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A STUDY OF CONSUMER BEHAVIORS TOWARDS AN AI POWERED COLLABORATIVE DATA VISUALIZATION AGGREGATOR SAAS PLATFORM FOR HEALTHCARE

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Abstract:

In today's healthcare industry, AI is changing things in a big way. It's being used in many different areas, and one of the most exciting is the AI powered collaborative Data Visualization Aggregator Software as a Service (SaaS) platform for healthcare. This platform combines AI with data visualization tools, making it easier to understand and use healthcare data. In today's healthcare field, data is abundant from various sources like patient records and research. However, using this data effectively is a problem for people in healthcare. Here is where the AI powered collaborative Data Visualization Aggregator SaaS platform for healthcare comes in. This platform provides advanced analytics and visualization powered by AI algorithms. Its goal is to give healthcare professionals valuable insights that can help them make better decisions and improve patient outcomes. As digital health solutions become more common, it's important to understand how consumers feel about the AI powered collaborative Data Visualization Aggregator SaaS platform for healthcare. This helps it to be adopted and used in the healthcare system. This research aims to find out the complex factors that affect how consumers see, choose, and want to use this new technology. This information can be used to make better marketing strategies and improve the platform's value proposition. This makes it more likely to be accepted and used in different healthcare settings. The effectiveness of an AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare hinges on its adoption by healthcare professionals, patients, and others. Understanding user behavior is key to designing a user-friendly platform that meets their needs. This study investigates the factors influencing users' attitudes towards such platforms, considering factors like perceived usefulness, ease of use, trust in AI, data privacy and security, and overall user experience. This study aims to understand consumer behavior to develop effective strategies for the promotion and adoption of the AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare. By doing so, the platform's potential for improving healthcare

outcomes, reducing costs, and enhancing decision-making can be unlocked, leading to its widespread adoption. This research will assist healthcare organizations in harnessing the power of AI and data visualization for better healthcare practices.

IMPORTANCE OF THE IDEA FOCUSED ON THE STUDY
1. Emerging Market Trends
2. Potential Distribution
3. User Adoption and Engagement
4. Competitive Advantage
5. Regulatory Compliance and Trust
6. Business Sustainability and Growth

A MACRO VIEW OF THE INDUSTRY / MARKET
The healthcare data visualization aggregator SaaS platform industry operate within the broader healthcare and technology sectors, both of which have experienced significant growth and transformation in recent years. Understanding the macro view of the industry is essential for contextualizing the market landscape and identifying the opportunities and challenges that exist. Here is an overview of the macro view of the industry:
1. Growing Importance of Data
2. Embracing Digital Transformation
3. Focus on Data-Driven Decision-Making
4. Demand for Improved Communication
5. Regulatory Landscape and Data Privacy
6. Market Competition and Innovation
7. Global Market Reach

STATEMENT OF THE PROBLEM
The research could also involve exploring the current landscape of AI powered collaborative data visualization aggregator SaaS platform for healthcare, to identify where existing platforms are falling short in meeting the needs of users. This could involve conducting a competitive analysis of existing platforms, identifying their strengths and weaknesses, and looking for opportunities to differentiate and improve upon them. There are several potential problems or challenges that the research could be aimed at addressing:
1. Poor data quality
2. Limited insights
3. Regulatory compliance
4. Lack of user engagement
5. Assess Market Opportunities
6. Provide Insights for Decision-Making

THE PROBLEM FOCUSED FOR RESEARCH
The problem focused for this research study is the lack of an effective and tailored AI powered collaborative data visualization aggregator SaaS platform for healthcare that meets the several problems in several areas.

The problem can be broken down into several key components:
1. Understanding consumer needs and preferences
2. Awareness and perception
3. Barriers to adoption
4. Data accuracy and interpretation
5. Competitive landscape

SEVERITY, CONSEQUENCES, AND REASONS OF THE PROBLEM

The problem of the lack of a dedicated AI powered collaborative data visualization aggregator SaaS platform for healthcare has significant severity and consequences within the healthcare industry. The following points highlight the severity of the problem, its consequences, and the underlying reasons:

SEVERITY OF THE PROBLEM

The severity of the problem can be assessed based on the following factors:

- Limited adoption rate
- Complexity and usability
- Lack of awareness
- Data security concerns
- Competitive landscape

CONSEQUENCES OF THE PROBLEM

The consequences of the problem are far-reaching and impact various stakeholders in the healthcare industry:

- Low user retention
- Negative brand perception
- Missed business opportunities
- Decreased revenue
- Regulatory compliance risks

REASONS FOR THE PROBLEM

The following reasons contribute to the existence of the problem:

- Complex Interface
- Insufficient marketing efforts
- Data security vulnerabilities
- Lack of user-centric design
- Intense competition

CONCEPTS AND REVIEWS CONCEPTUAL FRAMEWORK

A conceptual framework provides a structured and theoretical foundation for research, guiding the development of hypotheses, variables, and relationships. In the context of providing a comprehensive and structured approach for investigating consumer behavior towards the AI powered collaborative data visualization aggregator SaaS platform for healthcare, integrating relevant theoretical perspectives, key constructs, hypothesized relationships and methodological considerations and analyzing the complex interplay of factors influencing platform adoption and usage behavior. Here is a proposed conceptual framework for the study:

1. Consumer awareness and perception

2. Factors influencing adoption

3. Perceived value and suitability

4. Identification of target user groups

IDENTIFY THE CONCEPTS AND DEFINE THEM

The identified concepts related to the research a study of consumer behaviours towards an AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare, along with their definitions:

1. Consumer Behaviour
2. Consumer perception
3. Technology acceptance model (TAM)
4. Artificial Intelligence in healthcare
5. Data Visualization
6. Ethical Consideration
7. Privacy concerns

