Empowering Women and Girls in the Digital Economy

Meru, Kenya

TKS × 🇺🇳

Executive Summary

A brief summary of our recommendation

Problem

Women and girls aren't able to enter the digital economy as they face many financial and social challenges. This influences the **lack of access and education in technology** - only **20.2%** of females in Africa have access to digital devices.

Other factors affecting this issue could be social norms influencing and forcing many **girls to end** their education in order to work in order to take care of their families.

Recommendation

1. Partnering with Google to distribute **Chromebooks** to Meru, Kenya (assuming that Google would be open for partnerships based on previous partnerships conducted with the UN)..
2. Utilizing our educational platform to improve the **digital skills** of women and girls in Kenya.
3. Implementing a **microfinance** system which allows graduating students to help support program expenditures for future students.

Outcome

Assuming that every girls that went through are program will pursue going into the technology industry, then the number of women employed in the tech industry (in Kenya) is forecasted to increase by up to **52%**, and will exponentially grow in the years after. In addition to this, with a higher number of educated mothers, there will eventually be a higher number of educated children as well - continuing a **continuous cycle** of education for girls.

Defining the Problems

School Curriculum

Kenya's education system has no schools that educate their students on digital skills - which is influenced by the fact that the teachers don't have that knowledge themselves.

Lack of Devices

Over 50% of the female population lacks access to technology. This is heavily impacting the lack of digital skills for the women and girls in Kenya.

Finance

The female employment rate in Kenya is only **49.3%**. The reason for this is because many women lack the time to work as well as support their families. In addition to this, women earn **50% less** than their male counterparts.

Awareness

Although many women and girls can afford these digital devices, they do not see a **priority** in purchasing these devices. This is because women prioritize taking care of their family and see no relevance in the use or education of digital skills - as they are **unaware** of its benefits.

51%

of Kenyan females **use the internet.**

13%

Of Kenyan female are **employed in the technology industry.**

OUR RECOMMENDATION

Project UFem

The digital education project, for girls and women in Kenya.

Overview of Recommendation

Outline of our Recommendation

1

Partnering with Google

We will begin our journey by partnering with Google to get access to the refurbished chromebooks.

2

Distributing Chromebooks

Distribute the refurbished chromebooks across 3 schools and launch the UFem Program, which will pilot in Meru, Kenya.

3

The UFem Platform

Building an educational platform including videos and articles to easily access and learn about the given topics around technology.

4

Microfinance System

Providing a Microfinance system with distributing, loaning, and reinvesting money into the UFem Academy

Partnership With Google

In July of 2018, The UN partnered with Google to change our understanding for plants - a partnership has already been done, validating our request for a partnership.

Why Distribute Chromebooks

Cost Effective

Chromebooks have been very reliable and cost efficient devices for distribution over the past few years - ranging from **$100 - $200.**

Relevance in Schools

These devices were created with students in mind - making it easier and more effective for students around the world to maximise their use of features.

Portability

Due to the small size of these devices, it will make it more convenient to distribute them to different

Even though the profit margin will decrease, if Google partners with us then the number of products sold will increase by over

8.17%

The estimated cost for distributing the first 2500 Chromebooks in our pilot project, is estimated to about

$375,000

Why Partner With Google

Past Experience

In July of 2018, The UN had partnered with Google to change the way we understand plants - a partnership has already been done, validating our request for a partnership.

Easy Distribution

Partnering with Google will not only allow us to access vasts amount of chromebooks for distribution, it will also make the distribution easier.

Reduced Costs

The cost for each chromebook will be estimated to lower by **20-50%** - making it easier to send larger supplies to Meru.

Introducing **U**Fem Academy

UFem Academy is an **educational platform** that allows women and girls to develop the skills they need to enter the digital economy. Similar to platforms like **Khan Academy**, **Coursera**, **etc.,** ,we will use already existing resources such as videos and articles for these girls to easily access and learn the given topic(s).. There are 3 parts to our program: Connect, Initiate, Launch which you can learn more about on the right

CONNECT

1

The first part of our platform is the Connect phase. This is where we get these girls comfortable with using technology. Some things these girls will learn in this part includes:

- Getting exposed to STEM fields
- Understanding devices
- Basic computer skills + Digital skills
- Elementary design skills

INITIATE

2

After completing the Connect phase, they will then move onto the Initiate phase. This is where they will start to learn some more important skills.

