

Upskilling Women and Equalizing the Digital Economy

Improving Women's Retention in the Workplace and Enabling More Female STEM Graduates to
Join the IT Industry in Bangalore, India

TKS

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Executive Summary

Problem

After Maternity Leave, Outdated Skills Lead to Women Not Returning to the Workforce

After graduating from college or being in the workforce for five years, **45% of women leave** to start a family¹. Typically, a year away from the workforce leads women to lack the technical skills and confidence to return even though **91%** of them would like to. While hiring in entry-level roles is gender balanced, **88.5%** of companies have less than **10%** female representation in executive positions.

Opportunity

Increased Female Employability via an Online Learning Platform², Mentorship, and a Talent Pipeline

Our recommendation, called *Skillfully*, would enable women to develop:

1. Proficiency in software and web development through self-paced **learning modules** and projects.
2. Soft skills such as negotiation, confidence, and interview prep with a community of **mentors**.

Our platform will provide a **pipeline** for open positions at companies, who collaborate to ensure hireable skills are taught. We would charge them a small fee to cover ongoing costs of the solution.

Results

452,702 Women Working in the IT Sector in Bangalore by 2026

Women will have the technical and soft skills to get hired, resulting in more women reaching executive positions. After taking an extended career break, **80%** of women will be able to stay in the IT industry in Bangalore. Together with those who will be able to enter the industry, a total of **452,702** women³ can be impacted by our solution by 2026. Companies will be able to support their commitment to diversity while hiring qualified candidates for the positions they need.

1. All [sources](#)

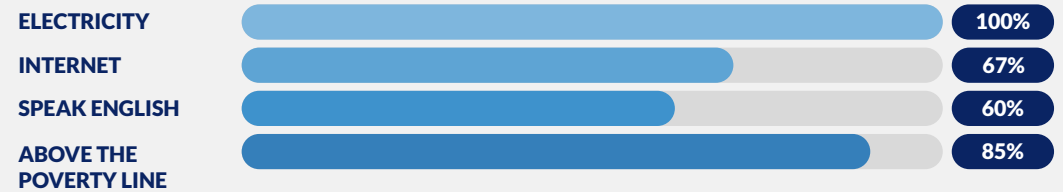
2. See what the platform looks like [here](#)

3. Full [calculations](#)


Where We Can Impact the Most People



- Known as the 'Silicon City', Bangalore is home to **1,635,000 people** working in IT, over a third of India's 4.4 million in the industry. The major IT firms, both national and international, are headquartered in the city.
- Located within the state of Karnataka, which produces **tens of thousands of female graduates** in IT-related fields per year, Bangalore has a attractive job market along with a highly-educated female population.




CHARACTERISTICS OF BANGALORE'S POPULATION OF 12.3 MILLION



24%

IN THE WORKFORCE

There is a large population of educated, nonworking women.



85%

LITERACY RATE

Bangalore is among the most literate cities in India for women.

A large gender inequality in India's digital economy exists even though companies are hiring more than ever

The Problem



Graduates are not employable

Though **53%** of graduates in India's tertiary education are women—who also make up **51%** of science degrees and **41%** of IT-related degrees—they graduate with employability in the sector that is up to **29%** lower than their male counterparts. Together, this results in women making up only **35%** of the IT sector.



Female employee turnover is high

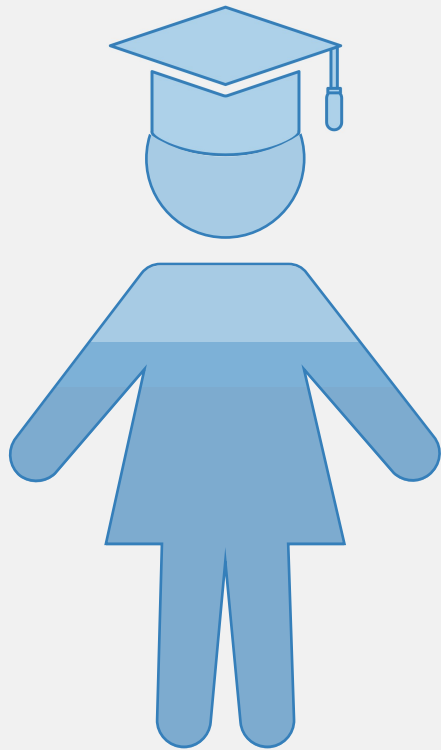
Within five years, **45%** of women will exit the IT industry due to marriage or starting a family. This is a large talent drain for the industry which costs companies between **50-150%** of the yearly salary to fill the vacant position, especially for a competitive job market such as IT.