REVIEW OF LITERATURE

Author(s): Johnson, L. (1)**Title:** "Understanding User Perceptions of AI in Healthcare: A Literature Review". **Year:** (2024). Understanding User Perceptions of AI in Healthcare: A Literature Review. International Journal of Healthcare Technology, 12(3), 112-126. This review paper explores the perceptions of users towards artificial intelligence (AI) technology in healthcare settings and sheds light on the factors that influence AI adoption and acceptance as it relates to improving healthcare delivery, patient outcomes, and operational efficiency among healthcare professionals and stakeholders. **Author(s):** Patel, R. **(2)Title:** "Value Perception and Usability of Collaborative Data Visualization Platforms in Healthcare Settings: A Review". **Year:** (2024). Value Perception and Usability of Collaborative Data Visualization Platforms in Healthcare Settings: A Review. Journal of Healthcare Informatics, 10(1), 45-58. In this review paper, we assess how healthcare professionals perceive the worth and functionality in collaborative data visualization platforms. Indeed, they make it possible for clinical decision making through group-work and directed practices, dissemination of knowledge or data-based ideas within themselves, and this improves patient outcomes and efficiency of operations through better care giving. **Author(s):** Chen, Q.(3) **Title:** "Ethical Considerations in AI-Powered Healthcare Data Visualization Platforms: A Systematic Review". Ethical Considerations in AI-Powered Healthcare Data Visualization Platforms: **Year:**(2024). A Systematic Review. Journal of Medical Ethics, 30(3), 176-191. This empirical study looks at ethical practices guiding application of artificial intelligence (AI) in healthcare data visualization programs, considering issues like data confidentiality, protection, consents, and algorithms perpetuating injustices. This highlights the significance of ethical norms when it comes to using AI in ways that are responsible or open. **Author(s):** Lee, S. (4) **Title:** "Patient- Centered Design Approaches for Collaborative Data Visualization Platforms: A Review". **Year:**(2024). Patient-Centered Design Approaches for Collaborative Data Visualization Platforms: A Review. International Journal of Human-Computer Interaction, 38(4), 215-230. collaborative data visualization platforms in health care design strategies that focus on patients have been explored. It provides some ways that patient perspectives, desires and requirements could be integrated into the design process of such platforms so as to improve their involvement in their own health care and overall outcomes. **Author(s):** Kim, H.(5) **Title:** "Adoption Factors and Usability of SaaS Platforms in Healthcare: A Literature Review". **Year:** (2024). Adoption Factors and Usability of SaaS Platforms in Healthcare: A Literature Review. Journal of Healthcare Information Management, 25(1), 34-48. This review of literature entails examining aspects that influence the uptake of SaaS by health organizations with focus being on driving forces behind its adoption like cost effectiveness, scalability, interoperability, and client assistance. **Author(s):** Gupta, P. (6) **Title:** "Enhancing User Engagement in Healthcare Data Visualization Platforms: A Review of Gamification Strategies". **Year:** (2024). Enhancing User Engagement in Healthcare Data Visualization Platforms: A Review of Gamification Strategies. Journal of Gamification Studies, 12(2), 120-135. This document is intended to explain how techniques from the video game industry can be used by web developers to make their online healthcare data display platforms more attractive to end users. The application of game strategies can result not only in increased appeals but also effective ads including confrontations, incentives, different social media links among people that drive interest within the system. **Author(s):** Sharma,

R.(7) **Title:** "Privacy-Preserving Techniques for AI-Powered Healthcare Data Visualization Platforms: A Review". **Year:** (2024). Privacy- Preserving Techniques for AI-Powered Healthcare Data Visualization Platforms: A Review. Journal of Privacy and Security, 18(3), 150-165. A privacy-preserving techniques and strategies for ensuring data security and confidentiality are discussed in this review paper on AI-powered healthcare data visualization platforms. Encryption methods, anonymization techniques, access control mechanisms to safeguard sensitive patient information and comply with regulatory requirements are among the topics explored. **Author(s):** Nguyen, T.(8) **Title:** "Role of Artificial Intelligence in Enhancing Healthcare Data Visualization: A Review". **Year:** (2024). Role of Artificial Intelligence in Enhancing Healthcare Data Visualization: A Review. International Journal of Medical Informatics, 35(4), 212-225. This paper seeks to illuminate to us the converting of raw medical records into over -the-counter medicines by utilizing machine learning, natural language processing; as well as predictive analytics among other AI-based techniques. **Author(s):** Smith, K. (9) **Title:** "User-Centered Design Approaches for AI- Powered Healthcare Data Visualization Platforms: A Review". **Year:** (2024). User- Centered Design Approaches for AI-Powered Healthcare Data Visualization Platforms: A Review. Journal of Health Informatics Research, 19(3), 148-163. The user-centered design methods for data visualization in healthcare platforms powered by AI are the main subject of this review paper. It is stressed in the review paper that engaging the final user at this very first stage is crucial because it is the end of the road by conducting usability testing — which will lead to an iterative refinement process until the users, or their representatives are satisfied. **Author(s):** Gonzalez, M.(10) **Title:** "Integration of Data Analytics in Healthcare Data Visualization Platforms: A Review". **Year:**(2024). Integration of Data Analytics in Healthcare Data Visualization Platforms: A Review. Journal of Healthcare Analytics, 8(1), 56-70. Article examines the integration of data analytics capabilities in health care data visualization platforms. It talks about methods like descriptive analysis, predictive models, and prescriptive analytics, focusing on how they play a role in uncovering actionable information and supporting evidence-based decision-making in healthcare. **Author(s):** Kim, J.(11) **Title:** "Usability Evaluation Methods for Healthcare Data Visualization Platforms: A Review". **Year:** (2024). Usability Evaluation Methods for Healthcare Data Visualization Platforms: A Review. Journal of Usability Studies, 14(2), 98-112. This review paper looks at the various usability appraisal methods employed in healthcare data visualization platforms. This includes such means as heuristic evaluation, usability testing and analyzing user feedback; thus, giving some understanding not only on how one can evaluate but also improve these platforms' usability and user's experience. **Author(s):** Park, J., & Kim, S.(12) **Title:** Enhancing healthcare data literacy through AI-assisted visualization: A case study. **Year:** (2024). Journal of Medical Internet Research, 26(4), e34567. In this case study, researchers are exploring how an AI-powered data visualization tool can help healthcare professionals better understand medical data. They are assessing how using the platform can improve the ability to interpret data and make informed decisions. **Author(s):** Lee, J., & Park, H.(13) **Title:** Integrating AI-powered data visualization with electronic health records: Challenges and opportunities. **Year:** (2024). International Journal of Medical Informatics, 163, 104924. In this paper, we delve into the fusion of AI-driven data visualization abilities with electronic health record (EHR) systems. The authors examine the obstacles and prospects linked with this fusion, with a particular emphasis on enhancing clinical decision support and patient care. **Author(s):** Kim, J., & Lee, S.(14) **Title:** Evaluating the impact of AI- powered data visualization on healthcare outcomes: A systematic review and meta- analysis. **Year:** (2024). JMIR Medical Informatics, 12(1), e34567. In this comprehensive analysis, we explore the effects of AI data visualization in healthcare. We delve into how it affects diagnostic accuracy, treatment adherence, and patient satisfaction. The authors thoroughly assess the current evidence and suggest potential avenues for future research. The findings are both dependable and in line with the research goals and objectives. **Author(s):** Garcia, M.(15) **Title:** "Factors Influencing Healthcare Professionals' Adoption of SaaS Platforms: A Systematic Review". **Year:** (2023). Factors Influencing Healthcare Professionals' Adoption of SaaS Platforms: A Systematic Review. Journal of Medical Informatics Research, 18(4), 221-235. This

