

Farm to Fork Initiative Towards Sharing Economy in Serbian Agriculture: A Case Study of Farmit Startup

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Abstract. *This paper presents the main business outline of the Farmit startup. Farmit is an online platform aimed at connecting customers from urban areas with small farmers. Using the app, customers create their virtual garden and choose vegetables they would like to have planted. Farmers plant that ratio of vegetables on their fields and deliver the vegetables from that ratio strip to the customers. This paper gives a theoretical outline of the sharing economy and the Farm to Fork concept and describes their similarities. Using a case study approach, it proposes a business model to fit into strategic directions based on the abovementioned concepts.*

Keywords. *Farm to Fork, sharing economy, business model*

1 Introduction

This paper presents one of the initiatives for the sharing economy in Serbian agriculture, aligned with the Farm to Fork initiative. As a part of the European Green Deal (Fetting, 2020), a Farm to Fork initiative is aimed at four main goals: Sustainable food production; Sustainable food processing and distribution; Sustainable food consumption; Food loss and waste prevention (Gheoldus & Gheoldus, 2019; Hudecová, Nagyová, Mušínská & Horská, 2022; Kiran, Prasad & Mohan, 2023).

A sharing economy can be defined as a concept based on social and economic premises of the sharing of resources, development of digital platforms to facilitate large-scale connections between demand and supply, improving the usage of underutilized assets, promotion of collaborative consumption (Cohen, McClelland, & Gough, 2019).

The basic idea is to enable the utilization and exploitation of results without direct and often costly ownership of resources, which can be applied in the agricultural industry specifically for high fixed cost and capital ownership required for the utilization of results.

Searching for suitable business models related to the above-described concepts is challenging, and a trial-and-error approach might yield the best results. With relatively low entry and exit barriers, startups that digitally transform food distribution can converge towards optimal business models following the laws of organizational population ecology (Hannan & Freeman, 1977), since only the fittest will survive and grow into sustainable business systems. We also have to consider that digital transformation in the field has to pass the threshold and be much more efficient than current means of food distribution with a much lower volume than traditional systems, which have an economy of scale competitive advantage.

This article presents the basic business outline of Farmit, a Serbian startup platform that enables users to rent a garden, select the planted vegetable portfolio, and deliver the crop from their garden directly to them during the extended harvest season. It is envisioned as a two-sided platform, directly connecting the farmers with the consumers. The article is based on a case study method. Data was gathered using the existing documentation, interviews and questionnaires. A specific business outline of the company is described and discussed within a theoretical framework of the sharing economy and Farm to Fork.

2 Literature review – Farm to Fork and the Sharing Economy

Expected outcomes of the Farm to Fork and the Sharing economy in agriculture mostly overlapped in the key areas of optimal usage of resources and sustainable technical, business and management solutions. Both theoretical concepts rely on social engagement and need strong, dedicated communities for the success of their business application. Optimization of distribution networks and promotion of local farming practices, the goals of Farmit, are tools in the Farm to Fork process (Kneafsey et al, 2013; Asian, Hafezalkotob, John, 2019; Sridar et al, 2023). The application of sharing economy within Farm to Fork framework includes using digital platforms to utilize existing resources (Moltene & Orsato, 2021). The functionalities of the platform, covered by Farmit, enable the participants in the network to share and rent agricultural resources and even trade, maximizing resource utilization and helping reduce food waste (Botsman & Rogers, 2010).

A novel business model in food distribution, proposed by Farmit, is building an essential element in the sharing economy, trust and relationships. Local farmers can use the platform to connect with their consumers in nearby cities, and eliminating intermediaries improves communication lines. Within a Farm to Fork food distribution system, trust is an important factor of success (Kadoić, Tomičić-Pupek & Vrček, 2020; Kadoić, Tomičić-Pupek & Vrček, 2021). Since Farmit is still exploring the functionalities and possibilities of the platform, increased trust and social cohesion can lead to economies of scope, where a community can use the social capital developed on the platform to exchange or create other values. That leads to more resilient and cohesive communities (Hamari et al., 2015) – shorter supply chains are less prone to the bullwhip effect (Stromer, 2021), more trust leads to diminished transaction costs and more solidarity during the crisis, a large set of smaller players is more adaptable to the different environment compared to several large supply chain participants.

