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german cooperation
DEUTSCHE ZUSAMMENARBEIT

Published by:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

FAIR Forward

MENTORSHIP TOOLKIT

Creating sustainable business and funding models with open source AI

December 2024

Imprint

As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Published by:
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany

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Content review
This toolkit was reviewed by Daniel Brumund and Jonas Gramse from the GIZ initiative "FAIR Forward – Artificial Intelligence for All" which strives for a more open, inclusive, and sustainable approach to AI at an international level. Collaborating with seven partner countries—Ghana, Rwanda, Kenya, South Africa, Indonesia, Uganda, and India—the initiative pursues three main goals: access to training data and AI technologies for local innovation, strengthening local technical know-how on AI, and developing policy frameworks for ethical AI, data protection, and privacy.

Acknowledgements
This toolkit builds on and consolidates the collective insights and knowledge from experts in AI, open source technology, licensing and entrepreneurship. We would like to thank the following organisations and individuals for their contributions (in alphabetic order):

Core23Lab
Digital Umuganda
Gram Vaani
Local Development Research Institute (LDRI)
M-Omulimisa
SEE Africa
Tech Innovation Network (THiNK)
Wadhwani AI

Ankit Jhanwar
Deogratias Mzurikwao
Dr Melissa Omino
Prof. Dr. Jorge Marx Gómez
Robert Beyer
Robert Morello
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Wambui Nyabero

Design and Layout
Studio GOOD, Berlin

Illustration
Tara Monheim

Bonn, Germany
December 2024

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01 Introduction

This chapter will introduce you to the mentorship toolkit for open source AI businesses, a guide that will help you create and run a successful mentorship program and support the development and growth of open source AI businesses. You will learn about the purpose, scope, and structure of the toolkit, as well as the benefits and challenges of mentorship.

The objectives of this chapter are to:

- Explain the toolkit, what it includes, and who it is for.
- Provide an overview of the methodology and framework of the toolkit.

Overview

Welcome to the mentorship toolkit for open source AI projects and/or businesses, developed in partnership with Villgro Africa and the initiative "FAIR Forward – Artificial Intelligence for All" which is implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development. It was piloted with participants from India, Kenya, Uganda and Rwanda.

This toolkit is designed to help you create and run a successful mentorship program that will support and empower open source AI entrepreneurs to develop sustainable businesses and funding models for their projects.

Open source AI is a rapidly growing field that offers many opportunities for innovation, collaboration, and social impact. However, open source AI entrepreneurs also face many challenges, such as finding the right market fit, attracting customers and investors, scaling up their operations, and maintaining their code quality and community engagement. That is why we created this toolkit. It is based on a six-month pilot program done with five participants to provide you with the best practices, tools, and resources to design and implement a mentorship program that will address the specific needs and goals of open source AI entrepreneurs.

This toolkit is for anyone who wants to build a mentorship program aimed at creating sustainable business and funding models for open source AI-based businesses. Whether you are an organization, a network, a community, or an individual, this toolkit will help you plan, execute, and evaluate your mentorship program.

Program methodology

The toolkit is structured in a way that includes the following sub-sections:

1. **Participant sourcing and selection:** Covers how to identify and recruit potential mentors and mentees for your program, as well as defining the eligibility criteria, application process, and selection methods.

2. **Needs assessment:** Addresses how to conduct a needs assessment to understand the current situation, challenges, and aspirations of your mentors and mentees, as well as defines the objectives, outcomes, and indicators of your program.

3. **Mentor-mentee matching:** Provides guidelines for how to match your mentors and mentees based on their profiles, preferences, and compatibility, as well as establishes the roles, responsibilities, and expectations of both parties.

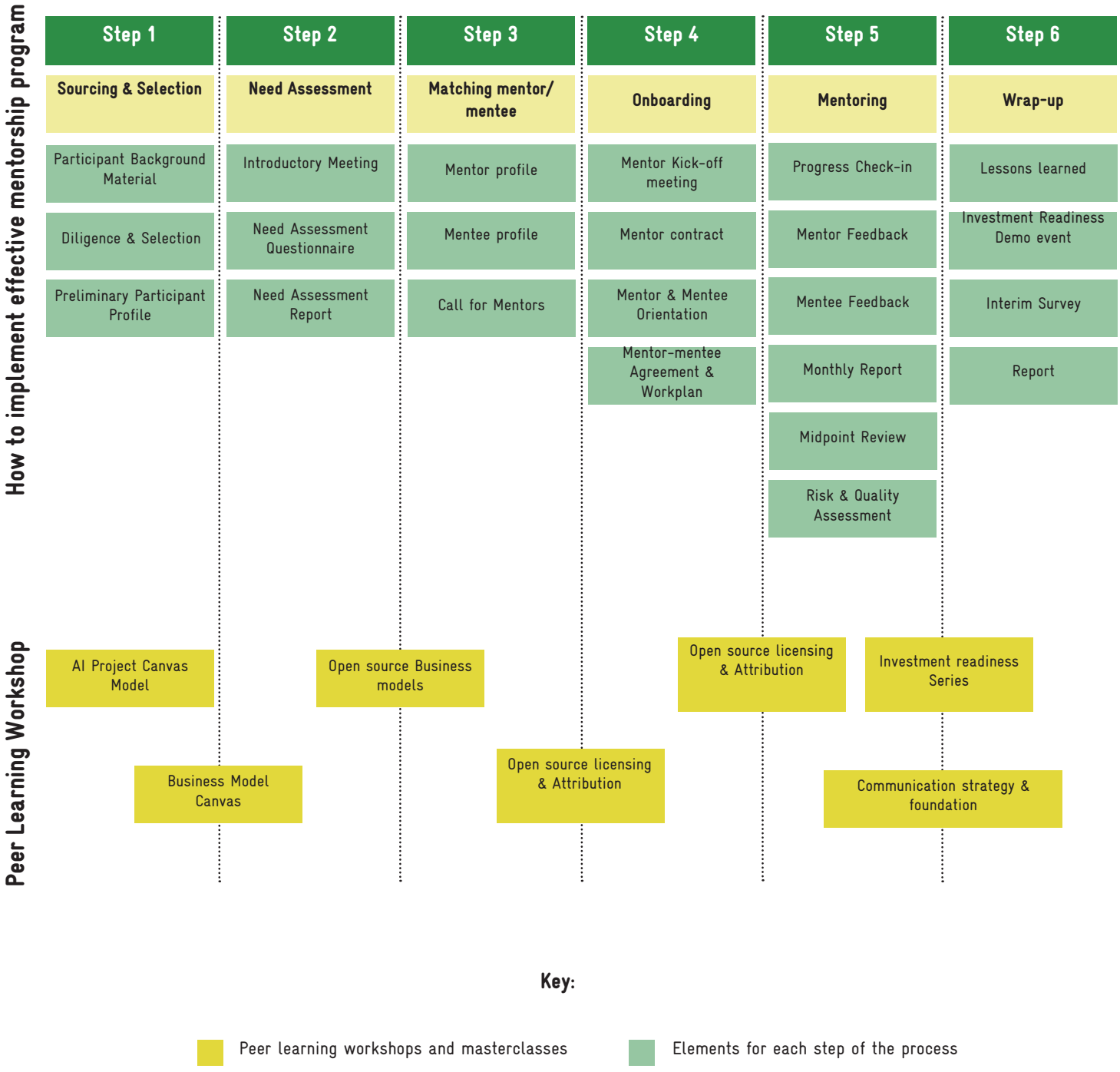
4. **Onboarding:** Helps you onboard your mentors and mentees into your program, as well as provides them with the necessary orientation, training, and support to start their mentoring relationship.

5. **Mentoring:** Guides facilitation of the mentoring process between your mentors and mentees, as well as provides them with the tools, resources, and feedback to achieve their goals.

6. **Program wrap-up:** Guides you on how to wrap up your program by celebrating the achievements of your mentors and mentees, as well as evaluating the impact and effectiveness of your program.

An expert panel gathering occurs between participant sourcing and selection, needs assessment, peer learning workshops and mentoring. This is an opportunity for you to select and invite experts from different fields related to open source AI for the purpose of sharing their insights, experiences, and advice with your mentees and to streamline the mentorship process. This will also help you validate your needs assessment results and refine your program objectives. We hope that this toolkit will inspire you to create a mentorship program that will foster a culture of learning, innovation, and collaboration among open source AI entrepreneurs.

You find a visual aid of the outline on the next page.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Need Assessment Report
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AI Project Canvas Model
Business Model Canvas
Open source Business models
Open source licensing & Attribution
Open source licensing & Attribution
Investment readiness Series
Communication strategy & foundation
Key:
Peer learning workshops and masterclasses
Elements for each step of the process

02 | Participant Sourcing & Selection

This chapter will help you identify and recruit potential participants for your mentorship program. You will learn how to define your target audience, design your application process, and select the best candidates for your program based on various criteria such as skills, interests, goals, and availability.

The objectives of this chapter are to:

- Define your target audience and their characteristics.
- Design your application form and process.
- Select your participants using various methods and tools.
- Communicate with your applicants and provide them with relevant information.

Diligence and selection

Participant sourcing and selection is a crucial step in designing a successful mentorship program for open source AI startups in Africa and Asia. The goal is to identify and recruit participants that have the potential to benefit from the program and contribute to the development of the open source AI ecosystem in their regions.

Some of the aspects that need to be considered when sourcing and selecting participants are:

- Conducting thorough diligence to ensure that the startups meet some minimum criteria, such as having a clear problem statement, a viable solution, a scalable business model, and a social impact. Criteria should also align with the objectives and focus areas of the mentorship program, such as leveraging machine learning or building Africa-centered solutions with technology.
- Assessing commitment levels to the mentorship program by evaluating the motivation, availability, and readiness of the founders and their teams. The program should require the participants to dedicate a certain amount of time and effort to complete the assignments, attend the sessions, and engage with the mentors and peers. The program should also communicate the expectations and benefits clearly and transparently to the participants.
- Using multiple channels and methods to reach out to potential participants and attract diverse and qualified applicants. The program should leverage existing networks and partnerships with local organizations, communities, incubators, accelerators, universities, media outlets, etc. The program should also use online platforms, such as social media, newsletters, blogs, podcasts, webinars, etc., to spread the word and showcase the value proposition of the mentorship program.
- Creating a fair and transparent selection process that involves multiple stages and criteria to evaluate the applicants. The process should include screening applications, conducting interviews, reviewing pitches or demos, checking references, etc. The process should also involve a diverse and experienced panel of judges or reviewers who can provide feedback and insights to the applicants.

Background materials

Background materials are essential for preparing the participants for the mentorship program and ensuring that they have a common understanding of the expectations, goals, and outcomes of the program. The background materials should also provide the participants with relevant information and resources that can help them learn and grow during the program.

