

“*YUMMYARD*”: COMBINING P2P AGRICULTURAL INVESTMENTS WITH SUSTAINABLE
FOOD SYSTEMS IN ESTONIA

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1. Overview

This paper will focus on highlighting first the challenges that agri- businesses are facing worldwide, yet how crucial both for consumers' health and countries' long term prosperity and economic growth agricultural produce and investments are. Thereafter, there will be a dedicated section that will shift the attention towards the increasing popularity of P2P platforms ultimately emphasising the eco- social potential of pairing alternative banking solutions with land and agricultural investments. The third point will introduce the platform YummYard, a conciliation of these two sectors thoroughly explaining - including a PESTEL analysis - not only how the platform would function as well as the services offered, but also highlighting the importance of establishing it in the Baltic region, specifically, Estonia. Finally, the last points will thoroughly explain the regulations in place and legislative framework, including intellectual property (IP) rights, and the factual operativity of YummYard within Estonian jurisdiction.

2. Agriculture

According to the Food and Agriculture Organisation (FAO), food systems globally are increasingly going to face significant challenges: not only are 735M people currently undernourished, but up to 3.1B are unable to afford healthy diets (Food Systems Countdown Initiative, 2023). According to data, out of 189 countries taken into consideration every country struggles at least with one form of malnutrition, which can range from starvation and/or undernutrition to diet- related diseases, while many suffer from more than one: this is especially true for first- world economies, where despite the widespread availability of food, it often comes at the cost of serious health conditions in the long- run (Food Systems Countdown Initiative, 2023). Another important factor is the source itself: food system workers often earn low incomes and are facing poor working conditions, which overall make working in primary sectors not sustainable over time: “[...] many food supply chains are characterised by power imbalances, which contribute to inequities in livelihoods and access to food.” (Food Systems Countdown Initiative, 2023). While

it is true that the expansion of food systems could contribute to pollution and biodiversity loss, these also offer a resourceful lever to mitigate the side effects of agricultural practises such as climate change, as well as preventing further environmental crises. Food systems transformation is not only crucial for the long term sustainability and health of dietary practises, but it is also more relevant than ever: the topic was in fact discussed in the 2021 UNFFS and the UN Climate Change Conferences of the Parties (COPs), which boosted momentum behind food systems transformation. While the Countdown¹ systems baseline data shows that no country manifests positive outcomes across all levels of the income spectrum and all regions, there are important opportunities for food systems reforms: in fact, even when there is adequate coverage of social protection programs that can provide safety nets for food systems in terms of income for farmers, agricultural tools that mitigate consequences of droughts, amongst others, the level of benefits may be insufficient to make a meaningful difference. It is also noteworthy that while incomes vary widely, a healthy diet costs approximately the same throughout most countries, making healthy diets most unaffordable in low- middle income countries (LMICs) (Food Systems Countdown Initiative, 2023). It is also important to highlight that food production systems rely on chemical pesticides to maintain crop yields: not only are chemical pesticides harmful for the environment, but also for the long term health of the consumer, which has proven to be linked to chronic illnesses such as heart, respiratory, and neurological diseases, cancer (European Environmental Agency, 2023) and in cases of pre-natal exposure, leukaemia (Federico, 2023). However, while it is crucial to tackle equal and fair access to all worldwide, it is also necessary in the framework of fintech startups to ensure the latter's establishment in a jurisdiction with sufficient IP and legal protections, as well as unexplored market opportunities for initiatives that tackle food systems' challenges, and that pair well with local governments' regulatory framework. This is especially the case for Estonia since 2014, when

¹ “*Food Systems Countdown Report: The state of Food Systems Worldwide*” (FAO, 2023)

the E- Citizenship legislation has been passed precisely with the purpose of boosting and attracting investors worldwide, specifically targeted at improving rural development.