- Programming
- UI/Graphics Design
- Financial Literacy
- Career Skills

LAUNCH

3

Finally, after these students have gathered and learnt these digital skills, they will then be prepared to enter the digital economy. This part is a little different from the other two as we focus on providing opportunities for these girls to work in the digital economy. This part is specifically tailored towards grade 11 and 12s, as they will be the ones graduating and moving on to universities. We will also be paying for 20% of the girl's tuition fees in the beginning, so that they will be able to gather more information and skills.

What Makes us Different

Engage in the Community

Students can use the **Community Page** to meet some of their peers and other people that haven't met, to build connections:

- This page will also allow these girls to share some of the work that they have been working on
- They will develop a comfortable mindset with their peers.
- It allows girls to be inspired and motivated by the community.
- They can use the Filter feature to search for certain keywords and resources that other people have added.
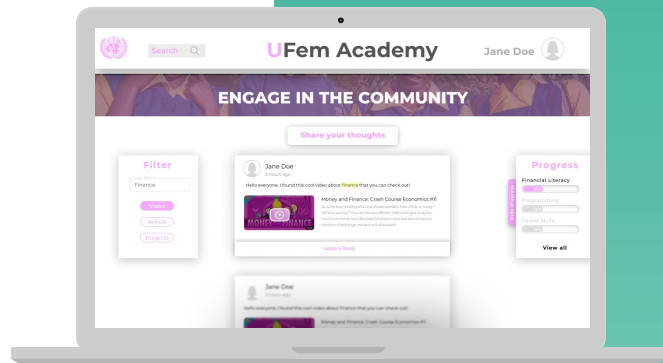
Videos & Interactivity

Our platform includes **interactive videos** that will let them engage when learning. Each course is divided into **separate chapters,** after completing a chapter the student will then be designed with the following:

- Self-assessment of what they have learned
- 1 open-ended project to test their skills.
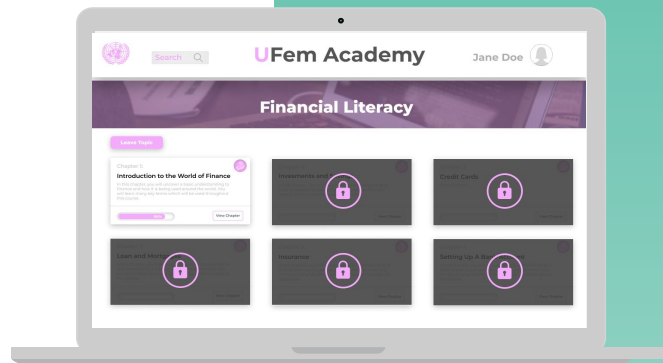
The Benefits of Using our Program

INTERNSHIP OPPORTUNITIES

To further help them with their career, UFem Academy will provide opportunities such as **internships** based on their interests through Fusione and other companies. Since finance is a huge issue in Kenya, providing a way to earn money at an early age will incentivize them to work with technology. This will also support them in their journey as having the experience at an early age can help them with **skill development**.

INTERNET ACCESS

Almost **30%** of the profit's we earn will go towards Safaricom. They are a well-known internet provider company in Meru. By supporting their journey, more girls and women will be able to have access to the internet, which will allow our recommendation to touch every aspect of Meru, and not just girls and women.

Part 3

RECOMMENDATION:

Microfinance system

The cost of refurbished Chromebooks is estimated to around $125 - meaning that the total cost of distribution will be ~$375,000. Hence, continuously supplying these devices will make it a financial burden on part of the United Nations, as well as Google.

To create a sustainable cycle of supply, we propose a microfinance system. These systems were primarily built for families who are financially struggling and who lack collaterals - similar to the ones we are supporting through our UFem Program.

