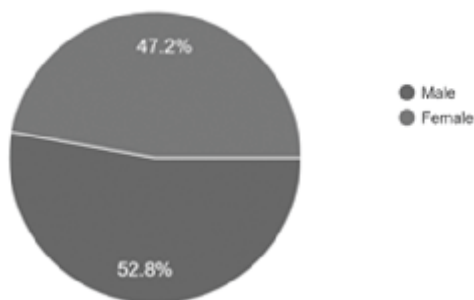
(Bhave, K., Jain, V. and Roy, S., 2013): This study explores how young people in India, specifically Generation Y (those born between 1980 and 2000), feel about ads in mobile apps. In India, mobile marketing has been growing rapidly due to the rise in smartphone use. Brands are trying to connect with consumers through mobile apps. The study used discussions and interviews with young people to understand how they view ads in mobile apps. They found that young people are generally okay with these ads, but they prefer ads that are not intrusive and are related to the app they are using. They like ads that are personalized and relevant to them. Also, they prefer interactive ads and games related to their favourite brands. In conclusion, this research shows that young people in India are open to ads in mobile apps, but they want these ads to be engaging, non-intrusive, and related to what they are doing on the app. This information can help marketers create better ads that appeal to this young generation.

Data Analysis and Interpretation:

Target Audience

By Age:

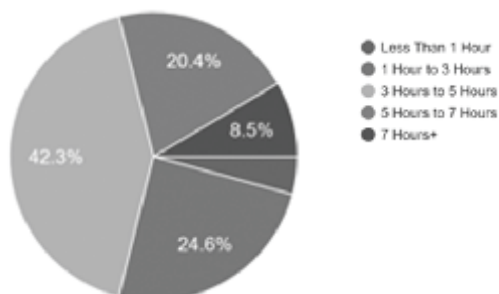


By Gender:Gender
142 responses**By Occupation:**Occupation
142 responses**Inference:**

Analysis shows that over 81% of the respondents were between the ages of 18 to 21. More than 10% of the respondents were from the age group of 22 to 30. Moreover, 47.2% of the respondents were females and the remaining 52.8% were males, highlighting a similar gender distribution. Over 88% of the respondents were students, highlighting the biggest demographic of smartphone users.

Survey Responses:

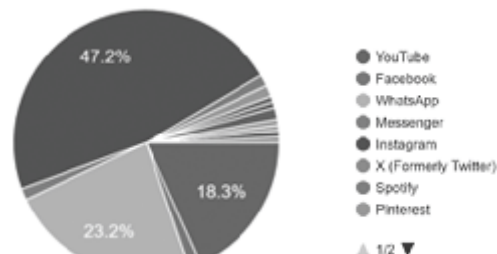
1. On average, how much time do you spend on your phone every day?

On an average, how much time do you spend on your phone everyday?
142 responses**Inference:**

Most of the users spend anywhere between 3 to 5 hours on their phones. Only 4.2% of people spend less than

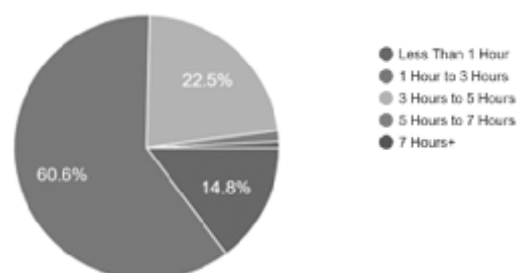
an hour. And almost 8.5% of users spend more than 7 hours on their phone. Considering the average, the general user base seems to be spending almost 1/6th of their day on their smartphones.