It is also important to note that on average today, small and medium- sized agribusiness owners receive on average 27% of the total consumer price for a food product, meaning that most of the final cost results from the processes after the farmer has put the produce in circulation (Eriksen, 2021): this is an important power imbalance where not only farmers have little means of reinvesting in their activities to optimise production and thus be able to offer high- quality goods, but it is also unfair to the buyer who purchases goods at a higher cost at the expense of small producers and quality of the good, as well as the own consumer's health. Estonia's incentives to boost both domestic and foreign direct investment (FDI) through initiatives such as that of the e- Residency, pair well with increasingly popular alternative banking options such as, but not limited to P2P lending and/or crowdfunding platforms, where borrowers are put in direct contact with investors and where both can benefit from (i) loans to improve and optimise agriproduction and (ii) ROI for investors, meaning the interest rate that the borrower will pay back usually on a monthly basis.

3. P2P Lending platforms

Peer to Peer lending sites, also known as P2P, "social lending" or "crowd lending" are designed on the premise of cutting out the financial institutions as the "middleman" and do so by connecting the investor directly with the borrower (Kagan, 2023). They offer individuals, small businesses, startups and generally those borrowers who do not fit the idea loan recipient profile by traditional banking standards, to take out loans without necessarily going through lengthy bureaucratic processes and obstacles imposed by conventional banking institutions (Kagan, 2023), which is especially crucial for small and medium sized entrepreneurs. As for lenders, investing capital on such initiatives has the potential of getting a better return on the cash savings than what they would get from a conventional saving accounts or certificates of deposit (CDs). This is especially the case for equity P2P. On the other side however, the loan might come with higher risk

for investors and higher fees and interest rates for loan recipients (Kagan, 2023). Every platform sets rates and terms that enable the transaction, and most platforms operate on a wide range of interest rates based on a credit score assessment.

As for investors, an account is opened and a deposit to be allocated in loans is provided. On the other hand, the borrower posts a financial profile that is assigned a risk category that is going to determine the interest rate the loan applicant will pay to the platform and the investors. While monthly paybacks are handled through the platform, the process can be either automated or lenders and borrowers can negotiate the terms of purchase, agreement and contract (Kagan, 2023). One of the advantages of investments through P2P platforms is that depending on the P2P platform chosen investors can start with an account balance of as little as 25\$ and invest down to a minimum of 10\$ (Kagan, 2023). This unveils another advantage of P2P platforms vis a vis, for instance, stock markets: the investor can choose how much to invest in a given project, as opposed to having to buy a stock at its market price and not below or above that market-established sum.

On the other hand, equity crowdfunding allows a business owner to sell one or more stakes of one's business to a pool of potential investors in return of an "equity", which in turn allows you to have numerous small owners instead of a few large investors, costing less than being listed in the stock market (European Commission, n/d): another important feature is that "[...] *equity-based crowdfunding benefits investors by enabling them to select the companies they are most passionate about, earn a stake in the company, and invest according to their needs.*" (Business Research, n/d).

Thus, in exchange for equity, crowdfunding allows a number of investors to finance projects led by start-ups and small- medium sized businesses. Equity crowdfunding has proven especially useful to fund those start ups and small businesses that would otherwise struggle to get loans needed to establish themselves from conventional financial institutions. In cases such as that of Kickstarter, some platforms also relieve the "borrower" of a loan payback obligation, while in others like TWINO such obligations exist, plus a given interest rate that may vary depending on the

credit score of the borrower. It is also noteworthy though that the default rates for P2P loans are much higher than those in traditional finance (Kagan, 2023). In case of default on behalf of the borrower, P2Ps usually use the collateral as a way to repay back the loan to investors while also keeping a percentage that may vary from platform to platform. Crucial features of equity P2P platforms include auto- invest features, which guarantee a constant capital flow automatically allocated by the platform to projects that seem compatible with the investors' interests, and resale of loans on secondary markets for investors that wish to have more liquidity especially before the end of the payback term.

