Laboratori dal Basso: Bridging Formal and Informal Learning for Entrepreneurial Training

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Abstract
In this paper, we discuss the model of Laboratori dal Basso (LdB), a vast-scale (1.8 mln €) governmental training initiative devoted to start-ups. LdB implements an unconventional and participatory approach to entrepreneurial training: instead of offering courses in a top-down fashion, LdB encourages start-uppers in the same business sector to collaborate and share their needs (in terms of key competences) with the goal of scaling their ventures. By doing this, LdB elicits managerial knowledge gaps and exploits the contribution of young entrepreneurs in the design of free, public training programs that are specifically tailored on what start-uppers require in their different fields. Results show that a bottom-up approach dramatically increases the quality and the performance of learning courses that help the entire ecosystem thrive.

Keywords: start-up, entrepreneurial training,

Introduction
In the last decade, self-entrepreneurship is becoming a popular answer to the changes that affected the labor market, worldwide. Considering the difficulty of obtaining and maintaining a job, skilled employees dismissed by their companies and graduate students started to evaluate the risk of creating their own venture as substantially similar to that of waiting to be employed in others' companies. As a result, there is a growing trend of new businesses being created especially by young and novice entrepreneurs who might have good technical skills but sometimes lack even the basic managerial competences. This is particularly true in Apulia, a region on the south-eastern coast of Italy, where unemployment rate is about 19.14% [1], that is, among the most critical in Europe [2].

In this regard, in 2008 the local government developed programs to counteract high unemployment rates, to stimulate the so-called NEET (Not in Education, Employment or Training) population, and to foster the birth of an entrepreneurial ecosystem. This was realized by establishing public programs that support self-entrepreneurship with financial resources. The most successful among them is "Principi Attivi", which provides teams of young people having an idea with seed grants up to 25000 € to pursue their business opportunity in a variety of business sectors, such as social innovation, technology, and community development. More than 1000 new businesses (profit companiesand non-profit associations) have been directly created thanks to governmental funds, in the last five years. As the program had an incredible impact and stimulated youth participation and competition, an equivalent number of profit and non-profit ventures have been indirectly generated through emulation and positive youth activation, but without any funding intervention from the local government. Figure 1 represents the impact of the program with respect to job creation: Principi Attivi provided founders with an actual alternative to unemployment (36%), temporary job positions (15%); moreover, it helped students (25%) create knowledge-intensive businesses. Furthermore, the program unleashed youth creativity, and it led to the creation of ventures seeking innovative business models in 44 different market sectors (see Figure 2). The numbers and the innovation content of these start-ups are so impressive, that Apulia is often referred to as "*the Italian Silicon Valley*".

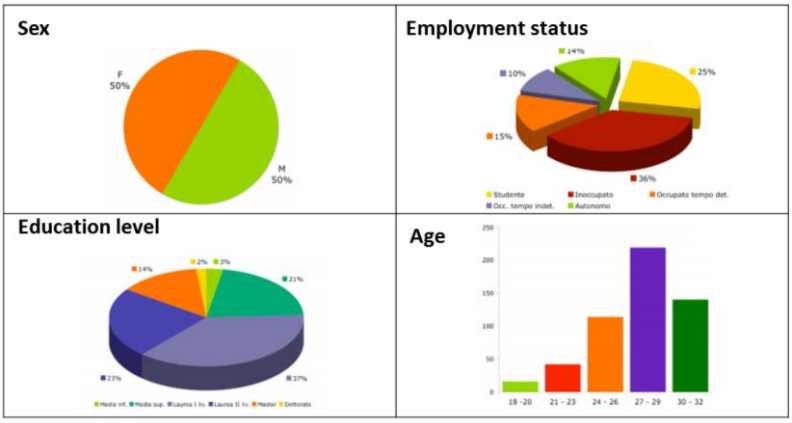

Figure 1. Demographics of participants to "Principi Attivi" who received funds to start their business. The target population primarily is aged 24-32, with a majority of people from 27 to 29. Participants are equally distributed in sex. They are graduate students with technical competences in their business sector. Venture creation represents an alternative to unemployment for 36% of them, or an alternative to a temporary job position (15%). 25% of the new ventures are operated by students who are still completing their education.