Some of the background materials that you would require each startup to have include:

- A mentorship agreement that outlines the roles and responsibilities of both the mentors and the mentees, as well as the duration, frequency, and format of the mentoring sessions. The agreement should also specify the objectives and deliverables of the mentorship program, as well as the feedback and evaluation mechanisms.
- A mentorship handbook that provides guidance and tips on how to make the most of the mentorship program, such as how to establish rapport, communicate effectively, set goals, track progress, overcome challenges, etc. The handbook should also include some best practices and examples of successful mentoring relationships.
- A curriculum or learning plan that outlines the topics and activities that will be covered during the mentorship program, such as product development,

Refer to Annex: A – Participant technical brief

design thinking, business modeling, fundraising, marketing, etc. The curriculum or learning plan should also align with the specific needs and interests of each startup and their mentors.

- A portfolio or a pitch deck that showcases the startup's problem statement, solution, value proposition, target market, competitive advantage, traction, financials, etc. The portfolio or pitch deck should also highlight the startup's social impact and how they are using or planning to use open source AI technologies.
- A list of additional resources that can supplement the mentorship program and provide further learning opportunities for the startups, such as books, articles, podcasts, webinars, courses, tools, etc. The resources should be relevant to the topics and objectives of the mentorship program and the open source AI space.

Preliminary participant profile

Develop a preliminary participant profile to be shared with the expert panel during convening for understanding the needs of the participants as shown below:

Case study

Exemplary participant profile

AgriAI is an imaginary agricultural company in Rwanda using image processing and open source AI to help farmers increase their yields, reduce their costs, and optimize their inputs. They are working towards developing a prototype of their hardware and software solution, conducting a pilot project with 10 farmers in Rwanda, receiving positive feedback and testimonials from the pilot users, applying for several grants and competitions in the Agri-tech space and building a network of local partners and stakeholders in the agriculture sector.

SUMMARY

Segment: Agri-tech

Stage: Pre-seed

Funding raised: $25,000

Revenue generated: $500

Country of operation: Rwanda

SOLUTION

Provides a sustainable agriculture solution that uses image processing and machine learning to help farmers increase their yields, reduce their costs, and optimize their inputs.

Leverages open source AI tools and datasets such as FarmVibes.AI, Image GPT, and public geospatial data to create customized models and workflows for different crops and regions.

Goals and objectives:

- The company's short-term goals are to validate their product-market fit, acquire their first 100 customers, and raise their seed funding.
- Their long-term goals are to scale their solution across Rwanda and other countries in Africa, create a positive social and environmental impact for smallholder farmers, and become a leader in the agri-tech sector.

Business model:

- Their value proposition is to help farmers increase their yield, quality, and profitability by using image processing and machine learning to collect and analyze data on crop health, soil fertility, water availability, pest and disease infestation, etc.
- The target market is smallholder farmers in Rwanda who grow maize, beans, potatoes, and cassava.
- Customer segments are individual farmers, agricultural cooperatives, extension agents, and government agencies.
- Revenue streams include subscription fees for using their app and selling anonymized and aggregated data to third-party organizations.
- Cost structure includes cloud computing infrastructure, data acquisition, research and development, marketing, and customer service.

Pain points, challenges, and obstacles:

Hindered or threatened by the following external and internal factors:

- High competition from other Agri-tech startups and companies that offer similar or complementary solutions.
- Low awareness and adoption of ai technologies among the farmers and other stakeholders in the agriculture sector.
- Lack of access to capital and resources to scale their solution across different regions and markets.
- Limited technical expertise and experience in developing and deploying AI solutions for agriculture.

Mentorship support areas:

Learn or improve on the following topics and skills during the mentorship program:

- Product development (how to design and test user-centric features and functionalities).
- Design thinking (how to empathize with the farmers' needs and challenges and ideate innovative solutions).
- Business modeling (how to refine and validate their value proposition and revenue streams).
- Fundraising (how to pitch their solution and impact to potential investors and donors).
- Marketing (how to reach and attract their target customers and segments).

We will use this case study throughout the mentorship toolkit as we progress on the different phases on creating a solid mentorship program.

This is a fictional profile of a participant with realistic characteristics

03 | Expert Panel

This chapter will help you bring together experts from various fields related to open source AI businesses to share their insights, experiences, and advice with your participants, either on an individual or peer learning/masterclass level. You will learn to acquire relevant expertise and get them up to speed with the participants and know what is expected of them in the program.

The objectives of this chapter are to:

- Identify and recruit experts who have relevant knowledge, experience, and skills to support your participants' learning and growth.
- Prepare the experts for their roles and responsibilities in the program, such as delivering masterclasses, facilitating peer learning sessions, providing one-on-one mentoring, or joining advisory boards.
- Design and implement effective and engaging ways for the experts to interact with the participants.
- Monitor and evaluate the impact of the expert panel on the participants' outcomes and satisfaction, as well as on the overall quality and success of the program.

Planning and development

An expert panel is a valuable component of any mentorship program, especially one that aims to create sustainable business and funding models for open source AI-based businesses. By inviting experts from different domains, such as AI, open source, entrepreneurship, and social impact, you can expose your participants to a diverse range of perspectives, insights, and best practices that can help them overcome their challenges and achieve their goals.

An expert panel can also provide feedback, guidance, and validation to your participants' ideas and projects, as well as connect them with potential partners, investors, or customers.

1. **Identify and recruit experts:**
    - Define the criteria for selecting experts, such as their domain expertise, experience, availability, communication skills, and alignment with your program's vision and values.
    - Conduct thorough research to find potential experts, using sources such as online platforms, networks, events, or referrals.
    - Reach out to the experts with a clear and compelling invitation, explaining the purpose and benefits of the program, the expectations and incentives for the experts, and the timeline and format of their involvement.
    - Create a profile of the experts who agreed to join the program with their contact details, value-add areas, and preferences.
2. **Prepare the experts:**
    - Provide the experts with an orientation package that includes an overview of the program, its objectives, target audience, curriculum, and activities.
    - Introduce the experts to the participants, either individually or in groups, using online or offline channels.
    - Share with the experts the participants' profiles, needs, goals, and projects, and ask them to provide feedback or suggestions on how they can best support them.
    - Assign the experts to specific roles and tasks in the program, such as delivering masterclasses, facilitating peer learning sessions, providing one-on-one mentoring, or joining advisory boards.
    - Communicate with the experts regularly to update them on the program's progress, challenges, and achievements, and to solicit their feedback and input.
3. **Design and implement expert interactions:**
    - Plan and schedule the events or activities that involve the experts, such as online or offline workshops, webinars, podcasts, blogs, or newsletters.
    - Prepare the content and materials for the events or activities, such as agendas, slides, handouts, quizzes, or surveys.
    - Coordinate with the experts on their roles and responsibilities for the events or activities, such as presenting, moderating, facilitating, or evaluating.
    - Promote and invite the participants to join events or activities, using online or offline channels, such as emails, calls, chats, or social media.
    - Execute and monitor the events or activities, ensuring that they are engaging, informative, and relevant for the participants and the experts.

4. **Monitor and evaluate expert impact:**

    - Collect and analyze data on the outcomes and satisfaction of the participants and the experts from the events or activities, using quantitative or qualitative methods, such as surveys, interviews, tests, or observations.
    - Identify and report on the strengths and weaknesses of the expert panel section of the program, such as its effectiveness, efficiency, relevance, sustainability, and scalability.
    - Recognize and appreciate the contributions of the experts to the program's success, such as by sending thank-you notes, giving certificates, or sharing testimonials.
    - Maintain and nurture relationships with the experts after the program ends, such as by inviting them to future events, sharing updates on the participants' progress, or asking for referrals.

Refer to Annex B – Mentor and expert profile

04 | Risk and Quality Plan

This chapter will guide you in identifying, selecting, and implementing the necessary measures and precautions for the successful deployment of any mentorship program. You will learn how to create an orderly, high-quality mentorship program where risks are controlled without high administrative overhead.

The objectives of this chapter are to:

- Define the order and manner of maintaining quality standards.
- Define the risk assessment and de-risking program.

Quality assessment plan

The program quality assurance plan ensures that all the activities of the program are carried out in a defined order and manner within the scheduled deadlines and are responsive to participants' need and feedback, thus maintaining high quality standards.

In order to achieve this, the program quality assurance will be maintained by:

1. Use of a mentorship toolkit that provides a process and templates to ensure a repeatable mentorship methodology.
2. Capturing valuable insights and lessons-learnt at each step. This ensures This ensures continuous improvement as learnings and challenges are used to improve the program. These lessons will stem from:
   - Feedback surveys conducted after each peer learning workshop to capture usefulness of workshops for participants.
   - Monthly feedback surveys for both mentors and mentees to track the progress of the mentees. The survey results will be reported to the program administrator and will be used to make adjustments both within the active mentorship period and to the overall program.
   - Mentorship program administrators will also reflect periodically on lessons learned (starting with monthly and adjusting as needed).

Risk Assessment Plan

A risk assessment plan should be developed and include the following activities:

1. Continuously assess what could possibly go wrong and pose a threat to the success of the project.
2. Determine which significant risks the program must deal with.
3. Define mitigation procedures to counter these risks.

See an example of a risk assessment plan on the next page.

WP	Description of Risk	Likelihood	Proposed risk mitigation measures
1	Participant's Withdrawal	Low	The steering team to appoint other participants to be onboarded on the program. A list is kept of alternative participants covering the program involvement. Continue with fewer participants.
2	Partner/ Expert Withdrawal	Low	The steering team will re-assign the work left to an alternate expert. A list is kept of alternate partners/experts for each required skill set.
3	Partner/ expert underperforming	Low	The program administrator meets with underperforming expert to understand root causes and devise a plan to get the activity back on track. In the short term, divide the work among other experts, and in the long-term, replace the expert.
4	Mentor/ Mentee relationship not working	Low	Program administrator to meet with both and determine if issues can be resolved or if an alternative mentor should be assigned.
5	Participants' needs not met	Medium	Review and monitor the unmet needs and assign a mentor from the pool who better matches the mentee's needs
6	Participants don't progress to fully-fledged business model by end of programme	Medium	Villgro to document the current status of their business model by end of mentorship, including plans for operation of open source AI-based applications.
7	Risk of participants not showing sufficient engagement/participation in the program	Medium	Offer incentives for active engagement, such as certificates of completion, recognition awards, or access to exclusive resources and networking opportunities. Recognizing participants' efforts can increase motivation to participate.

05 | Needs Assessment

This chapter will help you conduct assessments to understand the needs, expectations, and challenges of your participants, both individually and collectively, through workshops and masterclasses. You will learn how to conduct a detailed needs assessment, analyze the results, and use them to inform your program design and delivery through a detailed participant profile.