Last but not least, P2P have a remarkable market projection growth that is currently valued approximately at \$130.3B, and is expected to reach \$621.3B by 2032 at a CAGR (compound annual growth rate) of 28.1% from 2023- 2032 (John, 2023). This is especially true for the United Kingdom but more recently, for Baltic regions: while the UK pioneered the European P2P platforms, liberal regulation coming from the Baltic region have gradually displaced the UK from its leadership pedestal (Bignell, 2023). This is especially relevant for Estonia where Bondora and Iuvo, the two major Estonian P2P platforms, have reported a record month for loan investment, registering an increase of revenues by 21.2% and an increase in investment by 12.6%, overall suggesting a boom in P2P lending activity in the region (Shoffman, 2023). Combining P2P platforms with a non- volatile asset such as that of land (as opposed to stocks or houses, for example), and in this case, agricultural land where profit is made off of the produce itself and land value appreciation, could constitute an equally profitable option for all stakeholders involved, farmers, customers, and investors alike, while also consolidating and strengthening a new food distribution system.

4. YummYard

Building on the aforementioned premises, YummYard is not only created as a channel through which consumer and producer are put directly in contact, but as a way for agri-workers to

become entrepreneurs instead of being subjected to market monopolies of larger companies such as but not limited to, multinationals. The platform will have three functions: from the perspective of the producer, from the perspective of the consumer and from the perspective of the investor. First, the producer will be able to log in and set up an account after disclosing the details circa the land, the farm, and banking account. Once the account is set up there will be three categories: (i) cataloging products and services offered by the farm(er) (ii) listing shares of the land, and (iii) reaching out to investors and customers. YummYard thus becomes a mechanism where the farmer is not merely the a source of food but a business- person, and the consumer upgrades his or her lifestyle by being provided access to a wide category of agricultural, healthy products that have traceable origin and are not subjected to food processing techniques. On the other hand, the investor is driven by the prospect of growth of the agricultural sector while contributing to the consolidation of a sort of “Agriculture 2.0”, as well as that of land value appreciation, having a positive relationship with the latter’s utility. YummYard would also provide a function that briefly summarises the carbon score of each farm, meaning investors will be able to chose what enterprise they want to invest in based on the carbon emissions. Additionally, the app used by agri- worker will also have the option of keeping an “e-book” of stocks, goods records and availability of produce depending on season and land productivity. The consumer would then be able to chose the produce most fitting to dietary habits and necessities. However, the purchaser would also need to insert either a telephone number, or ZIP code, which would serve the function of showing nearby farms and agri- businesses. Delivery or pick up services would be entirely up to the agri-producer’s availability and willingness to provide said service. On the other hand, businesses that work with and on land can also reach out to investors via the P2P function of the platform, in case of loan necessities or “land tokenisation” where investors can buy shares of the annual produce of agricultural products, as opposed to purchasing the land per se, which is not legally possible since the land cannot be fragmented into smaller units (Landex, n/d). Additionally, to facilitate even

further the communication between agri-businesses and potential investors, the platform would also create a “network match- making” function, where the user can easily visualise farms and businesses on their screens through a square- shaped details’ sheet summarising the specifications of a plot of land, farm, agri- business. The sheet will present at the bottom two options, namely “X” or “√” to approve a transaction and/or business opportunity which would end up in a check out cart in the user’s profile. The price of the actual sale of the produce would be largely dictated by market trends and season.



4.1 Location & Regulatory Framework

On an administrative and political level, Estonia has undertaken initiatives such as the CAP Strategic Plans to “[...] support the transition towards a smart, sustainable, competitive, resilient and diversified agricultural sector, ensuring long-term food security [...] as well as strengthen the socio-economic fabric of rural areas ” (European Commission, 2023), while also contributing to the achievement of the European Green Deal’s goals and objectives. Specifically, the CAP Plan outlines a strategy that covers all main CAP funded instruments, such as but not limited to direct payments and support towards particular market sector specifically, rural development i.e. primary sector,

which aim at creating around 1,250 rural jobs in the near future (European Commission, 2023). In fact the primary sector accounts for about 2.5% of Estonia's GVA, a higher average than all EU countries. Considering there are circa 11,300 farms in Estonia, and considering 23% of the land is managed organically, there is huge growth development potential for the Estonian agricultural industry: data also shows that an increasing number of Estonian agricultural workers would be willing to participate in food quality schemes and joining cooperatives, which currently have a weak market position (European Commission, 2023). With this premise, YummYard ensures the longevity of the transition and the consolidation of a safer food system where producer and beneficiaries are put directly in contact for the benefit of both. There is thus a symbiotic relationship between the growth of Estonia's agricultural sector and the support on behalf of the Government that is increasingly pooling resources to foster growth domestically, such as but not exclusively the e-Residency legislation.

