



Bridging the Digital Divide: A Framework for Optimising the Mahila Digital Sashaktikaran Yojana

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Abstract:

The rapid shift toward e-governance in India has made digital literacy a necessity, yet rural women still face major barriers. This paper examines the design of the Mahila Digital Sashaktikaran Yojana (MDSY), a Goa government initiative aimed at closing the gender digital divide. By using secondary research and learning theories, this study looks at how the 12-hour “Mahila Cyber Saksharta” course is structured. The analysis shows that while the program is a great start, the current design does not account for the Ebbinghaus forgetting curve, leading to rapid skill decay after the training ends. This paper argues for an optimisation of the scheme rather than a total change. It proposes a post-training framework that includes a Konkani-based Voice AI tool and a “Practice Box” for safe, simulated learning. By focusing on linguistic support and “digital scaffolding,” this study shows how to move from short-term training to long-term independence. This model ensures that digital empowerment is sustainable, helping fulfill the vision of a digitally inclusive and Viksit Goa.

Keywords: Digital divide, e-governance, women's empowerment, forgetting curve, Mahila Digital Sashaktikaran Yojana

Introduction

The digital revolution has changed how we live, making things like bank transfers and government services a necessity rather than a luxury. However, not everyone has moved into this digital world at the same speed. In rural areas, women are often the most left behind because of limited education and less exposure to technology. This creates a “gender digital divide” where even if a woman has a phone, she might not know how to use it for anything useful. To fix this, the Government of Goa launched the Mahila Digital Sashaktikaran Yojana (MDSY), part of the “Digital India” vision. This program gives women a 12-hour “Mahila Cyber Saksharta Course” to teach them basic digital skills. While this is a great step, just giving a

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short course might not be enough for long-term empowerment. This paper looks at why these women still struggle after the class ends and how we can make the program better.

Methodology

This paper adopts a qualitative research design based on the analysis of secondary resources. The study primarily examines the policy framework of the Mahila Digital Sashaktikaran Yojana (MDSY) and the curriculum of the “Mahila Cyber Saksharta Course” provided by the Government of Goa. The study draws on existing academic literature regarding the gender digital divide, techno-anxiety, and linguistic barriers in rural India. By synthesizing data from government reports, international publications (such as UNESCO), and previous studies on digital literacy, this paper identifies the structural gaps in the current scheme. This theoretical approach allows for the development of a proposed optimization framework.

Literature Review

Gender Digital Divide and Psychological Barriers: The digital divide is not just about who has a phone, but who has the confidence to use it. Gurumurthy and Chami (2016) argue that social structures often limit women’s digital agency. Even with access, many rural women face “techno-anxiety,” a fear of making mistakes or breaking devices (Mohapatra, 2025). This links to Bandura’s (2025) theory of self-efficacy, suggesting that without a belief in their own ability, women remain hesitant to engage with digital platforms independently.

Limitations of Short-Term Training and Skill Decay: Short-duration courses often fail to create lasting impact due to the “forgetting curve” identified by Hermann Ebbinghaus (1885). This theory shows that memory of new skills drops rapidly without constant practice.

The Need for Digital Scaffolding and Reinforcement: To stop skills from fading, learners need “digital scaffolding”—extra support that helps them transition from the classroom to real life. Chou (1933) emphasized that “recall” is much harder than “recognition,” meaning women might recognize an app icon but forget the actual steps to use it. Without a structured reinforcement mechanism after the course ends, the initial training investment is often wasted.

Linguistic Barriers and Localized Technical Solutions: A major hurdle in rural digital adoption is that most interfaces are in English, which is not the primary language for many Goan women (UNESCO, 2025). This linguistic mismatch causes confusion and dependency on others.

Research Gap

While existing studies have looked at why women struggle with technology, most of the research focuses on “access”—like who owns a phone or who has internet. There is very little research on what happens after a short-term government training ends. Most papers talk about general digital literacy, but they don’t look at the “science of forgetting” (Ebbinghaus curve) in the context of rural Goan women. Specifically, there is a gap in understanding how short, 12-hour programs like the Mahila Digital Sashaktikaran Yojana (MDSY) fail to provide “post-training reinforcement.” Also, while many talk about language barriers, there is almost no study that suggests a Konkani-based voice AI and a “Safe Practice Box” as a direct solution for this specific program. My research fills this gap by looking at how we can move from just “teaching” for a week to “sustaining” skills for a lifetime using localized technology.