Companies do not have access to enough readily-employable talent

Over the past ten years, the IT industry in India has grown to the tune of between **160,000** to **300,000** jobs per year. However, out of the **443,619** male and female graduates from relevant fields in 2019, only **16.4%** of them, on average, are considered employable.

The Opportunity



40-45%

OF FEMALE GRADUATES IN
BANGALORE ARE UNEMPLOYED

Added to their reduced employability, women face significant cultural pressure to marry after university. Upon graduation, women are 23-24 years old while the average age that a woman marries in Bangalore is 22.1.

66%

OF INDIAN WOMEN IN TECH
FEEL STALLED IN THEIR CAREER

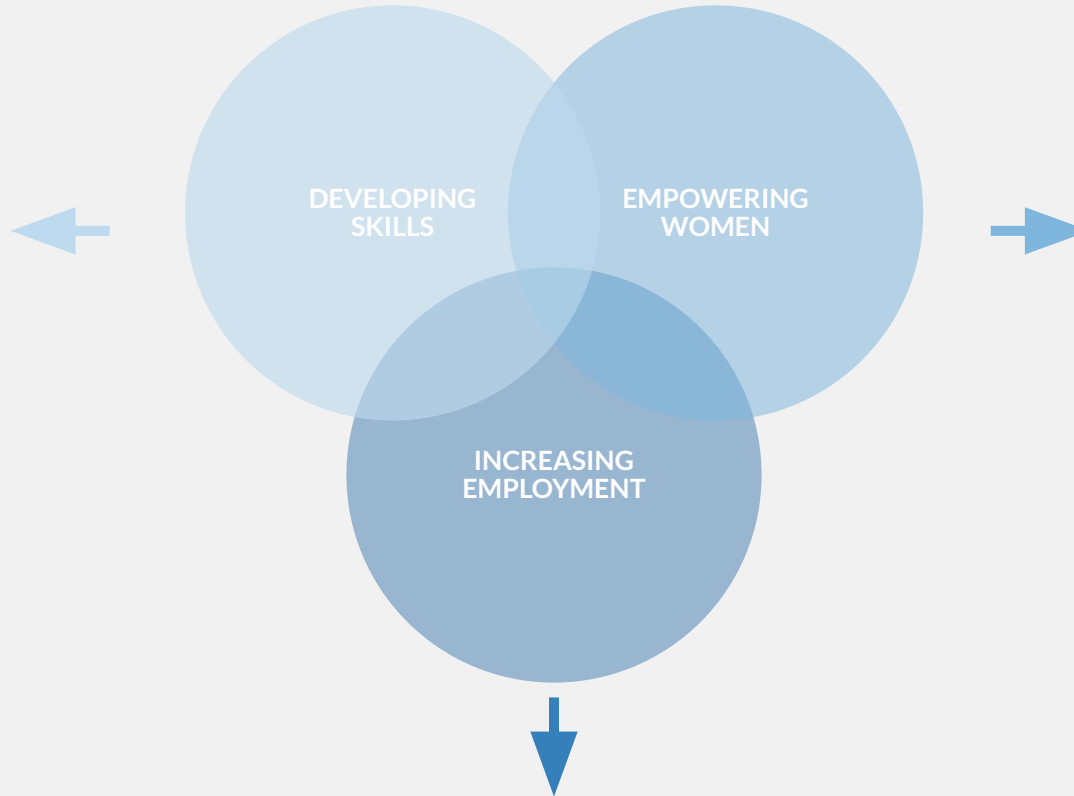
In India, maternity leave is mandated at 26 weeks. However, on average, women take an **11-month** career break as childcare services are frowned upon when a child is still an infant under 2 years of age. Women who spend more time raising their children are left with outdated skills, though **91%** of them (**34,700 per year** in Bangalore) would like to return to the workforce.

Addressing the gender gap in IT through a multifaceted approach

Our Solution

Learning Platform

The online learning platform provides career-targeted **learning modules** and **soft-skills training** to women who have taken an extended leave (>6 months) either after working or graduating from college. Our modules cover the desired skills for positions in the companies we will partner with.



Community of Women In Tech

A community of women building support, skills, and women’s empowerment through mentorship, webinars on soft skills, and fireside chats. **86%** of women who return to work after a break believe that programs focused on upskilling and mentorship are key to overcoming re-entry challenges.

