

RESEARCH PAPER

Technology as a Catalyst for Change: Exploring the Transformative Impact of Technology on Women's Attitudes Towards Family Planning Services in Ussa Local Government Area of Taraba State, Nigeria

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ABSTRACT

Technology has become a vital part of our everyday lives as a result of digital advances, altering numerous parts of society, including healthcare. This paper explored how technological inventions such as mobile applications, internet platforms, and telemedicine, impact women's views regarding family planning services. Secondary data from previously published publications, journals, newspapers, websites, government reports, statistics, and other materials were employed for the study. According to the paper, technology has a critical influence in altering women's attitudes regarding family planning services. Technology's ability to ease accessibility and anonymity were recognized as major aspects that affected women's attitudes favorably towards family planning. Furthermore, the paper argued that technology empowers women by providing them with accurate and trustworthy information, lowering obstacles to access, and promoting improved family planning decision-making. The study did, however, identify possible obstacles and limits connected with technology-driven family planning services, such as privacy, security, and internet connections. Understanding these issues can assist policymakers and healthcare practitioners in designing interventions that address women's needs and concerns, providing equal access to technology-enabled family planning services. In summary, this study adds to the body of knowledge by shedding light on the influence of technology on women's views regarding family planning services.

Keywords: Technology, Impact, Attitude, Family Planning Services

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INTRODUCTION

Family planning plays a role, in health, impacting individuals, families, and communities in profound ways. Accessing family planning services empowers people to make informed decisions regarding the timing and spacing of births – choices that can considerably enhance the health outcomes of both mothers and children. In Ussa Local Government Area of Taraba State in Nigeria, there have been challenges surrounding family planning services. Issues like limited access to information, cultural barriers, and a lack of awareness have impeded the utilization of family planning methods. Consequently, this has resulted in high fertility rates and increased

instances of infant mortality. Within Taraba State factors such as norms, religious beliefs, and limited education contribute to the underutilization of family planning services. Women often encounter resistance from their families, communities, and religious leaders which manipulates their attitudes toward contraceptive methods. Additionally, economic hardships like poverty, inadequate transportation infrastructure, and limited access to healthcare facilities present obstacles, for women seeking family planning services. Nevertheless, the advent of technology holds the potential to transform the delivery of reproductive health services while shaping women's perspectives on family planning. As technology becomes increasingly integrated into healthcare systems worldwide it becomes crucial to explore how these advancements influence women's perceptions of family planning services. The utilization of information and communication technologies (ICTs) which encompass phones, internet-based platforms, and digital health tools has displayed encouraging potential in enhancing global family planning outcomes (Thompson, Sonalkar, Butler & Grossman 2020; Odeny et al., 2019).

Research has indicated that interventions using smartphones markedly enhance understanding of contraception methods, promote favorable opinions about contraceptive methods, and boost the adoption of contraception. According to L'Engle et al. (2013), these approaches have demonstrated efficacy in supporting the adoption of healthy reproductive habits. Mobile technology utilization aimed at family planning has proven to be successful in fostering contraceptive uptake among women. Similarly, based on the findings of Smith (2019), online platforms and digital healthcare tools, which encompass websites, social networks, and mobile applications, can provide women with accurate and easily accessible information regarding family planning. These systems can enable women to make educated choices concerning their reproductive health and avail of the services they necessitate. Such platforms also provide remote counseling services, deal with location challenges and link women to healthcare professionals. (Smith, 2017) Research has also indicated that ladies who employ technology for reproductive planning indicate higher confidence and favorable opinions regarding birth control. In accordance with Hussain, Ogundimu and Bhattarai (2019) state that these instruments have been proven to be advantageous for the reproductive health of women.

Despite numerous research on the influence of digital advancements regarding attitudes towards contraception and actions, there is limited investigation focusing specifically on Ussa LGA within Taraba State. Nonetheless, it is crucial to comprehend the distinct characteristics and obstacles encountered by this particular locality to create efficient interventions and schemes. The paper seeks to address the existing void through an examination of existing research regarding the revolutionary effect of digital advancements regarding women's perspectives in relation to birth control services within this specific area. Through analyzing the revolutionary effect of digital advancements on the perspectives of women in relation to birth control services within the Ussa Local Government Area of the Taraba State, Nigeria.