Microfinance System

Distribution

We will first begin by distributing **3000** chromebooks to the girls we will be supporting - total cost estimated to **$375, 000**. Through the devices and our educational platform, these girls will be given access to our educational platform which will equip them with the necessary skills to succeed in the digital workforce.

Earning Income

Once the girls have graduated from our academy (equipped with all the digital skills taught), they'll be highly **exposed** to and will likely move onto post-secondary education to pursue technology related fields. With the skills they have been taught, it will be easier for them to find **higher paying jobs**, allowing them to earn a stable monthly income in order to take care of their family as well as tuition fees.

Reinvest

After earning above the average income (**$1,300 monthly**) - which was very uncommon for students **before** joining the UFem academy, graduating students will have the ability to reinvest **3%** of their monthly salary **each month for two years*** into the UFem academy (**~$936** in total). This will allow us to support further program expenditures.

*graduating students who do not make the average income will not have to pay

Case Study Validation

Measuring the Impact of Microfinance Operations

Case Study Validation

Validation for microfinance systems can be seen through the successes of BRAC, located in Bangladesh with the aim provide loans to families who are financially struggling. This case study (also linked at the bottom of this page) details the profits microfinance systems provide for the owning company and its customers.

Results

Using their microfinance systems, they saw that "borrowers' income and their contribution to family expenditures increased significantly after joining BRAC (**+270%** per month) with the increase of monthly income on average of **+254%** per month. Lastly, **+106%** new employment opportunities were created after joining BRAC's microfinance programs".

Table 5. Creation of New Employment Opportunity

No. of Income Earners	Before Joining BRAC		After Joining BRAC		% of Changes
	No. of Respondents	%	No. of Respondents	%	
Only 1	141	68	47	22	62 (-)
Only 2	50	24	116	56	132 (+)
Only 3	17	8	35	17	106 (+)
Only 4	0	0	10	5	High Increase
Total	**208**	**100**	**208**	**100**	

Total number of employment before joining BRAC was 276 and after joining it is 424.
New employment created as many as 148 (54 % more than before joining).
Source: Field Survey, 2009.
Note: Figures are rounded to the nearest whole number.
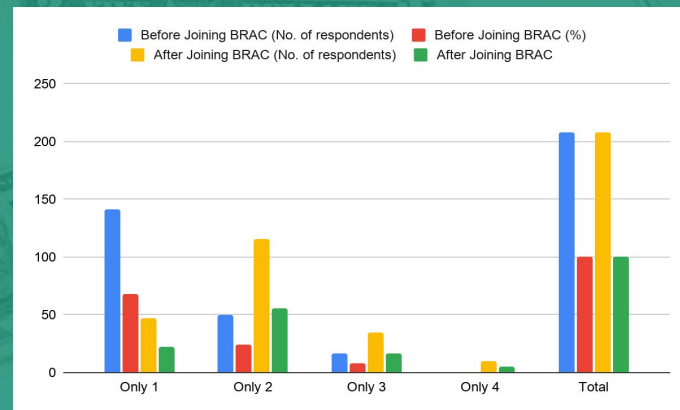
Data detailing the impact and growth of microfinance systems

Shattering the Status Quo

FINANCE

Families are struggling to stay financially afloat during these difficult times and with costly education packages, things aren't being made easier. However, with this recommendation, families of students will be able to save money on what matters **most** - education for their daughters. Instead of having to pay costly fees for learning devices (such as computers), it will be supplied for free.

INNOVATION

In the current education system, girls are stripped from their right to learning as society prioritizes the the education of boys. With this recommendation, we will be innovating in Kenya's education system through digital education for **girls**. The idea we are proposing is not the most popular, however, it will change Kenya's economy for years to come - a **+966%** increase in women employment in the digital workforce.

RELEVANCE

Even if families have the necessary finance to support educational expenditures for the girls of their family, they will not spend that money due to the fact that they see no benefit in these programs. But our platform is **unique** - providing the necessary technical skills to the girls of Kenya in order to excel in our digital economies' everlasting technological revampment.