2. What is your 1st most used app?

What is your 1st most used app?
142 responses

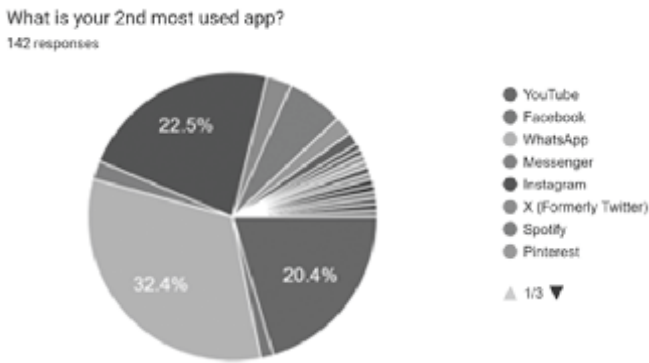
Inference: The most used app for the majority of the audience is Instagram with over 47% of respondents placing it as their most used app throughout the day. The second app that seems to be the most used for a large number of people is WhatsApp with over 23% of the respondents looking at it as their most used app. With over 18% of the respondents choosing YouTube, it is clear that a significant amount of the audience prioritizes enjoying videos as part of their daily smartphone consumption. Other apps used by the respondents include Facebook, Messenger, Spotify, Pinterest, Netflix, X(Formerly Twitter), Telegram, Aniwatch, BGMI, Chrome, and Tachiyomi.

3. On average, how much time do you spend on this app (1st Most Used)?

On an average, how much time do you spend on this app (1st Most Used)?
142 responses

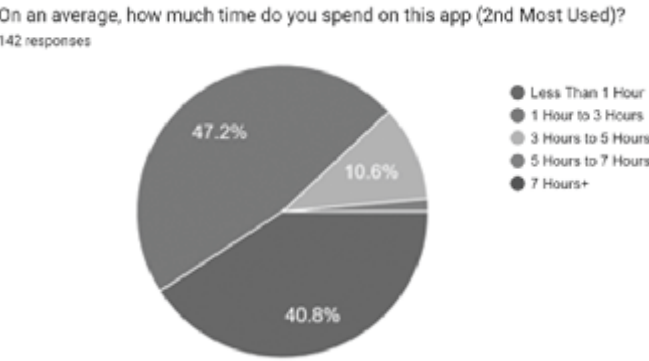
Inference: The audience is spending around 1 to 3 hours every single day on their favourite app which, as we concluded in the last question, is Instagram for the majority. However, a lot of the respondents seem to be having over 3 to 5-hour sessions with their most-used apps. While the remaining set of people keep it lower than an hour. Only 2.1% of the total number of respondents spend more than 5 hours on their most-used apps.

4. What is your 2nd most used app?



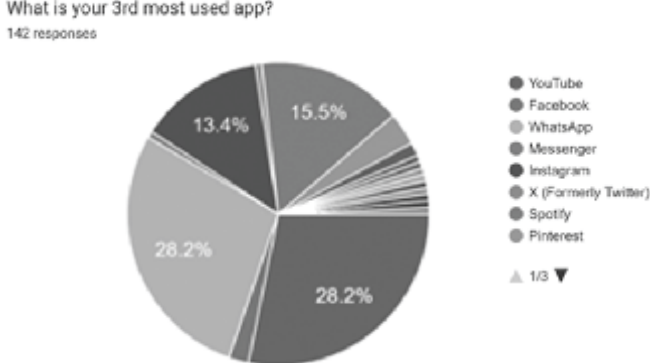
Inference: WhatsApp managed to overthrow Instagram in terms of usage as the 2nd most used app for our audience. This highlights that a good chunk of the audience uses Instagram the most, followed by WhatsApp. However, the percentage difference between them is quite low as Instagram still stands as a tough competitor, followed by YouTube as ranking 3rd in this place. From this point forward, different people have different choices such as Facebook, Messenger, X (Formerly Twitter), Spotify, Pinterest, Telegram, Call of Duty, Manga Reader, Snapchat, Internet, BGMI, Netflix, Hotstar, 9gag, Google Drive, Signal, Bgmi, and Car parking multiplayer.

5. On average, how much time do you spend on this app (2nd Most Used)?



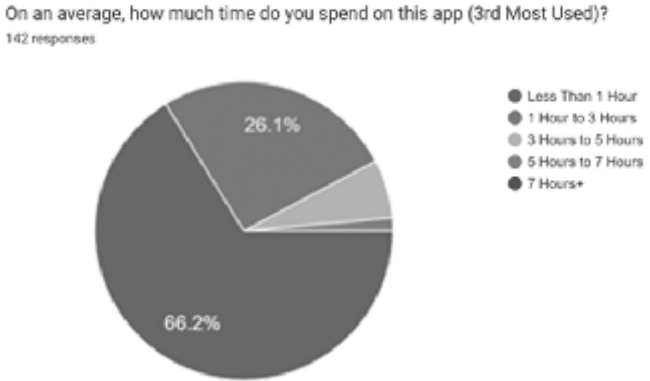
Inference: Almost half of our total number of respondents spend around 1 to 3 hours on their 2nd most used app. And only 10.6% use it for 3 to 5 hours. Everyone else mostly gets done with their 2nd most used in less than an hour. And only a fraction of the audience spends 5 to 7 hours on their 2nd most used app. This showcases that WhatsApp is one such app that is being used for around 1 to 3 hours, along with other apps like Instagram and YouTube.

