Program Profile		
Program	Program name	Determinants of Willingness to Use AI-Enabled Devices in Healthcare Services
	Category	A8. Technology Development and Application

Summary of Program	
Program Name	Determinants of Willingness to Use AI-Enabled Devices in Healthcare Services
Category	A8. Technology Development and Application
Abstract of Program	The present study aims to determine the willingness to use AI devices in healthcare services. This study also measures the willingness to use AI health devices in an emerging nation based on gender, marital status and age groups. This study used an online self-administered survey questionnaire was used to collect data from the respondents. A total of 400 survey questionnaires were issued to the participants, resulting in 242 valid responses, indicating a response rate of 60.05%. After collecting data, descriptive analysis, independent samples t-tests and one-way ANOVA tests were performed using SPSS version 26. The findings of the study indicate that male respondents are more willing to use AI devices during healthcare service transactions than female respondents. The study's findings also indicate that respondents aged between 41 and 50 believe that using AI health devices will ensure more accuracy than a human being compared to other age groups (i.e., 18 - 30 years, 31-40 years, above 50 years). The findings of this study provide useful and valuable insights for healthcare professionals and policymakers regarding the willingness to use AI health devices in an emerging country. This study contributes to the understanding and implementation of AI devices in healthcare services. By examining the regulatory, infrastructural, and educational challenges, the study provides a comprehensive overview of the prospective and challenges that need to be addressed for effective AI integration in healthcare services.

Details of Program		
Planning		
Objectives	Long-term Goals	This study investigates the willingness on the users of the health services towards using AI health devices in an emerging nation.
	Short-term Targets	• To determine the willingness to use AI devices in healthcare services • To measures the willingness to use AI health devices in an emerging nation based on gender, marital status and age groups
	Rationale	Conducting a study on the adoption of AI health devices in an emerging economy (Bangladesh) is necessary for several reasons. Firstly, it will provide insights into the specific regulatory, infrastructural, and educational barriers that hinder the effective deployment of these technologies. Understanding these challenges is crucial for developing targeted interventions and policies that can address the unique needs of emerging economie's healthcare system. Additionally, a study can help identify effective strategies for overcoming data scarcity and improving data quality, which are critical for training AI systems. By addressing these data

		challenges, the healthcare system can better leverage AI for predictive analytics and personalized treatment plans. Furthermore, investigating the cultural and social factors influencing the acceptance of AI health devices will provide valuable information on how to tailor these technologies to meet the preferences and concerns of the local population. This understanding can lead to increased adoption rates and improved health outcomes. Therefore, our study is essential for connecting the full potential of AI health devices to enhance healthcare delivery and management in emerging economies.
Subject (Leader)	Initiator(s)	Selim Ahmed
	Champion(s)	Selim Ahmed
	Major team member(s)	Dewan Mehrab Ashrafi, Tazrian Shainam Shahid
Environment	Nature/Society	This study significantly contributes to the understanding and implementation of AI health devices in emerging economy. By examining the regulatory, infrastructural, and educational challenges specific to the country, the study provides a comprehensive overview of the obstacles that need to be addressed for effective AI integration in healthcare. It identifies effective strategies to overcome data scarcity and improve data quality, which are crucial for training AI systems and enhancing predictive analytics and personalized treatment plans. Additionally, the study offers valuable insights into the cultural and social factors influencing the acceptance of AI health devices, helping tailor these technologies to fit local preferences and concerns, thereby increasing adoption rates and improving health outcomes. Furthermore, it provides targeted recommendations for policies and interventions that can address the unique needs of healthcare systems of emerging economies, creating a supportive environment for AI health devices. This study also contributes by highlighting the potential for attracting investment and fostering economic growth in the health tech sector of developing economies by showing how a robust health technology ecosystem can transform developing economies into a hub for healthcare innovation, benefiting both national and global healthcare.
	Industry/Market	The research directly relates to the healthcare industry.
	Citizen/Government	The findings may influence the both public and private healthcare sectors.
Resources	Human resources	This project is going to support teaching and learning methodology of the university therefor three teaching staff are directly involved in the project and two students are going to get direct benefit from the project who are going complete their final year project.
	Financial resources	The total financial support required to complete this project is approximately BDT 300.000 (Three Lac only). The World University of Bangladesh is allocated fund to initiate the project.
	Technological resources	This project requires some technical supports to conduct survey through online such as SurveyMonkey. After collecting the data, SPSS software can be used to analyze the data.
Mechanism	Strategy (Weight/Sequence)	1. Literature Review (20%) 2. Research Design/Methodology (15%) 3. Data Collection (25%) 4. Data Analysis (25%)