FUTURE

Women and girls are undermined because of their gender. But that **will** change. Using this recommendation, we will be opening possibilities for **new career paths** for women and girls of all backgrounds. Through this program, they will be equipped with the skills and tools that will enable them to innovate and excel in our digital world.
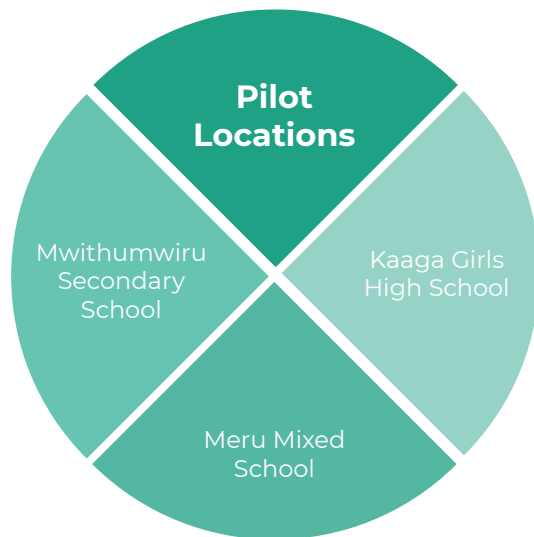
IMPLEMENTATION PLAN

Piloting in Meru, Kenya

Pilot Implementation

Pilot Locations

Mwithumwiru Secondary School

Kaaga Girls High School

Meru Mixed School

All of these schools are the top schools in the **Kaaga region** in Meru. The schools are in close proximity with one another, making it easier to **communicate** our recommendation. We chose these schools because it has a high female population, making a g**reater impact** on the community.

WHY MERU

1

After <u>analyzing</u> several factors such as GDP, **access to internet,** and graduation rates, we concluded that Meru, Kenya would be **the most optimal location** for our recommendation due to the higher internet access, but lower graduation rates - allowing for more of an impact. <u>Here</u> are some statistical values.

WHY KAAGA

2

Kaaga is a region in Meru Kenya that offers some of the top schools in Kenya. As of education, **Kaaga** offers higher graduation rates and greater access to internet compared to most other regions in the Meru County. In fact, **83% of the population** has access to internet. Kaaga has more funding in STEM related subjects

PARTNERSHIP IN KENYA

3

At the beginning of our Pilot, We will be partnering with Female Technology **Ambassadors** to engage the students in the school about our Platform and Recommendation in an **Open House**. We'll be partnering with Grace Nzivo, Purity Birir, and Yariwo Kitiyo. All of these people strive to bridge the **gender gap in technology.**

Partnering with Female Tech Ambassadors in Kenya

1

2

3

Partnering with Grace Nzivo

Grace Nzivo is a civil engineer and STEM ambassador working to **inspire** young girls in rural Kenya to dream big. A partnership between UFem academy and Grace Nzivo would give us the ability to **promote** our platform by inspiring these girls.

Partnering with Purity Birir

Purity Birir is a Software designer that advocates for **bridging** the gender gap and gender representation specifically in **technology.** She's keen on continuing to deepen the developer communities locally, specifically in Kenya.

Partnering with Yariwo Kitiyo

Yariwo Kitiyo is a female geospatial consultant and a data visualization expert who strives to harness the power of data visualization for gender equality. Recently, she's been working on using data to determine gender equality in Kenya.

UFem Pilot Implementation

Timeline and Process of Piloting

Open House at Schools - Day 1

We will hosting workshops in our chosen schools to expose students to technologies - the workshop will consist of guest speakers who are successful women in STEM (refer to slide 17), who will talk to and inspire the girls so that they can understand not only the importance of these technologies, but that they too can make an impact using them.

UFem Introduction - Day 2

Once we have gotten these girls to understand the importance, use and future of technology, we will introduce our program and what it has to offer. When this is completed, we will then allow the students to explore some of the devices and programs through a set of Chromebooks which we will bring for this event.

Apply and Microfinance Confirmation - Month 1

Students will now be able to apply to our program. In addition to our application, they will sign a contract stating that if they graduate our program and make an average or above average income, they will help supply a small reinvestment fee which supports the learning of future students (microfinance system).