3 Farmit – about the company

Farmit (2024) is a multi-sided online platform for connecting customers from urban areas with small farmers. Customers can create their garden on an online app by choosing their favourite vegetables and planting them through the app. Farmers create custom-made gardens with vegetables the user has selected on the app. Farmers plant and maintain gardens throughout the year on their land while users can monitor the progress from the initial stages of growth to harvesting and delivery through the application. Once the harvesting comes, users get their vegetables delivered to their homes. Farmit launched operations last year in Serbia with the primary objective of validating the business model proposed by the company. The initial traction affirmed the solid demand for the product. In the current year, 2024, Farmit team has already overachieved last year's results by fivefold, proving excellent market acceptance and growth. Management plans to expand into the European Union market by the end of 2024, with Portugal or Italy emerging as potential target regions.

3.1 Farmit sharing economy-based supply chain

The vegetable supply chain usually implies considerable length, with a notable absence of direct connection between food producers (farmers) and consumers. This disconnection creates a situation where the primary producers receive disproportionately low compensation for their efforts, owing to the dominance of larger intermediaries in the chain. Consequently, farmers often prioritize quantity over quality, increasing pesticide usage to meet market demands. Moreover, the issue of food waste looms large, with approximately half of all vegetables succumbing to spoilage within the food distribution network.

Farmit introduces a shift by establishing direct links between farmers and end-users, fostering equitable compensation for producers while affording urban consumers access to locally sourced, fresh, and nutritious vegetables. By bypassing intermediaries and having planned production in place, Farmit effectively reduces food waste. Furthermore, Farmit empowers consumers through our app to monitor the entire vegetable cultivation process - from seed to harvest - ensuring transparency at every stage of the Farm to Fork journey, with evident environmental benefits. Differences are illustrated in the figure 1.



Figure 1. Traditional supply chain vs Farmit Farm to Fork based supply chain (Source: Authors' work)

3.2. Farmit process

Farmit operates on a subscription-based model, sharing the farmer's resources and efforts with the customers. Throughout the cultivation journey, users can track progress, from the initial stages of growth to harvesting and delivery, all within the application. Upon harvest, users receive their selected vegetables every week directly at their doorstep on the same day, ensuring freshness and quality and diminishing storage costs, transaction costs, food waste, usage of pesticides, vegetable preservation agents and delivery time. The process is presented in Figure 2.

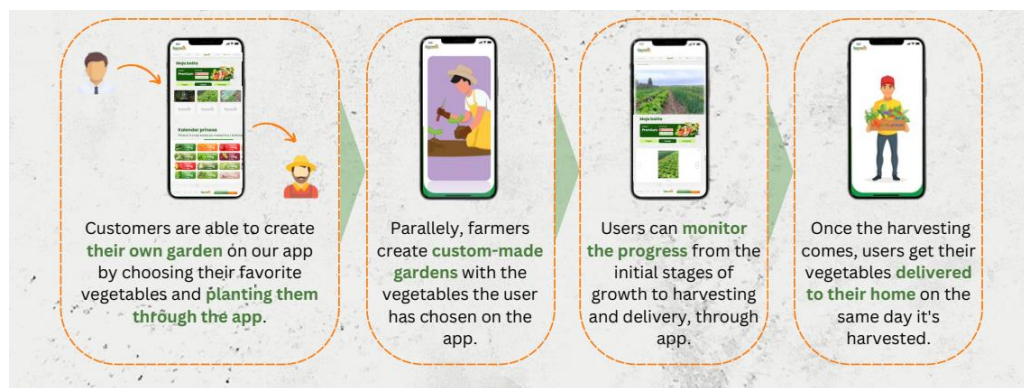


Figure 2. Farmit Farm to Fork based process (Source: Authors' work)