		5. Findings & Interpretation (10%) 6. Conclusion & Implications (10%) 7. Report Writing & Dissemination (5%)
	Organization	The university's academic entity collaborated with healthcare service providers, especially technologists and doctors in relevant hospitals and diagnostic centers.
	Culture	The academic culture of the public healthcare management program is highly favorable for conducting such research.
Doing		
Launch date		15 October 2024
Responsible organization		World University of Bangladesh
Program content and process		The contents of the project as follows: • Define the objectives of the study • Find the gaps of the study • Determine the scope of the study • Decide the sampling design to collect data from the respondents • Analyze the data to find appropriate results • Illustrate how the research findings will contribute to the industry • Conclude the project with limitations and future directions
Key highlights of the content/process		• The present study investigates the willingness to use AI health devices in an emerging nation. Based on the findings, it was observed that customers have moderate willingness to use AI devices in healthcare services. The study measured the customers' willingness to use AI health devices in an emerging country based on gender, marital status, and age group. According to the research findings, male customers have a higher willingness to use AI devices during healthcare service transactions compared to female customers. • The descriptive analysis reveals that respondents in Bangladesh exhibit a moderate willingness to use AI devices in healthcare services, as reflected in healthcare service transactions, personal treatment, and a preference for AI over traditional technologies. Respondents also believe that AI devices can enhance their happiness and provide more accuracy than humans, with no significant dissatisfaction or negative perceptions observed. Gender differences were significant, with males showing higher willingness and belief in the happiness derived from AI devices compared to females. This disparity could be due to societal norms and gender roles in Bangladesh, where men might be more exposed to and comfortable with technological advancements. • Age differences were notable, with respondents aged 41-50 years showing higher belief in the accuracy of AI devices, potentially due to their greater experience and familiarity with technology, leading to higher trust in its capabilities. Younger individuals might be more skeptical or less familiar with the specific benefits of AI in healthcare. These findings suggest that while there is a moderate acceptance of AI in healthcare, targeted strategies are needed to address gender and age-specific concerns to promote wider adoption. These insights are crucial for healthcare providers and

	policymakers aiming to integrate AI technologies effectively in healthcare services in emerging economies.
Differences from traditional approaches	This study applies the quantitative research approach to determine wiliness to use AI devices in healthcare services. Through the technological changes it could help to the healthcare organizations to provide better service to the patients.
Progress as of today	The following progress has been made until today's date: • Completed the literature review and developed the research hypotheses • Prepared the survey questionnaire • Collected data from the respondents • Analyzed the data with interpretation • Discussion & implications
Problems in implementation	• Lack of research funding to complete it within due time • Lack of awareness on app-based land services among the users
Approaches to solve the problems	• A request has been made for more financial support from the university. • Collaborative research funding can solve these problems • Need more awareness how to use voice-based artificial intelligence to get services among the people
Completion date, if completed	It is scheduled to be finished by October 2025
Seeing	
Impacts on students	Two final year students will work on this project as research assistant. It will also help them to understand better on theoretical and practical knowledge of digital land services.
Impacts on professors	Three faculty members are directly involved in this project, and at least two Scopus index papers will be published at the end of the project to support the university's quality improvement efforts.
Impacts on university administration	Strengthened university-community partnership; highlighted as a flagship field learning initiative.
Responses from industry/market	The goal of this project is to come up with a new technology that can be used in the field. Since the government is putting a lot of emphasis on sustainable development in healthcare industry may join in the final stage to make this project happen.
Responses from citizen/government	The government can provide funding to complete the research project without any difficulty. The government should encourage to the academics to engage more in the research projects to develop education, society and nation.
Measurable output (revenues)	N/A
Measurable input (expenses)	1. Research assistant salary: Taka 100,000 2. Data collection purposes: Taka 150,000 3. Data entry: Taka 20,000 4. Editing Service: Taka 20,000 5. Stationary: Taka 5,000 6. Others: Taka 5,000
Cost-benefit analysis for effectiveness	A cost-benefit analysis will be done at the end of the project to understand the impact of the project on sustainable development.
Future Planning	

Where does the project go from here?	The insights from this research will contribute to a more holistic understanding of technology acceptance in healthcare and offer practical guidance for policymakers and healthcare providers seeking to enhance the integration of AI in emerging contexts.
Addendum	
Exhibits, pictures, diagrams, etc.	Will share
Reports, mimeos, monographs, books, etc.	It is expected to publish two Scopus-indexed scientific articles. In addition, a seminar will be conducted to disseminate the experimental results.
Others which may help explain the program (including website links)	A final report will be submitted to the university for record-keeping purposes. The project outcome may be published as a book chapter.