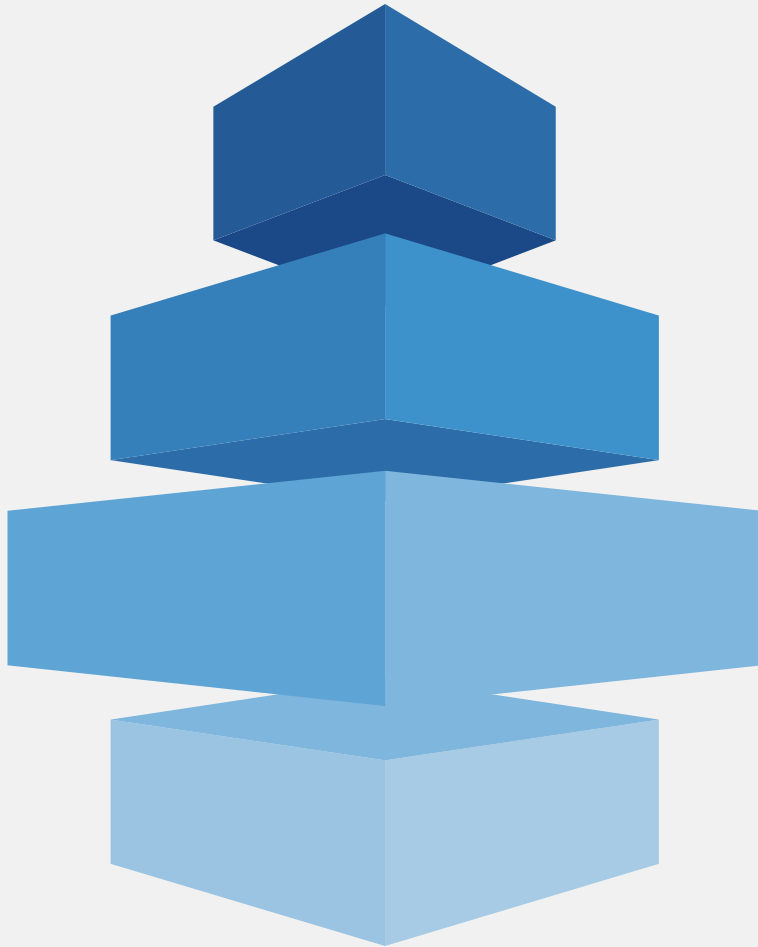


Company Pipeline

After completing a module, women will become part of our pipeline to interview for a job at any partnered company. Partnerships work through **aligned incentives**; training women with the skills for a specific position that companies are looking for at a fraction of the cost of internal hiring and 3rd party recruiting agencies¹.

1. The cost per hire with an HR professional is 4-8% of a hire’s yearly salary while recruiting agencies charge 8.33%-25%. We will charge 2.5%.

The Need for a Learning Platform



TECHNICAL GAP FROM UNIVERSITY

A large percentage of graduates who were not considered employable in IT and IT-related fields have been assessed as being **trainable** in industry-needed skills but are not receiving the necessary upskilling to bring them to employability¹.

WOMEN ON BREAK

For women who have already started their careers and then take an extended break of six months or more, helping keep their skills current will allow these women to re-enter the workforce with the technical skills they need.

SOFT SKILLS

Beyond the pay gap, women have **lower salary expectations** than men. Moreover, women are four times less likely to ask for pay raises. In our discussions with many women who work in IT in Bangalore, they all advocated for the importance of soft skills training as part of a successful solution to retain women in tech.

COMPANIES WANT TO HIRE QUALIFIED CANDIDATES

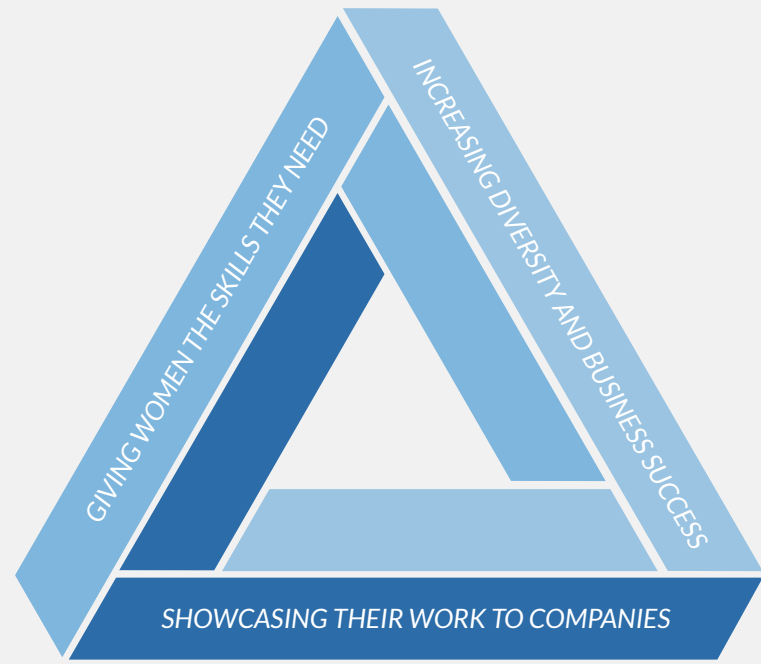
It takes upwards of **12 weeks** until a new employee is able to reach their full productivity. In the IT industry, the same role (i.e., software developer) has certain baseline skills that are transferable from company to company. However, companies often use different coding languages, standard practices, or specialized tools that few people in the job market are familiar with. Enabling talent to learn the exact technical skills and specialized tools necessary for a role at a specific company will expedite the onboarding process, saving companies both time and money.