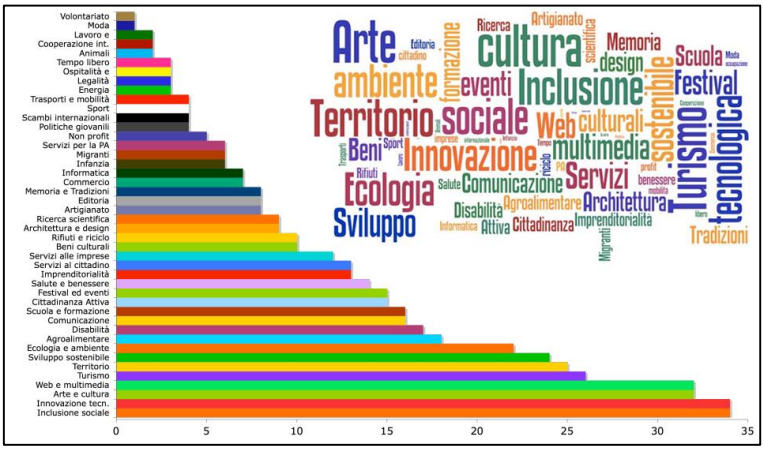

Figure 2. Market sectors of new business started with governmental funds.

However, differently from Silicon Valley, Apulia is traditionally devoted to tourism and agriculture, and it does not have any established entrepreneurial ecosystem: not only young entrepreneurs lack managerial experience and competences; also, they are not able to find them in the market, at a local level. As a consequence, the local government realized that incentives could have significant drawbacks. Specifically, the injection of a large number of new service and product providers could drug the offer side of the market, thus, exacerbating competition and endangering established businesses that were anyway struggling for their survival. Moreover, the lack of preparation of novice entrepreneurs could increase companies' likelihood of taking wrong decisions, incurring into debt, and eventually failing; this would have completely spoiled the large-scale enthusiasm, positive motivation, and entrepreneurial activation generated by governmental incentives, and put a generation of aspiring entrepreneurs into an even worse condition with respect to the past, in regard to employment and, in general, life expectations.

Consequently, the local government introduced a training initiative, "Laboratori dal Basso" (LdB), as an additional intervention to support young managers in acquiring entrepreneurial skills that are necessary to operate a business in different market segments. LdB was conceived in a completely different fashion: conventional managerial training was not suitable to accommodate the urgent needs of a large population of start-ups, distributed over a 400km-long territory, demanding specific training in 44 different and extremely fragmented business sectors.

In this paper, we overview the challenges in designing LdB, we detail its model and implementation, and we present a study in which we evaluated the performance of LdB in terms of impact on managerial training and creation of entrepreneurial ecosystems. We conclude by discussing the implications of the approach adopted within LdB: as in the European Union there are almost 16 million businesses of which only 13000 have over 500 employees [3], our findings might be useful to all those who are involved in, or influence the learning process especially dedicated to entrepreneurs.

Related Work

In addition to funding, managerial competences are a fundamental need of any business, in order to help companies grow and become robust and prevent them from failing. Thus, as discussed by [4], Small and Medium Enterprises (SMEs), and specifically start-ups, are "learning companies". Moreover, as managerial training should be a life-long learning activity, SMEs should be considered as life-long learning companies. Nevertheless, especially founders and executive of early-stage companies, require particularly extensive training to cope with their lack of experience.

Formal learning, such as that offered in executive MBA programs, is the largest source of managerial training for individuals who can afford enrolling in academic courses that usually are expensive and generalized in terms of contents. In this regard, the traditional *top-down approach* is too far away from its context of use, thus, widening the gap between theory and practice [5]. On the contrary, there is less offer for founders and managers who require hands-on learning about the dynamics specific to their business sector. In this regard, executive coaching is a well-established practice that transferring training in a more accurate fashion than conventional managerial training programs [6]. On-demand managerial training is time consuming in terms of organization (e.g., teacher-raising, scheduling), and it is associated with costs that typically are out of budget for many start-ups. In this regard, the main issue is represented by the effort required by the design and the organization of the course. As a result, managers can only choose between expensive (and general purpose) degree-equivalent academic learning that require considerable effort, or on-demand training programs that are a financial burden for new ventures. In regard to the latter, several studies describe that when organizations decide about their training in a bottom-up fashion, they actually lack awareness about their requirements. That is, they analyze their needs as training preferences [7] [8], whereas they should consider their gaps in competencies [9]. Therefore, managers risk to spend their money and time in training that is not effective.