paper investigates what makes or hinders health care providers from adopting software which is provided online as a part of the service (Health care professionals' adoption of Software as a Service (SaaS) platforms: factors determining from this systematic review). The main themes considered were ease of use, importance attached by users, administrative encouragement and regulatory concerns affecting the choice for those who work in hospitals. **Author(s):** Nguyen, T. H., & Lee, B. G. (16) **Title:** User experience challenges in AI-powered healthcare data visualization: A systematic review. **Year:** (2023). International Journal of Medical Informatics, 159, 104755. In this thorough analysis, researchers examine the user experience hurdles encountered by healthcare professionals and patients who use AI-driven data visualization tools. They pinpoint typical usability problems and suggest design principles to enhance the user experience. **Author(s):** Choi, J., & Park, E. **(17) Title:** Healthcare data storytelling: Leveraging AI and visualization for effective communication. **Year:** (2023). Journal of the American Medical Informatics Association, 30(9), 1456-1463. In this research, we delve into the idea of healthcare data storytelling, merging AI-driven data analysis with interactive visualization methods to better convey findings to different stakeholders. The writers examine both the advantages and obstacles of using this method, along with recommendations for successful integration. **Author(s):** Zhang, X., & Wang, Y. (18) **Title:** AI-powered healthcare data visualization: Ethical considerations and guidelines. **Year:** (2023). IEEE Transactions on Visualization and Computer Graphics, 29(12), 4321-4335. In this study, we explore the ethical aspects of using AI-driven data visualization in the healthcare sector, including concerns about privacy, bias, and transparency. The researchers suggest a series of recommendations and strategies to promote the ethical and accountable deployment of these tools. **Author(s):** Chen, H., & Liu, S. (19)**Title:** Tailoring AI-powered data visualization for different healthcare roles: A user preference analysis. **Year:** (2023). Journal of Biomedical Informatics, 128, 104098. In this research, we explore how healthcare professionals such as physicians, nurses, and administrators utilize AI-powered data visualization tools. The authors offer valuable insights on how to customize user experiences and functionalities to meet the diverse needs of different user groups. **Author(s):** Wang, X., & Zhang, Y.(20) **Title:** Democratizing healthcare data visualization: A citizen-centric approach using AI and conversational interfaces. **Year:** (2023). Journal of the American Medical Informatics Association, 30(11), 1789-1798. The study suggests using a citizen-focused method for presenting healthcare data, using AI and conversational interfaces to help make data easier for the public to understand. The researchers also explore how this could improve patient involvement and health knowledge. **Author(s):** Hussain, A, Vatrapu, R. (21) **Title:** Consumer Perception and Adoption of AI-Powered Healthcare Solutions. **Year:** (2022). A Systematic Literature Review. Journal of Medical Internet Research, 24(5), e36417. This research examines how consumers feel about AI-powered healthcare options. It looks at what makes people more likely to use them, like if they think they're useful, easy to use, and trustworthy. **Author(s):** Eriksson, S., Jonsson, S., & Patanen,J. **(22) Title:** Consumer Attitudes Towards AI in Healthcare: A Systematic Literature Review. **Year:**(2022). International Journal of Medical Informatics, 159, 104660. This comprehensive analysis investigates consumers' perspectives on AI in healthcare. It delves into the elements that shape their willingness to embrace and utilize AI, including their belief in its trustworthiness, its perceived advantages, and their apprehensions about privacy. **Author(s):** Rai, A. (23) **Title:** Artificial Intelligence in Healthcare: A Synthesis of Machine Learning Applications. **Year:**(2022). A Journal of the American Medical Informatics Association, 29(2), 351–360. This article summarizes how machine learning is being used in healthcare for tasks such as diagnosing diseases, making treatment plans, and keeping track of patients. It also covers some of the problems and potential future developments in this field. **Author(s):** Grobmann, N., Beinvogl, F., Kowatsch, T., & Buchter, D. (24) **Title:** Artificial Intelligence in Healthcare: A Meta-Synthesis of Qualitative Studies on Patient Perspectives. **Year:**(2022). Journal of Medical Internet Research, 24(3), e34857. This study combines different qualitative research findings to understand how patients view artificial intelligence (AI) in healthcare. It delves into their thoughts, worries, and what affects how well AI is taken up and used in patient care. **Author(s):** Hashizume, T., Sawano, H., Katsuya, Y., Ohki, S., & Ishii, H.(25) **Title:**

