

A Work Project, presented as part of the requirements for the Award of a Master's degree in
Business Analytics from the Nova School of Business and Economics.

Monetization of Taikai Garden

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20/12/2023

Abstract

Taikai Garden is a new Web3 platform that is going to be released to support projects started from hackathons in Taikai. Taikai Garden, together with Taikai and the token TKai, will form an innovation ecosystem. For the long-term sustainability of the ecosystem, the four business models explored in this thesis are platform fees, success-based fees, rewards as tokens, and licensing or franchising. Depending on the success rate of the projects that exit Taikai Garden, success-based fees generate more revenue than platform fees. Rewards in tokens is the business model that can generate the most revenue out of the four with the highest risk associated, and licensing or franchising can be a robust business model but removes the control of the ecosystem from Taikai.

Keywords: startup, hackathon, networking, funding, community

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

Table of Contents

Introduction	4
Startup Industry	6
Accelerators and Incubators	6
Grants	8
Launchpads	8
Business Models	10
Platform Fees	10
Success-Based Fees	11
Rewards in Tokens	12
Licensing or Franchising	13
Research Context	15
Taikai	15
Taikai Garden	16
Tkai	18
Methods	19
Results	21
Comparison of the Different Business Models	21
Performance of the Fees Business Models	22
Discussion	24
Conclusion	26
References	28
Annexes	32

Introduction

While many use them interchangeably, the Internet and the World Wide Web are not the same. The Internet is a network of connected computers and other electronic devices, while the World Wide Web or web refers to a collection of web pages accessed by devices connected to the Internet (Pandey 2023). The creation of the Internet cannot be attributed to a single person or event, it took many innovations and the work of engineers and scientists to shape what we now call the Internet. Before there was anything close to resembling the Internet, the idea already existed; for instance, Nikolai Tesla had thought about a "world wireless system" connecting information globally. An essential first step was the creation of ARPANET, the first computer network capable of transmitting data funded by the U.S. Department of Defense, which launched its first message in 1969 (Andrews 2019). Web1 consisted of these computer networks capable of transmitting information for users to read in static pages (Stackpole 2022). The creation of the HTML, URL, HTTP, and subsequently the World Wide Web by Tim Berners-Lee in 1990, began the shift from Web1 to Web2 (Investopedia 2023). The term Web 2.0 or Web2's first mention is attributed to Darcy DiNucci in 1999 to refer to a network of interactive platforms where users can create and share their content, engage with other users' content, and participate in online communities (Hall 2023). While the quality of web pages has evolved immensely since the 1990s, the core idea has remained on the interactivity of the pages such that Web2 is the web used currently. The problem is that centralized companies control Web2 pages with a lot of power and control over the data of users, which they can sell for ads to target specific users, and over the content published, which they can censor and restrict in their platform accordingly. This is where Web3 deviates from Web2, it is built around the decentralization concept where there is no central authority that stores and controls the data; it is stored in decentralized nodes spread globally. Web3 is permissionless, everyone has equal access to it, and trustless, it operates with economic incentives. It is built on open-source

software that anyone can interact with and makes use of blockchain technology, decentralized ledgers, and smart contracts, software programs that execute automatically upon are met (Stackpole 2022).

This field lab project was developed in collaboration with the partnership of Taikai, a Web3 platform created to host hackathons. Hackathons consist of events typically lasting for a fixed duration, where individual participants or teams come together to collaboratively work on intensive, focused projects, often related to software development, coding, or problem-solving (Lawrence 2016). Taikai Garden will be born as an extension to Taikai to help the projects started in hackathons in Taikai. It will connect project owners with other project owners and mentors, allowing the projects to develop and gather funding. This thesis aims to compare different business models for the Taikai Garden platform. The business models selected to be explored in the thesis and some industry insights, for example, the fees charged by other companies, result from informal weekly meetings with Taikai.

Taikai Garden resembles business incubators and grants, with a focus on both gathering funding and networking of early-stage projects. Furthermore, while Taikai always refers to the initiatives supported by the platform as projects, these can be seen as startups in the context of the Taikai ecosystem. The similarities between Taikai projects and startups include new businesses with expected high demand and a high growth potential (Pratt 2017). Because of these two reasons, this thesis explores the startup industry and its relevant participants to understand what already exists and how these similar businesses operate. It is followed by a deep dive into the business models considered, their advantages and disadvantages. Then, a theoretical comparison of the different business models and a model was built to assess the possible revenue generated by the business models.

Startup Industry

In an era marked by rapid technological advancements and dynamic market landscapes, the emergence of startups has become a pivotal force driving economic growth and innovation. However, from the start, most startups are destined for failure; the industry standard for successful startups is 1 in 10 (Arinkina 2023), not to mention the numerous ideas that fail to ever leave the paper because of the daunting task ahead from idea to a business. This means that 9 in 10 will fail because of funding issues such as the failure in raising capital or exhaustion of the raised capital, the lack of internet presence (Sharchilev et al. 2018), no market need, being outcompeted in the market, a flawed business model, regulatory or legal challenges (annex 1), amongst other factors.

For the few successful startups, competition is not only internal; companies fight for market share globally in today's global and dynamic markets. As expected, the most significant economies allow startup ecosystems to thrive, with the United States, China, and the United Kingdom being the three biggest by this order in terms of the total number of successful startups created in these countries (Enginsoy 2023). It is this difficulty of converting an idea into a profitable business that makes room for an entire ecosystem focused on helping entrepreneurs succeed. Diverse entities emerge from this ecosystem, such as accelerators, angel investors, grants, incubators, and venture capital, with different roles in helping startups (Yorke 2023).

Accelerators and Incubators

Business accelerators and business incubators are two types of support programs born from early-stage companies' need for help. Despite some similarities, the name of both programs is a giveaway for their main difference: incubators are aimed at helping very early-stage startups transition from idea to business by developing a viable business model, whereas accelerators

are focused on the growth of early-stage startups, ideally with a minimum viable product already defined, in a short period (Sivakumar 2023).

Business accelerators are designed to fast-track the growth of startups over a short, intensive period, typically lasting a few months (between 3 and 6 months). Accelerators typically have a narrow focus on a specific industry or market segment. To participate in these programs, startups apply to join an accelerator program, and a competitive selection process is usually involved so that a select cohort of startups is accepted at once. These programs are typically run by venture capital firms that partake in the equity of startups. In return, accelerators provide a combination of resources, including mentorship, funding, office space, and a structured curriculum to help startups refine their business models and prepare for rapid growth. The programs wrap up with a "Demo Day," where startups pitch their businesses to a room full of potential investors (Chung 2023).