In fact Estonia, in an effort to strengthen its e- statehood status, dubbed "e-Estonia" as a form of deterritorialised statehood (Gliboff, 2023), it allows non- Estonian citizens to obtain a so called e- Residency card, a Government ID card that allows and eases the process of setting up and creation of businesses, particularly, online businesses and fintech that can be issued to any legal person regardless of nationality of origin and/or country of residence (Republic of Estonia e-Residency, n/d). According to governmental authorities, it takes as little as five minutes to set up a business in the Country (EIT, 2022), making it an attractive business opportunity for many entrepreneurs [see PESTEL Analysis below]. As for regulatory compliance, according to Estonia's legislative framework, "*An undertaking or self-employed person must submit a notice of economic activities to the Agriculture and Food Board (AFB) or apply for an activity licence before starting any economic activities.*" (Agriculture and Food Board, 2023). This means that both YummYard and its partner farms have to obtain a permit pursuant Estonia's Food Act (1999) Chapter 2, "*Notification and License Obligation*", for the list of food groups and agri- economic activities

listed in Annex 1 to Regulation No. 63 of the Minister of Agriculture, which can easily be accessed online via the client portal of the Ministry of Regional Affairs and Agriculture (Agriculture and Food Board, 2023), and in the case of YummYard, only and exclusively after the issuance of the e-Residency ID card. YummYard would have to submit a notice of economic activities to the Agriculture and Food Board before they start economic activities or apply for an activity licence in relation to agri- food businesses, which includes distance sale, e.g. online and mail trading and retail, amongst others. The initial business set up would be that of a Private Limited Company (OÜ) which requires a relatively low share capital requirement (€2,500) and where shareholders have no personal proprietary liability for the private limited company's obligations. YummYard would register as a Private Limited Company (OÜ) electronically in the e- Business Register after issuing a digital signature that ensures the effects of legal persons (EIT, 2022). The fee for establishing a PLC (OÜ) amounts to €200, and in case of expedited procedure, €265, equalling a total cost that ranges from €2,700 to €2,765, but only in the case of Private Limited Companies. The state fee can later be recognised as a business expense as the costs of establishing the private limited company (EIT, 2022).

4.2 PESTEL Analysis

“PESTEL” is an acronym for “Political; Economic; Social; Technological; Environmental and Legal” [framework], a useful tool to highlight the strengths of each sector circa the business opportunities of a given country, in this case, Estonia. The analysis below summarises the information gathered so far. It includes both aspects of YummYard both as a P2P lending platform designed for investment in land and agricultural activities, and as a channel for producers to connect directly with consumers.