6. What is your 3rd most used app?



Inference: Under this section, the diversity starts to kick in and users start mentioning new apps that haven't been discussed yet. We can see a perfect tie between YouTube and WhatsApp as the 3rd Most Used app. And Spotify managed to pave into the ranks, even surpassing Instagram. Moreover, apps like Pinterest have started to rise the ranks as well, along with apps like Facebook and Telegram. Other apps such as X (Formerly Twitter), Snapchat, Reddit, Google News, Clock, YouTube Music, Chrome, Clash of Clans, and FIFA also managed to reach our users' app list. This showcases diversity as we get lower into the rankings.

7. On average, how much time do you spend on this app (3rd Most Used)?

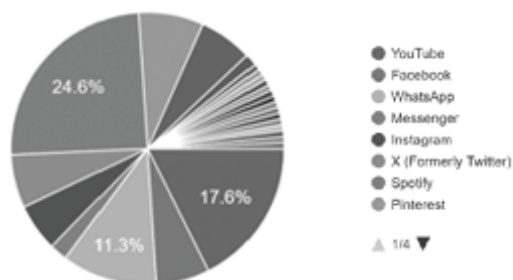


Inference: Over 65% of the total user base spends less than an hour on their 3rd most favourite app. And around 26% of them spend anywhere between 1 to 3 hours on it. However, it wouldn't be a far-fetched idea to assume that the aggregate precise time spent by these 26% would be on the lower end of the spectrum. A total of 7.7% of the entire sample spends more than 3 hours on their third most-used apps. And this highlights the diminishing rate of usage with each passing rank.

8. What is your 4th most used app?

What is your 4th most used app?

142 responses

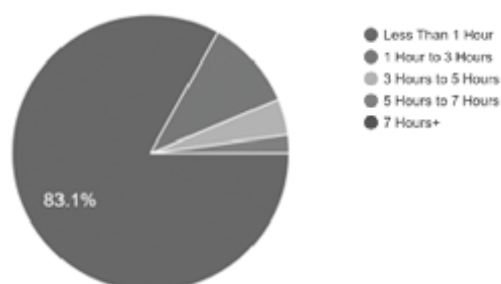


Inference: There are numerous answers on this rank as it is fairly distant from being an app that a person uses for a long time on a regular basis. Spotify managed to top this list with over 24% of the respondents ranking it as their 4th most used app. This highlights that Spotify is a non-social media app that manages to hook its audience for a while and makes them use it on a regular basis. YouTube is the runner-up in this position followed by WhatsApp and Pinterest. Moreover, popular apps like Telegram, and X (Formerly Twitter) also managed to acquire some audience from our list of respondents at this position and surpassed Instagram. Other apps like Facebook, Messenger, Google, Snapchat, Phone, Fifa, Kite, Be Real, Google Photos, Adobe Acrobat, Zerodha, FM radio, Groww, LinkedIn, and games like BGMI, Call of Duty, etc also managed to make it to the list.

9. On average, how much time do you spend on this app (4th Most Used)?

On an average, how much time do you spend on this app (4th Most Used)?

142 responses

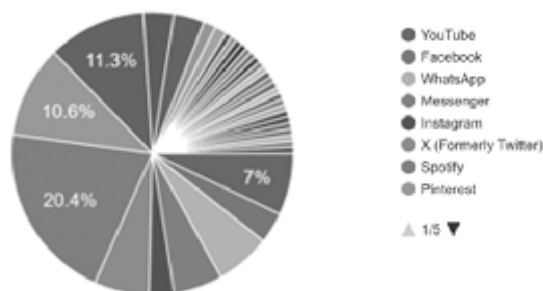


Inference: Over 80% of our total audience spends less than an hour on these apps. This highlights that the effectiveness of advertisements on these platforms might be a subject of discussion since the majority of the user base doesn't use them for more than an hour. Only 10% of the total number of respondents spend anywhere between 1 to 3 hours on their 4th most used apps. And roughly 6% use it for more than 3 hours.

