



Sustainable Precision Agriculture
Research and Knowledge for Learning
how to be an agri-Entrepreneur

PORTUGAL

TORRE DAS FIGUEIRAS
SOCIEDADE AGRÍCOLA, LDA

BUSINESS MODEL CANVAS
in the field of SUSTAINABLE
PRECISION AGRICULTURE

STUDY CASES COLLECTION



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INFO COMPANY

TORRE DAS FIGUEIRAS SOCIEDADE AGRÍCOLA, LDA.

Address: Herdade da Torre das Figueiras 7450-909 Monforte

Founding date: 1989

Extension: 1200 ha

Crops: Wheat, barley, triticale, oat, rapeseed, cattle, almond trees, pomegranate trees, olive trees (for olive oil and olives) and holm oak forest.

Number of employees: 14 permanents and 12 temporary

Contact

Name: José Maria Falcão

Date of the interview: 12 February 2019

Name of the interviewed person (specifying his/her role in the company): José Maria Falcão, Managing partner

Name of the interviewer: Manuela Correia

INFO PA INTRODUCED

What kind of PA innovation was introduced in the company? (see WP1 Questionnaire for farmers Part I – I.2)

Auto track system, Agromap (satellite imagery platform) and soil moisture sensors.

When?

2014, 2016 and 2013, respectively.

Why? What was the motivation / problem to solve?

Auto track to prevent overlapping, Agromap to monitor crops and soil moisture sensors to manage irrigation.

How did you learn about these new technological solutions?

Through partnerships with universities and abroad.

Have you been supported / assisted / trained by someone?

Yes, got training from the service company that provides Agromap and support from University of Évora.



BMC - report

Value Proposition

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- Cereals: wheat, barley, triticale and oak.
- Rapeseed for biodiesel.
- Olive groves for olive oil and for olives.
- Almonds.
- Pomegranates.
- Beef (Alentejana and Limousine breeds and crossed).

The cereals have a low toxicologic profile. The wheat produced is called “improver”, has high values of protein an high quality and it’s used to make flour for bread industry and for baby food.

Customer Segments

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

Everything is sold through Producer Organizations (POs). The POs clients can be, for example:

- Big supermarket companies for beef and pomegranates.
- Beer industry for barley.
- Flour and baby food industry for wheat (baby food is a niche market).
- The olives are used to produce common olive oil or, the high quality batches, to make olive oil for the foreign markets (mainly USA and it’s a niche market).
- Pomegranates also are a niche market product.

For the clients, Precision Agriculture utilization might add some value of preference to the products because it gives them credibility.

Distribution Channels

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

The clients take notice of the products through the POs. The POs know what each associate has to offer and in which amount and they manage accordingly. Due to their dimension, POs have got a certain power to negotiate and can achieve better selling terms.

- Cereals production goes directly from the field to the PO or through the PO distribution channels; transport is assured either by the farmer or by the PO.
- High quality wheat is sold to Nestlé, and they monitor crops in the field with an international consultant.
- The PO for beef (CarneAlentejana) also monitors animals in the farm.
- Olives are sold through the PO to the olive oil extraction factories.
- Pomegranates also go to another PO, specialised in fruits.
- Almonds go to a drying and cleaning facility belonging to the PO that sells them.

Customer Relationship

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

All the relationships are established with the several POs. They charge an initial fee to be an associate and then a percentage of the value of sales

- The only direct relation with the companies who buy the products to the POs happen when they visit the farm to monitor production.
- PA is increasingly making a difference towards traceability and environmental responsibility; it's an assurance of quality for the client

Revenue Streams

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- Cereals are commodities, although the PO already assures that 80% are for human consumption, there aren't fixed prices. It depends upon international markets but prices have a small range.
- Rapeseed can have a price established in advance, depending on the farmer decision; it's a dynamic process and a risk to take.
- For pomegranates and almonds, the farmer decides to accept or not the proposed price.
- The revenues from olive grove production represent 40% of the overall, cereals stand for 15%, beef represent 30%,
- Pomegranates are 1% of the revenues and almonds stand for 14%.

Key Activities

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- For all the crops the key activities are field operations such as terrain preparation, fertilization, treatments, irrigation, harvest.
- For beef the key activities are determining reproduction season, breeding animals' selection, pastures management.

Some key activities using PA are:

- Fertilizer distribution.
- Precision harvesting equipment (production maps) for cereals and olives; the farmer wants to do it also with almonds.
- Almond trees pruning operations using high resolution GPS (cutting with 2-3 cm errors).
- Satellite images to monitor olive groves.
- Ultrasound to confirm pregnancies in cattle

Key Resources

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- Soil is the most important.
- Water.
- Fertilizers.
- Animal feeds and pastures.
- Equipment (from the farm or hired).
- PA key resources are soil moisture measurements in real time for all farm fields and satellite imagery information.

Key Partners

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- POs are very important partners, as buyers and also as suppliers. The POs supply almost every production factors (when the farm needs a product, they often have it in stock), technical support, cheaper fuel, communications. Energy is negotiated by the PO.
- Partnerships allow the farmer to free time for management.
- Other key partners are universities.
- The company is valued by PA, becoming a reference and achieving the capability to establish new partnerships

Cost Structure

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost structure		Revenue Streams		

- The most important costs are production factors (fertilizers, water, equipment, energy) because they are the principal resources.
- Water is a cost with two constraints: price and availability.
- The main fixed costs are salaries, rents and facilities.
- Variable costs are again salaries and production factors.
- The business is both value and cost driven, it's a compromise.
- Scale economies are important, although sometimes diversification doesn't work. The companies need some size which can be given by the PO (allowing to get a good price even being a small farmer). The entrepreneur tries to select compatible crops.
- PA raises costs, at least in the beginning. With time, costs can fall, but human resources for working with PA equipment are higher.

IMPACT ANALYSIS