The three core pillars of the learning platform we're recommending

How the Learning Platform Works

SELF-PACED MODULES

A comprehensive learning module for popular roles (i.e., UI/UX designer, software developer) covering **core IT skills** such as coding, program architecture, and data science with quizzes, exams, and projects. Each module will require 80-100 hours of work which is feasible in **2-4 months**—in line with similar courses offered online today at Coursera, Udemy, or Newton School.



TALENT PIPELINE

By partnering with companies to create modules with the specific tech stack for roles they need to fill (e.g., Data Scientist at Flipkart), we can ensure they have the talent they need with the **right skills** for the job. While partnerships are finalized, startups or any other business can hire women who have completed our company-nonspecific IT modules for popular roles.

PROJECT-BASED LEARNING



A portfolio will show certifications earned, modules completed, and projects. The ideal candidate will have a strong **job-ready** portfolio for positions targeted by the module(s) they've completed.

Giving women the skills they need and companies the talent they desire: a win-win.

[Platform Details](#)

How the modules for technical and soft skills will be structured

The Curriculum Overview

Technical Skills

Soft Skills



TYPES OF TECHNICAL SKILLS OFFERED

Depending the module students are doing, Skillfully will offer the following skills as training: programming languages (i.e. Java, Python, C#), UI/UX design, data science, front- and back-end development, marketing techniques, hardware training, and frameworks for problem solving.



STRUCTURE OF THE MODULES

Modules will have a combination of articles and recorded lectures available to the public. Interactive code notebooks will be used both to teach the necessary skills to women and for creating projects.



MENTORSHIP AND COMMUNITY FORUMS

Once women start a module, they will have access to the corresponding community forum where they can ask questions to those who have already completed the module. Mentors will also be suggested based on the module a woman is in to further support her progress.



TYPES OF SOFT SKILLS THAT WILL BE OFFERED

Based on the soft skills curriculum developed by *Lean In*, Skillfully will offer the following modules: leadership, interview skills, establishing good working relationships with co-workers, balancing work and family, challenging gender bias, and establishing confidence.



STRUCTURE OF THE MODULES

There will be 4-5 videos, articles, and guides per soft skill with information to learn about it and suggestions on how to practice it once in the workplace. Each module will have a quiz to sum up the content and mark it as complete.