In the last decades, the introduction of e-learning and new content licenses (e.g., Creative Commons) democratized learning. This, in turn, led organizations, academic institutions, and individual experts, to produce the online version of their courses and to distribute them over the Internet, at reduced costs (and even for free) thanks to the opportunity of extending their audience. Thanks to their *scalability*, extensive open e-learning initiatives, such as the Massachusetts Institute of Technology (MIT) Open Courseware [10], offer a collection of courses from all the programs at the University. Also, other players in the education arena specifically focused on business (e.g., Stanford Venture-Lab [11]), and they offer complete resources from their Executive MBA programs. Moreover, aggregators, such as Coursera [12], provide users with the opportunity of attending online courses from several universities. Also, organizations, such as TED [13], share the video of their talks as a useful resource for inspiring people and fostering innovation. Moreover, start-ups (e.g., Udemy [14]) have been with the only purpose of enabling people to generate revenues out of selling their courses online.

Unfortunately, despite the advances in terms of scalability of learning initiatives, all the resources being shared are general purpose, and they are not suitable for managers requiring training about how to launch their company and to manage the start-up phase of an early-stage venture in a specific business sector.

Consequently, managers who can afford spending get access to formal learning, whereas the only option of novice start-uppers is to exploit the resources available for free, in a fashion typical of informal learning. However, studies about managerial training [1] demonstrated that managers lack awareness about their actual demand of training, and they primarily train on technical aspects. Especially novice managers should be guided in their informal learning: on the one hand, supervising informal managerial training could introduce novice entrepreneurs with resources that actually are effective for their needs; on the other hand, all the resources collected individually by entrepreneurs during their informal learning are extremely useful to others having the same needs, i.e., operating in the same business sector, their competitors. Indeed, managers who invest their time in retrieving learning resources and in training will not accept to share the results of their work with their competitors. Nevertheless, companies operating in the same business sector can be incentivized to form so-called learning circles and learning partnerships [X] in which novice entrepreneurs elicit what they lack in terms of competences, and therefore, collectively gather resources to identify a unique answer.

In conclusion, we argue that the main limitation of current approaches to managerial training is that top-down, formal academic business training is scalable but not repeatable, whereas bottom-up, informal and on-demand learning is repeatable but not scalable. Conversely, Laboratori dal Basso (LdB) is an attempt to bridge formal and informal managerial training in order to implement a scalable and repeatable model based on a cooperative approach to the learning demand. Specifically, on the one hand, LdB introduces a sustainable method for providing large groups of novice managers with the opportunity of designing training programs with a bottom-up approach, i.e., they can collectively identify resources dedicated to their business sector; on the other hand, the architecture of LdB consists of the typical tools of top-down training (e.g., centralized supervision, support, and financial resources) that ensure quality and scalability to the initiative.

Laboratori dal Basso

Laboratori dal Basso (literally translated as “bottom-up laboratories”) is an experimental joint initiative by ARTI (Regional Agency for Technology and Innovation, which an entity controlled by the local government devoted to supporting research and innovation) and *Bollenti Spiriti* (a governmental program for supporting youth activation and self-entrepreneurship).

Objective

The main objective of LdB is to foster the entrepreneurial ecosystem by empowering new ventures (in their first 5 years) founded by young entrepreneurs (aged 18 - 35) with dedicated managerial training. Differently from other interventions (e.g., Principi Attivi) that help start-ups with financial support, LdB aims at providing new companies and associations with knowledge and competences that are crucial to their core businesses, that is, management and innovation skills focused on their market sectors. ARTI supervises the organization of training programs and provides financial resources to cover the costs associated with the teachers (which are the most significant), only. As a result, clusters of start-ups elicit their lack of competences and design training programs that are subsidized by ARTI, so that they have no financial impact on start-ups.

Structure

LdB is structured into three actions:

- *laboratori* (laboratories), i.e., formal training programs dedicated to specific market sectors (e.g., mobile applications, green technology, enterprise networks, sustainable transportation and tourism);
- *testimonianze* (keynotes), i.e., short speeches given by significant entrepreneurs or innovators who share their experience with novice managers;
- *mentoring*, i.e., executive coaching from experienced advisors who reuse their competences in favor of early-stage start-ups to guide novice entrepreneurs in the start-up phase of their businesses.