Business incubators are designed to provide a nurturing and supportive environment for early-stage companies to develop and grow more gradually. They often have no predefined duration and can continue for several years, with a broader focus, and may support startups from various industries or sectors. These programs are typically less competitive to enter than accelerators, as they accept startups on an ongoing basis. Most incubators are non-profit organizations funded by government or academic institutions, and they typically do not require equity from the startups. Incubators offer a range of resources, such as office space, mentorship, a collaborative community for startups to work and learn from each other, and access to funding (not a priority, unlike accelerators). The programs often continue to support companies even after they have reached a certain level of maturity (Zheng 2023).

Accelerators and incubators work with startups from a wide range of industries and segments; accelerators focus on a given industry or market segment, while incubators have a broader scope of industries and segments. Both these business models have already shifted their

attention toward Web3; traditional accelerators and incubators have started working with Web3 startups, and new programs are being born as Web3 exclusive. Despite being a new industry, startups in Web3 have already raised large sums of capital, with the trend only going up from 0.8 billion dollars in 2016 to 2.6 billion dollars in the first quarter of 2021 (annex 2).

Grants

In the startup and entrepreneurial world, grants are financial awards given to innovators to support their projects and ideas, with the funds from the grant and the visibility from the display on the grant's platform. Unlike accelerators or incubators, grants destined for very early or early-stage projects and distributed based on merit, they do not take equity in the awarded projects. The selection and voting of the awarded projects can be done internally by the grant program or by using community voting. Web3 grants are destined for researchers, developers, and teams developing open-source software relevant to the space and play a crucial role in fostering decentralized innovation and accelerating the growth of blockchain-based projects. Web3 grant programs can be either ecosystem-specific, meant for a specific blockchain or protocol, or ecosystem-agnostic, essentially the opposite of ecosystem-specific, so these grant programs award projects from any ecosystem (Hauch 2023).

Launchpads

Crypto launchpads are a similar business model born under Web3, platforms or services that help new cryptocurrency projects raise capital and gain exposure within the cryptocurrency and blockchain community. Launchpads facilitate the fundraising process for new cryptocurrency projects by allowing them to sell their tokens to a wide range of investors to enhance liquidity for their tokens once they are traded on various cryptocurrency exchanges. This can include retail investors, institutional investors, and cryptocurrency enthusiasts. The most common type of project to be launched through these platforms is those involved with gaming, while

simultaneously, the projects that lose value the fastest. Other projects launched include DeFi projects, Metaverse-related social networks, and NFT launches. In the matrix of initiatives for early-stage support (annex 4), launchpads should be below venture capital on the same quadrant, as their focus is mainly on funding for developed projects.

Beforehand, many launchpads conduct due diligence on the projects they list to ensure they meet specific technology, security, and compliance standards. This can help protect investors from potential scams and low-quality projects. To help projects safely onboard only credible users, many of these platforms require KYC (Know Your Customer) to prevent fraud, namely bots, and guarantee compliance with international regulations. This verification typically involves connecting a crypto wallet to the platform and providing an identity document that must be verified. In the end, launchpads handle the distribution of tokens to investors once the fundraising event is complete to ensure a fair and transparent allocation of tokens (Ricci 2023). Typically, all these platforms have a native token, which is tradeable. This native token can be used in the platform, with the utility being that the higher the number of tokens a user has, the higher the chance for them to be selected to participate in the IDO. Some launchpads offer staking and reward programs to incentivize token holders to participate in the project's ecosystem. Launchpads may have governance features allowing token holders to vote on project decisions, such as protocol upgrades, token distribution, and others.

It is also worth noting that the popularity and regulatory environment around cryptocurrency fundraising methods have evolved, and initial coin offerings (ICOs) have become less common in favor of initial exchange offerings (IEOs). IEOs distinguish themselves from IDOs as they exist on centralized exchanges with very similar business models. The fact that they exist on centralized exchanges means they attract more investment, as these centralized exchanges typically have more liquidity and higher trading volumes. Recently, decentralized finance

(DeFi) projects have popularized initial DEX offerings (IDOs). These variations may impact crypto launchpads' specific features and processes (Dakos 2022).

Business Models

To monetize the Taikai Garden platform, the four business models considered will be platform fees, success-based fees, rewards in tokens, and licensing or franchising. These were selected in discussion with Taikai as the more relevant business models from which the Taikai Garden platform can choose.

Platform Fees

There are numerous definitions of platform fee depending on the legal context in which it is used, but essentially, it means a fixed fee paid for the use of a platform or service (Law Insider n.d.). In the case of Taikai Garden, a platform fee would be a fixed percentage charged over the funding acquired by each project. The typical industry value for this fee is between 2% and 5%.

The fee structure aligns the platform's success with the success of the projects, creating a beneficial dependence. Projects benefit from support provided by Taikai Garden, and the platform benefits from their success, generating revenue. The platform fee model allows for consistent income generation with a constant influx of new projects. With a steady income, the platform ensures its sustainability while providing ongoing support to projects in the ecosystem. A part of the platform fee could be reinvested in the community, supporting events, marketing efforts, or educational programs, fostering a more robust ecosystem around the platform. Charging a fee can discourage frivolous or weak projects from applying, especially those with expected low demand and revenue.

On the other hand, the main drawback of charging a platform fee is correctly choosing the value; while the 2 to 5% fee might seem like a small window with little difference, this might deter some projects from using the platform. Early-stage projects have limited resources and might find the fee impossible to pay or excessive if they believe the platform's contribution to their success is different from the fee charged. This fee can also lead to dissatisfaction among larger projects, as this fixed fee is calculated over the funding raised by the projects; larger projects naturally raise higher amounts of investment, resulting in a higher payment. Furthermore, if similar platforms offer lower fees or different fee structures, it could result in the loss of potential projects to competitors.

Success-Based Fees

A success-based fee business model is similar to platform fees; however, in this case, the fee is only charged if the projects achieve a predefined success metric. If success is achieved, the fee is charged over a percentage of the funds that a project raised, with the industry standard for this fee structure typically varying between 5% and 15%.

As with platform fees, success-based fees align the interests of projects and platforms. This alignment of interests creates a dependence on the project's success because Taikai Garden relies on successful projects for revenue; failed projects do not generate revenue for the platform. Charging fees only when projects succeed reduces the risk for early-stage or struggling projects. This model eases the financial burden on startups and mitigates risk for those who may fail, enhancing the trust within the community.