Supply Refurbished Devices - Month 2

Within an estimated month of the application, students will be supplied with the Chromebooks and will be given full access to our educational platform. They will then be able to participate in our platform during after-school hours, where we will support online mentorship programs for the students.

Piloting UFem Academy (Connect) - Month 2

Once all chromebooks have been distributed to these girls, they will then begin learning from UFem Academy. Specifically, they will start phase 1 of our program, Connect, to understand how to use technology, and develop elementary skills.

Re-Applications - Month 4

After the first 2 months of piloting, many other people might want to start entering our program as well, which is why we will be opening applications during the 2nd month.

UFem Academy (Initiate) - Month 5

After spending 2 months learning about basic computer skills and how to use these devices, the student will feel comfortable with using devices, so they will then move on to the second phase of our program, Initiate. They will use this part to gain digital skills needed for entering the digital economy

Providing Career Skills - Month 10

After gaining enough skills to enter the digital economy, they still lack knowledge and experience with getting jobs/applying for internships or co-ops. We will be using this last phase to give them more experience and skills to be able to do so. - This phase is only for graduating students.

Providing Opportunities - 10 Months

Over the course of the 10 months in our program, the students will be equipped with the knowledge on digital skills and techniques. This is then where we provide opportunities for these girls to work and attend certain universities. We will help them apply to these opportunities so that by the end of graduating, they will be given a job to work in.
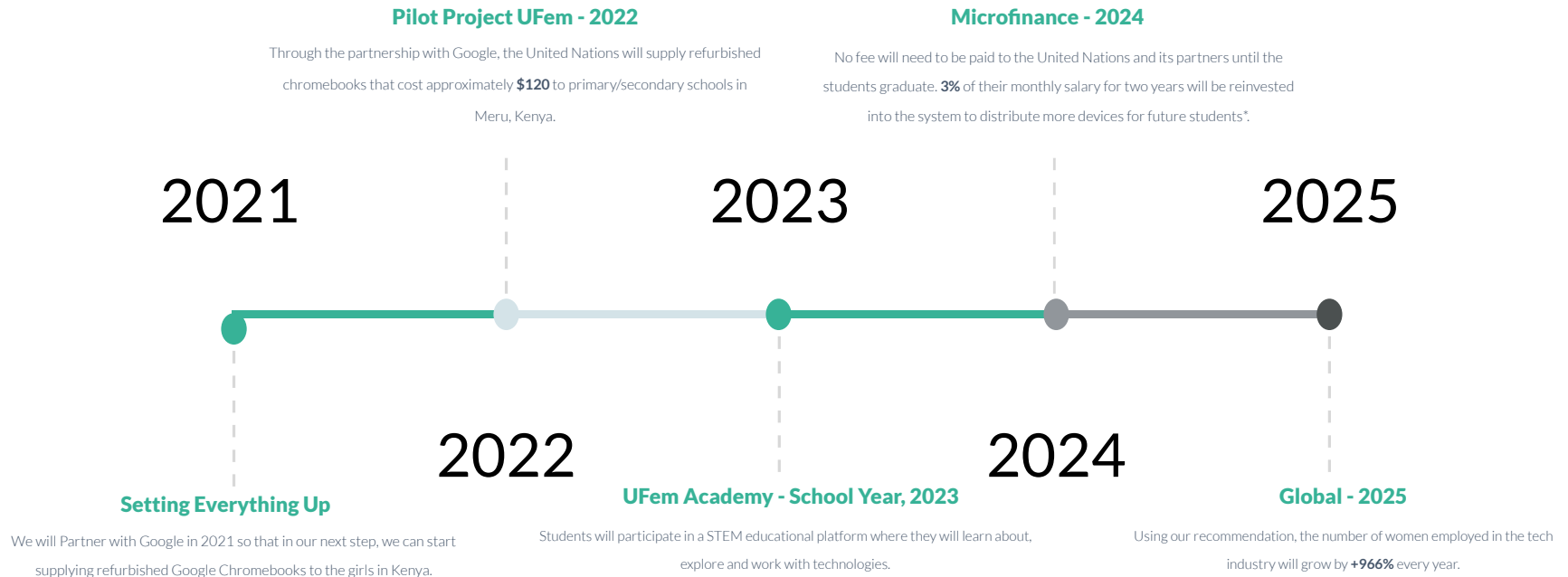
Implementing Microfinance - Month 13

Students who joined in Grade 12 will graduate. However, we will implement a microfinance system (which was detailed in our contract), which will give these students the ability to support program expenditures for future students - allowing us to sustain these program expenditures.