As the latter is different from the former two, it will be discussed in a follow-up paper.

Target users

Applicants are start-ups that can submit their proposals for laboratories, keynotes, and mentoring. Applicants specifically include early stage (with less than 5 years of operation) profit and non-profit businesses founded by people aged 18-35 and located in Apulia. This requirement was set to specifically target those new ventures that require basic managerial training in their business sectors. Moreover, this was to prevent established companies that can afford paying for managerial training from exploiting public resources. Applicants are invited to submit a joint proposal, so that they can gather in clusters. Indeed, applicants are interested in receiving the best managerial training they can design, for free.

Partners consist in any entity interested in participating or contributing to laboratories. They can be SMEs, large companies, associations, universities, and research centers. They cannot submit applications, but they can collaborate in the organization and contribute to laboratories with resources that are useful to the laboratory (e.g., location, computers, teachers, tutors, access to their business contacts and network). Also, applicants can raise sponsors, and they can monetize the organization of their laboratory. These, in turn, benefit from getting access to people in a specific market segment, or from the results of the laboratory (e.g., they can be a case study, and receive consulting about the introduction of innovative tools).

Teachers and speakers include professionals, entrepreneurs, academics, technologists and, in general, people who can significantly contribute to the laboratory in terms of experience, knowledge, and business relationships.

Participants: all the activities of LdB, with the exception of mentoring, are open and free for everyone to participate. This is because the objective of LdB is to disseminate knowledge and to help people discover new business opportunities. Participants receive training for free, and they have the opportunity of networking both with established companies and with start-ups.

Value proposition

Although the main objective of LdB is empowering novice entrepreneurs, the initiative was engineered to offer several benefits specifically to applicants and, in general, to foster the entrepreneurial ecosystem. Indeed, the main value proposition is in that all the actions consist of high-quality formal learning, even if they are organized according to an approach that is typical of informal learning, that is, on-demand and bottom-up. The second proximal objective of LdB is to extend the professional network of local organizations towards an international network. Learning clusters are invited to recruit professors from all over the world, and to include international speakers in their keynotes or laboratories. Furthermore, LdB was designed to provide organizers and attendees with an opportunity of raising collaborators or employers. By mixing heterogeneous types of target users into a unique audience, participants (i.e., entrepreneurs, employees, and unemployed people) can meet and discuss about possibile collaborations.

In addition to proximal objectives, the initiative offers several distal types of value proposition. The latter do not appear immediately to applicants, though they represent the actual value of organizing a laboratory or a keynote, and they significantly impact applicants' business. Distal value propositions include the following:

- **Awareness**: LdB can be regarded as a crowdsourcing operation in which contributors elicit their learning needs, their missing competences, and their lack of knowledge. This is extremely important in terms of self-awareness and responsibility, because it enables entrepreneurs and organizations to identify their weaknesses.
- **Cooperation**: LdB asks learning clusters to collectively answer the question: *What do we need to learn to grow our business?* In this regard, the innovation introduced by LdB with respect to formal learning is two-fold. As the learning cluster includes people doing business in the same market segment, i.e., competitors, LdB offers the unique opportunity of adopting a collaborative approach to analyzing and aggregating common lacks and needs. This process does not require companies to reveal any organization strategy or secret; on the contrary, the more they share, the most benefit they get. As a result, cooperation prevails over competition. Moreover, as there is no financial benefit involved, the

members of the cluster have no particular convenience in receiving more than the other members. By starting to work together in a collaborative environment, organizations lower their inertia to cooperation, and learning clusters eventually change into professional clusters.

- **Market positioning**: applying to LdB is a unique opportunity of getting visibility and brand awareness. By disseminating their laboratory or keynote, applicants also advertise their services and products, and they have the opportunity of becoming the leaders in their market segment. Also, they can position their brand in specific market verticals, and establish their presence.

