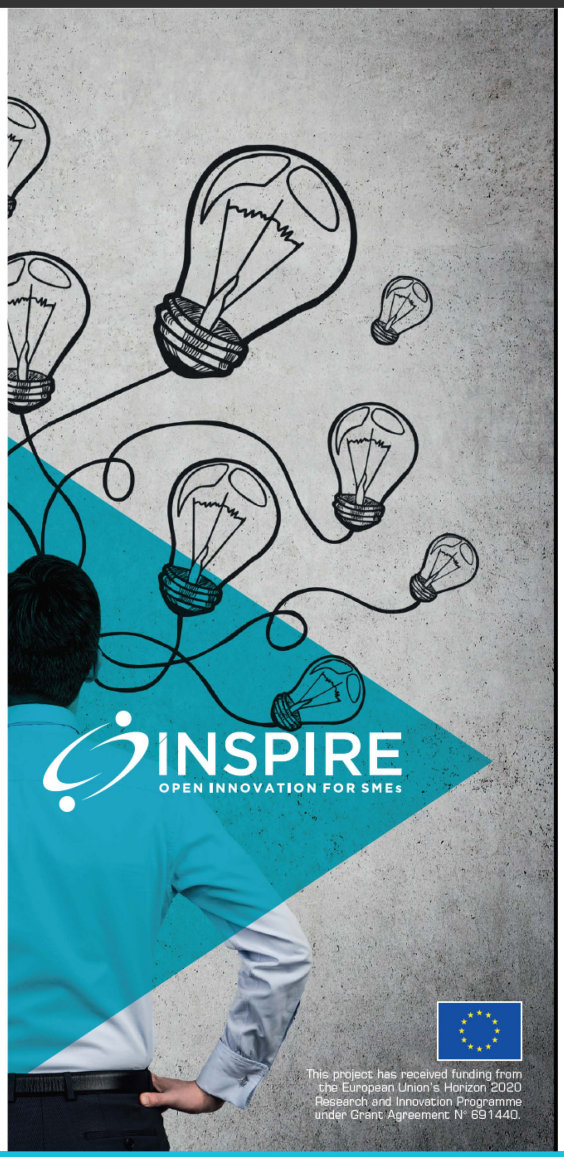

TEAM DEV

Italy, www.teamdev.it

An Italian SME managed a transition from a service company to a vertical products business by "cherry picking" ideas and knowledge from open innovation projects, led by a clear market strategy

Executive Summary

This is the case of a company founded in 2008 by a team of software developers which over the period of a few years evolved from a pure consultancy/service model into a hybrid one thanks to its development of proprietary product lines. After identifying two main areas of interest – civic technologies/smart cities and precision farming –the company used its participation in R&D funded projects with strategic partners to acquire new skills/knowledge, develop new concepts by engaging with users/sectoral associations and validate new systems/methods with relevant research organizations.

Thanks to the broad-mindedness and strategic vision of the founders, the company was able to adopt a product-oriented business model by scouting for market opportunities and building up new business areas while exploiting internal/external expertise. This case provides an insight into how SMEs can effectively use publicly funded programmes and partnerships with different stakeholder groups to implement its innovation strategy, while maximizing its resources and effort.

CASE N°: SE21

SECTOR: INFORMATION TECHNOLOGIES

TECH INTENSITY: LOW-MEDIUM TECH

LIFE CYCLE STAGE: RENEWAL

INNOVATION VECTORS: PRODUCT, PROCESS, SERVICE

01 PARTNERS: PSR, OTHER SME, LEAD USER & CUSTOMERS

KEYWORDS: Precision farming, civic technology, software as a service, R&D projects

- BACKGROUND FRAMEWORK
- INNOVATION CHALLENGE & MARKET OPPORTUNITIES
- OI TRAJECTORY
- BUSINESS IMPACT
- LESSONS LEARNED

BACKGROUND

TeamDev s.r.l. is a dynamic Italian IT SME with a strong focus on technological innovation and system integration, which was founded in 2008 by Andrea and Paolo, two co-workers in a GIS developer company. It started as a service provider by offering specialized consultancy support, developing customized software solutions and providing training /mentoring. Over time Team Dev became aware of the importance of developing their own software products.