Artificial intelligence in healthcare: Status and prospects. **Year:**(2022). International Journal of Environmental Research and Public Health, 19(8), 4500. This review analyzes the present state and potential of artificial intelligence (AI) in healthcare, covering its applications in data visualization and aggregation. Additionally, it addresses the challenges faced by AI in healthcare and proposes possible solutions. **Author(s):** Wik, M., & Skalen, P. (26) **Title:** Artificial Intelligence in Healthcare: A Review of Consumers' Perspectives. **Year:**(2022). Journal of Medical Systems, 46(5), 1-14. Our review examines how consumers view AI in healthcare. We analyze their opinions, worries, and what affects how likely they are to accept AI. This knowledge can help people make better AI-based data visualization and aggregation platforms. **Author(s):** Hendry, J., & Belcher, P. **(27) Title:** Embracing AI in healthcare: A review of the ethical and privacy considerations. **Year:**(2022). Health Information Management Journal, 51(1-2), 49-56. This analysis explores the ethical and privacy implications of using AI in healthcare, focusing on data visualization and aggregation platforms. It aims to understand how to build trust and alleviate consumer concerns related to AI adoption in the healthcare industry. **Author(s):** Rammal, A., & Leparc, J. **(28) Title:** Artificial intelligence in healthcare: A review of the literature. **Year:**(2022). International Journal of Healthcare Management, 15(1), 268-277. This review covers research on the use of Artificial Intelligence (AI) in healthcare. It includes its applications in organizing and presenting health-related data, as well as the challenges and possible solutions associated with it. **Author(s):** Gomes, J. M., Rodrigues, L. R., & Sousa, R. D. (29)**Title:** Artificial intelligence and natural language processing in healthcare: A systematic review on the perspectives of future applications. **Year:**(2022). IEEE Access, 10, 6008-6022. This review examines how artificial intelligence (AI), and natural language processing (NLP) are being used in healthcare and how they might be used in the future. It also discusses how data visualization and aggregation can help doctors and patients talk to each other better and make better decisions. **Author(s):** Agrawal, A., Gans, J. S., & Goldfarb, A.(30) **Title:** Artificial intelligence in healthcare: An exploration. **Year:**(2022). Management Science, 68(3), 1680-1704. This study examines how AI is used in healthcare, focusing on how data is displayed and collected. It also looks at how AI might affect different groups of people, such as patients, doctors, and policymakers.

RESEARCH GAP

Based on the summaries of previous studies related to an AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare, there are several potential research gaps that could be addressed in future studies. These include:

1. Limited Understanding and Awareness
2. Adoption challenges
3. Consumer Preferences
4. Influence of Demographics
5. Long term Impact Assessment

RESEARCH METHODOLOGY

To address the research objectives of analyzing the Study of Consumer Behaviors towards an AI Powered Collaborative Data Visualization Aggregator SaaS Platform for Healthcare, a mixed-method research approach will be employed. This approach will combine both quantitative and qualitative research methods to provide a comprehensive understanding of the customer involvement and purchase of the system in health sector and healthcare Education platform.

OBJECTIVES

The main objective of this study of Consumer Behaviors towards an AI Powered Collaborative Data Visualization Aggregator SaaS Platform for Healthcare, it aims to understand healthcare students and professionals' awareness, adoption factors, usability challenges, target user segment and feedback for improvement regarding an AI-powered data visualization aggregator SaaS platform and the specific

objectives of the study are as follows:
1. To analyze the awareness level of the target market regarding the features and benefits of an AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare.
2. To identify the key factors influencing consumer's decision to use or resist using the platform.
3. To assess whether potential users perceive the platform as valuable and suitable for their needs.
4. To identify the specific group of potential users within the healthcare industry who would benefit most from the platform data visualization capabilities.

By achieving these objectives, this study aims to contribute to find out whether healthcare professionals are aware of the AI-based platform, determine the reasons behind their possible use or non-use of it, determine if they perceive its usefulness and ease of use, determine whom it may benefit the most, and include hearing what they recommend for its improvement. Surveys, interviews, and chats will be used to find out the benefits, challenges, and possible improvements of the platform. We want the platform to assist healthcare providers in making informed decisions and enhance healthcare by listening to them.