Application and evaluation process

Applicants collect their learning cluster (an informal group of organizations operating in - or interested to - a business sector, and having the aforementioned characteristics). The LdB staff helps the learning cluster gather more partners, in order to include any category of entities showing interest in the laboratory, in order to form the largest possible cluster. The learning cluster designs the structure and the program of the laboratory by meeting the members of the cluster and analyzing their common needs. They are in charge of deciding almost everything about their laboratory: professors, teachers and guests, duration of the laboratory, schedule, learning methodology, location, and of course, the content of the lessons. The LdB staff supports learning clusters in defining and refining their proposals, until they are ready to be submitted. As applications are processed in in a FIFO (First In First Out) queue, learning clusters are encouraged to finish the design of the laboratory in a time ranging from a couple of weeks to one month.

After being submitted, proposals are reviewed by a committee that evaluates the quality of the project. Also, other criteria, such as teachers' experience, topics discussed, learning method, and dimension of the demand, are taken into consideration.

In case of approval, each laboratory is organized and realized by the applicants in collaboration ARTI, on the basis of a memorandum of understanding that defines the terms and conditions of the collaboration, and regulates its execution.

Execution and monitoring

After receiving the approval, applicants are responsible for planning, organizing and supervising all the activities of their laboratory of tasks and monitoring of results, with the support and supervision of ARTI. This, in turn, manages the organizational aspects related to teachers, such as their contract and salary, and their transportation and accommodation. Moreover, ARTI provides video-recording services (via contract service providers): all the lessons are streamed over the Internet and they can be followed remotely. Also, ARTI provides translation services for non-Italian speakers, so that lessons can be understood by the audience.

There is no pre-determined duration but preferably laboratories should consist of up to 100 hours, and extend over up to a maximum of eight weeks. Conversely, keynotes have a short duration (i.e., hours), distributed over maximum one or two days. Laboratories and keynotes can be realized in any location that is convenient for applicants and prospect attendees (e.g., schools or universities, public spaces, private companies, associations, and laboratories). All the activities must be compulsorily realized in Apulia, although teachers, partners and attendees can participate from all over the world. In this regard, there is no limit to the maximum expenditure for each laboratory or keynote, although teachers and speakers are reimbursed according to a salary class defined by the European Union.

Learning methodologies can include lectures (e.g. seminars, thematic workshops, bootcamps, etc.), video conferences and projections (e.g., movies, tutorials etc.), project-work activities (e.g. working groups, case studies, hands-on projects, development of prototypes etc.), educational visits (e.g., in situ experiences), and any other method consistent with the objective of the laboratory.

In addition to financial support, ARTI directly provides advertising on its communication channels (e.g., the LdB platform, the ARTI website, and social network profiles) and on the main media. Nevertheless, applicants and their partners are responsible for advertising their laboratories and keynotes to their community.

Financial dynamics

Laboratori dal Basso is funded by the European Social Fund with 1.8mln €. Funds are directly managed by ARTI, which is controlled by the local government (Regione Puglia). Thus, as mentioned earlier, there is no financial contribution for applicants, and they are not involved in the cash flow. ARTI directly covers all the expenses related to teachers and mentors, such as salary, transfers, accommodation, and meals.

Applicants, participants, and partners of laboratories and keynotes receive no financial contribution, reimbursement, or compensation by ARTI for their activities. Nevertheless, they can independently collect sponsors and paying supporters with fund raising campaigns that enable them to cover additional expenses, or to monetize their effort. The only requirement is that participation is open and free for every attendee.

Technology

Laboratories and keynotes are organized and disseminated digitally using Meshagree [x], an event management system specifically dedicated to business and networking events. Basically, the web platform enables scheduling laboratories and keynotes, and managing attendees' registration and participants' involvement. In addition, the platform enables collecting and organizing all the learning resources, so that the videos recorded from the lessons are available in an on-line repository where users can subscribe and attend courses, anywhere they are. Given the heterogeneous structure of laboratories and keynotes, the platform was chosen thanks to its versatility.

Differently from e-learning management systems, the platform supports several types of classes, and it is suitable for managing networking activities, hands-on workshops, as well as traditional lessons. Moreover, the platform enables supervising all the aspects related to the event follow-up, and it is extremely useful in the post-event monitoring phase, when it is crucial to get feedback from participants and enable them to get access to the learning resources in an on-line-only fashion.

Interest in the initiative

LdB received a total of 119 applications (92 laboratories and 27 keynotes) out of 190 design meetings with the LdB staff. The majority were received during the last month of the call. The quality of proposals improved over time, with higher acceptance rates (from 40% to 65%) over time.