Implementation Plan

Timeline and Process of Implementation

Pilot Project UFem - 2022

Through the partnership with Google, the United Nations will supply refurbished chromebooks that cost approximately **$120** to primary/secondary schools in Meru, Kenya.

Microfinance - 2024

No fee will need to be paid to the United Nations and its partners until the students graduate. **3%** of their monthly salary for two years will be reinvested into the system to distribute more devices for future students*.

2021

2023

2025

2022

2024

Setting Everything Up

We will Partner with Google in 2021 so that in our next step, we can start supplying refurbished Google Chromebooks to the girls in Kenya.

UFem Academy - School Year, 2023

Students will participate in a STEM educational platform where they will learn about, explore and work with technologies.

Global - 2025

Using our recommendation, the number of women employed in the tech industry will grow by **+966%** every year.
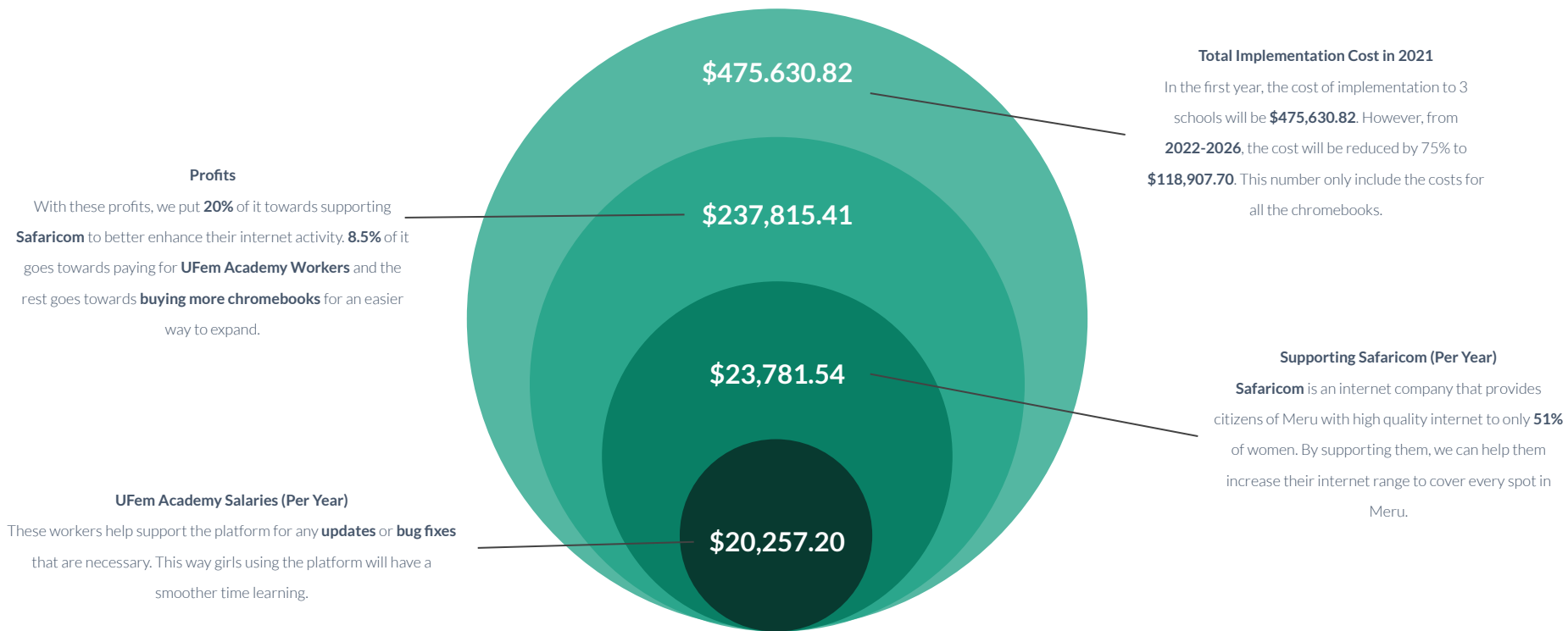
*graduating students who do not make the average income will not have to pay