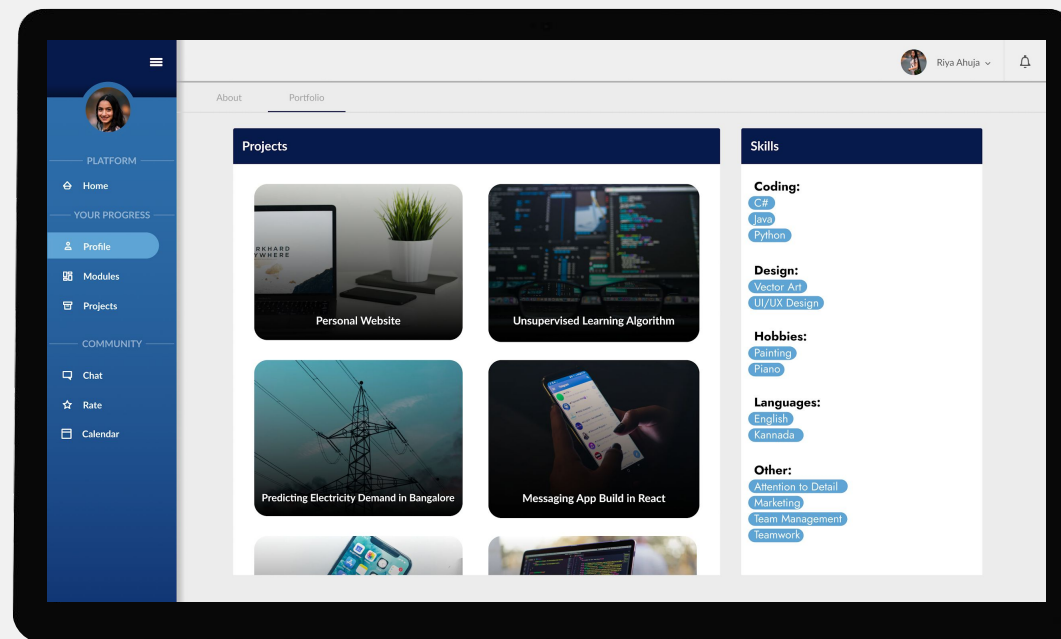
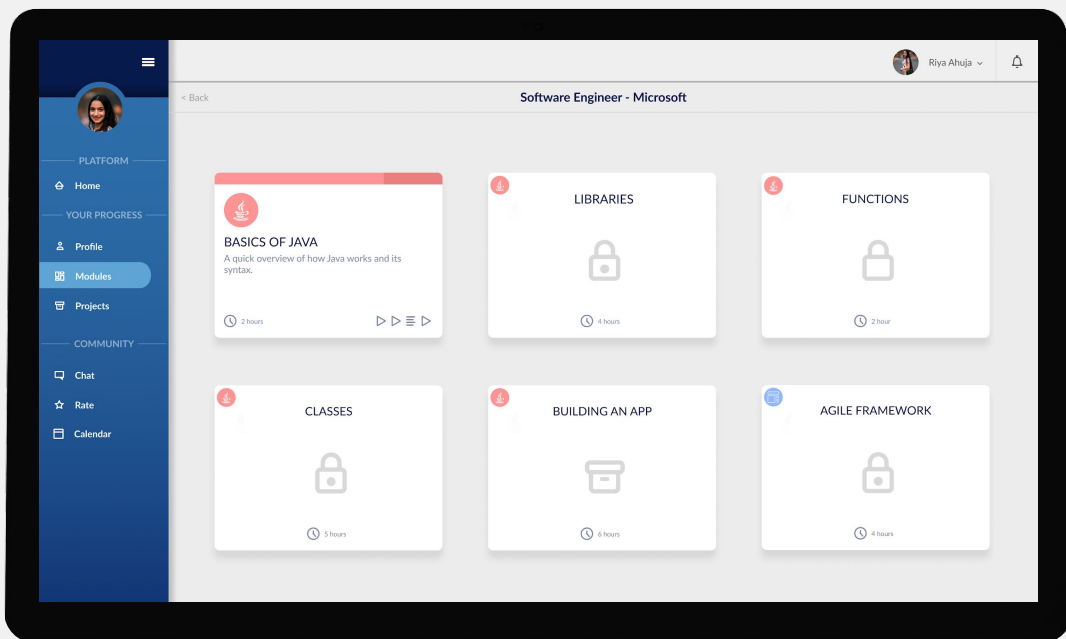
ONGOING SUPPORT AND COMMUNITY FORUMS

Once women finish a module, they will be able to join groups dedicated to that subject and participate in relevant fireside chats or webinars.

[Full Details](#)

What Skillfully will look like and how to develop the platform

Platform and Cost



01

COMPETENCY-BASED LEARNING

Skillfully will be built with self-paced modules for both technical and soft skills.

02

DESIGNED WITH CAREER GAPS IN MIND

To account for the difference in skills between recent graduates and women who have previously been in the workforce, a placement test will be offered before a module.

03

GETTING THE PLATFORM CREATED

We've created requirements and received price estimates from development firms, view the LOIs [here](#).

04

MAINTAINING & ADDING MODULES

A team of two curriculum designers, three software developers, and a project manager will take two weeks full-time to create a module for \$15,000.

We've analyzed over a dozen case studies and have compiled the most insightful results to create Skillfully's platform

Case Studies: Learning Modules

Online learning modules give women the flexibility and training they need in order to succeed in the workforce. VMware has developed three sequential levels of certification with an exam that each take 1-2 months to complete. This program is completely free.

- 1 VMware has helped 9,500 Indian women in 2 years to uplift their careers by providing free certification courses on digital business transformation technologies. Eligibility is for the first 15,000 women to sign up who have either been away from the workforce or university without having found employment for six months. VMware marketed VMinclusion Taara solely via word-of-mouth and success stories from women who completed the program.
- 2 Webinars and events help women build digital skills, deal with stress, use LinkedIn, and talk to women leaders. The VMware program includes briefings, Q&A webinars, on-demand content, hands-on labs, live online instructor-led classes, and social platforms to foster a strong community.

“After 5 years away from the field, my skills were outdated, but the fact that VMinclusion Taara had courses online and self-paced made my life so much easier.”