The most challenging part of this business model is establishing measurable milestones or defining success criteria. The success must be measured using a metric, which might lead to a discussion regarding this topic, as projects do not want to feel like they are being taken

advantage of just to be charged a fee. The difficulty in setting a success metric happens mainly because of the wide variety of industries that Web3 englobes, most traditional service industries, and others that are web3 specific, of which Taikai Garden projects can be a part. While some metrics, such as the number of users/visitors, user retention, customer acquisition cost, revenue, growth rate, social media activity, and community engagement, can be applied across numerous industries, other metrics are industry-specific. For example, Web3 storage projects will want to decrease as much as possible the storage cost per data unit, while DeFi projects want to increase the total value locked in the protocol and the number of blockchains that the project is deployed to, and gaming projects want to increase the value of the digital assets in the game or metaverse (Mendel 2023). The success-based fee model may limit immediate revenue generation if many projects fail to achieve the criteria for the success fee. This might be a problem at the beginning of Taikai Garden, as it might operate for some time until it starts generating revenue when the first projects graduate successfully. This makes it so that the selection of the projects must be even more rigorous to filter out unsustainable projects without high potential.

Rewards in Tokens

Another business model option that Taikai Garden can opt for is to accept rewards as tokens, which consists of accepting a small percentage of tokens from successful projects in exchange for the services provided by the platform.

Similarly to the previous business models, accepting tokens aligns the interests of Taikai with those of the projects. This time, the dependence on the project's success is even stronger as it requires that the projects go through the entire life cycle of Taikai Garden. Only after graduating from Taikai Garden do the projects start operating and have a token that Taikai can accept as a reward for its services. If the projects perform well in the market, the value of the

tokens received by the platform could increase exponentially, providing significant returns in the long term. The platform's acceptance of project tokens can contribute to the broader ecosystem by increasing token liquidity.

However, the market volatility of the tokens is a double-edged sword; their value can fluctuate significantly in either direction. While it can lead to an unexpected increase in revenue, a price stagnation or decrease are the two other likely scenarios. Taikai has two options when accepting tokens: to sell them when received if they can be traded or to hold these project tokens for some time. However, managing a portfolio of diverse tokens from different small projects can be complex and requires time, money, and expertise in token management. Tokens might not have an immediate use or may be illiquid, making it difficult to convert them into fiat currency, especially concerning small projects. This can force Taikai to opt for the second option of holding the tokens, even if it desires to sell the tokens shortly after receiving them. Determining the appropriate percentage of tokens to accept could be challenging, especially in the early stages when the value of the tokens is yet to be established. As with success-based fees, this business model does not generate revenue from the failed projects and can take some time until it starts generating revenue.

Licensing or Franchising

Licensing or franchising are two distinct business models that involve the transfer of rights to use a brand, product, or business method from one party to another. In a licensing arrangement, a licensor grants a licensee the right to use a specific intellectual property, such as a trademark or patent, in exchange for fees or royalties. This allows the licensee to benefit from the licensor's established reputation and market presence. On the other hand, franchising involves a more comprehensive relationship, where the franchisor not only provides the license to use its brand but also shares its entire business model, including operational processes and support.

In return, the franchisee pays fees and royalties while gaining access to a proven business concept (Lauckner 2023). Taikai can enter a license agreement for any company that wants to host their hackathon with the Taikai hackathon platform or for business accelerators or incubators that want to expand into Web3 using of the Taikai Garden infrastructure. This would consist of customizing the platforms technically, with developer-oriented tools to assist in the control of the platforms, or to customize them aesthetically, changing the logo, branding, and others from Taikai to those of the company that acquired the licensing rights. Taikai is more likely to favor the licensing business model over a franchising model, as the latter leads to losing control over the platforms and ecosystem it has developed.

As with platform fees, licensing agreements generate steady revenues that do not depend on the performance or success of the projects in the platforms as long as companies enter into new licensing agreements with Taikai. With steady revenue, Taikai can reinvest in the platform and the ecosystem to ensure that more companies keep returning to the platform. A licensing model also allows for scalability, as the platform can be licensed to multiple organizations simultaneously, generating further revenue. Licensing the platform technology allows the business to expand its presence globally by partnering with other organizations or institutions interested in Taikai's offer. Local partners might bring their insights and adapt the platform to suit the needs of their respective regions or markets, improving the platform's relevance and effectiveness in different contexts. Licensing or franchising allows the original company to transfer the operational responsibility to the licensees or franchisees, reducing the need for direct involvement in day-to-day operations.

However, the main disadvantage of licensing stems from the shared control over the platforms. The company might need help ensuring consistent quality and adherence to standards across different franchises or licensees. Maintaining the quality and standard of services across

various franchises or licensed operations might take much work, potentially impacting the brand's reputation. Providing initial support, training, and ongoing assistance to franchisees or licensees can also be resource-intensive and would require a substantial upfront investment. The licensing or franchising model involves legal agreements and complexities in terms of intellectual property, royalties, and operational guidelines, which can require extensive legal oversight.

Research Context

Taikai

Taikai is a platform developed by LayerX, a Porto-based Web3 company that aims to "connect Web3 developers and organizations through hackathons and bounties, bringing together talent and opportunities to create innovative solutions". Taikai allows companies to easily host private or public, presential, online, or hybrid (presential and online) hackathons. Some of the tools which the companies have at their disposal in the platform include customizable participant registration forms, dedicated 1 to 1 support by hackathon specialists who can help with all aspects of hackathon planning and execution, a live leaderboard to display the performance of the participants, controlled by three voting options for companies to choose from (crowd: everyone in the platform can vote the on submitted projects, members of a specific organization: only members from an organization can vote on the submitted projects and selected jury: only a selected person can vote on the proposed projects), a community chat which can be integrated with Slack, Teams or Discord and the possibility of livestreaming their events on the platform such as webinars, Q&As, or any type of broadcast. With a streamlined UI, the platform focuses on simplicity to ease the experience for both companies and participants.

Taikai allows anyone to participate by simply creating an account on the platform. Participants can participate in a hackathon alone or with a team, find or be invited by a team with the existing matchmaking system. They can earn prizes and tokens by submitting projects and receive NFTs to display their participation in each project.

Since the platform was launched, it has hosted 167 hackathons, with over 74000 participants, and received over 4600 project applications (the participants' solutions to a hackathon). Some companies that have hosted a hackathon on Taikai include car manufacturers Mercedes and Nissan, tech companies like Microsoft and Outsystems, social networks like TikTok, Web3 companies like Harmony and the Ethereum Foundation, and governmental institutions such as the European Commission.