4 Discussion and conclusions

The business model of Farmit is presented in the figure below, using the Osterwalder and Pigneur (2011) canvas. Due to the limited space, the discussion does not elaborate on similarities between platforms aimed towards the same goals (Simonovits, & Balázs, 2022), which can be a goal for future research. Similarity shared between the Farm to Fork and sharing economy applied in the Farmit business model is the challenge of the traditional business models of production, distribution and consumption. Among other challenges, this is one of humankind's major revolutionary achievements –industrialized agricultural mass production. As a "zero" industrial revolution that preceded the commonly dubbed first industrial revolution for roughly ten thousand years, the transition from a hunter-gatherer model towards sedentary agricultural production and animal herding brought much progress. Still, typical mass-produced monocultures also endanger long-term soil health and biodiverse environment (Garnett et al., 2013). Farm to Fork, like the sharing economy, uses the potential of information and communication technology to keep the best of both worlds, keeping the efficiency of the mass industrialized agricultural system while diminishing its major flaws and negative impacts. Technological advancements through the eras were followed by an increase in the scale of agricultural production, a larger average size of land parcels, more specialization in the division of labour and the supply chains, and increased efficiency and economy of scale. While the agricultural yields increased, average field size became higher, efficiency was improved, and mechanized power removed human labour in agriculture, some aspects constantly seemed off in the concept of mass agricultural production. Just as in most applications of technological progress, presented advancements also increased collateral negative impacts. The sharing economy transforms traditional mass production business models, decreasing the importance of major capital investments (and significant economy of scale) by offering access without ownership (Schor, 2014). Farmit's business model fits the goals of both the sharing economy and the Farm to Fork. A survey on the very limited sample of 13, all random current Farmit users, has shown that 53.8% of the users have increased their vegetable intake and that 69.2% find the delivered quantities adequate. Users who find delivered quantities larger than needed have described ways to share them with family and



friends, which diminishes food waste. The proposed business model, a contestant in the recent race for the new standard for doing business in novel agricultural platforms, enables all those benefits.

Key Partners - Key partners would be local farmers and logistics partners. - Key suppliers are agricultural equipment suppliers, seed and plant suppliers. - Key resources to acquire from our partners would be access to land and farming infrastructure, expertise, knowledge and logistics solutions.	Key Activities - Sourcing and Procurement: Establishing relationships with local farmers - Supply Chain Management: Managing the entire supply chain process, including logistics - Quality Control: Implementing quality control measures to ensure that the vegetables meet the required standards for freshness, safety, and quality. - Online Platform or App Development: Developing and maintaining an online platform for customers to place orders, track deliveries, and manage subscriptions.	Value Proposition - On the urban consumer side, farmit secures a steady supply of seasonal and healthy vegetables. Also we provide control and insight into the growing of vegetables that they choose for their garden. We offer them a bundle that includes seasonal vegetables from a shared garden, and a premium bundle which is a personal, custom garden where farmers grow vegetables just for consumers that pick the premium bundle. - Aid in the distribution of farming products with acceptable planning of ensured sales - We bring value to our farmers by securing them an exact amount of users they will serve in a season which results in safe placement while making them earn 4 times more money.	Customer Relationships - We will establish a personalized relationship with end consumers via social networks and our customer support - On the other end we will keep our farmers in a transparent and fair relationship which is based on mutual benefits and collaboration.	Customer Segments We segmented our market into two target groups: - Small farmers with limited access to the supply chain and within a range of 150km near large cities. Their farms range from 0.5-3ha, do not have safe placement and are struck by low profits due to supply chain issues. - Urban consumers with healthy lifestyle and eating habits. Mainly families in Belgrade, with higher income, who love to cook, willing to spend more in order to secure healthy food for their kids or individuals who live a healthy lifestyle and want a more transparent way of securing their own vegetables.
Cost Structure Most important costs for our business model are human resources, transportation, sales and marketing, quality control and application development costs.	Revenue Streams - Monthly and annual subscriptions for a garden - Up-saed products - Cooking sessions			

Figure 4. Farmit Farm to Fork and sharing economy based business model (Source: Authors' work)

Our main conclusion is that, according to the theory of population ecology in organizations (Hannan & Freeman, 1977), organizations currently implementing the Farm to Fork concepts are going through a variation phase of the population ecology three-stage process (Jaško, Čudanov, Jevtić & Krivokapić, 2014). Many platforms with different business models are expected to emerge. Organization and strategy are identified as important factors of entrepreneurial success (Mihajlović, Marinković & Rakićević, 2023). They are expressed through a business model to become a key factor in the selection phase and a main determinant of which platforms and organizations will fail, which will merely survive and which will become a business standard in the future.

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