The objectives of this chapter are to:

- Conduct a needs assessment using various methods and tools.
- Analyze the results using various techniques and tools with a detailed participant profile as the final output.
- Use the results to inform your program design and delivery.

Participant introductory meetings

This sub-section covers the steps and activities involved in conducting one-on-one sessions between the participants (mentees) and the program coordinators as a steppingstone to understanding the needs of the business. These include:

- **Validating the preliminary participant profile:** Review and confirm the information and documents collected and summarized in the preliminary participant profile, such as solution, goals and objectives, business model, support areas, business summary, traction, pain points, challenges, and obstacles. Clarify any doubts, discrepancies, or gaps in the profile. Update and refine the profile as needed.
- **Familiarizing with the program structure and timeline:** Explain and discuss the overall design and delivery of the program, such as objectives and outcomes, expert panel convening, needs assessment, mentorship matching, mentorship sessions, evaluation and feedback, etc. Provide and review the program schedule and milestones. Address any questions or concerns about the program expectations and requirements.
- **Familiarizing with the expert pool:** Introduce and describe the expert panel members who will provide guidance and feedback to the participants. Highlight their skills and expertise in business modeling, open source AI, and other relevant areas. Explain how the participants can access and interact with the expert panel members during the program.

Elements of Needs Assessment and Workshops:

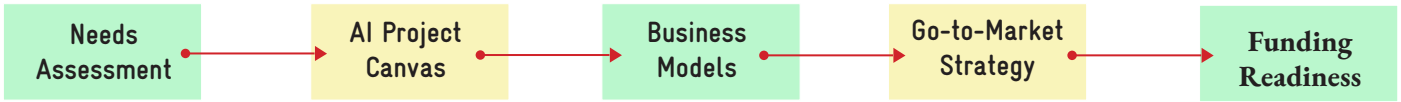
As part of the **Needs Assessment,** the expert pool aimed to identify key business gaps and opportunities for participants. This process formed the foundation for a series of tailored workshops, including sessions on the Project AI Canvas and the Business Model Canvas, delivered during the initial phase of the mentorship program. These workshops were strategically designed to better understand participants' needs and provide a structured framework to guide one-on-one mentorship. By focusing on the core aspects of each participant's initiative, the sessions aimed to translate foundational insights into actionable strategies.

The **Project AI Canvas Workshop** focused on integrating open-source AI components into participants' business models. It emphasized how these AI capabilities contribute to value creation, customer relationships, and revenue generation, ensuring their alignment with the overall business strategy.

The **Business Model Canvas Workshop** targeted the evaluation of business model gaps by mapping participants' strategic thinking. It provided a structured approach to clearly define sustainability plans, as well as strategies for deployment and maintenance, applicable to both commercial and/or non-commercial ventures.

These workshops were essential in laying the groundwork for participants to articulate their initiatives and build actionable, impact-driven strategies towards business sustainability.

The following diagram illustrates the flow of activities and how each workshop builds on the insights and outputs of the previous stages:



Workshop: AI project canvas with open source considerations

This subsection covers the steps and activities involved in conducting a group session where the participants learn and apply the AI project canvas tool to map out the technicalities of their solutions. These include:

- Introduce and explain the AI project canvas tool. The AI project canvas tool is a framework that helps you structure and convey the holistic idea of your AI project to others.
- Discuss the open source considerations for each component. Open source considerations are aspects that relate to the use, development, and distribution of open source software and data in your AI project. For each component of the AI project canvas tool, you need to think about how open source considerations affect your choices and decisions. For example, for the data component, you need to consider where you will source your data, how you will ensure its quality and reliability, how you will protect its privacy and security, how you will license it, and how you will share it with others.
- Apply the AI project canvas tool to your solution. Using the AI project canvas template, fill in each component with information and details about your solution. Be as specific and concise as possible. Use bullet points, keywords, or phrases to summarize your main points. Refer to open source considerations and incorporate them into the canvas. For example, for the model component, you need to specify what type of task (prediction, classification, etc.) your model performs, what architecture you use, what input/output it has, what metrics you use to evaluate it, and what open source software or frameworks you use or contribute to.
- Present and get feedback on your AI project canvas. Share a sample AI project canvas with the participants. Explain each component and how it relates to a value proposition. Highlight the open source considerations that influenced your choices and decisions. Listen to feedback and suggestions. Ask questions and clarify any doubts or gaps in the canvas.

Workshop: Open source AI business models

This subsection covers the steps and activities involved in conducting a group session where the participants learn the various business models in the open source AI field to map out which model is applicable to their businesses. These include:

1. Introduction: Provide an overview of the concepts and definitions of AI, open source, and licenses. Explain what AI is, how it works, and its benefits and challenges. Explain what open source is, how it differs from proprietary software, and its advantages and disadvantages. Explain what licenses are, how they regulate the use and distribution of software and data, and the main types of open source licenses (such as GPL, MIT, Apache, etc.).
2. **Framework:** Introduce and demonstrate some common open source tools and data that can be used for AI projects. For example, TensorFlow, PyTorch, scikit-learn, FarmVibes.AI, Image GPT, public geospatial data, etc. Show how these tools and data can be accessed, installed, integrated, and customized for different AI tasks and scenarios.
3. **Open source business models:** Discuss and compare different open source business models that can be used to generate revenue from AI solutions. For example:
    - **Sponsorships & donations** - Relies on voluntary contributions from individuals or organizations who support the open source project or community. The contributors may receive recognition, influence, or access to exclusive features or services in return. For example, Wikipedia, Linux Foundation, etc.
    - **Service & support-based models** - Offers paid services or support to users of the open source software or data. The services or support may include consulting, installation, customization, training, maintenance, etc. For example, Red Hat, Canonical, MongoDB, etc.
    - **Open-core models** - Provides a core version of the software or data under an open source license, while offering additional features or functionalities under a proprietary license. The additional features or functionalities may include enterprise-grade capabilities, performance enhancements, security improvements, etc. For example, MySQL, ElasticSearch, GitLab, etc.
    - **Freemium models** - Offers a basic version of the software or data for free under an open source license, while charging for a premium version with more advanced features or services. The premium version may include more storage space, more users, more integrations, etc. For example, WordPress.com, Dropbox.com, etc.

- **Platform & cloud-based models** - Hosts and delivers the software or data as a service (SaaS) on a platform or cloud infrastructure. The users pay for accessing or using the software or data on the platform or cloud without installing or maintaining it on their own devices. For example, Google Cloud AI Platform, Amazon Web Services (AWS), Microsoft Azure, etc.
- **Data & API-based models** - Provides access to data or application programming interfaces (APIs) that are derived from or powered by the open source software or data. The users pay for accessing or using the data or APIs for their own applications or purposes. For example, openAI, Mapbox, etc.

Conclusion: Summarize and review the main points and takeaways from the workshop. Highlight the benefits and challenges of using open source software and data for AI projects. Emphasize the importance of choosing an appropriate open source business model that fits the goals and objectives of the solution. Provide some resources and references for further learning and exploration.

One-on-one: AI project canvas open source considerations

This sub-section covers the steps and activities involved in conducting individual sessions between the participants and the mentor(s) to review and improve their AI project canvas with applicable open source considerations. Steps involved include:

Conduct the session. Start the session by greeting the participants and explaining the purpose and objectives of the session. Ask the participants to present their AI project canvas and explain each component in detail. Listen actively. Ask clarifying questions and provide constructive feedback on each component. Focus on the following aspects:

- **Data:** Is it relevant and reliable? Does it cover all aspects of the problem or solution? Does it comply with open source licenses and standards?
- **Model:** Is it appropriate and accurate? Does it perform well on different tasks and scenarios? Does it use or contribute to open source tools and frameworks?
- **Metrics:** Are they relevant and measurable? Do they reflect the goals and objectives of the solution? Do they align with open source best practices and benchmarks?
- **Infrastructure:** Is it scalable and secure? Does it support all features and functionalities of the solution? Does it leverage open source platforms or cloud services?
- **Concept:** Is it innovative and feasible? Does it integrate all components of the solution? Does it consider open source considerations for design and development?
- **Maintenance:** Is it sustainable and adaptable? Does it ensure continuous updates and improvements to the solution? Does it provide user support and feedback mechanisms?
- **Team:** Is it multidisciplinary and collaborative? Does it have all skills and expertise required for the solution? Does it engage with open source communities or projects?
- **Pipeline:** Is it efficient and effective? Does it cover all stages of data collection, processing, analysis, and delivery? Does it follow open source workflows or methodologies?

Summarize and follow up on the session. End the session by summarizing the main points and takeaways from the session. Highlight the strengths and weaknesses of the AI project canvas. Suggest some action items or recommendations for improvement. Thank the participants for their time and effort. Send a follow-up email with a summary of the session, a copy of your notes and feedback, and some resources or references for further learning and exploration.

Workshop: Business model canvas

This sub-section covers the steps and activities involved in conducting a group session where the participants learn and apply the business model canvas tool to their solutions. These include:

- Introduction to the business model canvas. Provide an overview of the concept and definition of a business model and a business model canvas. Explain what a business model is; how it describes the logic of how a company creates, delivers, and captures value; and its benefits and challenges. Explain what a business model canvas is, how it is a visual tool that helps you design and test your business model, and its advantages and disadvantages. Explain the nine components of the business model canvas: value proposition, customer segments, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure.

Case study

AI project canvas open source considerations: AgriAI

1. Concept

- A sustainable agriculture solution that uses image processing and machine learning to help farmers increase their yields, reduce their costs, and optimize their inputs.
- A hardware-software integrated solution that leverages open source AI tools and datasets to create customized models and workflows for different crops and regions.

2. Data

- Images from drones, satellites, and smartphones
- Open source data such as FarmVibes.AI, Image GPT, and public geospatial data
- User feedback and surveys
- Weather and climate data

3. Model

- Image processing and computer vision techniques to segment and classify crops and detect anomalies.
- Machine learning algorithms to predict crop yield, quality, and optimal inputs.
- Open source tools and frameworks such as TensorFlow, PyTorch, scikit-learn, etc.

4. Metrics

- Accuracy, precision, recall, and F1-score of the image processing and machine learning models
- User satisfaction, retention, and referral rates
- Revenue growth and customer acquisition costs
- Social and environmental impact indicators such as yield increase, cost reduction, input optimization, etc.

5. Infrastructure

- Cloud computing platforms: AWS, Google Cloud, or Azure
- Hardware devices such as drones, smartphones, cameras, sensors, etc.
- Software applications such as web app, mobile app, dashboard, etc.