Taikai Garden

Hackathons are organized in a competition format; participants present their solutions to the problem, and a winner is selected from the submitted projects. However, a problem never has a single solution, and the projects that did not win the hackathon can have an exciting potential, which often fails to be explored. Only 5% of the projects have a continuation in the six months following the hackathon (Nolte, Chouta and Herbsleb 2020), even worse than the startup's survival rate of around 10%. Taikai Garden will be an extension of Taikai, born as a platform that supports the projects that emerge from hackathons and would only have a continuation with it. While Taikai Garden aims to develop into a DAO, initially, the project will be managed by LayerX's team until the transition can happen, ensuring the project's successful development, a distinctive value proposition offer, and the ecosystem growth.

The platform revolves around the interactions of three agents: project owners, mentors, and farmers. The project owners are the platform's primary beneficiaries; they can arrive with a

project started in a hackathon organized in Taikai or start a project from scratch in Taikai Garden. The mentors are individuals with expertise in a given field who share their knowledge and experience to support project owners in developing the projects. Every token holder is incentivized to be a farmer; they are rewarded with tokens by voting on the most promising projects and validating/invalidating updates or other assessments.

The ecosystem has two main tools, the project's sandbox, dedicated to displaying the projects in the various steps of the life cycle, and the mentor's sandbox, where mentors are showcased, their relevant information, and mentorship services offered as long as they meet the required mentorship threshold of 5000 staked Tkai tokens. The life cycle of projects consists of 5 steps, from the ecosystem entry to a graduating project. After joining, either from a hackathon or starting from scratch, projects are by default on the second step of the cycle as a seed project; in this stage, the projects are expected to interact with the community to generate interest in the project, with initial updates and a roadmap of the future of the project. To qualify for the third cycle step, a sprout project, projects must mint a project NFT, an Ethereum ERC-721 token that ensures project ownership, and a project wallet. This step gives the projects more prominent visibility on the project sandbox; they must complete the profile with the concept's description, the business model, the current stage of development, the team behind the project, the goals from TAIKAI Garden participation, and the Ethereum compatible wallet address. Sprout projects are still in an early-stage phase and should focus on the vision and nurturing creativity rather than a business and monetization perspective. Sprout projects can now receive donations from the Taikai Garden community. As soon as projects enter the seed phase, they are classified under a ranking based on the number of validated updates they post, which translates into their collaborative innovation volume (CIV), with the top 5 projects of each batch transitioning to farm projects, the fourth step of the cycle. From now on, projects are eligible for rewards by competing in batches, which are 8-week periods divided into four

sprints of 2 weeks each. With the tokens received, projects can vote on other projects, meaning they are now simultaneously a project and a farmer. In the final cycle, the graduate project, the actions are restricted to some community interaction, updates, and donations. Similarly to an incubator, the projects do not have a fixed period to go through the life cycle but are expected to move on from the ecosystem once the help provided ensures a successful transition to a sustainable business so that they open space for new projects.

Taikai Garden is an exciting new project, and its characteristics distinguish it from accelerators, incubators, grants, and others. On the comparison of different initiatives for the early-stage support matrix, Taikai Garden is placed on the right axis (annex 4), aimed at early-stage projects or ideas with an equal weight given to networking and funding for the projects. It shares the most similarities with incubators and grants, the closest initiatives in the matrix. DoraHacks is another hackathon platform identified by Taikai as similar to Taikai Garden. DoraHacks also focuses on small projects (BUIDLs in the DoraHacks platform) and awards grants and bounties. However, these components of DoraHacks work independently, not as a single ecosystem with a token economy.

Tkai

TKai is the native token of the Taikai ecosystem. It is a multi-chain token co-existing on the Ethereum and on the Polygon networks (under the following contracts: Polygon: 0x8829d36F6680bE993f5444198E8cbFa8f02eDe96; Ethereum: 0x7C5b267ED81009aa7374B5CA7E5137Da47045bA8). Initially, the token was just distributed as a reward for hackathon participants in Taikai, whereas in Taikai Garden, it will be essential for the platform. It can be used for access to Taikai's tools and services, for staking in Taikai Garden's innovation ecosystem, and for obtaining veTKAI to vote on how rewards are allocated. TKai is designed as a work token, a token that increases in price with the increase

in usage of the network (Samani, 2018). In the case of Taikai Garden, this happens because mentors (the service providers) are required to stake their tokens and then are paid tokens for their services. The token supply is fixed so that as demand for the mentors services grows, more revenue will flow to mentors.

The total supply of TKai is 300 million tokens, with the following initial distribution: 40% for innovation farming, 25% for team, equity, partners, and advisors, 10% for hacker external communities, 5% for liquidity provision, and 20% for hackathon rewards. Hackathon rewards are destined for participants from previous and future editions of Taikai hackathons, namely hackers, juries, and mentors. Monthly allocation volume will be highly dependent on hackathon frequency and personalization. The innovation farming allocation is destined only for highly rated projects and their respective farmers in Taikai Garden in each batch, with the chances of winning these additional rewards announced prior to participation in each batch. The allocation for the team, equity partners, and advisors is a payment for their role in the planning, strategy, and execution of the Taikai Garden development. The liquidity provision is a percentage of tokens meant to be listed in trading markets. The hacker external communities' allocation is destined to other Web3 whose goals are similar to Taikai (Alves 2023).

Methods

Tkai is designed as a work token; this makes it so that if successful, the economy of the ecosystem is in a loop of growth and sustainability, a Web3 sustainability loop (McConaghy 2020). For this loop to happen, the Tkai token is distributed over time, participants in the ecosystem engage with projects by following and voting on the projects, and the mentors assist with their knowledge so that the revenue is distributed based on their contribution and everyone is motivated to interact more. With more projects going into the system, there is more engagement, which increases the demand for TKai to vote, subsequently increasing the price

of TKai and the revenue generated by the loop, which flows back to farmers and projects. The four business models considered can be compared and ranked (annex 5), considering the dynamics of a Web3 sustainable loop.

Secondly, a model is developed to evaluate the possible revenues generated by the fees business model, platform fees and success-based fees. The model estimates the revenues generated taking into account the number of projects in Taikai Garden monthly, the funding that each project raised, the success rate of the projects, and the fee charged in two different scenarios (the model is in annex 7 and graphically in annexes 8 and 9). The first scenario will assume conditions similar to those in which Taikai currently operates, such that after the successful launch of Taikai Garden, Taikai will host six hackathons a month, from which two projects will transition to Taikai Garden. Furthermore, five projects are started from scratch monthly in Taikai Garden, which adds up to 17 projects each month. The final assumption is that the projects raise an average of 100 000€ in funding. The second scenario assumes an increase in the usage of the Taikai ecosystem, fuelled by the adoption of Web3. With the successful launch of Taikai Garden, Taikai will be hosting eight hackathons a month, with two projects transitioning to Taikai Garden. Furthermore, seven projects are started from scratch monthly in Taikai Garden, adding up to 23 monthly projects. With the adoption and increased investment in web3 this time, projects raise 140 000€ on average.

