

Students & Company Sprint – an extra-curricular entrepreneurial week at the University of Bolzano, Italy

The case in a nutshell

In February 2022, the Free University of Bolzano, in cooperation with NOI Techpark of Bolzano, offered an extra-curricular entrepreneurial programme named “Students & Company Sprint”. It was a five-day event where three companies presented an innovation challenge that student teams had to solve, mentored by experts and scientists. The student teams included second- or third-year bachelor students and master students from faculties of the Free University of Bolzano. The event followed the methodology of Google Design Sprint and was oriented towards problem-based learning in a limited time. After the Sprint, an online survey was sent to the students with questions based on the competences of the European Entrepreneurship Competence framework, revealing that overall the Sprint had a very positive effect on students’ entrepreneurial competences. The largest effect was on the ability to “work with others”. The University concludes that the type, complexity, and wording of the challenge determines the students’ learning of entrepreneurial competences. Moreover, such a challenge should be sufficiently simple and open to leave room for creativity.

1. Background

Profiles of the Free University of Bozen-Bolzano and NOI Techpark

The Free University of Bozen-Bolzano, in the following short “University of Bolzano”, is a private higher education institution located in the city of Bolzano in South Tyrol, Northern Italy. It is a very young university, founded in 1997 and having 4488 students in study year 2021/22. The University has five faculties: Computer Science, Science and Technology, Economics and Management, Education as well as Design and Art. The University has a strong international profile. 17% of students and 34% of educators come from abroad so it conducts teaching in four languages: German, Italian, English, and Ladin. Teaching at the University has a strong vocational orientation through “communicating knowledge in an active learning environment” and “combining research with its practical application”, as the mission statement says. This orientation is also reflected in strong external links: The University has more than 1200 internship agreements with companies and other institutions.

The University of Bolzano offers formal and informal entrepreneurship and industrial/management engineering education. On the formal side, the Master’s programme in [Entrepreneurship and Innovation](#) as well as the Master’s in [Industrial Mechanical Engineering](#) are particularly relevant here. The Engineering programme deals with entrepreneurship through the backdoor by including courses where students have to write a business plan and work on real-life company cases. On the informal side, the University offered an extra-curricular entrepreneurial programme named “Students & Company Sprint” in February 2022. NOI Techpark hosted the programme and organised it together with the University. This case study deals with this programme, describing its objectives, content, drivers and barriers as well as outcomes and possible impacts. In particular, the case study provides insights into results of an online survey about the impacts of participating in the Sprint on the students who took part. Considering the success of the pilot edition organised in February 2022, the University plans to run the programme again in the next few years, also extending it and testing other formats, e.g., a weekend Sprint and extended Sprint lasting one or two months.

NOI Techpark - Nature of Innovation - is the South Tyrol's innovation district, based in Bolzano and founded in 2017 by giving new life to a former aluminium plant. Today, the park hosts more than 900 people. Among them are entrepreneurs, researchers, start-ups, students and innovators who work at NOI for an ecological and economic conversion of society. At NOI, research is practice-oriented, and companies focus on four technology fields: Green, Food, Digital, and Automotive & Automation. With a lot of networking and a wide range of services, the role of NOI Techpark is to help initiate R&D projects, promote new talents and start-ups, and make local companies fit and competitive for the future.

2. Objectives

Students & Company Sprint

The Students & Company Sprint (in the following named Sprint) was a five-day event from 21st to 25th February 2022, during which three companies presented an innovation challenge to be solved by student teams, mentored by experts and scientists. The event's overall educational objective was to increase students' entrepreneurial competences, as defined by the European Entrepreneurship Competence framework (EntreComp). Specifically, the Sprint was meant to provide the following benefits to students: (1) Hands-on experience of working in interdisciplinary teams; (2) Learn about real-life challenges of companies; (3) Showcase creativity to companies and win awards; (4) Apply knowledge and skills to real-life complex problems and learn how to find innovative solutions. On the other hand, the Sprint was also aimed at supporting the participating South Tyrolean companies through fresh ideas from young talents.