Figure 3 represents the number of applications received during the time the call was open and it shows an exponential interest in the initiative, over time. Specifically, LdB suffered from a slow-start curve. This is because LdB was a completely new initiative; consequently, it required about six months to become widespread. Also, the LdB model was completely different with respect to previous interventions from the local government, which were based on company funding. Moreover, it required applicants some time to search and contact them and recruit them in their programs, in addition to the time required for designing the structure of the course, and for organizing the details related to logistics, such as the location of the laboratory.

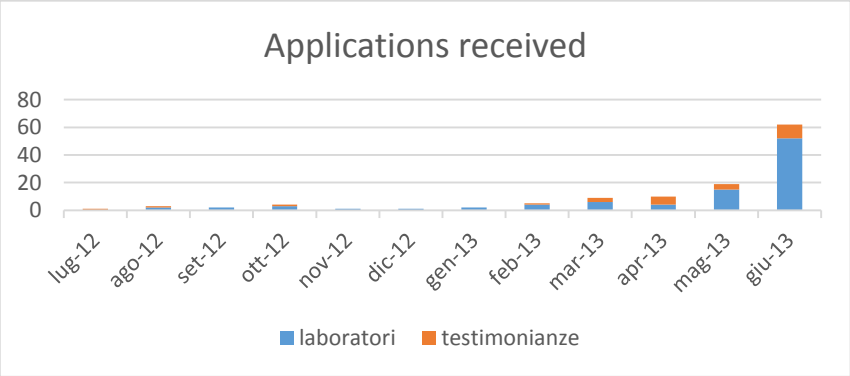

Figure 3. Applications received and interest over time

Performance Analysis

In order to validate LdB as an effective intervention for managerial training, and to evaluate the impact of the initiative with respect to the objectives and the stated value proposition, we conducted a performance analysis with a number of applicants selected from the laboratories that have been concluded before June 30th, 2013. This is a preliminary assessment that was useful to identify issues to be solved after the application deadline, and before the execution of the last set of laboratories and keynotes.

Specifically, the objective of the performance analysis is three-fold:

1. evaluate the performances of laboratories and keynotes as managerial training tools;
2. evaluate the effectiveness of LdB in helping people extend their professional network;
3. determine the impact of bottom-up collaboration with respect to professional collaborations and job creation.

The analysis involved 13 learning clusters, distributed over the region, whose laboratories reached a total of 758 people. Participants were asked to complete an online questionnaire, and they were interviewed by phone for additional comments, questions, and suggestions.

Results and discussion

We analyzed the applicants' motivation for submitted their proposals. Data from our analysis show that 20% of learning circles organized their laboratory because they wanted to acquire knowledge about how to start a new venture, 33% lacked competences to manage their start-ups, 27% considered laboratories an opportunity for meeting professionals and expanding their network. Only 7% had no particular entrepreneurial expectations, as their objective was to improve their skills in order to get a better job (see Figure 4).

Moreover, by considering applicants' outcome from organizing their laboratories (see Figure 5), we can conclude that LdB allowed participants to acquire new competences (24%), to establish new collaborations (42%), and to connect with professionals (31%). Interestingly, all subjects considered their participation as useful. The total weighted perceived usefulness is approximately 89%.