LITERATURE REVIEW

Technology has transformed human lives in many ways, making it nearly impossible to imagine a world without technological advancements. When narrowed down to family planning,

the transformative impact of technology on the attitude of women toward family planning services cannot be overemphasized. An evaluation of the existing literature on this subject matter shows the level to which technology aids in transforming the disposition of women toward family planning largely. Many scholars share the view that technological innovations have helped and can help to reduce and eliminate some of the traditional barriers faced by women when it comes to accessing family planning services. In a study by Yousef, Al-Sheyab, Nsour, Khader, Kattan, Bardus, and Amiri (2021), which employed key informant interviews and focus group discussions, midwives and women were found to be in agreement that digital technology can be practical, affordable, widely accepted, and possibly helpful in raising women's awareness and knowledge about FP methods and their side effects. They emphasized once more how digital technology may help empower women and enable them to make better choices about the usage of family planning. Another study by Lia Nurcahyani, Dyah, Arief, Yanti, and Yeni (2023) discovered that after adjusting for age and parity characteristics, individuals who received family planning to counsel through an application had a 2.4 times higher chance of utilizing postpartum contraception compared to flipcharts. The addition of a mobile phone-based intervention to already-existing abortion care services could increase the use of long-acting contraceptives, according to a 2015 study by Smith, Ngo, Gold, Edwards, Vannak, Sokhey, and Free on the effect of such an intervention on post-abortion contraception. In Uganda, Tanzania, and Haiti, Jadhav and Weis (2020) found that possessing a cell phone was strongly related to total contraceptive usage. They also demonstrated a strong correlation between getting family planning information by text message and the use of contraceptives in Haiti, where SMS systems had more dependable linkages to clinic services. A study carried out in 2016 study by L'Engle, Mangone, Parcesepe, Agarwal, and Ippoliti, corroborated that text messaging inclusion in health promotion campaigns, STD testing and follow-up, and medication adherence may improve adolescent sexual and reproductive health. Other research has also shown that data gathering and reporting, instruction and guidance, emergency referrals, and work planning via alerts and reminders sent to mobile phones all increased communication among healthcare professionals (Agarwal, Perry, Long & Labrique, 2015). This means mobile technology can help health workers to attend to the needs of family planning seekers.

Whereas there is agreement among scholars on the significance of technology in improving the attitude of women toward family planning services, it does not mean that these technological innovations are without challenges and side effects. While there is still a need to broaden the range of contraceptive options available to users because not all of them find today's contraceptives effective, new products like contraceptive implants, vaginal rings, transdermal patches, and newer oral contraceptive combinations have recently come to market, raising questions about the potential side effects of hormonal contraceptives (Sitruk-Ware, Nath, & Mishell, 2013).

Generally speaking, there is a relative consensus among scholars that technology is a powerful tool that can be used to improve the utilization of family planning by women.

RESEARCH METHODOLOGY

This paper relies on secondary data from a variety of sources such as previously published publications, journals, newspapers, websites, government reports, statistics, and numerous other

documents. The research attempts to establish a beneficial comparison tool by merging these existing materials, which were not expressly obtained from the field, in order to enable the evaluation of dissimilarities or new developments in connection to the issue at hand. The use of secondary data is quite important in research because it enables researchers to access a plethora of existing knowledge and material amassed by scholars, professionals, and organizations throughout time. Thus, this research work profits from the ideas, viewpoints, and analyses supplied by others on the subject matter by tapping into the large library of information. This contributes to the research's firm basis and guarantees that it is founded on current ideas, conclusions, and conversations. In addition, the inclusion of secondary data allows the researchers to do a comparison study. By juxtaposing new views with established perspectives, the paper is able to identify similarities, differences, and potential advancements in its analysis. This comparative approach is instrumental in uncovering novel insights, challenging existing assumptions, and expanding the understanding of the subject matter.

CONCEPTUALIZATION OF KEY TERMS

Technology: refers to the use of scientific knowledge, skills, and techniques to develop useful goods, systems, or processes that solve problems and improve people's lives. It entails the creation and use of numerous tools, equipment, materials, and processes in order to attain certain aims or objectives. Information technology, electronics, telecommunications, robotics, artificial intelligence, biotechnology, energy, transportation, and many more topics and disciplines are all part of technology. It's in daily items like cellphones, computers, appliances, and vehicles, as well as sophisticated systems like infrastructure, healthcare, and space exploration. Technology has become an integral part of our modern society, influencing various aspects of human life. It has revolutionized communication, making it possible to connect with people across the globe instantaneously. The internet, smartphones, and social media platforms have transformed the way we interact, share information, and conduct business. In the field of healthcare, technology has led to significant advancements in medical treatments, diagnostics, and patient care. Innovative medical devices, such as MRI machines, robotic surgical systems, and wearable health trackers, have improved the accuracy of diagnoses and enhanced treatment outcomes. Telemedicine has made healthcare more accessible to remote areas and has enabled virtual consultations with healthcare professionals.