The **student teams** were characterised by a high multi-disciplinarity and included both second and third-year bachelor and master students from any of the five faculties of the University of Bolzano. Each team was composed of an average of five students, for a total of six teams and 30 actively participating students. Among participants, master students prevailed over bachelor students. They were selected through a "Call for Students", for which each individual had to provide information regarding their academic path, developed competences and experiences, grade point average, and challenge preference among the three available. All 50 candidate students were eligible for participation and were hence accepted for the Sprint, taking into consideration a high probability of drop-out due to the Covid-19 pandemic. Teams were created by the project team (NOI and University of Bolzano) ensuring a minimum of three different faculties and a balanced mix of bachelor and master students within each team. Their composition was announced on the first day of the live event, when participants also got to know which company challenge they had been assigned to.

Based on a European benchmark of open innovation practices in collaboration with universities, three **companies** based in South Tyrol contributed one challenge each. The identification of the companies interested in participating was performed through a "Call for Companies/Challenges". A Selection Committee then evaluated the challenges' focus on the chosen topic (Circular Economy), their interdisciplinarity, and their potential for innovation and selected the following three companies and challenges.

- VOG Products, a company in the food and beverages sector, proposed to develop solutions related to reducing the environmental footprint of apple pomace logistics with apple cooperatives and their umbrella organisations, food retailers, and end consumers.

- Markas is a service provider in the fields of cleaning, housekeeping, food provision, facility management, logistics, and care. It proposed to redesign students' and employees' canteen experience in a circular way.
- Vivius is an umbrella company for seven enterprises in the building business, dedicated to environmental sustainability. It proposed to generate a solution to support building contractors and buyers in constructing circular buildings with lower environmental impact.

The Sprint followed the **methodology** of Google Design Sprint¹, which unlocks the opportunity to obtain empirical results and a first prototype and test of the solution within a very limited time of five days. Google developed the methodology from observations and learning from internal projects, Design Thinking principles, and other customer-focused methods. Its main objective is to develop new products, services, and features. The method includes five phases:

1. Understand the problem: Share information and discuss in the team as well as interrogate experts.
2. Sketch solutions: Generate a broad range of ideas and narrow them down to a few with expected highest viability.
3. Decide: Select the idea to be prototyped.
4. Prototype: Create a Minimum Viable Product (MVP).
5. Validate: Test the MVP with key users and receive feedback.

3. Input

Resources used for developing and running the Sprint

Organising the Sprint required thorough planning and involvement of institutions that contributed both funding and premises.

The programme was financed by the European Social Fund², for which NOI applied. It was the first time that NOI and the University collaborated so closely. Especially important for the funding process was the reporting phase, for which NOI was required to provide documents proving the execution of the event as well as its impact on students and companies.

Furthermore, NOI Techpark contributed their premises for the event. As an active member of the NOI community, the University cooperated closely with the Techpark.

4. Entrepreneurial activities

Description of the Sprint

The Sprint took the students through intense five-day week from Monday to Friday with different tasks along the five steps of the Design Sprint methodology:

Day 1 was kick-off day, meant to understand the three challenges and how to tackle them.

Day 2 was for students to explore user needs and gain awareness about the system of actors in which the company operates.

¹ See <https://designsprintkit.withgoogle.com/methodology/overview> and Knapp et al. (2016)