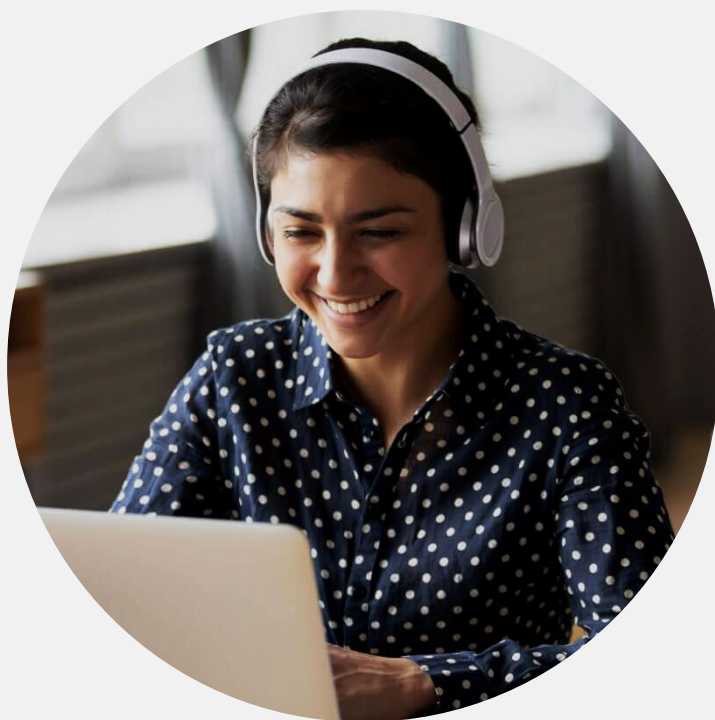
- Roopa Pai, Bangalore, India

vm inclusion
The power of human difference

taara

Experienced women can give personalized advice and support to women entering the workforce

Mentors Help Women With Career Success



Group Mentorship for College Graduates Starting a Family

Women who have graduated from college and took a career break will be in groups of optimal size between 8-10 people that are led by 1-2 women in entry-level roles. This will facilitate their transition into the workforce by giving them insight into day-to-day activities in the IT industry. These groups will meet online weekly or bi-weekly and mentors will be volunteering their time.

One-on-One Mentorship for Women on a Career Break

Many women cite mentorship as a key reason for their career success, particularly when women have female mentors. For women trying to enter a career in IT after maternity leave, having mentorship programs in place will help women on their career breaks stay connected and up to date with the latest evolution of technology. Having one-on-one mentorship within the same company or even the same department will aid in transitioning back into the workplace.

“[My group] means a lot to me. It made me realize how important it is to find our voice as women. I'm trying to make sure that I sit at the table with confidence and help other women do the same.”

- Deepali Chouhan, Chapter Lead, Women Who Code Vancouver

Increasing trust and loyalty through fireside chats and webinars

Role-Model Women in Tech



Webinars and fireside chats are effective for reaching many women in a short period of time. Skillfully will be hosting online fireside chats with female industry experts every month that will be available to watch live and recorded on the platform to playback at a later time. Opportunities to ask questions will be given to all women and exclusive events will be offered first to those who complete the corresponding soft skills module.

By hosting webinars, women executives will bring valuable advice for tackling gender barriers and at the same time help spread our program via network effect. For more information on organizing fireside chats and contacting women speakers, read the playbook [here](#).

“The most important thing to get more women in the digital economy is hosting community talks where senior role models can provide invaluable insight for women entering the workforce.”

- Madison Long, Program Director at the Sheryl Sandberg & Dave Goldberg Foundation