10. What is your 5th most used app?

What is your 5th most used app?

142 responses

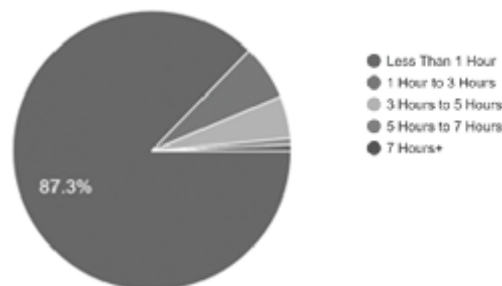


Inference: Spotify continues its reign as the most-used non-social media platform besides YouTube with over 20% of the total sample using it as their 5th most-used app. At this stage, the diversity is at its peak and there are a ton of apps used by different smartphone customers based on their personal needs and desires. The runner-up is Telegram, followed by Pinterest, YouTube, X (Formerly Twitter), and WhatsApp. Other apps such as Facebook, Messenger, Instagram, Snapchat, Gmail, Chrome, Drive, Duolingo, Games, E-commerce Portals, Airtel, Google, Botim, BGMI, Locket, LinkedIn, Clash of Clans, Brave, Music, News apps like India Today, Economics times, and Tumblr also happened to be part of the apps that respondents use on a regular basis. The diversity is maximum and preferences have paved in for each user.

11. On average, how much time do you spend on this app (5th Most Used)?

On an average, how much time do you spend on this app (5th Most Used)?

142 responses



Inference: Over 87% of the total respondents spend less than an hour on these apps. As expected, with every passing rank, we are witnessing diminishing usage of their favourite apps. It can be said that the absence of any concrete leader, along with a fairly low amount of usage throughout the day, makes any app in this position, a niche app for advertisement or data collection. Only a niche audience will be spending time on apps present in this position for any significant amount of time.

Findings:

In examining the hypothesis that the most downloaded apps are also the most used, our findings present a nuanced narrative. Despite popular belief, our analysis reveals that the top downloaded apps, such as YouTube, Facebook, WhatsApp, Messenger, and Instagram, do not directly correlate with being the most actively used by consumers. While apps like Instagram, YouTube, and WhatsApp do see significant daily engagement, their usage does not uniformly align with their download metrics. Interestingly, YouTube, despite its status as the most downloaded app, does not lead in terms of daily active use. Conversely, Instagram demonstrates a higher capability to retain user attention over prolonged periods, outperforming others in terms of engagement. On the other hand, Facebook and Messenger, despite their monumental download figures, show a surprising decline in regular usage. This divergence highlights a critical insight: as smartphone users dedicate hours to their devices, their preferences and personal inclinations significantly influence app usage patterns. This scenario presents a rich opportunity for brands to engage with their audience, emphasizing that download figures alone do not provide a complete picture of an app's success or value to the user. Our findings thus challenge the initial hypothesis, suggesting that while downloads can indicate potential interest or initial curiosity, they do not necessarily equate to sustained engagement or utilization. This insight underlines the importance of looking beyond download statistics to understand the true measure of an app's impact and relevance to its user base.

Conclusion

The most downloaded apps, YouTube, Facebook, WhatsApp, Messenger, and Instagram weren't the most used apps by smartphone consumers. While Instagram, YouTube, and WhatsApp are used by people on a regular basis for a considerably high amount of time, they are not as consistent with the general user as you might expect. Despite being the most downloaded app,

YouTube isn't the most used app by people. Apps that can retain attention and entertain the audience for a long period of time such as Instagram scored the highest on our lists. However, apps like Facebook and Messenger were barely used despite being some of the most downloaded apps in history. As a consumer continues to spend time on their phone, his or her preference and personal liking start to influence his or her behaviour in terms of their app usage. As a normal smartphone user spends several hours on his or her phone, brands have a lot of opportunities to target their audience to give them the best product or service possible. However, the download count shouldn't be the primary metric for selection since it can be quite deceiving as seen here.

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