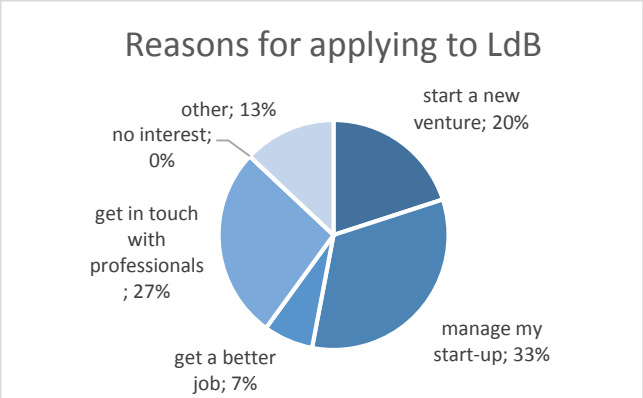

Figure 4. Reasons for applying to LdB

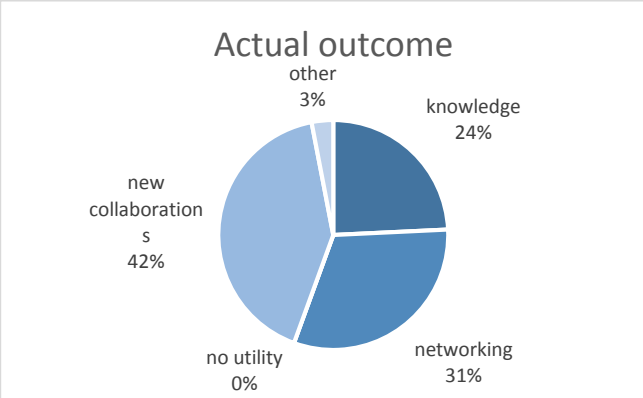

Figure 5. Actual perceived outcome

Figure 6, 7 and 8 represent the perceived usefulness in regard to the main objectives of LdB, that is, acquisition of competences for the creation of start-ups, networking opportunities, and job creation, respectively. Results show that subjects considered their participation as extremely useful, especially in regard to the entrepreneurial training objectives (that is, start-up management skills and professional networking). The density of participants' responses in regard to job creation indicate that LdB is less effective as a placement opportunity. Nevertheless, our data show that applicants have started new professional collaborations, and specifically:

- 26% with the attendees of their laboratories;
- 23% with teachers and speakers;
- 5% with other members of their learning circles.

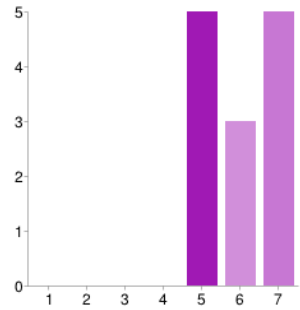

Figure 6. Perceived usefulness in acquiring competences for managing a start-up (likert scale)

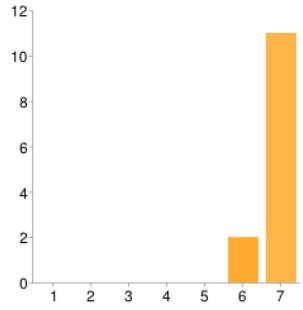

Figure 7. Perceived usefulness in expanding their professional network (likert scale)

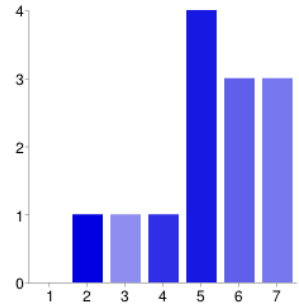

Figure 8. Perceived usefulness in acquiring competences for improving job situation (likert scale)

The initiative is supervised by the staff of LdB, whose components are largely involved in the organization of laboratories and keynotes starting from the design phase. The purpose of the staff in the design phase is to realize a preliminary review of the applications. In addition, the staff introduces suggestions, changes and modifications in order to improve the design of the best possible proposals. Also, among the responsibilities of the staff, there is network creation. By connecting groups and business working in the same market operating in the same market, the staff creates connections between ventures. Moreover, the proactive role of the staff is crucial in achieving high quality, as they help applicants evaluate their actual needs in terms of lack of competences, and they prevent managers from designing courses that cover the technical aspects, only.

LdB renders the design of a laboratory a collaborative process: the absence of a financial reward, and the complexity of the design process itself does not represent an incentive to competition. Therefore, applicants tend to collaborate more than what they usually do in operating their business. The collaboration introduces new opportunities of reconsidering competition.

Among the limitations of the initiative, there is the long deadline. With respect to this, established programs that partly inspired LdB (e.g., Venture-lab, Coursera) apply a different approach that helps participants to always stay tuned and to follow the courses being organized and realized. This issue will be addressed in the next edition of the program, which will have shorter duration and will be organized in three-month cycles.