Results and Analysis

Design Analysis of the Mahila Digital Sashaktikaran Yojana

The Mahila Digital Sashaktikaran Yojana (MDSY) is a specific plan by the Goa government to help women learn digital skills. It started on 4 August 2025 and uses a model called the Mahila Cyber Saksharta Course. The main goal is to give women the “basic tools” they need to live in a world that is becoming more digital every day. The way the course is built is quite simple. It is a one-week program with a total of 12 hours of teaching. Every day, the women sit for about two hours. In this short time, the government tries to cover a lot of topics. They teach things like how to use a smartphone, how to search the internet, send emails, and even how to make online payments or buy things from e-commerce sites. They also talk about cyber safety, which is very important because of all the scams nowadays. If we look at this from a policy view, the scheme is very clear. It knows exactly who it wants to help women in rural or underserved parts of Goa. Because it is a short and “time-bound” course, it is easy for the government to take it to many different villages quickly. This makes the program very “scalable,” meaning it can reach thousands of women in a short time. However, when analysing the design deeper, a big problem appears. The program is mostly about “exposure.” It introduces the women to the phone, but it does not plan for the long term. Once the 12 hours are over, the women are on their own. There is no plan in the official documents for how to help them after the class ends. The design basically assumes that after just one week of classes, a rural woman will be totally confident to use GPay or banking apps by herself at home. For first-time users, this is a very big jump. While the MDSY is a great “first step,” the current design leaves a gap between the classroom and



real life. There is a clear need to optimize this by adding some kind of support that stays with the women after they finish the course.

Persistence of the Usage Gap after Short-Term Training: Looking closely at the Mahila Digital Sashaktikaran Yojana, we can see that while the program helps women get their first look at technology, a big problem remains. This is the “usage gap.” The government scheme introduces women to many tools in a very short time, but just being “exposed” to an app doesn’t mean a woman will actually use it on her own later. The usage gap is the difference between having a smartphone and actually having the confidence to use it for daily tasks. The primary challenge for the MDSY beneficiaries is the rapid rate of information loss, famously described by the *Ebbinghaus Forgetting Curve*. Research shows an “immediate drop” in memory, where nearly 40% of new information is lost within the first twenty minutes, and over half is forgotten within an hour if not reinforced. For rural women in Goa, this means the complex steps of a digital transaction learned in the morning are often confused by the afternoon. Without daily practice, this leads to a “30-day disaster” where almost 80% to 90% of the training content vanishes from the memory. Since the MDSY is a time-bound 12-hour course with no follow-up, it fails to “flatten the curve” through repetition. Consequently, when a woman tries to use an app weeks after her class, she faces a total loss of procedural memory, forcing her to abandon the technology or remain dependent on others. In this program, a woman might finish her 12 hours of training with some basic awareness, but she still feels stuck when she is at home. This happens because the classroom is a safe, controlled place, but the real world is not. When she tries to use a service alone and sees a weird error message or a screen she doesn’t recognize, she gets confused. The program assumes that because a woman saw how to do a bank transfer in class, she will remember every step a month later. But for someone who is new to technology, learning is about “trial and error.” People need to feel safe to make mistakes. Without someone there to say, “it’s okay, try again,” many women simply stop trying. They are often scared of losing money in a transaction or clicking the wrong thing and breaking the phone. Also, digital platforms like G Pay or government websites change their look and update all the time. A woman who only had 12 hours of training might find it very hard to adapt to these changes. Instead of trying to figure it out, she might just go back to asking her husband or a shopkeeper to do it for her. This means she is still dependent on others. So, even though the MDSY is a good start, it shows that “one-time” training is not enough to truly empower a woman. To really close the gap, she needs help during her actual, real-world interactions, not just in a classroom.

Reinforcement Gap and Risk of Skill Decay: A very important finding in this study is what we can call the “reinforcement gap.” Even though the 12-hour Mahila Cyber Saksharta Course is a good start, there is nothing to keep the learning alive after the class ends. This creates a big risk that the women will simply forget what they learned. This is called “skill decay,” and it happens whenever someone learns something new but doesn’t get to practice it every day. As we know from learning theories, our brains are very quick to let go of information if we don’t use it. Digital skills are especially tricky because they have many steps. For example, logging into a government portal or doing a bank transfer requires remembering passwords, OTPs, and where to click. If a woman only learns this for two hours in a classroom and then doesn’t do it again for two weeks, she will likely forget the steps. In the MDSY, the women leave the classroom after just one week. They are expected to be “digital experts” on their own. But in real life, a woman might not need to pay a bill or check a portal the very next day. By the time she actually needs to use the skill, the “time gap” has already made her forget the details. This gap gets even worse when something goes wrong. If an app shows an error or the screen looks different than it did in class, the woman has no one to ask for help. Because she doesn’t have a “safety net” to reinforce her learning, she might just give up and stop using the app altogether. This shows that while the government program is great for “temporary awareness,” it might not lead to “lasting empowerment.” Without some kind of support that follows the woman home, the 12 hours of training might be wasted because the skills just fade away over time.