6. Pipeline

- **Data collection:** Acquire images, weather & climate data, source open source datasets; collect user feedback and surveys.
- **Data processing:** Cleanse, transform, label, augment, and store data in cloud databases
- **Data analysis:** model training, validating, and testing; interpret and visualize model output.
- Data delivery & recommendations via web app, mobile app, dashboard

7. Maintenance

- Regular updates and improvements of the hardware and software components
- Continuous monitoring and evaluation of the data quality and model performance
- User support and feedback mechanisms
- Data backup and security measures

8. Team and Costs

- Multidisciplinary team of eight members with skills and expertise in agriculture (crop science, agronomy, extension services), AI (image processing, machine learning, data science, engineering (hardware design, software development), business (product management, marketing, sales)

Team section included in business model canvas.

- Framework. Introduce and discuss some open source AI considerations that can affect or influence each component of the business model canvas. For example:
    - **Value proposition:** How does your solution leverage open source AI tools or data to solve a problem or satisfy a need for your customers? How does your solution differ from other solutions that use proprietary or closed-source AI tools or data?
    - **Customer segments:** Who are the target customers who will benefit from your solution? How do they use or interact with open source AI tools or data? What are their needs, preferences, behaviors, and characteristics?
    - **Channels:** How do you reach and communicate with your customers? How do you deliver your solution to them? How do you leverage open source platforms or communities to promote or distribute your solution?
    - **Customer relationships:** How do you establish and maintain relationships with your customers? How do you attract, retain, and grow your customer base? How do you engage with your customers through open source channels or mechanisms?
    - **Revenue streams:** How do you generate income from your customers? What are they willing to pay for your solution? How do you use or adopt an open source business model such as sponsorships and donations, service and support-based models, open-core models, freemium models, platform and cloud-based models, or data and API-based models?
    - **Key resources:** What are the main assets or inputs that you need to create and deliver your solution? What are the open source AI tools or data that you use or contribute to? What are the skills or expertise that you need to work with open source AI tools or data?
    - **Key activities:** What are the main tasks or processes that you perform to create and deliver your solution? What are the open source AI workflows or methodologies that you follow or implement? What are the challenges or difficulties that you face or anticipate when working with open source AI tools or data?
    - **Key partnerships:** Who are the main partners or collaborators that you work with to create and deliver your solution? What are the benefits or costs of working with them? How do you engage with open source AI communities or projects?
    - **Cost structure:** What are the main expenses or investments that you incur to create and deliver your solution? What are the trade-offs or risks that you face or anticipate when using open source AI tools or data?

Apply the business model canvas tool to a sample case study solution. Using the business model canvas template, fill in each component with information and details about the solution. Be as specific and concise as possible, using bullet points, keywords, or phrases to summarize the points. Refer to the open source AI considerations and incorporate them into your canvas.

Present and get feedback on your business model canvas. Share your business model canvas with the rest of the group. Explain each component and how it relates to your value proposition. Highlight the open source AI considerations that influenced your choices and decisions. Listen to the feedback and suggestions from your peers and facilitators. Ask questions and clarify any doubts or gaps in your canvas. Revise and improve your canvas based on the feedback received.

One-on-one: Business model canvas

This sub-section covers the steps and activities involved in conducting individual sessions between the participants and the mentor(s) to review and improve their business model canvas including the open source business models covered in the previous workshop. Steps involved include:

- Conduct the session. Start the session by greeting the participant and explaining the purpose and objectives of the session. Ask the participant to present their business model canvas and explain each component in detail. Listen actively and take notes during the presentation. Ask clarifying questions and provide constructive feedback on each component. Focus on the following aspects:
    - **Value proposition:** Is it clear and compelling? Does it address a real problem or need for your customers? Does it leverage open source AI tools or data to solve the problem or satisfy the need? Does it differentiate from other solutions that use proprietary or closed-source AI tools or data?
    - **Customer segments:** Are they well-defined and specific? Do they represent the target customers who will benefit from your solution? Do they use or interact with open source AI tools or data?

What are their needs, preferences, behaviors, and characteristics?

- **Channels:** Are they effective and efficient? Do they reach and communicate with your customers? Do they deliver your solution to them? Do they leverage open source platforms or communities to promote or distribute your solution?
- **Customer relationships:** Are they strong and sustainable? Do they establish and maintain relationships with your customers? Do they attract, retain, and grow your customer base? Do they engage with your customers through open source channels or mechanisms?
- **Revenue streams:** Are they viable and profitable? Do they generate income from your customers? What are they willing to pay for your solution? How do you use or adopt an open source business model such as sponsorships and donations, service and support-based models, open-core models, freemium models, platform and cloud-based models, or data and API-based models.
- **Key resources:** Are they sufficient and relevant? Do they include the main assets or inputs that you need to create and deliver your solution? Do they include the open source AI tools or data that you use or contribute to? Do they include the skills or expertise that you need to work with open source AI tools or data?
- **Key activities:** Are they efficient and effective? Do they include the main tasks or processes that you perform to create and deliver your solution? Do they include the open source AI workflows or methodologies that you follow or implement? Do they include the challenges or difficulties that you face or anticipate when working with open source AI tools or data?
- **Key partnerships:** Are they beneficial and collaborative? Do they include the main partners or collaborators that you work with to create and deliver your solution? Do they include the benefits or costs of working with them? Do they include how you engage with open source AI communities or projects?
- **Cost structure:** Are they realistic and manageable? Do they include the main expenses or investments that you incur to create and deliver your solution? Do they include the trade-offs or risks that you face or anticipate when using open source AI tools or data?

- Summarize and follow up on the session. End the session by summarizing the main points and takeaways from the session. Highlight the strengths and weaknesses of the AI project canvas. Suggest some action items or recommendations for improvement. Thank the participants for their time and effort. Send a follow-up email with a summary of the session, a copy of your notes and feedback, and some resources or references for further learning and exploration.

Identified business model gaps: AgriAI

Customer value and revenue

- AgriAI needs to refine its value proposition, conduct more market research and customer validation, explore alternative or complementary channels, and diversify or scale its revenue streams.

Resource management and development

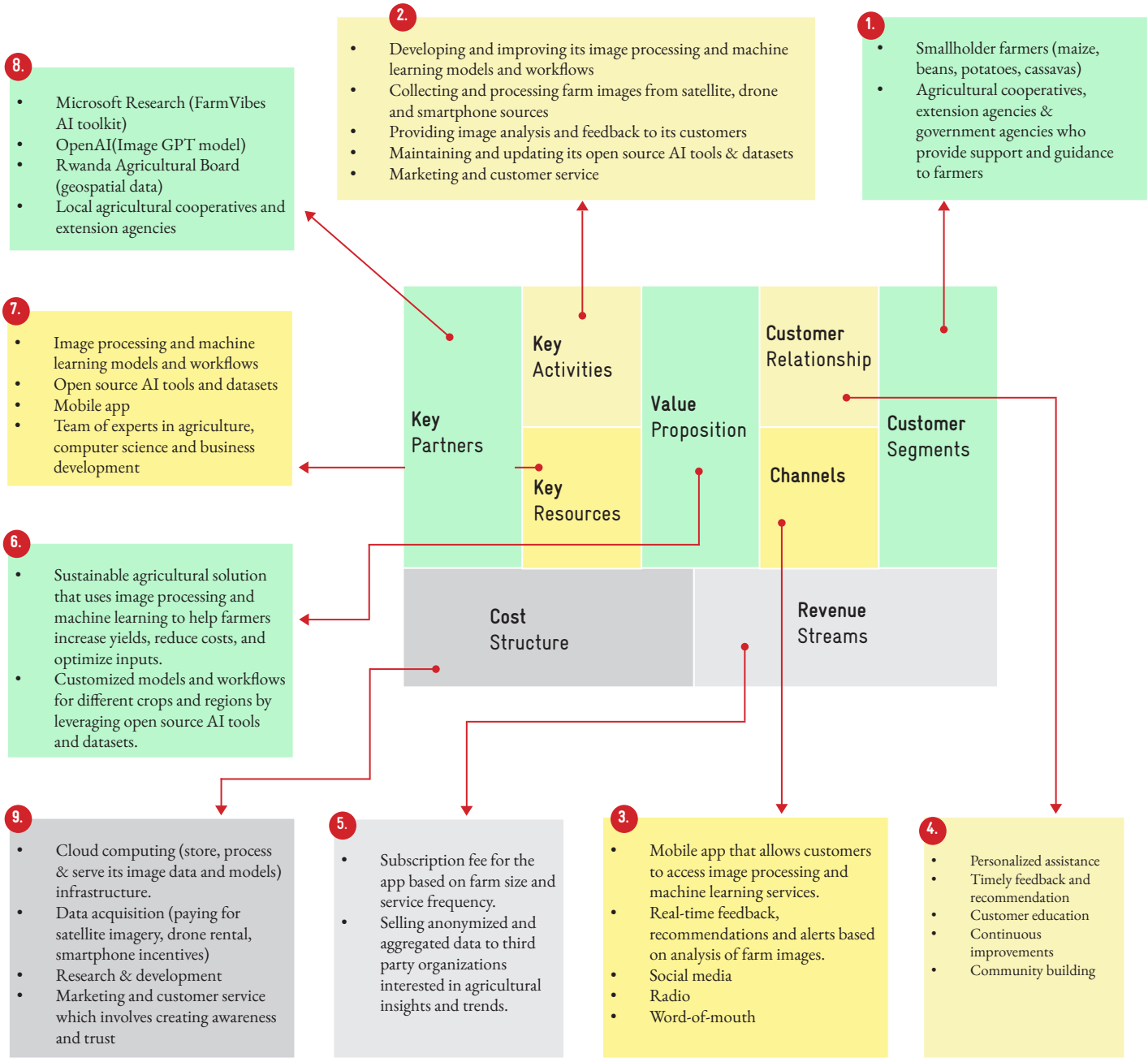
- AgriAI needs to more effectively create and deliver its solution and improve how it manages its expenses and investments.
- It also needs to secure more funding or partnerships, improve its research and development processes and methodologies, adopt best practices and standards for open source AI development and deployment, and budget carefully and plan ahead for any potential costs and trade-offs.

Partnership strategy and alignment

- AgriAI needs to establish clear and mutually beneficial agreements and arrangements with its partners, communicate regularly and transparently with them, and manage any issues or risks that may arise from the partnerships.

Case study

Business model canvas: AgriAI



06 | Onboarding

This chapter is focused on onboarding the key mentors and mentees that will be involved in the mentorship support. These activities vary from the kind of support expected to be delivered or offered to the participants. These activities will be defined by the different experts and skills available across the participants' needs. Such activities are the individuals' mentorship support covered by an assigned mentor to a specific participant or peer-learning workshops and sessions. You will learn how to prepare and conduct the onboarding orientation meeting that will inform the program mentorship support objectives and goals.