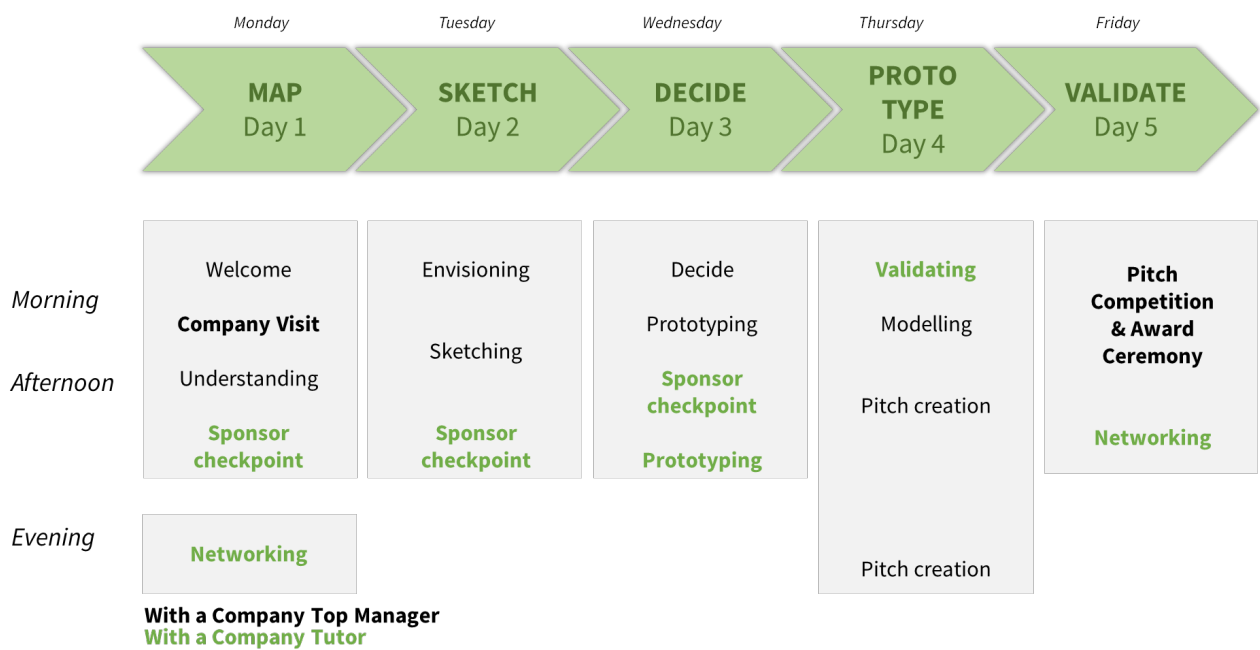
² See <https://www.unibz.it/en/home/research/running-eu-funded-research-projects/esf-fse/#Organism-6238>.

On day 3, students sketched possible solutions to the challenge and decided which to pursue.

On day 4, students developed a prototype. They were able to use the makerspace of the NOI Techpark, the free software lab and other facilities.

Finally, day 5 was to validate the minimum viable product and pitch the solution to an audience of student teams as well as representatives from the companies and the University. A jury composed of representatives from the University, NOI Techpark and the three companies selected the best solutions for each challenge. The event ended with an award ceremony in which one team per challenge received a voucher to spend in a local bio-store.

Figure 1: Agenda and activities of the Students & Companies Sprint



Source: Project presentation

The project team plans to replicate the programme in different formats through a three-year agreement with ESF that is in progress. This would involve students from the University of Bolzano and between one and three companies at the same time. The team has designed three different formats involving students for a Sprint weekend, a five-day Google Design Sprint challenge or even for a six week Sprint, while ensuring synchronicity with the academic calendar.

5. Stakeholders

How stakeholders are involved and contribute to the outcome

The organisational committee involved the following stakeholders: the Head of Innovation Management at NOI Techpark, NOI Techpark’s Innovation Manager, altogether four professors from the Faculty of Science and Technology, the Faculty of Economics, and the Faculty of Design and Art as well as a researcher from the Faculty of Education. The University’s Rector and the NOI’s director also contributed to the planning of the programme with the role of strategic advisors. Furthermore, many more professors, researchers and experts from both the University and NOI Techpark were involved in the execution of the programme with the role of envisioning speakers and thematic experts (see section 5 below for further information). At the beginning of the programme, company managers and employees

explained the problems to the students and provided real time feedback on the solutions proposed during the programme.

Participating companies also identified relevant stakeholders that were involved during the exploration interviews. The online calls were organised by the companies in advance, knowing the agenda of the live event.

6. Outputs, outcomes, and impact

Online survey of participating students

After the Sprint, the organisers invited the students to fill in an online survey and to participate in focus group discussions to learn about the effect on students. The survey included 30 questions related to the European Entrepreneurship Competence framework (EntreComp). The objective of the survey was to understand how much the Sprint had helped students develop the framework’s 15 competences in three areas. The organisers formulated the survey questions to collect both quantitative and qualitative data on each competence. Closed questions included answers with a Likert scale from 1 for “not at all” to 5 for “very much”. In addition, students could comment in open-ended questions. 25 students (83% of those who participated) responded to the survey, 17 master’s students and eight bachelor students. The students were from all five faculties: Most (11) from Economics and management, six from Science and Technology, three each from Education as well as Design and Art, and two from Computer Sciences.