Results

Comparison of the Different Business Models

The most fundamental part of the loop is that there is an increased involvement of the members of the community in the ecosystem. To do so, a relationship between Taikai and the community must incentivize community engagement with the projects and the ecosystem. Taikai is encouraged to strengthen the relationship with the community the more it depends on projects to succeed. Rewards in tokens is the model that leaves Taikai the most dependent on the project's success; it needs for the projects to graduate and start successfully operating for Taikai to receive tokens and see any revenue from this model, while for success-based fees, it needs a particular metric to be achieved, but this can still happen before projects graduate and operate for some time. On the opposing end, a licensing model means handing over control of its platforms; Taikai is not dependent on the outcome of the hackathons or projects from Taikai Garden under this model, but it has difficulties boosting community engagement.

It is essential to compare the possible revenue generated by each business model, as different business models output different revenues for Taikai and the community simultaneously under the sustainability loop. The rewards as tokens business model stands out as one that can generate higher revenues, which can happen if a few of the projects of which Taikai holds tokens increase in value significantly, more than expecting all the tokens in its portfolio to increase in value simultaneously. For example, some of the best cryptocurrency performers in 2023 listed on CoinGecko are KOIN, whose price increased by 58595%, DEXTF, with an increase of 11641%, and RLB, which increased by 7754% (annex 6). It is crucial to analyse whether these increases are related to the value of the cryptocurrencies or with speculation, small market liquidity, or other market anomalies. However, accepting tokens as rewards is also the business model that carries more risk, as expected with any investment there is a

positive relation between risk and return, translated in the risk-return trade-off principle (Ghysels, Santa-Clara, and Valkanov 2005).

For the long-term sustainability of the loop, the entire loop must not take too long to be completed, as this means a more extended time until Taikai and the community receive revenue. The different business models differ in the time they take to generate revenue, with licensing being the model that generates revenue the fastest; when the licensing agreement terms are agreed upon between Taikai and the company interested, the payment is stipulated for the services provided. When charging platform fees, the payment only happens after the projects have been in Taikai Garden for some time, so they have received funding, from which the fees are calculated. Meanwhile, tokens are only received when the projects are launched, while the success-based fees model only generates revenue after the projects have graduated from Taikai Garden and have been operating for some time so that it can be determined if the success metrics were achieved.

With the previous components of the Web3 sustainability loop, the risk associated with the business models can also be assessed. Ideally, a model would generate high revenues in a short period of time and with little dependence on the project's success. However, no business model can achieve all of this. Licensing is the business model with the lowest risk, while rewards in tokens is the one with the highest risk.

Performance of the Fees Business Models

Under the first scenario, if Taikai Garden opts to charge platform fees and follows the industry average, it can charge a fee of 2% up to 5%, which would generate between 34 000€ and 85 000€ in revenue, regardless of the success of the projects. As for success-based fees, I will assume a constant inflow of projects entering the platform and a constant outflow of projects

leaving the project. It is essential to analyse the many different outcomes under this business model, which arise from the fees charged and the number of successful projects. If Taikai Garden follows the industry average, it should charge a fee between 5% and 15% over the funds raised by the projects. Theoretically, the number of successful projects can range between 0 and 17, however, all projects failing or succeeding in a given month are improbable scenarios. Charging a 5% success-based fee only generates the same revenue as a 5% platform fee if all the projects are successful, while a 15% success-based fee can generate up to 255 000€. Analysing the revenue by looking at the success rate as a constant influenced by different fee values, the best-case scenario when all the projects are successful can generate between 85 000€ and 255 000€ in monthly revenue. If the number of successful projects is just 5% (the number of hackathon projects that have continuation after six months), only one project achieves success, and the revenue varies between 5 000€ and 15 000€. However, this means that Taikai Garden is completely failing its purpose, as the hackathon projects are achieving the same success that is expected from them without the help of Taikai. A success rate of 40% translates into seven successful projects and revenues between 35 000€ and 105 000€, while a 60% success rate means ten successful projects and revenues of 50 000€ up to 150 000€.

Under the second scenario, the platform fees business model would generate between 64 000€ euros and 161 000€ in revenue. Charging the same success-based fee values, the maximum revenue with a 15% fee and 100% success is 483 000€. A 100% success rate generates revenues of 161 000€ up to 483 000€, the more likely success rate interval of 40% up to 60% generates between 63 000€ and 189 000 (40% fee), to 98 000€ and 294 000€ (60% fee) in revenue.

What this all means in practice is that just looking at the revenue that both these fee business models generate, without the work token dynamics included, there is an area where success-based fees will always generate more revenue than platform fees (in blue in annexes 8 and 9).

The maximum revenue generated by platform fees under the first scenario is 85 000€ when a 5% fee is charged, while under the second scenario it can go up to 161 000€. Annex 10 details the number the number of successful projects needed (the number of projects is rounded up, as it is not possible to charge a fee to 14.17 projects for example), so that the success-based fees model achieves higher returns than the platform fees. When this happens, the revenues are in the blue area of annexes 8 and 9.

Discussion

A possibility to calculate the revenue generated by accepting tokens is to create simulations, with the expected price change of a token and an associated given probability, calculating the expected return. Calculating stock price returns following an IPO with regular companies is challenging because of information asymmetry and high uncertainty (Lowry, Officer, and Schwert, 2010). Attempting to predict a crypto or token's price after its release adds the difficulty of having no earnings to analyse, no previous track records, and sometimes the difficulty of finding a suitable comparison, because of these difficulties it was not included in the revenue model. As the projects that will graduate from Taikai Garden are similar to those looking for funding in launchpads, Taikai should be cautious of what happens in launchpad platforms as numerous projects that resort to IDOs die out. Many of these launchpad platforms often present an ATH value to attract investors rather than the current value of the token. The selected investors get to buy the tokens for a discounted value and quickly dump their tokens when the project's tokens enter the markets, as seen by the higher trading volumes when the projects go public.

When looking at the comparison of the business models, licensing can look like a very promising model; while it shines in other categories, it fails the essential one: control over the community. In the long run, if Taikai has no control over the community, it is difficult to

stimulate community engagement, meaning that the token demand will decrease, and there will be a subsequential decrease in the token's price. The number of projects coming into the ecosystem will steadily decline, compromising the token economy and sustainability of the entire ecosystem. It is also not easy to pinpoint the exact value Taikai can charge for using its platforms under a licensing agreement to compare the revenues with other business models to compare with the fees business models. The personalization of the platforms makes it much more resource intensive, so a more exclusive version of the available products by Taikai with a higher associated cost for the companies that wish to acquire them. This business model should not be considered a primary source of revenue; it should always be an option offered to companies interested in Taikai services if they desire a premium and highly customizable service.