The objectives of this chapter are to:

- Carry out an orientation meeting with the external expert pools, hereby referred to as the mentors.
- Communicate the deliverables with mentors and mentees.
- Define the tools and resources required.
- Define the roles and responsibilities of the mentor and mentee.

Mentor onboarding

This sub-section covers the steps and activities involved in preparing and conducting mentor orientation meeting(s) between the program coordinators and the expert pool (mentors).
These include:

- **Conduct the session:** Start the session by greeting the mentors. Explaining the purpose and objectives of the session. Ask the mentors and the program coordinators to share their background, professional careers, and skills.
- **Familiarizing with the program structure and timeline:** Brief the mentors on the overall design and delivery of the program, including its objectives, outcomes, and goals. Provide a review of the program schedule and milestones. Address any questions or concerns regarding the program's expectations and requirements.
- **Brief of the participant profile:** Brief them on the summarized participants' profiles including solutions, goals, objectives, business models, areas requiring support, traction, pain points, challenges, obstacles, and identified business gaps. The participant profiles are to be shared as pre-reading materials ahead of the meeting. Address any questions or concerns regarding the program's expectations and requirements.
- **Validating with the tools:** Provide a briefing on the tools and resources to be utilized and implemented by the mentors, including the mentorship progress check-in and participant tracking activity. Explain how mentors can access and engage with the tools along with any supplementary resources throughout the program.
- **Summarize and follow-up session:** End the session by summarizing the main takeaways. Suggest that the program coordinator plan to introduce the mentors to the participants. Suggest to the mentor and mentee to arrange suitable available slots for a follow-on session during the program period. Thank the mentor and the participants for their time and effort. Send a follow-up email with a summary of the meeting notes.

External expert pool: Any external mentors to be introduced to the program will sign a contract agreement that sets the ground rules. The contract agreement will include the terms of payment, provision of service, intellectual property, covenant and understanding, termination, etc. The agreement is to be signed by all parties (program lead coordinator and mentor). Address any concerns of the contract agreement.

Mentee onboarding

This sub-section covers the steps and activities involved during the mentee and mentor introduction meeting. This involves conducting a kickoff one-on-one meeting between the assigned mentor and participants.

These include:

- **Conduct the session:** Start the session by greeting the mentor and the participants. Explain the purpose and objectives of the session. Ask the participant to share their company's background project and current focus.
- **Briefing of the mentor profile:** Introduce and describe the mentor who will provide guidance and feedback to the participants. Highlight the skills and expertise of the mentor and how these have been matched with the needs of the mentee. The mentor profile is shared as a pre-read before the meeting.
- **Ground rules:** Explain the ground rules of the support that will be followed by both the mentor and mentee as outlined in the open source Business Mentor Agreement. Address any questions or

concerns about the program's expectations and requirements.

- **Work plan explained:** Introduce the participant to shed light on the project's traction under the program's support. Ensure that both mentors and participants have clarity regarding the support provided during the program. Discuss and agree upon a work plan to address the participants' needs, followed by a countersignature by the mentor and mentee, which is shared after the meeting.
- **Summarize and follow-up session:** End the session by summarizing the main points takeaways. Highlight the open source Business Mentor Agreement. Suggest that the agreement be countersigned after drafting the workplan. Suggest to the mentor and mentee to arrange suitable available slots for a follow-on session during the program period. Allow the mentor to spearhead the follow-up one-on-one session with the participants moving forward. Suggest to the mentor and mentee to exchange contacts and possibly create a group chat. Thank the mentor and the participants for their time and effort. Send a follow-up email with a summary of the meeting notes, upcoming schedule series of workshops, and peer-learning sessions.

07 Mentoring

This chapter is focused on the mentorship of participants for open source businesses where it explores the strategic aspects of one-on-one sessions with mentors, further peer-learning workshops, and feedback surveys related to the program's thematic areas. You will gain insights into how to effectively coordinate the mentorship exercise between mentors and mentees, which will in turn, help shape the program's objectives and goals.

The objectives of this chapter are to:

- Give a guideline on how to run the mentorship program.
- Monitor and evaluate the outcome of the program.
- Report the risks, challenges, and lessons learned.
- Record anything and everything for reference.

One-on-one session

This sub-section outlines the procedures and actions required for conducting one-on-one sessions between participants and their mentor(s) to address their expressed needs and gaps, with the goal of enhancing their identified business and revenue models.

These include:

- **Alignment of workplan:** The mentor to make his/her workplan visible and agreeable to the participant. The workplan to be set out in the Open source Business Mentor Agreement and tracked monthly in the monthly check-in report.
- **Reporting:** The mentor to share the progress made with the participants every month. The check-in report will be outlined and addressed in the Mentorship Progress Check-in Template, such as the key wins, next steps, lesson learned, risk and help, and the status of the mentorship goals.
- **Validating the mentoring sessions:** Provide a feedback survey questionnaire addressed to the mentors and the participants every month. This is to guide the program objectives and ensure that goals are met through the program.

Summary and follow-up: Allow mentors to spearhead the conversation and lead the meeting on each and every session moving forward. Suggest the mentor share any difficulty faced during the program so the program coordinator can consider the addressed concerns. Suggest the mentor create meeting notes of every session held. Suggest mentor shares or requests any resources required during the program.

Peer-learning session & masterclass

This sub-section covers the steps and activities involved in conducting a group session where participants learn and apply to address their expressed gaps, with the goal of enhancing their identified technical aspects, business, and/or revenue models. The expert mentor under the identified thematic topic to provide material(s) in advance before the set date of the workshop.

These include:

- **Email briefs:** Send an email to the participants providing a brief overview of the upcoming workshop or peer learning session. Highlight the topic to be covered during the session and the expert who will be hosting it. Share the necessary resources or tools that should be reviewed before the workshop as pre-read material. Finally, emphasize the date and time of the workshop.
- **Conduct the session:** Start the session by greeting the groups (expert mentor, the participants, and the program coordinator). Introduce the expert mentor by highlighting their professional and skills background. Introduce and explain the thematic topic to be covered during the session.
- **Framework:** Ask the expert mentor to take over the session and proceed with the thematic topic. Inform the audience to allow you to record. Participants and the program coordinator to be allowed to ask questions throughout the session. Suggest the expert mentor share the ground rules before the sessions start.
- **Follow-on session:** Recommend a follow-up session with the mentor to the individual participants to help understand and guide the conversation further for their individual application of the specific thematic topic. Suggest the mentor shares the alternative slots available for the individual session through an email.

Conclude the session: Summarize the main points and takeaways. Before the session ends, ask the participants to fill out the feedback form for any future actions and recommendations for the improvement of the different or similar thematic topic. Additionally, send a follow-up email with a summary of the session, a copy of the session record, and reference resources for further learning and exploration.

Workshop: Open source Intellectual Property (IP) & attribution

This sub-section covers the steps and activities involved in conducting a group session where the participants learn and apply the open source intellectual property (IP) and attribution to their solution. Both open source software and CC licensing models promote ideas of free access. It is not a rare case to combine open source released under OSS licenses with CC-licensed creative materials.

These include:

- **Introduction to the open source IP and attribution:** Provide an overview of the concepts and definitions related to the following topics: intellectual property, various open source with AI, and maximizing the use of open source through various licenses.
- **Licensing and use rights:** Introduce and discuss the type of Intellectual Property Rights (IPRs) considerations that can affect or influence the business model.
    - **Proprietary License:** A status quo automatically attaches to codes and content unless expressly stated otherwise; all rights belong to the author and use without permission is a transgression of the right.
    - **Copyleft:** Grants permission to freely use, modify, and redistribute the covered intellectual property provided that the original license remains intact both for the original project and for any modification to the original project that anyone might make. Using the copyleft mechanism, source code can always remain open and royalty free.
        - **"Strong" Copyleft:** This covers the project itself and any codes that link to code within that covered project.
            - GNU General Public License (GPLv2) – This allows for free usage, modification, and distribution of covered code, but the original license remains intact and covers both the original project and any modifications. Requires that anyone distributing compiled versions of a project make original source code available either by providing the source code along with the distributed object code or by offering it upon request. Redistribution is forbidden if doing so would potentially require royalty payments for patents covering the work.
            - GPLv3 - Handles patents differently from GPLv2 by explicitly granting free usage rights to any such patents owned, then or in the future, by any contributor to the project. It also expressly grants recipients the right to break any digital rights management (DRM) code contained within the covered project, preventing the user from being charged with violations of the Digital Millenium Copyright Act and other similar "tamper-proofing" laws.
            - Affero GNU GPL (AGPL) - While this is similar to the GPLv3, it offers general public license freedoms to users who interact with the AGPL-licensed software over a network. This prevents an individual or company from making significant valuable modifications to a project intended for widespread network use and refusing to make those modifications widely available.
        - **"Weak" Copyleft:**
            - Lesser GPL - Provides the same level of terms as the AGPL and GPL licenses, including preserving copyright and license notifications with the prime variation being that smaller projects/objects accessed through larger licensed works do not require distribution of the larger project. The modified source does not have to be distributed under the same terms that apply to the larger code project.
            - Mozilla Public License (MPL) - The least restrictive GPL that makes it easy to modify and use the code in closed source and/or proprietary software, as long as any code licensed under the MPL is kept in separate files and these files are distributed with the software. The MPL also includes patent grants and enforces that copyright notices be retained.
    - **Permissive:** It makes very few restrictions in the usage, distribution, or modification of covered projects, with the most common restriction within such license being attribution (e.g., Apache License, MIT License, Berkley Source Distribution License).
    - **Public Domain Equivalent:** Grants public-domain-like rights or acts as a waiver and is usually used to allow anyone to use copyrighted works unconditionally while avoiding the complexities of attribution and license compatibility that arise with another license.

    - **Rail, Responsible AI license:** AI-specific licenses enabling open source access use and distribution of AI artifacts while requiring a responsible use of the latter.

- Creative Common (CC) License advocates the "some rights reserved" concept in contrast to the default "all rights reserved" in current copyright laws. There is not restriction when it comes to reusing any particular types of the technology, provided that the terms are respected. No special or explicit permission is required from the licensor to use the CC-licensed content to train AI applications to the extent that copyright permission is required at all. These produce a series of copyright licenses to help creators declare to the world what freedom they want their work to carry. These freedoms are composed in four elements:
    - Attribution (denoted as "by" or BY:) - Credit must be given to the creator.
    - Noncommercial ("nc" or $) - Only non-commercial uses of the work are permitted.
    - No derivatives ("nd" or =) - No derivatives or adaptations of the work are permitted.
    - Share alike ("sa" or) - Adaptations must be shared under the same terms.
- CC Zero (CC0) is a public dedication tool that allows creators to give up their copyright and put their works into the worldwide public domain. It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, with no conditions.