After a few years of activity another two former co-workers joined the company. With fresh capital and skills, the core team started to work on new product lines, at first in the civic technology/smart cities field and then in the precision farming area. In order to build up knowledge in these two sectors, the team participated in several EU projects and, as a follow up, two main product lines were launched:

- Agricolus, a suite of FIWARE-based software applications, that helps farmers to implement precision farming, and
- Wisetown, a big data analytics platform for local governments.

As a result of the high quality of their work, the company:

- won an SME Instrument Phase 1 project (for Agricolus)
- won an award within the START UP Europe Award 2016 (Agricolus)
- joined the EIT Digital Accelerator (Knowledge and Innovation Community of the European Institute of Innovation and Technology) with Wisetown to accelerate their growth and gain access to new European markets.

Innovation is a core value of the company's business strategy. When the economic crisis of 2008 started to have an effect on their business, they decided to invest their resources in innovating their portfolio. This strategic decision led them on to a number of successful achievements. In the future the company will therefore focus its efforts on consolidating its market position and growing its customer base.

INNOVATION CHALLENGE & MARKET OPPORTUNITIES

Given the skills and experience matured by the core team, the company identified precision farming as one of the sectors worth focusing on for developing their own products. Based on a sector analysis, they discovered that, contrary to what was happening in the USA and Australia, a suite of software able to analyze data in the farming sector was missing in Europe. After developing the concept using their own resources, the company decided to join an R&D project involving a pool of strategic partners (already known to them) in order to prove the technical feasibility of their product and then to test it.

In recent times, agriculture has been facing a number of problems, such as constantly increasing costs and declining sales prices, as well as the need to reduce environmental impact and save on energy. The introduction of a precision farming solution is therefore a major advantage for crop management by helping to improve quality, conform with standards and regulations and reduce costs.

Given the trends in the precision farming market in the US and Australia, the team recognized promising opportunities for a software tool in the EU. They started to collect information about this new market through a continuous dialogue with agri-food sectoral associations (e.g. Confagricoltura), farmers, academic experts and other European stakeholders. Several EU projects/ initiatives contributed to developing the feasibility of this new product line.

OPEN INNOVATION TRAJECTORY

Concept development

The idea of developing a software suite in the precision farming sector came from the team's intuition (one of the founders already had experience in the agricultural sector) and further investigation and research carried out during SIG2015, an innovation project funded within the regional rural plan (PSR) of the Umbria Region 2007/2013.

Thanks to this project, which was submitted by a

multidisciplinary consortium (a subsidiary of Confagricoltura Umbria which shared practices, a local farm, a research foundation specialized in the agri-food sector and the regional agri-food park), and an innovative algorithm, the company was able to develop and validate a prototype of their DSS (decision support system) Agricolus. This was later to become the backbone of their new product line. Other technical features were studied in the framework of other innovation projects, such as RTK, funded by a regional scheme. However, the concept evolved mainly thanks to the team's collaboration with a spin-off from the Sant'Anna University which has strong expertise in developing algorithms for plant disease forecasts.

The main challenges related to interpreting correctly users' needs, bearing in mind that different target groups have completely different needs. To overcome this issue the team decided to involve potential users on a continuous basis, starting from the concept development phase. They did this via focus groups/individual interviews and even engaged them in the testing phase to verify the product's functionalities and the quality of the user experience. A key role was also played by sectoral associations and other stakeholders as door openers to the main target customer groups.

The development process, IPR and competition strategy

Given the complexity of developing a complete software suite and investigating all the different technical issues, the team applied to several EU R&D programmes in order to have the opportunity of working in an international context on specific features, from the creation of alert systems among experts, farmers and stakeholders to the deployment of modules for farm management and the integration of FIWARE technologies. The final product is therefore the result of the know how/knowledge acquired and exchanged during different R&D grants and partnerships, while benefiting from collaboration with all the different actors.

The key role during the development phase was played by the University of Perugia which supported the scientific validation of the prototype and engaged potential users who, thanks to their continuous feedback, ensured the development of solutions which fitted real market needs.