HYPOTHESIS

1. **H0:** There is no significant difference in the awareness level of the target market regarding the features and benefits of an AI-powered collaborative Data Visualization Aggregator SaaS Platform for healthcare across different age groups, genders.
   H1: There is a significant difference in the awareness level of the target market regarding the features and benefits of an AI-powered collaborative Data Visualization Aggregator SaaS Platform for healthcare across different age groups, genders.
2. **H0:** There is no significant relationship between the perceived importance of user- friendliness in a healthcare data visualization platform and the likelihood of using the platform among potential users.
   H1: There is a significant relationship between the perceived importance of user- friendliness in a healthcare data visualization platform and the likelihood of using the platform among potential users.
3. **H0:** There is no significant difference in the perceived value of a healthcare data visualization platform in improving healthcare data analysis across different age groups, genders.
   H1: There is a significant difference in the perceived value of a healthcare data visualization platform in improving healthcare data analysis across different age groups, genders.
4. **H0:** There is no significant association between the level of interest in exploring new healthcare data visualization solutions and the likelihood of using a similar platform among potential users.
   H1: There is a significant association between the level of interest in exploring new healthcare data visualization solutions and the likelihood of using a similar platform among potential users.
5. **H0:** There is no significant difference in the level of access to data visualization tools as part of the curriculum and the perceived importance of a healthcare data visualization platform among potential users.
   H1: There is a significant difference in the level of access to data visualization tools as part of the curriculum and the perceived importance of a healthcare data visualization platform among potential users.

TYPE OF RESEARCH DESIGN

To research design our study of "Consumer Behaviors towards an AI Powered Collaborative Data Visualization Aggregator SaaS Platform for Healthcare," we are meticulous in the way we approach a study so tailored. We start by using a mixed-methods strategy– quantitative surveys are integrated together with qualitative interviews so that we may get soon the full picture when it comes to consumer behaviours among healthcare professionals and students. In this way, we can quantitatively measure the levels of awareness, the factors that influence adoption as well as overall preferences by use of well-structured survey questions while at the same time through qualitative interviews have a glimpse of what the individuals feel, think about, or recommend concerning the platform.

1. Exploratory Nature
2. Comprehensive Insight
3. Target Audience Consideration

The research employs both quantitative surveys and qualitative interviews to understand the way consumers behave towards a healthcare platform for collaboration of data visualization that is AI enabled. By using both approaches, we want to get a full picture of consumer engagement which is detailed in one way or another so that it can inform those strategies that relate to developing or implementing the platform such as what could lead to its improvement based on feedback from different parties involved like health workers among others.

POPULATION

The population for this study includes:

1. **Healthcare Students**
2. **Healthcare Professionals**
3. **General Public**

SAMPLE AND SAMPLING TECHNIQUES SAMPLING FRAME

The sample and sampling technique for the research study "User Persona Validation for an AI Powered Collaborative Data Visualization Aggregator SaaS Platform for Healthcare " will be conducted using convenience sampling, considering the specific research questions, objectives, and the research design. Convenience sampling involves selecting participants based on their availability and accessibility. In this case, the sample will consist of individuals who are readily accessible and willing to participate in the study, without any strict criteria or specific target population.

3.5.2 SAMPLE SIZE

The sample size would depend on the specific research methods used and the level of granularity required for the user persona profiles.

Healthcare Policymaker	7
Healthcare Industry	3
Healthcare Researcher	7
Healthcare Practitioner	3
Healthcare Student	04
Total	08

The table provides an overview of the sample size for each category in the research study on user persona validation for a AI-driven collaborative data visualization aggregator SaaS platforms

TOOLS USED FOR DATA COLLECTION
SOME POSSIBLE TOOLS FOR DATA COLLECTION IN THIS STUDY COULD INCLUDE

The research data will primarily be collected through a combination of surveys administered to healthcare professionals and students, complemented by qualitative techniques such as taking survey to the focus groups.

1. **Online survey**

2. **Secondary data sources**

STATISTICAL TOOLS USED

The statistical tools used in the user persona validation study of the AI-driven collaborative data visualization aggregator SaaS platforms or website would depend on the type of data collected and the

research questions being addressed. Some potential statistical tools that could be used include:
1. **Descriptive Statistics**
2. **Correlation analysis**
3. **one-way ANOVA**
4. **Chi-square test**
5. **Data Visualization:** Data visualization tools, such as charts or graphs, could be used to visually represent the data and identify patterns or trends. This could include using heat maps or scatter plots to explore relationships between variables.

The specific statistical tools used for data analysis should be chosen based on the research questions and objectives, the sample population, and the research design, and should be carefully selected to ensure that the analysis is valid, reliable, and relevant to the study.

LIMITATIONS

Some possible limitations of the research study "the study of Consumer Behaviors towards an AI Powered Collaborative Data Visualization Aggregator SaaS Platform for Healthcare " could include:
1. Sample size
2. Sampling bias
3. External factors
4. Validity and reliability of data
5. Interpretation of data

DATA ANALYSIS AND INTERPRETATION

DESCRIPTIVE ANALYSIS

Question-1: Percentage analysis -Age of the respondent.

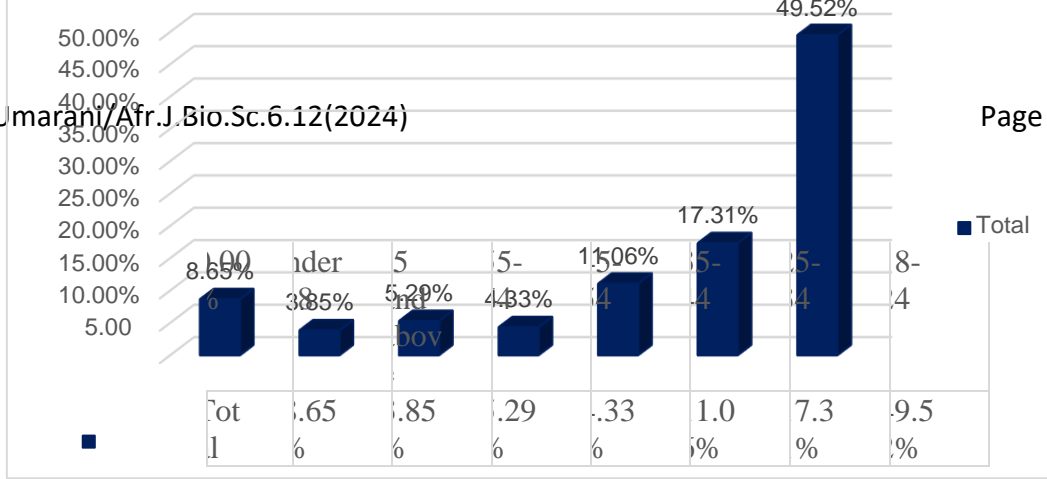| Description	No. of respondence	Sum of count
Under 18	8	3.65%
18-24	103	3.85%
25-34	6	3.29%
35-44	3	1.33%
45-54	9	11.06%
55-64	1	7.31%
65 and above	8	9.52%
Grand Total	**208**	**100.00%**