Examining open source Licenses through the Creative Commons (CC) Licensing Model: Provide the concept of open source license and how they interpret the creative commons (CC) license. The participants can make a better decision on the license selections while combining open source with CC licensed works. It is important to note that the CC licences and CC0 cannot be revoked, only the copyright holder or someone with express permission from the copyright holder can apply a CC licence or CC0 to a copyrighted work.

Workshop: Open source Investment Readiness

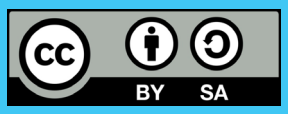
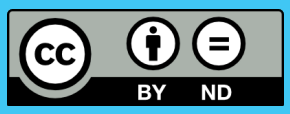
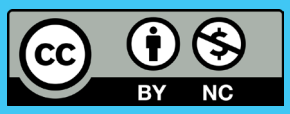
This sub-section covers the steps and activities involved in conducting a group session where the participants learn and apply the revenue models of their business concept to their solution to tract revenue and/or profits. These include:

- **Introduction to the open source revenue models:** Provide an overview concept of exploring the key considerations in designing profitable revenue models for businesses based on open source AI.
- **Investment readiness:** Introduce and discuss the type of investment materials to consider that can affect or influence the business model.
    - Demystifying capital: Focus on the four stages of business development. Such activities include design of the business model, validation of the commercially viable business model, preparation of the conditions in the market among the customers and scaling the model to reach large numbers of customers.
    - Understanding the type of capital: Focus on the type of investors, such as individual, institutional, impact, non-diluting capital, etc.
- **Summary of revenue models:** Discuss the type of revenue models, such as support selling, loss leader, widget frosting, accessorizing, service enabler, brand licensing, sell it-free it, software franchising, etc. Provide explanation of the models and their applicability to the chosen type of license and their revenue sources.
- **Examining investment readiness materials:** Provide example of revenue models concepts and how they connect with their chosen business model concept. The participants decide on the revenue models selections while combining them with their business models.
- **Investing in open source:** Highlight venture capital processes and methodologies when it comes to open source AI companies. The overview of the venture capital process and methodology can be use case examples to provide new insights into how venture capitalists work and make investments. Discuss different business model elements that are unique to doing business with open source AI that affect the participants' revenue model choices.

Refer to Annex I – Comparative table of CC license comparison with Open Source Licenses

CC License - Case Example

Designs to bridge creators and users

License	Detail
Attribution 	This license allows users to distribute, remix, adapt, and build upon the material in any medium or format so long as attribution is given to the creator. It means that a user can freely use the work, provided that he/she credits the creator. The license allows for commercial use.
Attribution-share alike 	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format so long as attribution is given to the creator. It means that a user can freely use the work, provided that he/she credits the creator and also licenses any derivative under the same license as that of the original work. The license allows for commercial use. If the reusers remixes, adapts, or builds upon the material, they must license the modified material under identical terms.
Attribution-no derivatives 	This license allows reusers to copy and distribute the material in any format in un-adapted form only, and only so long as attribution is given to the creator. The license allows for commercial use.
Attribution-non commercial 	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only and so long as attribution is given to the creator. It means that a user can only use the work for non-commercial purposes and must credit the creator.
Attribution-non commercial-no derivatives 	This license allows reusers to copy and distribute the material in any medium or format in un-adapted form only, for non-commercial purposes only, and so long as attribution is given to the creator. It means that a user can only make use of verbatim copies of the work, for noncommercial purposes only, and must credit the creator.
Attribution-non commercial-share alike 	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only and so long as attribution is given to the creator. It means that a user can only use the work for non-commercial purposes, must credit the creator, and license any derivative under the same license as that of the original work. If the reuser remixes, adapts, or builds upon the material, they must license the modified material under identical terms.

Case Study

Mentorship: AgriAI

AgriAI serves as a software provider specializing in forecasting crop yield, assessing quality, and recommending optimal inputs. Within its value network, AgriAI primarily focuses on packaging, branding, and distributing its crop prediction software.

Business Modeling (how to refine and validate their value proposition and revenue streams)

- **Revenue Model:** To ensure its commercial viability, AgriAI implements certain restrictions through customer support contracts. These contracts serve as a foundation for AgriAI's commercial approach, enabling the company to offer its services. Consequently, the primary revenue stream is currently generated through subscription-based models. This approach allows AgriAI not only to continuously enhance its technology based on customer feedback but also to provide ongoing support throughout the agreement's duration. This revenue model is categorized as support-based selling.

Fundraising (how to pitch their solution and impact to potential investors and donors)

- Dealing with Venture Capitalist (VC) - investment Readiness: VC do not put value into open source AI companies. Rather than understanding the valuation methodologies, AgriAI seeks help in learning better negotiations skills. VC is looking to become a shareholder as cheaply as possible. When presenting to every VC company, AgriAI is to be guided by the following:

    - Profitability of business model
    - Revenue streams
    - Market acceptance
    - Community commitment
    - Competitive reactions
    - Quality of software

Conclusion: In summary, AgriAI's core role is to deliver commercially viable results derived from its software development efforts, complemented by essential service components that cater to the software's end users.

Refer to Annex J – Summary of Open Source revenue models

08 | Program Wrap-Up

This chapter is focused on reflecting the sessions or the one-on-one meetings conducted by the program coordinator, expert pool, mentee, and mentor. It explores the alignment on next steps.

The objectives of this chapter are to:

- Evaluate the success and the failures of the program.
- Measure the retention rate of the mentee.
- Gather insights from the mentor and mentee on areas of improvement and strength.
- Learning and reflection.

Measure the success of the program

This sub-section covers the steps and activities involved to measure the success or the failure of the program to determine the effectiveness and make improvements for future iterations.
These include:

- **Define clear objective:** Create criteria to measure the intended outcomes and achievement for the program's objectives and goals.
- **Feedback Survey:** Gather feedback from the mentor and mentee. Use a feedback survey form (Google form, ClickUp form, Babele form, etc.) to collect insights on the program's strength and areas of improvement. The format of the survey questions should focus on the pre-program, the program itself, and the post-program. Address the measurement of success of the program by collecting mentee and mentor insights on the program's thematic topic(s), participant team achievement, and mentor connectivity.
- **Email debriefs:** Send an email to the participants and the mentors providing them with a brief appreciation of their participation in the program. Highlight the survey questionnaire and the purpose of the form and an overview of the survey questions. Finally, emphasize the date of the final submission of the survey form.
- **Data for evaluation:** Collect the data and insights to be used in the overall evaluation of the program's success and impact. Present a report to the program coordinators for their input and insights to measure the program's return on investment of the mentorship program.
- **Conduct a wrap up meeting:** Suggest carrying out a final meeting with the participants by creating a list of action items that resulted from the conversation during the mentorship, set on the date and time for the meeting. Draft the agenda of the meeting with a structured format and communicate to the participants with an email. If applicable, discuss how the participants can continue their growth and development.

In conclusion: The exercise offers a valuable opportunity for the participants, mentors, and program coordinators to reflect, learn, and provide feedback. Suggest documenting the outcomes as a record of the program's mentorship journey.

Project Report

This sub-section covers the steps and activities involved in summarizing the key aspects of the project, its objectives, methodologies, results, and conclusions. These include:

- **Introduction to the report preparation:** Focus on the materials covered during the program, guided by the sub-sections of the mentorship program methodology. See Figure 1 for your reference. Focus on the different stakeholders and their contribution to the program.
- **Key sections and components:** Break down the key sections and components of the report depending on the content shared, delivered, and performed during the mentorship program. Define each section independently with clear instructions on what information is required in each section. Such content includes drawings, tables, figures, etc.
- **Framework:** Introduce and demonstrate the content to adopt, focusing on the topic but not limited to:
  - **Executive summary of the program:** Indicate the program overview, key objectives, stakeholders and major findings and recommendations.
  - **Introduction to the report:** Indicate the background of the program and the purpose of the report, scope, and methodology.
  - **Program structure:** Indicate the duration and timeline, curriculum, topics to be covered, mentorship team (including the expert pool), participants selection process, program evaluation metrics, and participants' profiles.

- **Key learning modules:** Indicate the identified thematic areas considered in the program.
- **Mentorship Experience:** Indicate the learning and insights gathered from both the mentor and participants.
- **Program outcomes:** Indicate the participants' achievements. Suggest indicating any additional deliverable support brought out in the program.
- **Recommendations:** Indicate the program enhancement, scale, and expansion of the support. Suggest indicating any alumni recommendation for long-term sustainability of the participants.
- **Conclusion:** Indicate the recap of the program impact, prospects, and final thoughts as the program coordinators.
- **Appendices:** Indicate any resources, tools, and materials that echo the program success and implementations.
- **Acknowledgements:** Indicate any stakeholders that took part in the program implementation and success.
- **References:** Indicate any cited sources and references for the program content report.
- **Formatting and style:** Specify the style and format as a guideline for the report, including the font type and size, line spacing, margin setting, and citation styles. Be consistent to enhance readability.
- **Review and feedback:** Provide the sample report to the rest of the program coordinators for insights, feedback, and recommendations.

Summary: Suggest the report communicate the results and findings of the entire program to illustrate the participants' initiatives and the implementation of the conversation moving forward.

09 | Annexes

Annex A

Template: Participant Technical Brief

Open-Source Segment: _____ **Country:** _____

Value Preposition Statement: _____

Company Name	
Location	
Project Target	
Stage	
Segment	
Innovation	
Solution	

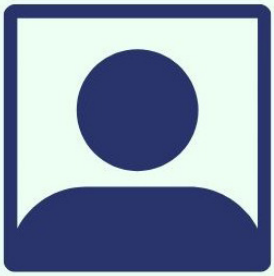
Provide the overview concept of the company project, and the mandate to meet or contribute to the program objectives and goals.