Impact: refers to the impact that anything has on someone or something else. It frequently denotes a large or obvious effect of an activity or occurrence. The negative or positive consequences of initiatives, programs, or policies on individuals or communities are referred to as their impact. It focuses on results such as improved quality of life, economic progress, social fairness, and reduced inequality.

Family planning: is a holistic term that encompasses a deliberate undertaking and method aimed at managing and coordinating the quantity and distribution of children within a family. It incorporates a range of procedures and tactics devised to either hinder or facilitate conception, based on the reproductive aims of an individual or a couple. By making use of family planning, people and couples can make well-informed choices about the timing and quantity of their offspring, along with determining the most suitable intervals between pregnancies. The primary

objective of family planning is to enable individuals and couples to have autonomy in making choices regarding their reproductive lives while ensuring the welfare of themselves, their families, and society at large. A broad array of contraceptive methods, counseling sessions, and guidance on reproductive health is made accessible through family planning services. Healthcare providers, clinics, and community organizations usually offer these services as a means of promoting reproductive autonomy. This allows individuals to make choices that align with their personal circumstances and aspirations. Considering different factors is possible for individuals and couples who utilize family planning in their family plans. These factors are likely to entail their economic stability, career targets, educational pursuits, health considerations, and the overall quality of life they wish for themselves and their offspring. Promoting the general health of women, reducing maternal and infant mortality rates, and enabling sustainable population growth are significant outcomes achieved through family planning's provision of methods to prevent unintended pregnancies. Besides the prevention of pregnancies, family planning also facilitates individuals and couples in achieving conception when desired. When it comes to achieving pregnancy, people can consider fertility awareness methods, assisted reproductive technologies, and medical interventions.

Attitude: consists of a blend of thoughts and emotions, along with actions. Thoughts are made up of personal beliefs and understandings that help individuals interpret and decide on ideas, occurrences, individuals, and objects. Emotions, however, reflect either a positive or negative feeling connected to a specific attitude. Finally, actions serve as a means for someone to demonstrate their evaluation of the attitude. Personal and external factors like life encounters, education, and culture can all have an impact on beliefs and subsequent attitudes. On the one hand, different feelings might include love, happiness, and respect. Anger, anxiety, and hatred, on the other hand, may be felt. Personal experiences, societal standards, media depictions, and other variables can all influence the sentiments connected with attitudes. Individuals' attitudes are reflected in their behaviors. People's decisions, behaviors, and relationships with others may all be influenced by their attitudes. Attitudes can be consciously or subconsciously conveyed, influencing behavior without conscious knowledge. Attitude development is a complicated process impacted by a variety of circumstances. Immediate contacts or observations, for example, might affect attitudes by offering immediate knowledge and emotional correlations. Societal and cultural factors, including social norms, values, and expectations, also play a significant role in shaping attitudes within a specific community or society. Individual perspectives and values, which are shaped by personal characteristics, beliefs, and upbringing, also contribute to attitude formation. Attitudes have a stout sway on how individuals perceive and intermingle with their environs. They can influence what individuals pay attention to, how they construe information, and their following actions. Furthermore, attitudes affect people's interactions by shaping individuals' responses to others, their ability to build judgments, and their forming of relationships. It is important to point out that attitudes are not stationary and can alter over time due to innumerable influences, such as new experiences, information, or shifts in social and cultural contexts. Efforts to affect attitudes, such as through education, persuading, or exposure to different viewpoints, can contribute to positive social change and augment individual well-being.