In determining the optimal monetization strategy for Taikai Garden, it is clear there is no one-size-fits-all solution. This decision is associated with Taikai's risk tolerance and strategic aims in the evolving market conditions. Ideally, Taikai would create a hybrid business model that mixes the benefits of the different business models and reduces the disadvantages. It could accept a reduced number of tokens as rewards from the projects to capture the value of the unexpected outliers whose valuation increases significantly, together with a small fee to ensure a constant stream of revenue and offer a licensing contract to companies that desire a more premium service.

If Taikai decides to charge a fee to the projects in the platform, the choice between a platform fees business model and a success-based fee model must be made based on the expected success rate of the projects graduating from the platform. If Taikai believes in its capability of attracting funding and experienced mentors, such that the success rate of the projects is at least 40%, it could charge a 12% success-based fee, as it would always generate more revenue than

it could with a platform fee of 5%. An expected success rate of 60% means it only needs to charge an 8% fee for similar revenues, the fee needed to achieve more revenues with success-based than with platform fees decreases as the success rate increases. Taikai must find a balance, as a higher fee leads to higher revenues but can draw away projects from the platform.

Another critical aspect to consider is what is expected of the crypto market in the near future, as the market conditions influence transaction prices and company valuations. The crypto market is known for its high volatility and uncertainty, with pronounced cycles, which makes it extremely difficult to predict. The current market sentiment as of now and regarding 2024 is leaning towards a bull market, an increase in prices. Two relevant events approaching are the Bitcoin halving and Bitcoin spot ETFs approval, which are expected to come soon (Patel 2023).

Conclusion

Startups play an important role in today's global economy, and an entire industry has appeared around them. From the highlighted participants in this industry, business incubators and grants are the ones closest to the Taikai ecosystem. Taikai must look at what these businesses are doing correctly to build a strong network of connections, which can attract mentors to support the projects and investors to fund the projects.

The four business models were analysed, with no clear winner standing out. The decision must be made according to expectations on the success of the projects going through the Taikai ecosystem, on the future of Web3, and the future of cryptocurrency markets. A hybrid could be an ideal solution for generating the most revenue with the lowest associated risk.

Taikai must be swift to act if things are not going smoothly, either low revenues, low community engagement, or low success rate of the projects, by changing the values of the

chosen business model, the fee, the amount of tokens accepted, or the licensing agreements or by switching to a different business model.

Some topics are left open for further study, a deeper analysis of the future of Web3 or the future of crypto markets. Also, quantitative methods can be used, namely scrapping data on the performance of new Web3 projects and tokens, to compare and apply to Taikai.

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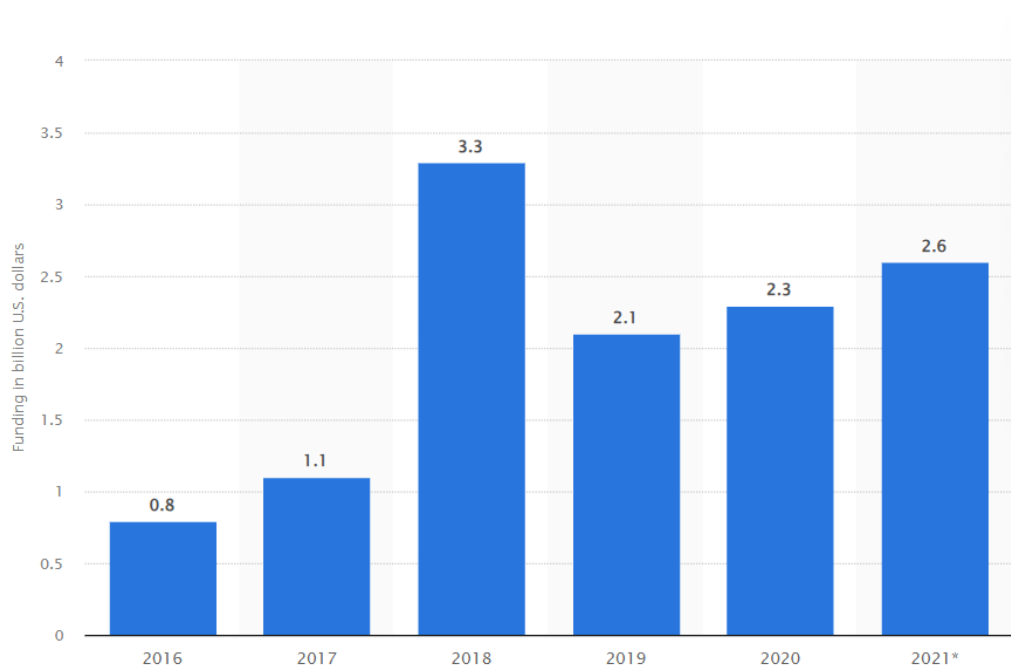
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Annexes

Annex 1: Top reasons startups fail; (CB Insights 2021).



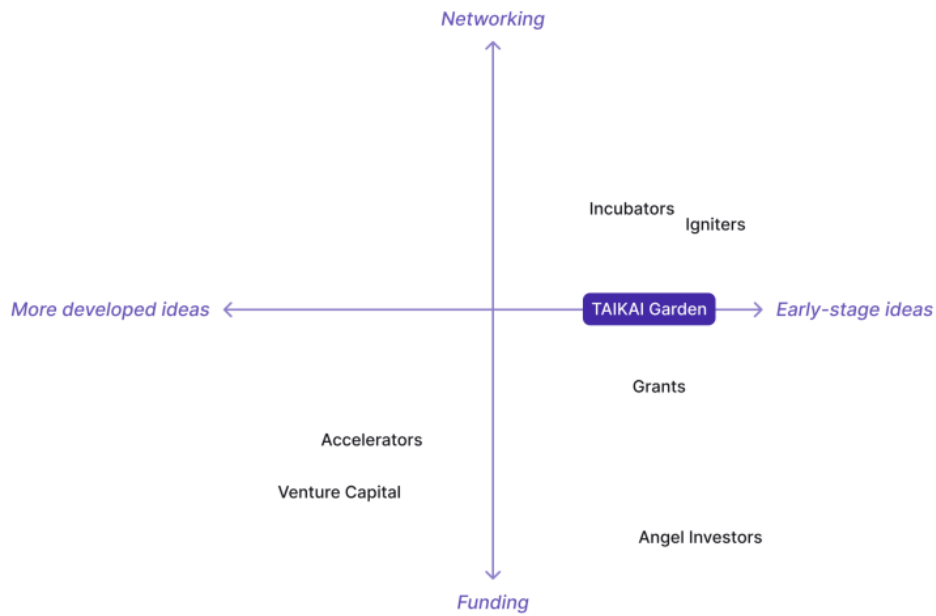
Annex 2: Venture-capital funding in blockchain startup companies worldwide from 2016 to 2021 (in billion US dollars), (* As of Q1, 2021); (Statista 2021).