Political	Economical	Social	Technological	Environmental	Legal
<p>Agriculture & Food Board (AFB), regulates and oversees agricultural activities</p> <p>CAP Strategic Plan</p> <p>General institutional reliability (EBRE; EFCU; ARIB; MRARE etc)</p> <p>Specific designated institutions that handle IP rights: Patent Office, Ministry of Justice (Estonian Patent Office, 2023)</p>	<p>Increasing demand and consumption of healthy and organic agricultural produce</p> <p>E- Residency (expanding market possibilities to foreign investment)</p> <p>2.9% of Estonia's added value in 2021 was created by farming- based activities (EIT, 2022)</p> <p>P2P platforms Bondora & Iuvo's record report- increase of 21.2%, investments increase of 12.6% (Shoffman, 2023)</p>	<p>"Start- up mindset" (EIT, 2022)</p> <p>Trend shift towards healthier dietary options</p> <p>Increasing need for small and medium sized businesses to access loans and other banking options without exhaustive procedures of banks</p> <p>Increasing number of agricultural workers are willing to participate in food quality schemes (European Commission, 2023)</p>	<p>E- Residency (virtual card easing typically lengthy bureaucratic processes)</p> <p>Hub for P2Ps and R&D (e.g. EstateGuru, Landex)</p> <p>"... you can start a company within 5 minutes..." (EIT, 2022)</p> <p>"[Estonia is] a rapidly developing digital society..." (EIT, 2022)</p> <p>Estonia is 6 times higher than EU average in startups per person (EU: 5 per 100.000 people)(EIT, 2022)</p>	<p>Strong push for investments in agricultural initiatives (CAP Plan)</p> <p>Large portions of agrarable land</p> <p>Fourth in the world for urban air quality (EIT, 2022)</p> <p>23% of agricultural land in Estonia is organic, 2.5% increase since 2020 (EIT, 2022)</p>	<p>TRIPs Agreement (IP- WTO)</p> <p>Food Act (e.g. licenses)</p> <p>Regulation No. 63 Ministry of Agriculture</p> <p>Trade Marks Act (2002)</p> <p>Register of Economic Activities (Estonian Consumer Protection & Technical Regulatory Authority) - regulates economic activity of any nature including P2P</p> <p>EPA + Estonian Tax & Customs Board protect IP rights</p>

4.3 Competition

Because of Estonia's attractiveness as a market for P2P lending startups and R&D circa new financial technologies and, in this case, innovative agricultural techniques, it is not surprising that numerous companies chose Estonia as their headquarters. Such enterprises include but are not limited to Swaper, EstateGuru, Bondora (Gaw, 2023) and in the field of agriculture and farming, Landex, making Landex YummYard's top competitor. However, Landex's business dynamic is mostly dedicated to P2P lending and acquisition of land property, as opposed to YummYard, which in turn connects agricultural producers with beneficiaries i.e. customers who purchase produce and investors who purchase either shares or profit off of loan payback interest rates. The comparative strength of YummYard is not only that it is a comprehensive platform that finds a common ground between the "source" and the consumers, but it aims at wholly reforming the agricultural sector by turning farmers into entrepreneurs, and by allowing individuals to nourish themselves with healthy

and nutritious land produce. Likewise, YummYard is not merely a tool to channel financial investment, but a service that delivers returns, or dividends, from the sales of crop yields and other agricultural goods as well as land value appreciation, incentivising both farmers to innovate, as well as investors to finance sustainable and green projects that contribute to the sustainment of whole communities alongside the capital gain rationale, and not one at the expense of the other.

4.4 Incorporated Technologies

While YummYard itself would be categorised as a P2P platform with specific services incorporated, such as direct producer- to- consumer channels and networking options for B2B alternatives, there is a however the need to use additional technologies to create a safe and reliable space for both businesses and beneficiaries, which includes both customers and investors. With this premise, the two most important ones would be Smart Contracts, as well as the integration of safe payment methods such as PayPal. The implementation of smart contract would significantly increase transparency, traceability and irreversibility in the form of self- executing agreements written in code on a decentralised network, reducing the need for intermediaries and/or lengthy bureaucratic processes, and are becoming increasingly relevant thanks to their ability to store data related to applications, e.g. membership records or domain registration info. On the other hand, payment tools like PayPal would ensure traceability of the borrower as well as that of the investor, and would ensure safe transactions where there is little to no room for fraudulent and scamming operations. To make this viable, YummYard would have to create a PayPal account, open the administration panel on the YummYard platform in the dedicated e-commerce section and select “Standard PayPal Payments” as payment option. As for smart contracts, the Linux Foundation, NEM and Ethereum all offer equally reliable and trust- worthy services. However, NEM could expand the scope of YummYard since it even includes so- called “mosaics”, i.e. digital assets that can represent anything of value, similar to tokens (Sharma, 2023). This is also especially relevant with the prospect that YummYard could in the long run offer tokenisations (or in this case perhaps,

mosaicisation) of land that could be sold in secondary markets and make transfer of land property easier and quicker, especially when profit prospects increase in the case of selling the platform to larger incumbents. Additionally, “*its built-in messaging system allows fee-free communication, and the decentralised exchange facilitates direct trading without intermediaries.*” (Sharma, 2023).