Annex B

Template: Mentor & Expert Profiles

Mentor Profile: Mentor

[Description detail of the mentor]



Mentor Name

Designation

Background and Expertise:

Mentorship Value-Add Areas:

Annex C

Preliminary Needs Assessment Questionnaire

Template: Needs Assessment Questionnaire

1. Introduction:
    - Can you tell me a little bit about yourself and your role at the company?
2. Company background:
    - Can you provide a brief overview of your company, including its mission, products or services, target market, and current stage of development?
    - Other than the FAIR FORWARD project, do you have any revenue generating/ profitable part of the business? If yes, is it Open-AI based?
3. Goals and objectives with regards to FAIR Forward cooperation:
    - What goals and objectives do you have for your project/application that you are working on in partnership with GIZ - FAIR Forward?
    - If you have any successful business and/or funding model as an organization, can the FAIR FORWARD project be integrated? Why/why not?
4. Open AI application
    - How are you utilizing Open AI in your project or application?
    - Who are (or would be) the customers of your application? How is it meeting the needs of these customers?
    - Are you aware of competitors working on similar applications? If so, how does your solution compare to your competitors in terms of products or services offered?
    - Are there any specific industry trends or changes that are affecting your business?
    - In what domain and with what purpose is AI used?
    - Which AI approaches are used (e.g., computer vision or natural language processing)?
    - Are commercial AI solutions/products used in addition to open-source approaches?
    - Which open-source licenses are used or preferred within the company?
5. Business models
    - Under what conditions would you consider continuing the development or operation of the Open AI project once GIZ support ends?
    - Can other parts of your company support the Open AI project? Or are they in conflict?
    - Have you explored financially sustainable business models for operating the Open AI project? If so, can you describe these?
    - What key challenges do you see with regards to a business model? What questions do you have in this regard?
        - Do you have team members with a business background?
        - Are your customers the same as your payers?
        - How would you define your market?
        - What are the sources of revenue streams?
        - What are the projected costs?
        - What kind of financing do you think you need? (Grant? Debt? Equity? Other?)
6. Pain points, challenges, and obstacles
    - What do you think are your project's main obstacles to getting funding?
    - Are there any regulatory or compliance requirements that your organization must meet?
    - What are the key areas of your solution or project that need improvement?
    - Are there any financial or budget constraints that would prevent this project from continuing once GIZ support ends?
    - Have you thought about how the project can be financially sustainable once the project ends?

7. Future needs:
    - What will the organization need in the future, in terms of processes, systems, and capabilities, in order to achieve its goals and overcome its challenges?
    - What is your go-to-market strategy?

8. Mentorship:
    - What specific business areas are you looking for mentorship on?
    - Are there any other factors that should be considered when assessing the needs of your business?

9. Conclusion:
    - Is there anything else you would like to add or anything that we didn't cover in this interview?

Annex D

Preliminary Needs Assessment Report

Needs Assessment Report - Company X

Company x description

SUMMARY

Segment: *Enter Here*

Stage: *Enter Here*

Country of operation: *Enter Here*

FAIR FORWARD PROJECTS

Illustrate the project under the program target

Goals and objectives with regard to FAIR Forward cooperation:

Open AI Application & AI Approaches used:

Business model:

Pain points, challenges, and obstacles:

Mentorship support areas:

Mentor profile:

Annex E

AI Project Canvas Template

Designed for: _____ **Designed by:** _____ **Date:** **Version:** _____

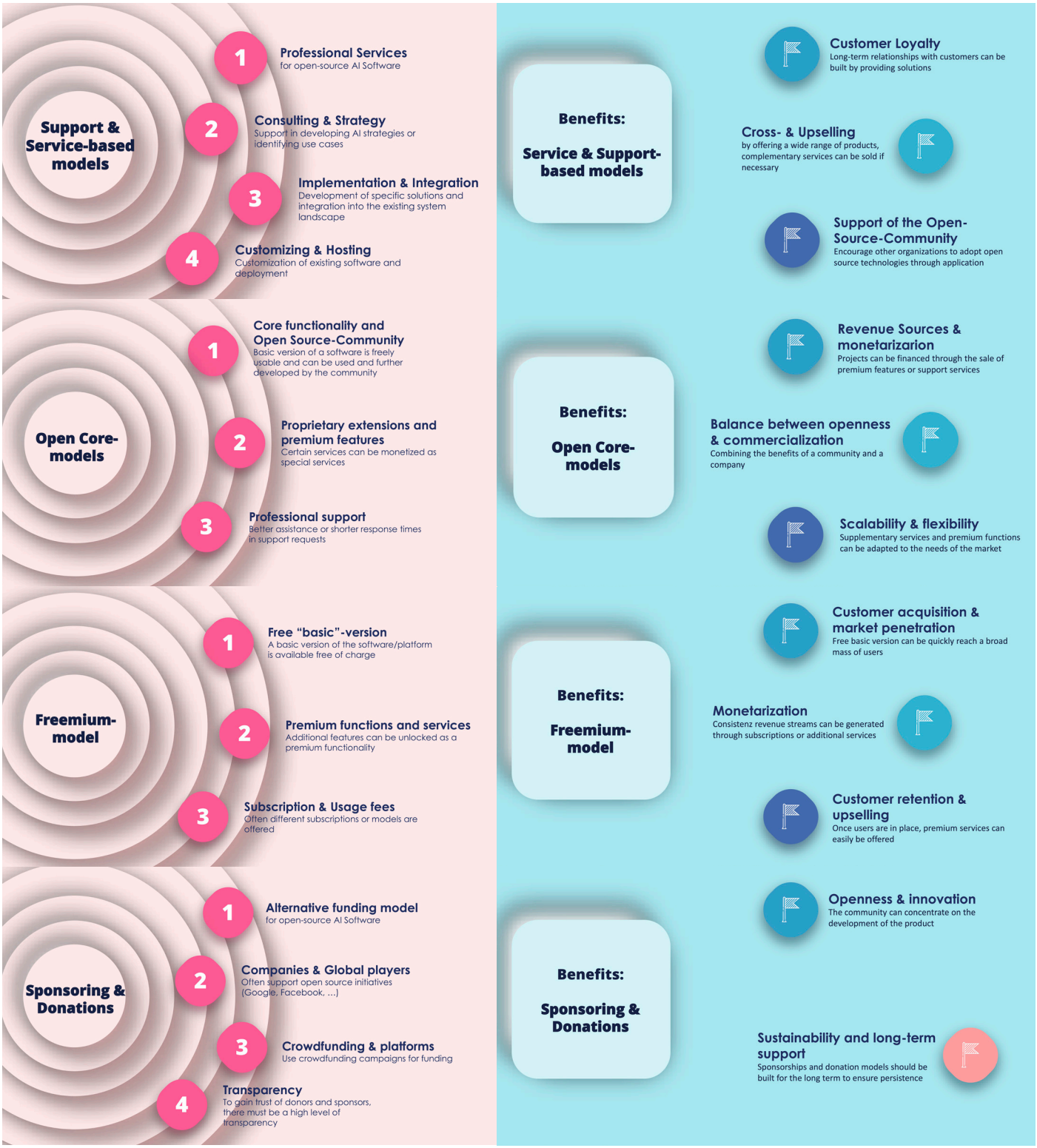
AI Project Canvas

1. Concept • What is the problem you are trying to solve? • What is the solution you want to build? • How big is the impact on the business of that project? Who is it for, and will benefit the most?	**2. Data** • What internal and external Data Sources do you need? • What databases and tables you want to use? • How will you connect to Data Sources?	**3. Model** • What is the type of the task (prediction, classification, ...)? • Which model architecture you want to use? • What will be the input/output of the model?
4. Metrics • How will you evaluate data correctness? • What metrics will you use for models, and how will you evaluate them? • What is your business KPI of success (Minimum Justifiable Improvement)? • How will you track progress?	**5. Infrastructure** • What tools and services do you want to use to perform operations on data, models, and code? • Where will you deploy the whole system - on cloud or on-prem?	**6. Pipeline** • How will you connect all services, and what will be the workflow? • Which parts and how will be automated? • Will you run a model in the batch or real-time?
7. Maintenance • How will you take care of Versioning, Reproducibility, Testing, and Monitoring of Data, Model, and Code?		
8. Team • Who will be the end-user of the product? • Who will benefit from the product? • How will customer benefit from the outcome? • Who is needed to perform the Build & Deploy phase?		
9. Costs • What we have to pay for? • How much do we have to pay? • What is the expected revenue, or non-financial added value? • What is the problem you are trying to solve?		

Source: https://towardsdatascience.com/introducing-the-ai-project-canvas-e88e29eb7024

Annex F

Common AI Open Source Business Models Approaches



Source: Open Source AI Business Models, University of Oldenburg

Annex G

Business Model Canvas with Open Source

<table>
<tr><th>Key Partners</th><th>Key Activities</th><th>Unique Value Proposition</th><th>Customer Relationships</th><th>Customer Segments (Users)</th></tr>
<tr><td>What kinds of agreements are we going to make with various participants? How does utilization of OS affect our partners outside the community?</td><td>What are the competencies we especially seek from and can offer to the community? How are we to manage relationships and maintain sustainable development?

Open source Consideration
What are the inbound and outbound activities you will carry out to encourage engagement with the project (e.g., conferences, blog posts, social media etc.)</td><td rowspan="3">What value do we deliver to the user? Which one of our user's problems are we helping to solve? What bundles of products and services are we offering to each user Segment? Which user needs are we satisfying?

Does the utilization of OSS affect the way the customer perceives our value offering? How do we take OS into account in customer marketing?

Open source Consideration
• What is the promise of your project?
• Does the fact that it is open source contribute to the uniqueness of your offering?
• How?</td><td>What type of relationship does each of our user Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they? What is an appropriate OS license to use?
What kind of relationship are we going to create with the community?

Open source Consideration
What are strategic relationships that are critical to building up your community?
• Contributors
• Project evangelist
• Thought leaders
• Integration with other projects</td><td rowspan="3">Describes the market segments to which a company wants to offer value. Who are our target customers? Does OS impose restrictions or provide wider access for certain market segments?

For whom are we creating value? Who are our most important users? Is our user base a Mass Market, Niche Market, Segmented, Diversified, Multi-sided Platform?

Open-source Consideration
Who are the users that are most likely to contribute to your project?</td></tr>
<tr><th>Problem</th><th>Solution</th><th>Channels</th></tr>
<tr><td>What problem are you trying to solve for your users?

Open source Consideration
Why is the solution open source?
• To provide a free offering?
• To build community?
• Other reasons?</td><td>What is the solution?

Open source Consideration
Independence versus foundation?
Which license?

Key Resources
What is our role in the community? How do we share resources and carry out activities with the other actors and community players?</td><td>Through which Channels do our User Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with user routines? Describes the company's various means of getting in touch with its customers.