As Figure 2 shows, the Sprint had an overall very positive effect on students’ competences. The highest effect was on “work with others” in the area “Into Action” with a median value of 5, i.e., the maximum. Consequently, the students’ individual comments on this indicator were very positive when asked “When and/or how did you learn this competence during this experience?”. The University coded the replies with “It was central” (6 replies), “Through the whole experience” (5), and “We met awesome people” (4). According to survey responses, the lowest effect on competences was value 3 for “consequences of ideas”, “economic know how”, and “take the initiative”. The median value for the eleven other competences was 4.

Figure 2: Impact of Students & Company Sprint on students’ competences

Please specify how much this experience has helped you in... [1 = not at all; 5 = very much]



Source: Presentation by Guido Orzes at the meeting of the Association of European Life Science Universities’ Special Interest Group on Sustainable Entrepreneurship Education, Ghent, 18 May 2022

The three challenges led to similar learning outcomes with regard to the competences “work with others”, “spotting opportunities”, “motivation and perseverance”, and “vision of the future”. Master’s students

assessed their competence development during the Sprint more positive than bachelor students in most of the competence areas. The University assumes that the master's students' sounder knowledge base helped them to benefit more from the experience.

The University concludes that the type, complexity, and wording of the challenge determines the students' learning of entrepreneurial competences. Moreover, the University concludes that such "a challenge should be simple and open enough to leave room for creativity, and that having too many requisites could constrain learning". The Sprint methodology proved instead to be very useful both with respect to the students' learning and the companies' innovation outcomes. Some students and mentors, however, suggested to adapt it slightly to better incorporate sustainability and circular economy principles in the methodology (since the main topic of the Sprint was Circular Economy).

Overall conclusions

Overall, the organisers concluded that the EntreComp framework proved to be useful to benchmark the entrepreneurship-related competences that the programme sought to nurture. The framework provides a useful predetermined set of learning outcomes, i.e., a top-down approach. However, a situation-related bottom-up approach may also be beneficial to evaluate the competences that the students developed. For example, "communication capabilities to interact with companies as clients" emerged in the focus groups. Therefore, the University suggests combining a top-down approach with a bottom-up approach in such events.

The organisers recommend paying particular attention to the following issues when designing an entrepreneurial challenge exercise:

- Choosing an innovation method (e.g., Google Design Sprint in this case)
- Defining the challenge
- Find the right balance between students' education needs and companies' innovation needs
- Consider pre-required skills, in particular for interdisciplinary courses
- Fill the roles of the different actors involved: facilitators, technical experts, company sponsors
- Provide incentives for increasing students' participation and motivation (e.g., ECTS) and for securing intellectual property rights. While no patentable results came out during the first edition of the Sprint, both students and companies acknowledged the importance of a fair ex-ante agreement on IP rights

Sources

This case study was prepared by Dr. Stefan Lilischkis from empirica Gesellschaft für Kommunikations- und Technologieforschung mbH, Bonn, Germany, through collection and analysis of broad documentation about the University of Bolzano and the NOI Techpark and interviews with key representatives from the University. The students were enrolled in thirteen different study programmes. A relative majority (six students) came from the Master's programme in Entrepreneurship and Innovation.

The status of information provided in this case study is December 2022.

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Links

<https://noi.bz.it/en/article/young-minds-come-together-across-disciplines>

<https://swz.it/students-and-company-sprint/> (in German)

<https://www.altoadigeinnovazione.it/economia-circolare-unibz/> (in Italian)

UNIBZ announcement of the event: <https://www.unibz.it/it/home/newsroom/news/go-on-a-vibrant-5-day-innovation-sprint>

Markas news: <https://www.markas.com/en/the-first-students-company-sprint--1-1313.html>

Design Sprint methodology: <https://designsprintkit.withgoogle.com/methodology/overview>

Knapp, J., Zeratsky, J., & Kowitz, B. (2016). Sprint: How to solve big problems and test new ideas in just five days. New York: Simon and Schuster.