Implementation Cost & Profits

Financial Expenses Through 1 Year

$475.630.82

$237,815.41

$23,781.54

$20,257.20

Total Implementation Cost in 2021

In the first year, the cost of implementation to 3 schools will be **$475,630.82**. However, from **2022-2026**, the cost will be reduced by 75% to **$118,907.70**. This number only include the costs for all the chromebooks.

Profits

With these profits, we put **20%** of it towards supporting **Safaricom** to better enhance their internet activity. **8.5%** of it goes towards paying for **UFem Academy Workers** and the rest goes towards **buying more chromebooks** for an easier way to expand.

Supporting Safaricom (Per Year)

Safaricom is an internet company that provides citizens of Meru with high quality internet to only **51%** of women. By supporting them, we can help them increase their internet range to cover every spot in Meru.

UFem Academy Salaries (Per Year)

These workers help support the platform for any **updates** or **bug fixes** that are necessary. This way girls using the platform will have a smoother time learning.

[Financial Information (Spreadsheet)](#)

The Impact

Digital Skills

While implementing our solution, the number of secondary girls that will graduate with experiences and skill in the technology field (in Kenya) can increase by over **966% in one year** and will exponentially grow year after since only **3** out of **29 girls** that graduate per secondary school are comfortable in the digital economy. And that isn't even including the number of girls that dropout of school because of other priorities.

+996%

Employment

With a greater amount of girls graduating with a knowledge of technology, there will be more women in these technology fields. This shows that in assuming that every girl will be employed in the technology industry, then the amount of women employed in the technology industry in Meru by 2026 will increase by approximately **52%**

+52%

Education

If **+40%** of women are educated, their children are **+45%** more probable to be educated as well - continuing of a **continuous cycle** of education. When families start to see the successes of the students that attend our program, it will inspire more students will enroll.

+45%

Income

Currently Kenyan women make an average salary of If **+40%** of women go through our process graduate, the female students are forecasted to make a **$1,300** USD-a-month increase than students that have not gone through UFem Academy.

+40%

Next Steps

What will we be doing next

Expanding

After piloting with 3 schools: The Kaaga Girls High School, The Meru School, and The Mwithumwiru Secondary School, we can move onto expanding to other secondary schools close by.

Cost to Expand

Improving

Some topics that we included were programming and emerging technologies. However, we want to expand this and show the main problems going on in the world and help them find a way to solve them.
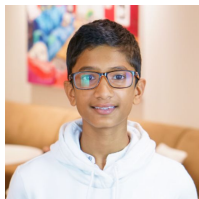
Our Plan

Partnerships

Partnering with companies to provide difficult challenges, internships, and opportunities for these girls to participate in to enhance their skills in the digital economy.
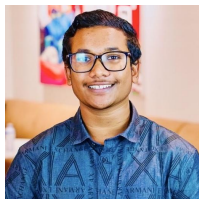
Which Companies

On a More Personal Note...

Sambhav Athreya

in

Bagavan Marakathalingasivam

in

Aman Zaveri

in

Yameen Khurshid

in

Dear United Nations team,

We would like to personally thank you for this wonderful opportunity to contribute in enabling more women and girls to access, create and influence technology. Through this journey, we have learned so much about the struggles faced by women and girls in our present society, but have also learned that we should be hopeful of a brighter future as more wonderful people will work to change these injustices.

We hope we make an impact on the world and especially those who are given less opportunities just because of their gender. Feel free to contact us via Linkedin or email if you have any questions or concerns.

We would love to help more in the future and hope to see the world strive even further to open more equal opportunities for women and girls across the globe!

Best regards,

Aman, Bagavan, Sambhav and Yameen