IMPACT OF TECHNOLOGY ON WOMEN'S ATTITUDE TOWARDS FAMILY PLANNING IN USSA LOCAL GOVERNMENT AREA OF TARABA STATE

The magnitude of technology's importance in addressing health issues, particularly concerning family planning, cannot be emphasized sufficiently. Technological advancements have radically changed the delivery of information, advice, and reminders regarding family planning, resulting in increased effectiveness and accessibility for individuals. Several studies have demonstrated the significance of mobile phone interventions in enhancing understanding of family planning methods, cultivating positive attitudes toward contraception, and raising the adoption of contraceptives (L'Engle et al., 2013). In countries like Nigeria, mobile technology has played a particularly beneficial role in promoting contraceptive utilization among women for family planning purposes (Adeleye, 2019). There is vast potential for internet platforms and digital health tools like websites, social media networks, and mobile applications to offer women trustworthy and readily available information about family planning. Furthermore, these platforms are able to facilitate virtual counseling services, thereby eliminating geographical limitations and establishing connections between women and healthcare providers (Ang, 2018). Hussain, Ogundimu, and Bhattarai (2019) found that women who employ digital health tools for family planning are empowered and hold favorable views on contraception. In communities where talking about contraception openly could result in stigma, technology provides a certain degree of anonymity and secrecy that traditional healthcare facilities may not provide. Through technology, it becomes possible for women in Ussa Local Government Area in Taraba State to gain access to information, consider different family planning alternatives, and even engage in teleconsultations with healthcare experts from their own residences. The anonymity has been pivotal in addressing barriers that deter women from obtaining family planning services. Taking control of their reproductive health allows them to avoid judgment and discrimination.

Moreover, technological advancements have significantly improved communication routes between women and healthcare practitioners. The availability of mobile applications, SMS reminders, and chat platforms has facilitated women in asking questions, attending to concerns, and accessing assistance more effortlessly. Ussa Local Government Area and other similar rural regions with limited access to healthcare practitioners have found these platforms to be extremely valuable. By utilizing virtual consultations, specialists can give women individualized counsel and guidance, ensuring they receive necessary support while also building trust in the healthcare system. The development of online communities and platforms specifically for discussing family planning is another way technology assists in this regard. Within these spaces, women are able to express their stories, raise inquiries, and seek recommendations from individuals with comparable experiences. Peer involvement and assistance have proven to be valuable in cultivating positive perceptions about family planning. Moreover, web-based teaching materials like movies and tutorials can be instrumental in enlightening women about the benefits of family planning and dismantling stereotypes associated with it.

In addition, technology has made significant progress in developing innovative tools that can assist women in keeping track of their fertility and menstrual cycles. This advancement serves to improve the efficiency of natural family planning methods. The availability of these tools,

commonly seen as smartphone apps or wearable devices, empowers women to keep tabs on their reproductive health and plan pregnancies based on that information. Their provision of real-time data and customized insights gives women the ability to make informed decisions regarding their fertility. Thanks to technological advancements, women have gained the power to take control of their reproductive health and make knowledgeable decisions. Thanks to the abundance of information at their disposal, women can consider various family planning techniques, evaluate their specific situations, and opt for the approach that best matches their objectives and aspirations. This sense of empowerment has resulted in a beneficial shift in attitudes around family planning and improved community acceptance. In essence, technology has become vital in addressing health issues, specifically with regard to family planning. Its impact on the delivery of information has been revolutionary, fostering better communication between women and healthcare providers, guaranteeing anonymity and confidentiality, building virtual communities for peer support, and empowering women to make informed decisions about their reproductive health. The sustained progress of technology in this field presents a promising outlook for improving the provision of family planning services and promoting beneficial health consequences. Given the escalating integration of technology and the continuously expanding selection of digital instruments, the future prospects for family planning seem more optimistic than ever. It is crucial to continue investing in technological innovation and ensure that the benefits of technology reach all individuals, regardless of their geographical location or socioeconomic status. With the aid of technology, we can establish a global environment that enables accessible family planning, empowers individuals, and respects their reproductive health choices.

THEORETICAL FRAMEWORK

The Health Belief Model (HBM) is a psychological framework that seeks to explain and predict health-related behaviors by examining individuals' beliefs and perceptions. It was developed in the 1950s by social psychologists Irwin M. Rosenstock and his colleagues. Here's a summary of the key elements of the Health Belief Model:

Perceived Susceptibility: This term describes how a person personally evaluates their vulnerability or sensitivity to a particular health condition or disease. In cases where individuals feel threatened, they are more prone to taking proactive actions in order to tackle and minimize potential health ailments. The importance of vulnerability is evident when it comes to motivating individuals to practice preventative measures, seek medical counsel, or be involved in activities that promote their overall wellness. The awareness of one's vulnerability contributes to greater responsiveness from individuals towards information and activities targeted at improving their health outcomes. With this comprehension, people are empowered to make wise decisions and undertake the required actions for maintaining their health.