Annex 3: Launchpads ranked by sum of market capitalization; (CryptoRank n.d.).

Name	Blockchain	Current ROI	ATH ROI	IDOs	Raise	Entry	Volume (24h)	Sum Market Cap
MISO		0.55x	8.91x	12	\$ 474.89M	N/A	\$ 46.51M	\$ 1.53B
DAO Maker		0.87x	32.32x	129	\$ 68.39M	\$ 207.12	\$ 101.64M	\$ 1.16B
Balancer LBPs		0.51x	6.56x	9	\$ 108.32M	N/A	\$ 91.28M	\$ 604.65M
PAID Network		0.39x	26.22x	86	\$ 24.09M	\$ 43.32	\$ 23.25M	\$ 599.81M
Polkastarter		0.41x	34.69x	106	\$ 32.22M	\$ 89.23	\$ 35.22M	\$ 522.95M
AcceleRaytor		0.44x	34.34x	18	\$ 10.53M	\$ 20.82	\$ 19.26M	\$ 319.73M
Seedify		0.73x	25.78x	73	\$ 26.46M	\$ 375.43	\$ 20.58M	\$ 297.52M
Poolz Finance		0.52x	15.28x	127	\$ 23.02M	\$ 4.12	\$ 22.14M	\$ 268.49M
Red Kite		0.35x	33.13x	82	\$ 11.09M	\$ 47.06	\$ 8.21M	\$ 254.29M
TrustPad		0.3x	18.39x	90	\$ 14.72M	\$ 1.17	\$ 8.92M	\$ 245.88M

Annex 4: Comparison of different initiatives for early-stage support. (Taikai 2023).













Annex 5: Ranking of the different business models.

	Platform fees	Success-based fees	Rewards as tokens	Licensing
Potential revenue	4th	3rd	1st	2nd
Time to receive money	2nd	4th	3rd	1st
Dependence on project's success (lowest to highest)	3rd	2nd	1st	4th
Risk (lowest to highest)	2nd	3rd	4th	1st

Annex 6: Cryptocurrencies and tokens best performers in 2023, of the top 1000 listed in CoinGecko; (CoinGecko n.d.).

Top Gainers

#	Coin	Price	Volume	1y
☆ 534	 Koinos KOIN	\$1.26	\$875,273	58595.2%
☆ 907	 Domani Protocol DEXTF	\$0.250046	\$80,711	11641.3%
☆ 107	 Rollbit Coin RLB	\$0.168994	\$6,926,859	7754.7%
☆ 991	 Rowan Coin RWN	\$0.069093	\$919,406	7595.6%
☆ 652	 ResearchCoin RSC	\$0.380043	\$1,358,450	4105.4%
☆ 648	 Whiteheart WHITE	\$3,667.23	\$64,030	4030.8%
☆ 268	 Nakamoto Games NAKA	\$2.11	\$19,547,541	2922.3%
☆ 314	 Pendle PENDLE	\$1.11	\$11,537,928	2115.6%
☆ 27	 Kaspa KAS	\$0.140218	\$38,056,371	1902.3%
☆ 468	 Taraxa TARA	\$0.01667505	\$1,011,239	1803.3%

Annex 7: Performance of fees business models under different scenarios

1st scenario

monthly

hackathons hosted	6
avg funding of projects	€ 100,000

projects from Taikai to Taikai Garden	2
projects from scratch on Takai Garden	5
total number of projects	17

Platform fees	
% fee	revenue
2%	€ 34,000
5%	€ 85,000

Success-based fees

% successful projects	#	5%	15%
100%	17	€ 85,000	€ 255,000
80%	14	€ 70,000	€ 210,000
60%	10	€ 50,000	€ 150,000
40%	7	€ 35,000	€ 105,000
20%	3	€ 15,000	€ 45,000
5%	1	€ 5,000	€ 15,000

2nd scenario

monthly

hackathons hosted	8
avg funding of projects	€ 140,000

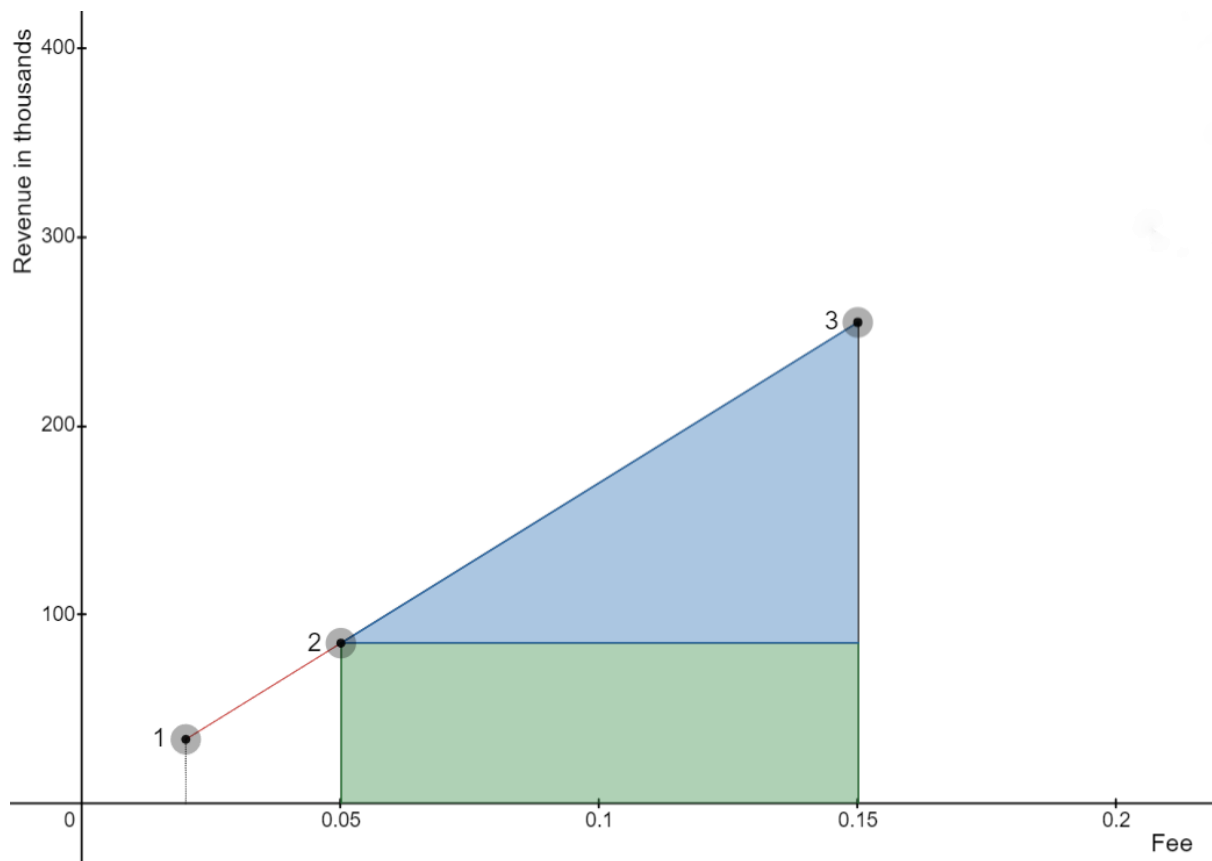
projects from Taikai to Taikai Garden	2
projects from scratch on Takai Garden	7
total number of projects	23