% of organizations who had more attendance online than in-person

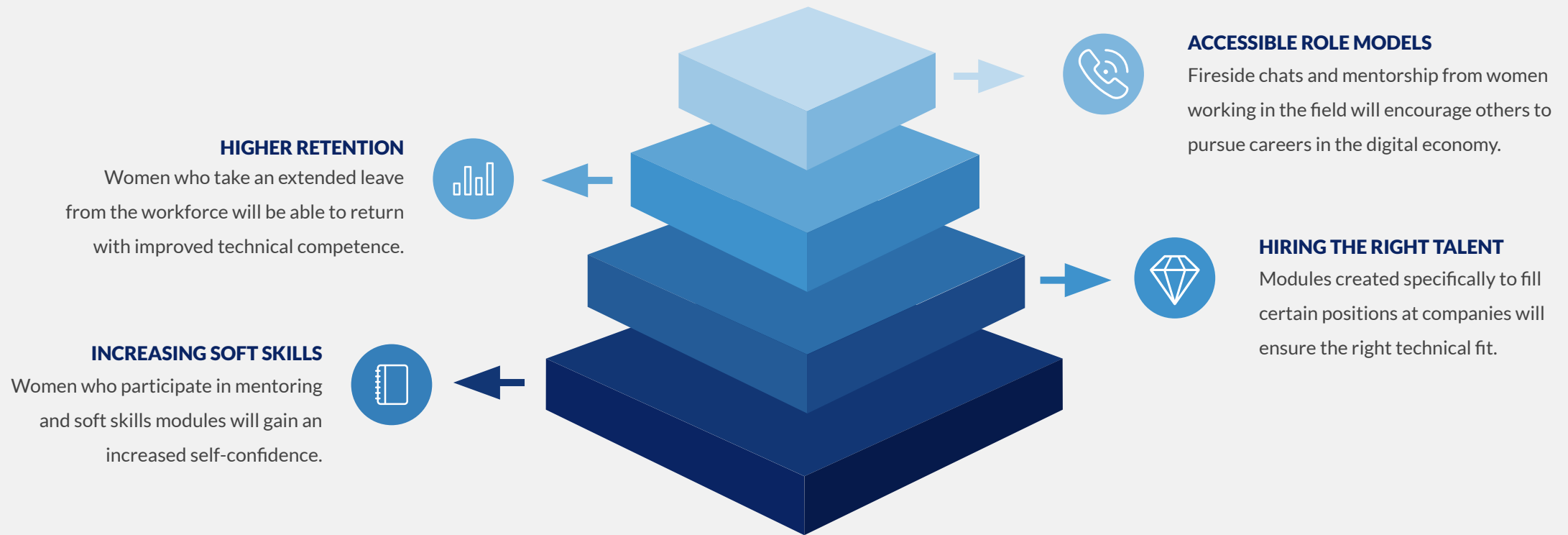


% of participants who feel better connected through fireside chats



What our recommendation means for women in tech within Bangalore

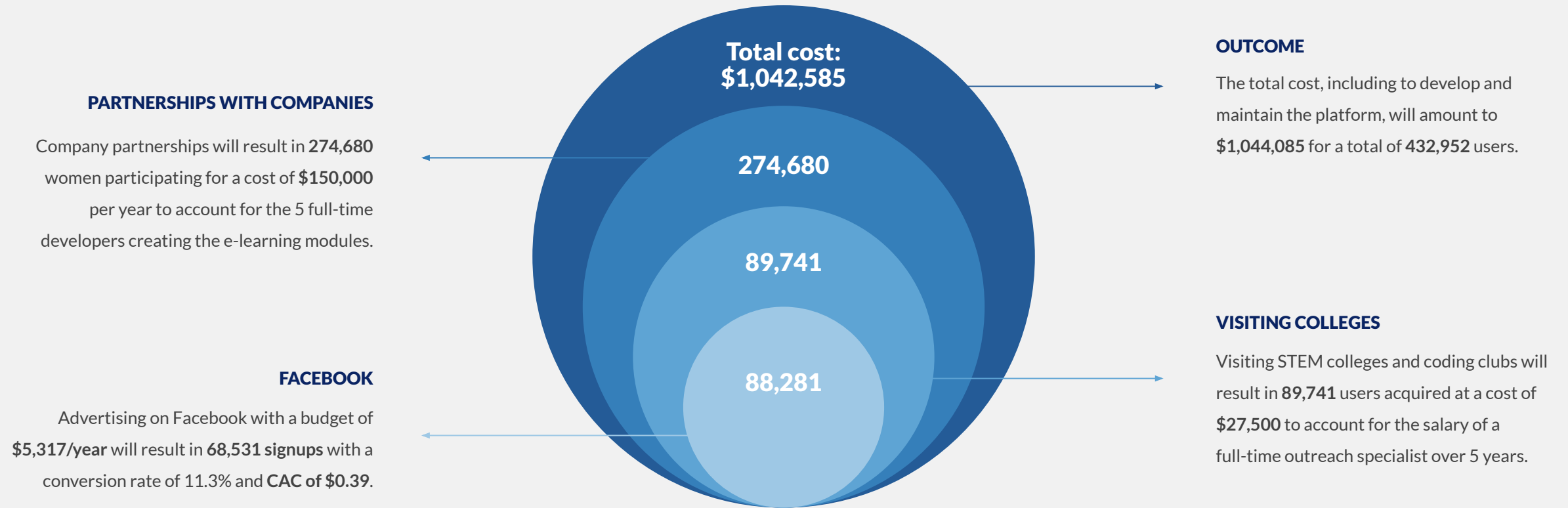
Outcomes



By 2026, our solution would enable 452,702 women to stay in, or enter the digital workforce.

Driving sign ups through partnerships with companies, colleges, and advertising on social media

User Acquisition



PARTNERSHIPS WITH COMPANIES

Company partnerships will result in 274,680 women participating for a cost of \$150,000 per year to account for the 5 full-time developers creating the e-learning modules.

FACEBOOK

Advertising on Facebook with a budget of \$5,317/year will result in 68,531 signups with a conversion rate of 11.3% and CAC of \$0.39.