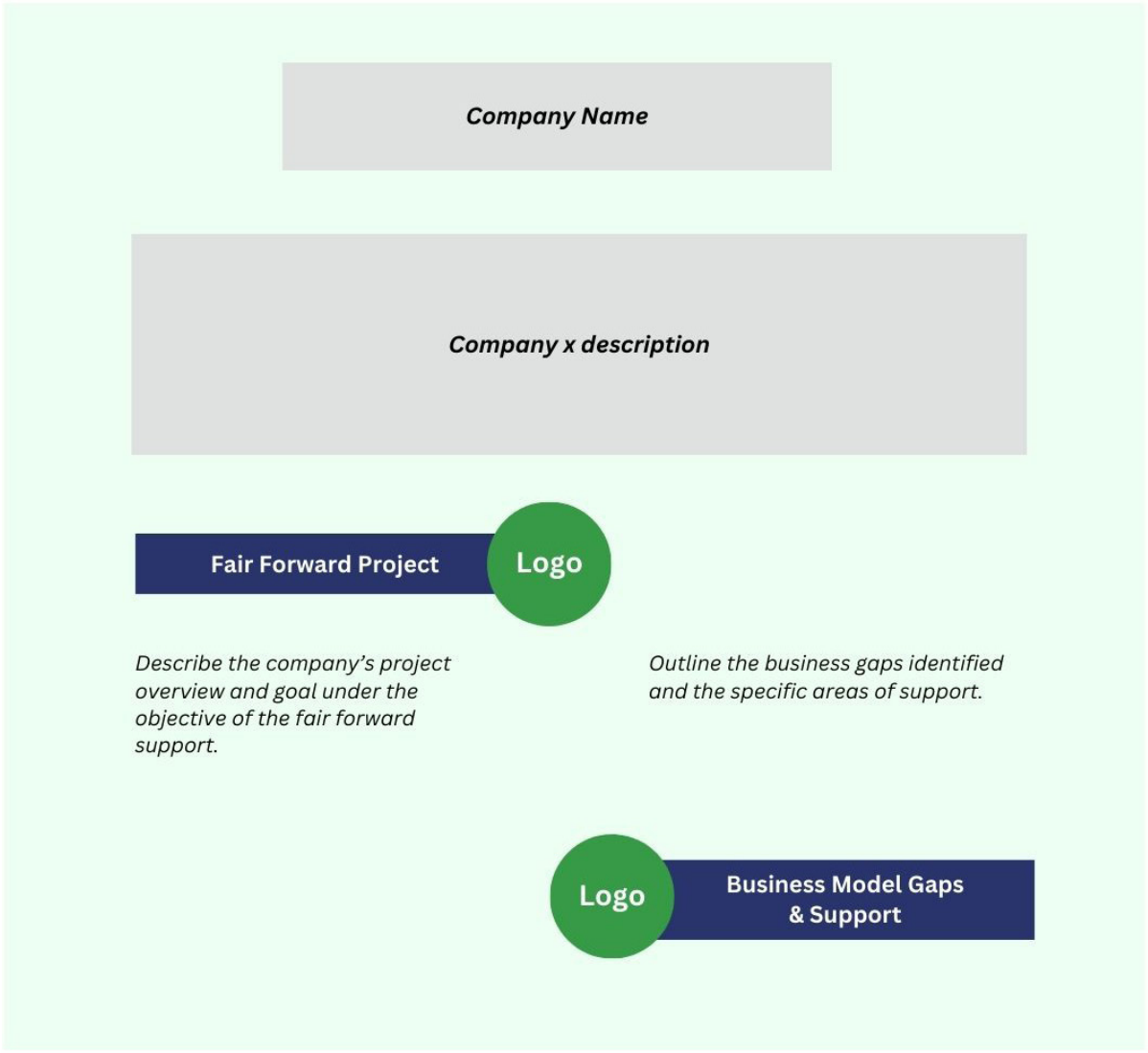
Open source Consideration
Collaboration partners who will distribute/expose the project.
Web, social media, etc.
Face-to-face (meetups, conferences,
etc.</td></tr>
<tr><th colspan="2">Cost Structure and Resources</th><th colspan="2">Adoption Criteria</th><th>Revenue Streams</th></tr>
<tr><td colspan="2">What kind of cost structure do the aforementioned choices involve? Are we able to cope with the economic consequences?

Open-source Consideration
What human resources are required? Example:
• Project maintainers (responsible for code governance etc.)
• Paid engineers (core team to initiate the project or continue contributing)
• Community manager
• Evangelist
• Contributors
• Other costs? Example:
• Infrastructure/services
• Marketing</td><td colspan="2">How do you measure the success of the project? Example
• Size of community (number of issues/pull request/stars etc.)
• Number of contributors
• Contributors (scale, variety, etc.)
• Usage
• Conversion rate (if your business model includes upgrade to enterprise version)</td><td>For what value are our users really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?

What revenue models should we choose? Do we prepare revenue and risk sharing models?</td></tr>
</table>

Annex H

Template: Participant's Identified Business Model Gaps



Annex I

Comparative Table: Open Source Licensing Through CC-License Table

	Share Alike 	No Derives 	Noncommercial 	Attribution 	Ranking of Openness
GPL	YES	NO	NO	YES	1
LGPL	YES	NO	NO	YES	1
MPL	YES	NO	NO	YES	1
QPL	NO	NO	NO	Contingent	2
CPL	NO	NO	NO	Contingent	2
Artistic	NO	NO	NO	Contingent	2
Apache v.2.0	NO	NO	NO	YES	3
zlib	NO	NO	NO	YES	3
Apache	NO	NO	NO	YES	3
BSD	NO	NO	NO	YES	3
MIT	NO	NO	NO	YES	3

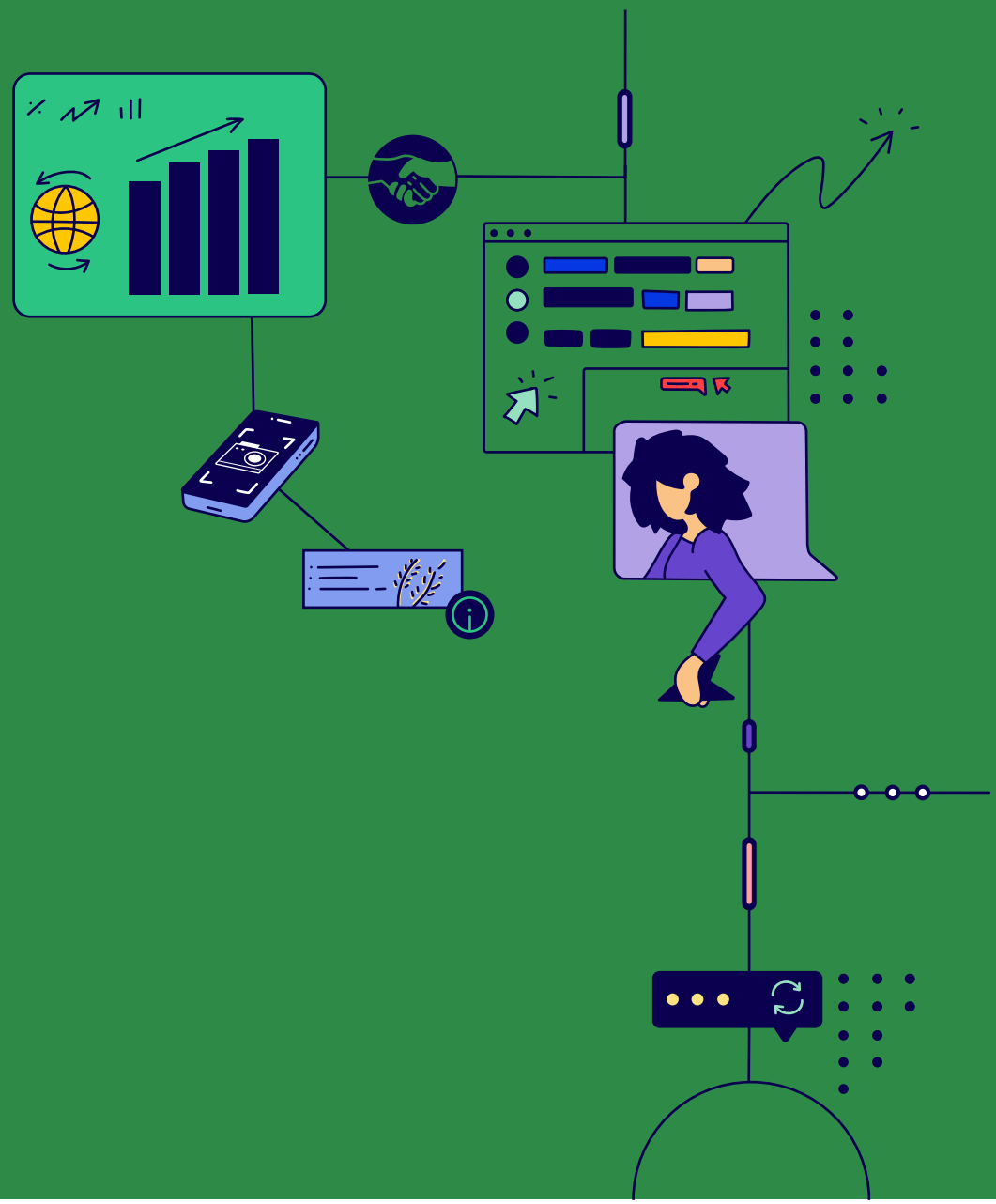
Source: https://creativecommons.org/share-your-work/cclicenses/

Annex J

Summary of Open Source Revenue Models

Revenue Model	Description	License Type	Revenue Sources
Support selling	A for-profit company provides support for a software that is distributed free of charge.	Any	Revenue comes from media distribution, branding, training, consulting, custom development, and post-sales support for physical goods and services.
Loss loader	A no-charge open-source product is used as a loss leader for traditional commercial software (i.e., the software is made free by hoping that it will stimulate demand for a related offering of the company).	Varies	Complementary offerings (e.g., other software products)
Widget frosting	Companies that are in business primarily to sell hardware can use this model to enable software such as driver and interface code. By making the needed drivers open, the vendor can ensure that they are debugged and kept up to date.	Any	The company's main business is hardware. This is quite similar to the loss-leader model.
Accessorizing	Companies that distribute books, computer hardware, and other physical items associated with and supportive of OSS.	Any	Supplementary offerings
Service enabler	OSS is created and distributed primarily to support access to generating revenue from consulting services and online services.	Any	Service fees
Brand licensing	A company charges other companies for the right to use its brand names and trademarks in creating derivative products.	Strong reciprocity	Copyright compensations
Sell it, Free it	A company's software products start out their product life cycle as traditional commercial products and then are converted to open-source products when appropriate.	Alteration of license type	Initial revenue from software product offerings converted into other models (e.g., the loss-leader model)
Software franchising	A combination of several of the preceding models (in particular, brand licensing and support sellers) in which a company authorizes others to use its brand names and trademarks in creating associated organizations doing custom software development; in particular, geographic areas or vertical markets.	Strong reciprocity	The franchiser supplies franchisees with training and related services in exchange for franchising fees of some sort

Source: https://ieeexplore.ieee.org/document/4786605 - Pg.547



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