Agricolus is based on the algorithm developed by the spin-off from the Sant' Anna University, which is a strategic partner of the company, and the technologies provided by an international research centre (through a licensing agreement). The main challenges in this phase related to some technical difficulties and a number of problems with some partners within the different projects. Thanks to this intense development activity and the feedback from users, the product changed in terms of its technical features from a single product to a suite of products.

Given that patenting in the software field is not allowed in Europe, the company is used to working with brand property rights, confidentiality agreements and copyright. Since the company is sensitive to the importance of protecting their know-how, they plan to develop hardware devices, which are linked to their software solutions based on proprietary algorithms, which could be patented. Since their products are based on their partners' technologies, they acquire right of use through licensing-in agreements.

From its beginnings as a software development company, Team Dev evolved its expertise when it became aware of its potential applications in the agricultural and smart cities sectors where innovation is becoming an imperative. This led the company to diversify its activity by developing its own product lines. The USP of the company is its holistic approach towards the problem seen from multiple perspectives, which allows the development of a scalable platform.

With regard to the Agricolus software as a service platform, the company has been implementing a differentiation strategy by creating packages for specific applications (e.g. olives, grapes, vineyards, environmental sustainability) under its vision of "making precision farming easier".

Commercialization and follow-up

In order to scale up its technology, the company faces two main issues:

- raising the awareness of potential customers/users/opinion leaders to the added value of its solutions;
- continuing the validation of its product suite in other countries, also through the engagement of local partners who could act as a sales force.

As a result of the re-focusing of the core business to include the development of new products, the internal organizational structure was changed and new staff members were recruited both with a technical and business background. Currently there are three strategic areas:

- consultancy
- product development (with two subgroups: precision farming and smart cities)

- data lab.

The product teams have multidisciplinary skills, including a communications manager and are supported also by an IP expert. It is intended to create a joint start-up with the spin-off company from Sant'Anna University, which will be specialized in innovative algorithms.

The marketing strategy for Agricolus is based mainly on three channels:

- web marketing
- events/conferences (brand awareness)
- commercial partnerships.

The key issues are:

- time to market
- finding the right partner
- financial leverage (e.g. incentives for farmers to buy the product).

The product is already on the market; nevertheless, the following steps need to be performed in the near future:

- creation of a sales network
- analysis and identification of international target markets
- verify the need to obtain specific certifications
- strengthen collaboration/connections with farm suppliers (also with a view to developing hardware devices).

BUSINESS IMPACT

Thanks to this open collaboration project, the company was able to acquire new skills, develop a flexible platform that can be scaled up for different agri-food applications and access a new market.

The team raised their awareness of the importance of integrating their consultancy business with their own products which will allow them to accelerate their own business growth and improve profitability, while engaging with end users as part of the development process. The team also changed their approach towards an open innovation partnership, moving from a formal collaboration for solving specific issues to a relationship based on trust.

The company's turnover grows annually by 30-40% and 5-6 new employees have been hired.

LESSONS LEARNED

This case confirms the importance of the open mindedness of the core team. Thanks to this aptitude of the founders, the company was able to evolve the business model into a product-oriented one and to look for new opportunities, while at the same time differentiating their offer in new business areas. The company developed their products by participating in different regional/ European projects/initiatives but with a clear innovation strategy that led them through this process while avoiding the dispersion of precious resources and effort.

Main lessons learned:

1. Collaborations with sectoral players both from a market and technical perspective can play a key role when developing a new application.
2. A key ingredient for a strong partnership is: "bringing value and specific expertise".
3. Collaborative relationships need to be based on trust and loyalty.
4. Embedding innovation within the business strategy allows the company to have clear goals and to plan and implement their road-map successfully.
5. Developing new solutions implies additional investments and training.
6. The engagement of potential customers ensures the development of a solution which fits real market needs.
7. A balance between technical and managerial/marketing skills is essential for a successful market uptake of promising new solutions.
8. Governments/local authorities can have a role in enhancing the adoption of innovative solutions by designing dedicated schemes such as small grants/vouchers.