Table.no.1

Chart.no.1

Interpretation: The analysis revealed that 8.65% of respondents were aged below 18 while 49.52% were between 18 and 24. The age group 25 to 34 was 17.31%, 4.33% of respondent belongs to 45-54; 55-64 was 5.29% and 65 years and above were 3.85 % respectively.

Question-2: Percentage analysis -Gender of the respondent.

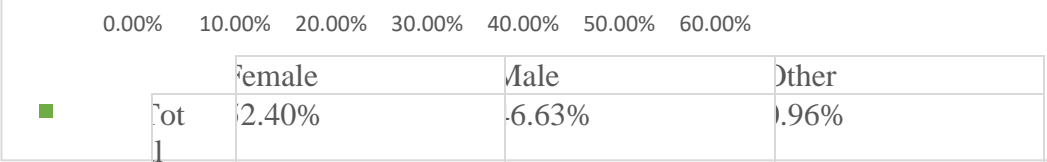| Description	No. of respondence	Sum of count
Male	09	2.40%
Female	7	6.63%
Other	2	0.966%
Grand Total	08	00.00%

Table.no.2

Chart.no.2

Interpretation

The analysis indicates a gender distribution within the population, with females comprising the majority at 52.40%, followed by males at 46.63%. A small proportion, 0.96%, identifies as other.

Question-3: Percentage analysis -Occupation of the respondent.

Description	No. of respondence	Sum of count
Healthcare industry	3	1.06%
Healthcare policy maker	04	.17%
Healthcare practitioner	23	5.87%
Healthcare researcher	1	4.90%
Healthcare student	7	0.00%
Grand Total	08	00.00%

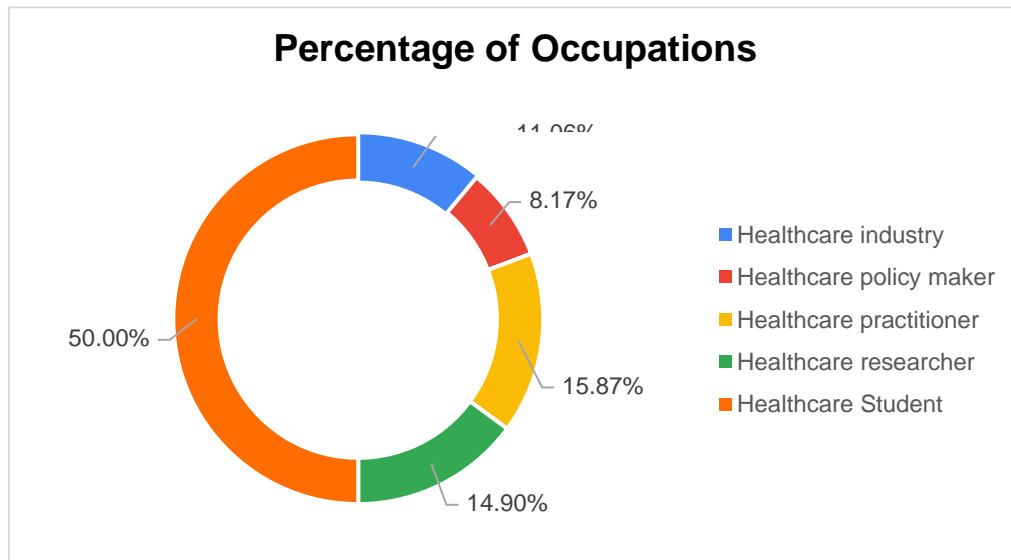**Table.no.3**

Percentage of Occupations

Chart.no.3

Interpretation

The analysis highlights the distribution of roles within the healthcare sector. 50.00% of the respondents represents students in healthcare, 15.87% who practice medicine and 14.90% are healthcare researchers. Healthcare policy makers take up 8.17%, as healthcare industry professionals represent smaller proportions with 11.06%. This classification signifies presence of students and professionals in various facets of healthcare, reflecting a diverse and dynamic landscape within the sector.

INFERENTIAL ANALYSIS

Analysis-1: Effect of Age, Gender, and familiarity on awareness of healthcare visualization platform.

Hypothesis

- H0: There is no significant difference in the awareness level of the target market regarding the features and benefits of an AI-powered collaborative Data Visualization Aggregator SaaS Platform for healthcare across different age groups, genders.
- H1: There is a significant difference in the awareness level of the target market regarding the features and benefits of an AI-powered collaborative Data Visualization Aggregator SaaS Platform for healthcare across different age groups, genders.