Linguistic Constraints in Real-World Digital Application: Another big reason why the Mahila Digital Sashaktikaran Yojana faces hurdles is the “language problem.” Even if a woman learns how to use a smartphone, she still has to deal with the fact that most apps, bank websites, and government portals are in English. In rural Goa, women don’t use English for their daily life. This creates a huge wall when they try to use their new skills at home without a teacher. During the training class, the instructor probably explains everything in a way they understand, maybe using a mix of local languages. But once the woman is alone with her phone, she has to read English menus, alerts, and scary-looking error messages. This “linguistic gap” makes her stop and think twice. If she sees a message about “Transaction” “Processing” or “Authentication Failure,” she might not know if it is a normal thing or a big problem. This language barrier is most dangerous when a woman has to make a quick decision. For example, if a payment fails or a security warning pops up, her first reaction will be fear because she cannot fully understand the words on the screen. Instead of trying to fix it herself, she will likely close the app and go ask someone else for help. This means she is back to being dependent on others, which is the opposite of what the “Digital India” vision wants. The mismatch between the training and the real apps also makes the “forgetting problem” worse. Even if she remembers which button to click, she might get confused if the label on the button is a long English

word she doesn't know well. Over time, these small struggles with language make her lose motivation. She might feel that technology is "not for her" just because it doesn't speak her language. To really help these women, we need a system that supports them in their own local language after the training is over.

Need for Post-Training Support and Scope for Optimisation: The analysis shows that the Mahila Digital Sashaktikaran Yojana (MDSY) is a good start, but it has a big missing piece: what happens after the 12 hours of class? Right now, women leave the course and are expected to be independent. But because of the "forgetting curve" and language problems, they often get stuck. There is a clear need for a "support system" that follows the woman home so she doesn't feel alone when she opens an app for the first time by herself. The best way to optimize the MDSY is not to make the classes longer, but to give the women a tool they can use whenever they need it. A very effective solution would be a localized AI assistant that works through voice. Instead of reading hard English words, a woman could simply ask her phone in Konkani, "Light Bill kashe Bhorpache?" and the AI would give her step-by-step voice instructions. This acts as "on-demand" reinforcement. It builds her confidence because she knows she has a helper in her pocket 24/7.

Another key part of this solution is a Mock Practice Mode (Sandbox). One of the biggest fears rural women have is losing money by clicking the wrong button. To fix this, the government could provide a "practice app" that looks exactly like a real bank or government portal but uses "fake money." This allows women to make mistakes, explore, and practice as many times as they want without any risk. By combining these two things—Konkani voice support and a safe practice mode—the MDSY becomes much more powerful. We don't have to change the 12-hour course; we just have to make sure the learning doesn't stop when the class ends. This turns a short-term workshop into a long-term journey of empowerment. It moves women from "knowing about technology" to actually "using technology" with total confidence.

Conclusion

The Mahila Digital Sashaktikaran Yojana (MDSY) represents a vital step by the Government of Goa toward closing the gender digital divide. By providing rural women with basic digital literacy, the program establishes a foundation for inclusion in an increasingly digitized economy. However, this study identifies that the current 12-hour training model faces significant challenges regarding long-term sustainability. Without continuous engagement, beneficiaries are highly susceptible to the Ebbinghaus Forgetting Curve, leading to rapid "skill decay" once the classroom support is removed. The research concludes that linguistic barriers and the absence of post-training reinforcement are the primary reasons for the persistent "usage gap." To optimize the MDSY, this paper proposes a localized, Konkani-based Voice AI framework



combined with a “Digital Practice Box.” This solution addresses the psychological fear of making mistakes and the difficulty of navigating English-only interfaces. By shifting the focus from short-term certification to long-term “digital scaffolding,” the Government of Goa can ensure that women transition from guided learners to independent digital citizens. Ultimately, integrating these context-sensitive tools will turn a one-time initiative into a sustainable model for lifetime digital empowerment.

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