Perceived Severity: This encompasses the subjective evaluation by an individual regarding the seriousness and possible outcomes of a health matter. When people perceive a certain illness as potentially leading to major and grave repercussions, their inclination toward pursuing effective preventive or treatment measures increases. The perceived severity influences people's attitudes and activities toward health maintenance and illness management. Individuals may make educated judgments and take proactive activities, such as obtaining medical advice, implementing

preventative measures, or following to treatment programs, by recognizing the probable severity of an illness.

Perceived Benefits: This component concentrates on how an individual subjectively evaluates the effectiveness and benefits of a specific health practice or action. When individuals hold the conviction that engaging in health-promoting actions will yield positive outcomes or advantages, they are more likely to actively participate. Believing in the positive outcomes and advantages, individuals are compelled to embrace and sustain activities that improve their well-being. The role of these impressions is essential in molding and affecting people's decisions and behaviors, consequently leading to the cultivation of a healthier lifestyle and better overall health.

Perceived Barriers: Numerous challenges and costs impede individuals from embracing specific health habits. Financial difficulties, time constraints, cultural pressures, and various other factors can make behavior change challenging for individuals. Limited access to critical resources or healthcare services could be a result of financial restrictions, while the constraints of time may pose difficulties in prioritizing healthy behaviors. Behavior change efforts may encounter challenges from social variables, including cultural expectations and limited social assistance. The effective adoption of targeted health practices relies on the identification and resolution of these perceived barriers.

Cues to Action: Cues to action act as stimuli or prompts that encourage individuals to take measures for maintaining their health. Examples of these cues include internal factors like symptoms and external factors like seeking guidance from a healthcare practitioner or encountering a public health campaign.

Self-Efficacy: A person's conviction in their capacity to successfully carry out a given health behavior is referred to as self-efficacy. Individuals who exhibit higher degrees of self-efficacy are more inclined towards participating in behaviors that promote good health.

According to the Health Belief Model's principles on adopting health behaviors, individuals are more likely to engage in such behaviors if they consider themselves vulnerable to a particular health issue, perceive it as severe, believe that its benefits outweigh any obstacles encountered during implementation or carrying it out smoothly until completion while at it.

It is of utmost importance to highlight that the Health Belief Model is just one of numerous theories and models employed to characterize health-related behaviors, and its suitability may differ depending on the environment and population under investigation. However, this model can be applied to understanding the relationship between technology and women's attitudes and behaviours towards family planning in Ussa Local Government Area as follows:

Perceived Susceptibility: Women now have access to information on the dangers of unwanted births as well as the advantages of effective contraception because of advances in technology. Women in Ussa Local Government Area may now learn their vulnerability to unintended pregnancies and make educated family planning decisions thanks to internet platforms, smartphone applications, and telemedicine services.

Perceived Severity: A person's perception of the significance of a health problem is referred to as perceived severity. Technology has made it easier to disseminate instructional materials, movies, and testimonials that emphasize the possible repercussions of unintended births, such as health concerns, financial difficulties, and restricted educational prospects. Technology helps women generate a higher feeling of urgency to take proactive actions via family planning by raising knowledge of the seriousness of these concerns.

Perceived Benefits: Perceived benefits refer to an individual's belief in the benefits of engaging in certain health behavior. The choice of family planning options accessible to women in the Ussa Local Government Area has grown thanks to advances in technology. Online portals give information on various contraceptive techniques, including their efficacy and compatibility with individual preferences. Furthermore, technological advancements enable women to obtain access to online forums and support groups where they may learn from the experiences of others and gain comfort about the benefits of family planning.

Perceived Barriers: Cultural traditions, a lack of understanding, restricted access to services, and privacy concerns are all common impediments to family planning. Some of these hurdles have been removed by technology, which now provides discreet information and access to family planning services. Telemedicine consultations enable women to get guidance and assistance from healthcare experts without physically visiting a clinic, alleviating privacy concerns and cutting transportation costs.