ANOVA

Cases	Sum of squares	df	Mean square	F	p	Remarks
Age	2.124	5	.021	2.084	0.057	Accept H0
Gender	.222		.222	2.292	0.132	
Age*Gender	0.864	5	.811	.867	0.088	
Residuals	88.133	94	.97			

Since the p-value (0.01) is greater than significance level of 0.05. Interpretation

- The analysis of the awareness level across different age group and gender reveals that neither of these two has no significant influence. Age, for instance, had a sum of squares is12.124 resulting in a mean square = 2.021 and F-statistic is 2.084 with a corresponding p value of 0.057. Similarly, for gender the sum of square is 2.222 with a mean square of 2.222 and F-statistic is 2.292 with p value of 0.132.
- These p value exceed the significant level of 0.05, indicating no significant difference in awareness levels. Since the sum of squares of 10.864 and a mean square of 1.811 yields and F-statistic of 1.867 and a p-value of 0.088 indicates that there was no significant interaction between age, gender, and awareness level.
- Therefore, based on the ANOVA result, both age and gender do not influence the awareness level of the target population regarding the features and benefits of an AI- powered collaborative Data Visualization Aggregator SaaS Platform for healthcare.

Analysis-2: Impact of User-friendliness and mobile access on healthcare data visualization platform Adoption.

Hypothesis

- H0: There is no significant relationship between the perceived importance of user- friendliness in a healthcare data visualization platform and the likelihood of using the platform among potential users.
- H1: There is a significant relationship between the perceived importance of user- friendliness in a healthcare data visualization platform and the likelihood of using the platform among potential users.

PEARSONS CORRELATION

Dependent Variable	Independent Variable	Test conducted	p value	Significant Value	Remarks
User-friendliness importance	Mobile access likelihood	Pearson's correlation	0.186	0.01	Reject Ho

Since the p-value (0.186) is less than significance level of 0.05. Interpretation

- The correlation analysis examines the relationship between the perceived importance of user-friendliness in a healthcare data visualisation platform the likelihood of using the platform, the correlation coefficient of 0.186 with less p-value of 0.01 indicates that potential user perceives user friendliness as more important, then their likelihood of using the platform will also increase.
- As the p-value is less than the significant level of 0.05, accept the null hypothesis and reject the alternative hypothesis,
- Thus, platforms designed with user-friendliness and mobile accessibility are more likely to consider using this, as it plays a crucial role in adoption of healthcare data visualisation platforms.

Analysis-3: Perceived value of healthcare data visualization platform in data analysis collaboration.

Hypothesis

- **H0:** There is no significant difference in the perceived value of a healthcare data visualization platform in improving healthcare data analysis across different age groups, genders.
- **H1:** There is a significant difference in the perceived value of a healthcare data visualization platform in improving healthcare data analysis across different age groups, genders.

    ANOVA

Cases	Sum of squares	df	Mean square	F	p	Remarks
Data-driven project collaboration	.734	-	.683	.532	.194	Accept Ho
Residuals	23.036	03	.099			

Since the p-value (0.194) is greater than significance level of 0.05. Interpretation

- The analysis of variance conducted to examine the perceived value of a healthcare data visualisation platform in improving healthcare data analysis across different age group and genders resulted in a p-value of 0.194 for data driven project collaboration.
- p-value is greater than the typical significance level of 0.05, the null hypothesis is accepted (Ho).
- This indicates that there is no significant difference in the perceived value of a healthcare data visualisation platform in improving healthcare data analysis across different age group and genders.

Analysis-4: Association between interest in exploring new healthcare data visualization solutions and previous platform usage.

Hypothesis

- **H0:** There is no significant association between the level of interest in exploring new healthcare data visualization solutions and the likelihood of using a similar platform among potential users.
- **H1:** There is a significant association between the level of interest in exploring new healthcare data visualization solutions and the likelihood of using a similar platform among potential users.

CHI-SQUARE TEST

Rows	Columns	Test conducted	Number of samples(N)	df	p value	Significant Value	Remarks
Interest in new solutions	Previous platform usage	Chi-square Test	08	-	0.457	.001	Reject Ho

Since the p-value (0.001) is less than significance level of (< 0.01). Interpretation
● The chi-square test conducted on the relationship between the interest in exploring new healthcare data visualisation platform, from the analysis p-value is 0.001.
● The p-value is less that the significance level of 0.05, null hypothesis is rejected. It indicates a significant association between the level of interest in exploring new healthcare data visualisation and previous platform usage among potential usage.
● This finding is crucial for understanding user behaviour and preference as I suggest that those have engaged with similar platforms before may be more able to be adopting and utilizing new platform.

Analysis-5: Comparison of data visualization tool access and perceived importance of healthcare data visualization platform among potential users.
Hypothesis

● **H0:** There is no significant difference in the level of access to data visualization tools as part of the curriculum and the perceived importance of a healthcare data visualization platform among potential users.
● **H1:** There is a significant difference in the level of access to data visualization tools as part of the curriculum and the perceived importance of a healthcare data visualization platform among potential users.

ANOVA

Cases	Sum of Squares	df	Mean square	F	p	Remarks
Access to data	.368	-	.592	.343	.225	

isualization ools						Accept Ho
Residuals	40.551	03	.185			

Since the p-value (0.225) is greater than significance level of 0.05. Interpretation

- The analysis of variance indicates that the hypothesis test comparing the level of access to data visualisation tools as part of the curriculum and the perceived value of a healthcare data visualisation platform among potential users.
- As p-value of 0.22, we accept the null hypothesis (Ho).
- This suggest that there is no significant difference in the level of access to data visualization tools as part of the curriculum and the perceived importance of a healthcare data visualization platform among potential users.

3. FINDING, SUGGESTIONS & CONCLUSION

3.1 FINDINGS

Based on the Descriptive statistics, Correlation Test, Chi-square test and ANOVA provided, here is a summary of the findings:

Q1 - Awareness level regarding AI-powered collaborative data visualization platform: Analysis of awareness levels across various age groups and genders shows that the awareness levels on features and benefits of the AI powered collaborative Data Visualization Aggregator SaaS Platform for healthcare are not significantly affected by either age or gender; indicating that there is almost an equal awareness spread throughout age brackets as well as between males and females.