Platform fees	
% fee	revenue
2%	€ 64,400
5%	€ 161,000

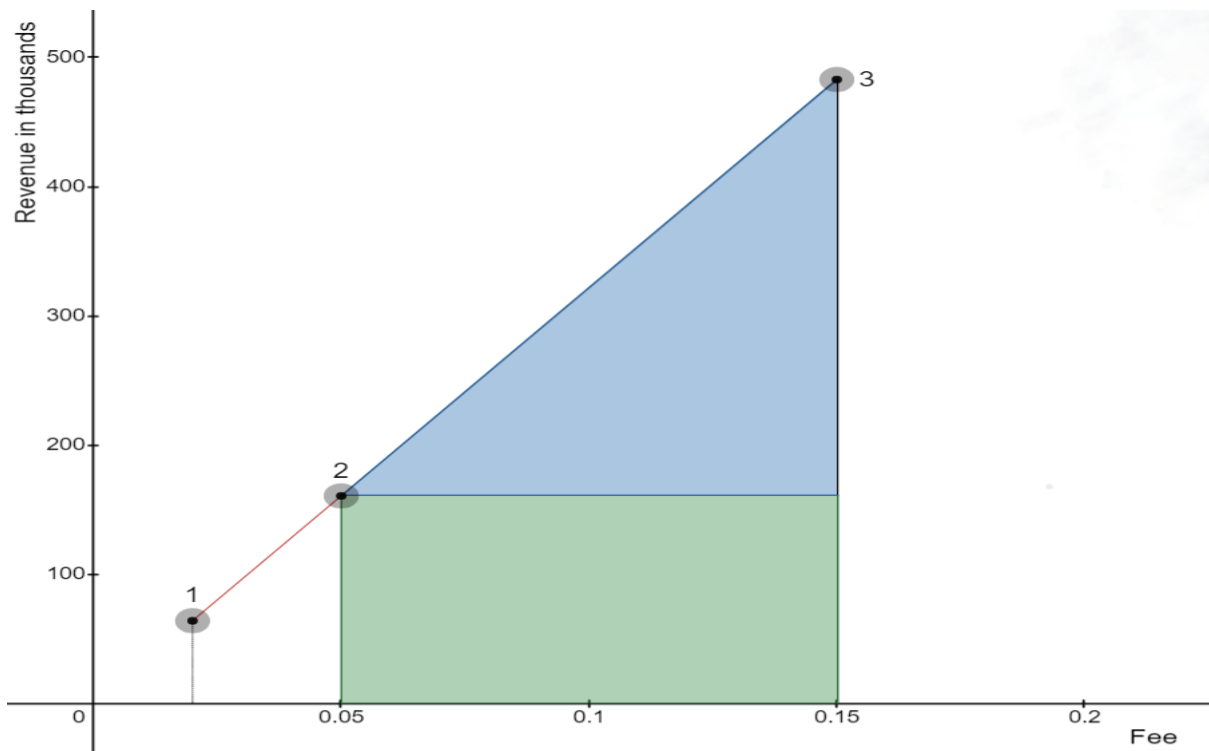
Success-based fees

% successful projects	#	5%	15%
100%	23	€ 161,000	€ 483,000
80%	18	€ 126,000	€ 378,000
60%	14	€ 98,000	€ 294,000
40%	9	€ 63,000	€ 189,000
20%	5	€ 35,000	€ 105,000
5%	1	€ 7,000	€ 21,000

Annex 8: Performance of fees business models under the first scenario, graphically



Annex 9: Performance of fees business models under the second scenario, graphically



Annex 10: Number of successful projects required to be in the blue area (above in annex 8 and 9), with success-based fees model.

1st scenario

average funding of projects	€	100,000
total number of projects		17

desired revenue	€	85,000
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fee	success	# succesful projects	# with rounding	actual revenue
5.0%	100%	17	17	€ 85,000
6.0%	83.33%	14.17	15	€ 90,000
7.0%	71.43%	12.14	13	€ 91,000
8.0%	62.50%	10.63	11	€ 88,000
9.0%	55.56%	9.44	10	€ 90,000
10.0%	50.00%	8.50	9	€ 90,000
11.0%	45.45%	7.73	8	€ 88,000
12.0%	41.67%	7.08	8	€ 96,000
13.0%	38.46%	6.54	7	€ 91,000
14.0%	35.71%	6.07	7	€ 98,000
15.0%	33.33%	5.67	6	€ 90,000

2nd scenario

average funding of projects	€	140,000
total number of projects		23

desired revenue	€	161,000
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fee	success	# succesful projects	# with rounding	actual revenue
5.0%	100%	23	23	€ 161,000
6.0%	83.33%	19.17	20	€ 168,000
7.0%	71.43%	16.43	17	€ 166,600
8.0%	62.50%	14.38	15	€ 168,000
9.0%	55.56%	12.78	13	€ 163,800
10.0%	50.00%	11.50	12	€ 168,000
11.0%	45.45%	10.45	11	€ 169,400
12.0%	41.67%	9.58	10	€ 168,000
13.0%	38.46%	8.85	9	€ 163,800
14.0%	35.71%	8.21	9	€ 176,400
15.0%	33.33%	7.67	8	€ 168,000