Cues to Action: By sending customized messages, reminders, and notifications on family planning, technology acts as a potent stimulus to action. Mobile apps and SMS-based services may deliver contraceptive usage reminders, provide information about nearby clinics, and schedule appointments. These cues to action assist women in remaining engaged with family planning programs and reinforcing their commitment to healthy behavior.

Self-Efficacy: Technology helps women by giving them access to knowledge and tools that boost their confidence in making educated family planning decisions. Online resources include interactive elements like contraceptive technique comparison tools and self-assessment quizzes that allow women to analyze their individual requirements, preferences, and dangers. This self-evaluation boosts self-efficacy and encourages women to take charge of their reproductive health.

The Health Belief Model is a useful paradigm for understanding how technology impacts women's family planning attitudes, perceptions, and behaviors. Technology has improved access to information and services, raised awareness about the importance of family planning, and empowered women to make informed choices about their reproductive health by addressing perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy. Future technological improvements have the potential to improve women's attitudes and behaviors toward family planning services.

CONCLUSION

This study investigated how technology helps transform women's perceptions of family planning services in the Ussa Local Government Area of Taraba State. A comprehensive analysis

of the literature reveals that technology has emerged as a potent agent for transformation in this particular setting. The research suggests that the utilization of technology, specifically mobile phones and internet connectivity, has effectively improved women's accessibility to information and resources concerning family planning. It has bestowed upon them knowledge regarding various contraceptive methods, their benefits, and potential side effects. Furthermore, technology has been vital in dismantling obstacles and prejudices related to discussing family planning, affording women a secure and confidential channel to obtain information and seek assistance. Also, the assessment emphasizes that technology has optimized the convenience and efficiency of family planning services. Appointment scheduling, reminders, and follow-up consultations are now accessible to women through digital platforms, resulting in fewer physical visits and reduced logistical challenges. Residing in remote areas with limited healthcare facilities, women have found this to be especially beneficial. In addition, technology has played a role in creating virtual support systems that enable women to connect with others in similar situations, exchange personal anecdotes, and seek assistance. By fostering open discussions, online communities, and social media platforms have eradicated the sense of isolation experienced by women, thereby providing them with emotional support while navigating their family planning journey. That said, even though technology has resulted in favorable developments, it is crucial to acknowledge particular limitations and considerations. Equality in technology access for women is hindered by factors including socioeconomic status, education level, and cultural norms. Efforts should be made to bridge the digital divide and ensure that technology is accessible to all women, regardless of their background. In conclusion, this paper demonstrates that technology has the potential to transform women's attitudes toward family planning services in the Ussa Local Government Area of Taraba State. By improving access, providing information, enhancing convenience, and fostering virtual support networks, technology has played a pivotal role in empowering women to make informed decisions about their reproductive health. It is imperative for policymakers, healthcare providers, and stakeholders to recognize the transformative impact of technology and work towards harnessing its full potential to advance women's reproductive rights and overall well-being.

Recommendations

To harness the full potential of technology in promoting women's reproductive health and family planning, it is crucial to consider the following recommendations:

- i. Governments, healthcare providers, and technology developers should join forces to make sure that women have access to technology-enabled family planning services without any regard for their socioeconomic level or geographic location. This involves supplying rural women with internet connectivity, mobile applications, and telemedicine services.
- ii. The government should create and execute policies to make technology-based family planning services more affordable to women. This might involve covering expenses for equipment, mobile data subscriptions, and consultations through telemedicine.
- iii. Family planning, contraception, and reproductive health information offered by technology platforms should be accurate and kept up-to-date. The content should be supported by evidence, simple to comprehend, and offered in multiple languages.
- iv. Technology platforms need to prioritize cultural responsiveness in providing information and services, actively addressing misconceptions, and exposing myths related to family planning techniques.

- v. To ensure data privacy, technology platforms should establish stringent regulations that safeguard the privacy and confidentiality of women accessing technology-driven family planning services. This involves protecting personal and health-related data, implementing secure methods for storing data and obtaining consent before transmitting information.
- vi. Technology platforms should publicly communicate the security measures implemented in their technological inventions to gain women's trust in utilizing these technologies for family planning. Ensuring the security of their data and obtaining assurance that it will not be exploited or distributed without consent is vital for their willingness to engage with these services.
- vii. To enhance the functionality, accessibility, and effectiveness of technology-based family planning services, technology platforms should consistently gather user feedback.

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