OUTCOME

The total cost, including to develop and maintain the platform, will amount to \$1,044,085 for a total of 432,952 users.

VISITING COLLEGES

Visiting STEM colleges and coding clubs will result in 89,741 users acquired at a cost of \$27,500 to account for the salary of a full-time outreach specialist over 5 years.

By charging women the cost of a cup of coffee to access a module, the solution is self-sustaining after Year 1.

Point-People for Company Partnerships and the Mentorship Program

People to Contact

Companies



Natasha Shirazi

Learning & Development at Dell

The Learning & Development team at Dell is interested in providing content for modules.

[Email](#)



Shivani Kulkarni

Venture Investment at Flipkart

Getting us in contact with the Learning & Development team at Flipkart.

[Email](#)



Ira Kaundal

Software Engineer at Microsoft

Expressed interest in a partnership, setting up a meeting with the Head of Engineering.

[Email](#)



Sanjay Krishnamurthy

Director of Engineering at Walmart

Reviewing executive summary after confirming interest in our solution.

[Email](#)

Mentors



Hena Mehta

Co-founder & CEO at Basis

Started one of the first Lean In chapters in Bangalore and was a judge at the *wmn*; hackathon.



Nruthya Madappa

VC at 3one4 Capital

Previously the founder at *The Foundry*, supporting early-stage entrepreneurs. Prominent speaker on empowering women in tech.



Akanshi Srivastava

Product Engineer at Gojek

Featured speaker at the Womendroid Hackathon in 2019 and global ambassador for the WomenTech Network.



Shaheena Attarwala

Design Manager at Microsoft

Was a judge at the *wmn*; hackathon. Previously the Director of UX at Zoomcar, India's biggest self-drive platform.

The roadmap for implementing our recommendation

Timeline

2022

The platform and the first ten modules go live and will be advertised at colleges and on Facebook.

2024

Start creating modules for adjacent industries, such as finance and engineering.

Partner with 10 companies to create 30+ modules specific to in-demand positions which results in retaining 30,520 women employees/year.

2023

Once firmly established in Bangalore, expand to other Tier 1 cities in India.

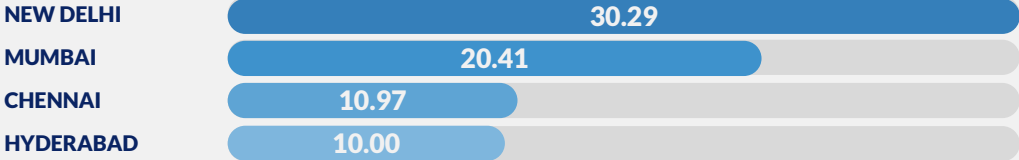
2025+

Future Ideas




The Most Promising Cities to Expand To:

- The problem of gender disparity within the digital economy and specifically within the IT industry is not a problem specific to Bangalore. This solution needs to be widespread to have the most long-term impact.
- Other Tier 1 cities—those with a population generally above 2.5 million and who are the most developed—present the most potential to improve women’s presence in the digital economy with the fewest barriers.



METRO AREA POPULATION, IN MILLIONS



18%

IN THE WORKFORCE

These urban areas have millions of educated nonworking women.



78%

LITERACY RATE

These four cities are all well above the national average.

All the Tiny Details You Might Need



Where can I see what companies expressed interest?

[Companies](#)



How did you calculate the costs and potential impact?

[Calculations](#)



Where can I find more of what the platform will look like?

[Wireframes](#)



How do you plan to measure impact?

[Methodology](#)



What's the step-by-step process for Global Expansion?

[Global Expansion Plan](#)



What other businesses have tried this before?

[Case Studies](#)



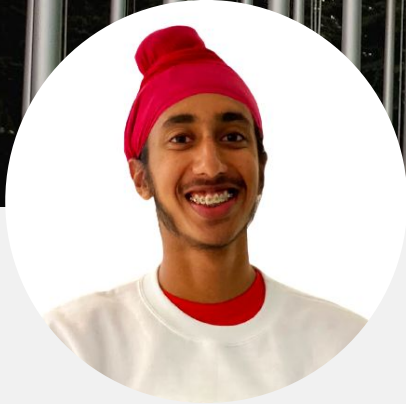
Where can we access all the playbooks?

[Challenge Hub](#)



What sources did you use?

[Sources](#)



Devinder Sarai



Kimberly Liang



Nicolas Gatien



Sophia Moloo



Thank you United Nations!

We're so inspired by the work the UN is doing to solve important problems all around the world. Striving for gender equality is a cause very important to all of us; we're so grateful for the opportunity to tackle the gender gap in employment specifically! This has been a truly eye-opening and exciting learning experience. We hope our recommendation was valuable!