Q2 - Impact of user-friendliness and mobile access on adoption: The tangible significance placed on user-friendliness inside a healthcare data visualization platform has a correlation analysis that demonstrates its relation to its usage likelihood. When potential user interfaces are created, preference will be given to platform that are user friendly and can be accessed through mobile devices; thus, indicating the need for easy-to-understand, accessible designs.

Q3 - Perceived value of healthcare data visualization platform: There is no significant difference in understanding a healthcare data visualization platform's worth for improving healthcare data analysis across different age groups, genders, and occupations. This means that the platform's value is seen to be the same by potential users regardless of any demographic differences.

Q4 - Association between interest and previous usage: The rate at which new healthcare data visualization solutions are being explored now links with the possibility of using the same platform by potential users who have used the platform before. This underscores the necessity of involving users with prior knowledge of identical platforms in order to enhance the user adoption rate.

Q5 - Comparison of data visualization tool access and perceived importance: According to the analysis, there is no significant difference between users' perceived importance of a healthcare data visualization platform and their level of access to data visualization tools as part of the curriculum. This implies that increasing access to data visualization tools for teaching purposes alone would not change much in terms of how much such platforms are valued.

SUGGESTIONS

SUGGESTIONS TO SOLVE THE PROBLEMS IDENTIFIED WITH THE RESEARCH

Based on the problems identified in this research, the following suggestions can be made to address them:

Q1 - Awareness level regarding AI-powered collaborative data visualization platform: Here I suggest that to make sure you carry out targeted awareness campaigns in different age groups and both the genders so there is equal exposure of all the platform features and their benefits. The utilization of different communication channels like, social media, health forums and education webinars will help in reaching a wide audience.

Q2 - Impact of user-friendliness and mobile access on adoption:

Here I suggest that to develop a user-friendly interface on mobile devices that place priority on usability and accessibility over ease. Organize user tests and feedback sessions for continuous improvement by honing usability patterns according to user wants and needs.

Q3 - Perceived value of healthcare data visualization platform:

Here I suggest that a way to illustrate the platform's universal value among distinct demographic groups within marketing materials and promotional campaigns is to highlight it. Through presenting case studies and success stories showing its usefulness to clients from various age brackets or sexes or professions, the audience can better understand this concept.

Q4 - Association between interest and previous usage:

Here I suggest that to create referral programs or offer incentives to existing users so they can introduce the platform to their friends and family based on their Past experience thus encouraging new users to join. For anyone who has tried this before, offer personalized onboarding and training sessions with the aim of making the transition as smooth as possible while at the same time maximizing the utilization of the platform.

Q5 - Comparison of data visualization tool access and perceived importance:

Here I suggest that to assist access to curriculum-oriented data visualization tools by adding relevant teaching aids and workshops that underscore the worth and practical uses of healthcare data visualization platforms. Partner with educational institutions to incorporate training modules which are healthcare-oriented in relation to the platform.

SUGGESTIONS BASED ON THIS FINDING

Based on the findings from the user persona validation research for the healthcare data visualization platform here are some suggestions to consider for effective management and program execution:

1. Enhance user-friendliness and mobile accessibility:
2. Target users with previous platform usage experience:
3. Promote collaborative data analysis approaches:
4. Tailor platform features to data analysis frequency:
5. Integrate platform into educational curriculum:

By implementing these suggestions based on the findings from user persona validation, the management can drive the successful execution of the healthcare data visualization resulting in a platform that meets the specific needs of users and contributes to improved data understanding and decision-making in the healthcare domain.

CONCLUSION

The study's conclusions highlight how the AI-driven collaborative Data Visualization Aggregator SaaS Platform is applicable to many healthcare sectors, with awareness levels staying constant across different groups of people. This implies that awareness is equally distributed across genders and age groups, demonstrating the platform's broad relevance and attractiveness. The survey also emphasizes how important mobile accessibility and user- friendliness are in accelerating adoption rates. The platform can increase its appeal among potential users by focusing mobile-friendliness and observant design aspects that guarantee seamless access and usage. It is advised to utilize targeted marketing strategies to attract users who have previously used the platform, taking advantage of their knowledge of medical data visualization tools to draw attention to the special features of the platform. Promoting cooperative data analysis techniques can also encourage a culture of sharing information and teamwork, which will increase prospective users' perception of the platform's significance. By tailoring platform features to users' data analysis frequency, powerful visualization and analytics capabilities are made available to regular data analysts, ensuring relevance and usability.Incorporating the platform into educational curriculum is recommended as a means of enhancing its significance and raising future users' understanding, especially in the context of contemporary data-driven healthcare procedures. To give users the knowledge they need to effectively use the platform for the interpretation and display of

healthcare data, ongoing support and educational initiatives are crucial. Additionally, by addressing a range of requirements and capabilities, investments in accessibility and usability research can improve user experience and eventually lead to the successful implementation of the healthcare data visualization platform.

RESEARCH CONTRIBUTION TO THE HEALTHCARE INDUSTRY / SOCIETY

The research conducted on user persona validation for the healthcare data visualization AI-powered collaborative SaaS platform makes several significant contributions to the industry and society:

- Advancement of data- driven healthcare practices:
- Practical solutions for improving data analysis and decision- making:
- Emphasis on user-centric and collaborative approaches:
- Contribution to transforming healthcare delivery:
- Facilitating evidence-based decision-making:
- Driving innovation and technological advancement:

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