5. Revenue & Profitability

YummYard would seek profit off of the use of the platform through a variety of tools: (1) Customised and/or sponsored content. This function would allow agricultural workers to upgrade their profile by paying a weekly, monthly or yearly additional fee for sponsored content resulting in their activity shown first to all users in the form of a square- shaped details’ sheet that would appear on the main screen of the user when opening the platform. The fee price would depend on the size of the enterprise. For example, for small farms (0-9 workers) the fee would amount to €15 a month; €4 a week and/or €120 per year, while for medium (around 250 workers according to EU standards) the cost would be subjected to an increase of 10% starting from the default rate of €15 a months, amounting to a total of €16.50 a month; €4.40 a week and/or €132 per year. On the other hand, for large enterprises (more than 250 workers according to EU standards) the charge would experience a 15% increase from the default rate of €15 a month, which translates to €17.25 a month; €4.60 a week and/or €138 per year (2) Transaction costs. Transaction costs would include transactions between (i) customer who purchases the goods, including B2B (ii) loans from investor to borrower (iii) ROI i.e. payback of the loan plus interest rate to investors, of which the platform would detain 2-3% (so, borrower to investor transaction) (3) Interest rates. Meaning, when the borrower submits a request for a loan, and the loan comes with an interest rate, YummYard acquires by default a portion of that interest rate, which considering current P2P standards amounts to approximately 10% (see for example, TWINO). Larger profit prospects could also be found in B2B agreements, regulated by Smart Contracts where YummYard’s agency rights would be preserved.

6. IP Rights & Strategy:

The legal framework Estonia avails itself of for the protection of IP rights encompass the Patents Act; the Trademark Act, the Design Protection Act; the Unfair Competition Protection Act, amongst others. However it is also important to note that P2P platforms as service per se cannot be trademarked, rather, specific functions and the execution of the platform can, as well as the design and logo trademark. To comply with Estonian laws and enjoy trademark legal protection YummYard would have to apply for trade mark registration and submit it to the Patent Office in Estonian, which can also be submitted electronically. However, there needs to be a separate trade mark registration for each trademark. Legal protection is valid for ten years from the date of submission of the application, and can be extended in increments of ten years at the request of, in this case, YummYard.

Overall, the goal would be to diversify intellectual property obtaining a variety of trademarks on logo, name and domain. Because the combination of a food system distribution aligned with a P2P platform is relatively new, considering current existing competition operates either wholly within the P2P sector *or* within the food delivery sector, it would most likely be appropriate to adopt an offensive IP strategy which deters potential business creators to incorporate YummYard features emerging ventures could seek a profit off of. However, the very features that diversify the use of the app depending on the user's goals and objectives make it a versatile platform that inherently deters other creators to utilise it in a way that is inherently unique without "borrowing" existing features that are already present on YummYard. According to existing databases, YummYard has not been trademarked, thus, the logo and name of the start up would be trademarked as YummYard™, the flower adjacent to the trademark YummYard™ would also be trademarked, and so would the juxtaposition of both *flower*YummYard™. The grading green colours of YummYard in that sequence associated to the trademark YummYard would also be trademarked. The networking function of YummYard™ would also be trademarked, in particular the

specifications “sheet” or summary of the farmer’s agricultural enterprise in the shape of a square with the options “X” or “√”, corresponding to functions of “network match- making” at the bottom of the square- shaped sheet, alongside the YummYard matchmaking function itself as a trademark. It is however also possible that the most profitable outcome is not to continue expansion but to sell IP property rights of YummYard to a larger incumbent: in the case of competitors who would want to avail themselves of certain functions of YummYard, and being in the position of already being protected by trademark legislation by the Estonian Government, YummYard would upon agreement issue licenses for the use of similar functions to third parties.

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