Table 1. Costs of laboratories considered in the study

LdB ID	Hours	Participants	Total participants	Total cost	H/P cost	H/P cost (+streaming)
3	100	19	25	€ 8.473	€ 4.46	€ 1.93
6	16	21	62	€ 992	€ 2.95	€ 0.75
7	50	24	70	€ 8.427	€ 7.02	€ 1.79
9	92	13	84	€ 12.172	€ 10.18	€ 1.36
13	53	40	123	€ 8.285	€ 3.91	€ 0.96
14	37	163	135	€ 8.240	€ 1.37	€ 0.75
18	25	80	33	€ 4.040	€ 2.02	€ 1.43
26	78	28	173	€ 11.169	€ 5.11	€ 0.71

31	33	25	60	€ 7.120	€ 8.63	€ 2.54
43	65	40	40	€ 4.460	€ 1.72	€ 0.86
44	24	40	140	€ 7.000	€ 7.29	€ 1.62
AVG	**47**	**47.40**	**92**	**€ 7.190**	**€ 5.02**	**€ 1.28**

In general, traditional managerial training involves relevant costs. In addition to the quality of professors, teachers and speakers, both the organization and the management of those programs place a significant burden on organizations. This is the main reason why governments, at both national and local level, prefer to outsource those initiatives to organizations traditionally devoted to organizing training. On the contrary, all the initiatives of LdB are realized by ARTI, a governmental agency controlled by the local government, whose purpose is to foster research and innovation, including technology transfer, in the region.

In general, the financial evaluation of training programs is based on the total cost of the course (including teachers' salary or reimbursement, organization costs, travel expenses, accommodation, lecture notes, and other tools) divided by the duration of the program (in hours), divided by the actual number of participants, calculated considering only who complete the course.

Data available in the literature show that traditional managerial training programs have a cost of about 14.62€ per participant per hour [15]. Conversely, the cost of LdB is significantly lower. Specifically, laboratories have a cost that, on average, is 5.02€±2.96€, considering the participants who actually attend the lessons in presence. However, as shown in Table 1, each lesson is followed by an average of 92 participants including those who attend the lessons remotely, via streaming. As a result, the total cost of laboratories decreases to 1.28€±0.59€ per participant, per hour. Although this figure could not be directly compared to that of traditional managerial training, it is relevant in order to evaluate the contribution of the digital platform. Therefore, the approach adopted by LdB is effective in lowering the costs for managerial training to more than 50%.

Conclusion

In the last decades, several programs that offer managerial training have been developed by public and private organizations. LdB is an entrepreneurial training initiative that introduces a different approach with respect to conventional programs: it introduces a bottom-up approach that bridges formal learning and informal learning.

Differently from all current programs for managerial training, laboratories and keynotes are not defined in a top-down approach (i.e., participants passively adhere to a training offer designed by expert educators). Conversely, the objective of LdB is to enable learners to propose a complete training program in which they define every aspect of training: they decide the scope and the topics, they select the professors, they identify the location of the lessons, and they program the duration and teaching modalities (e.g., frontal lessons, projections, in situ experiences, and project work). This fosters the creation of learning clusters that include novice entrepreneurs and start-ups in their early-stage phase. These, in turn are responsible for collaboratively designing and realizing learning programs specifically focused on their market sector and tailored on their needs, in order to cope with their missing competences and with their lack of expertise.

New ventures (less than 5 years of activity) and young entrepreneurs (aged 18-35) are eligible to apply to LdB and to propose laboratories and keynotes. Consequently, they learn how to grow and scale their companies, and to prevent them from failing. Moreover, they form new collaboration clusters and extend their network.

LdB received 119 applications for laboratories and keynotes in less than one year. Currently, 60 have been realized and they received the interest of an average of 100 participants per initiative. Results from our study

show that LdB is effective in achieving its objectives and in transferring both the proximal and the distal value proposition to applicants and to participants. They, in turn, reached their goal in terms of competences, business networking, and professional collaborations, as demonstrated by our performance analysis.

The present study has several limitations, and it provides a preliminary evaluation of the impact of the initiative. Nevertheless, it shows how the methodology can increase participation, engagement, and lower costs significantly. Indeed, LdB is a long-term knowledge investment focused on nurturing the entrepreneurial ecosystem: follow-app, the "prototype" of LdB, contributed to launching 35 new ventures in the mobile/web services space, including two start-ups that recently raised 120.000€ (three times the money invested in realizing the laboratory) in grants, from a business plan competition. Given its Return on Investment, the program, started as an experimental initiative, will be replicated as a standard for managerial training in Apulia. The next iterations of LdB will enable to improve the aspects that were considered critical, such as remote participation.

In conclusion, LdB has been validated as a participative solution for managerial training that exploits learning circles to enable entrepreneurs to design courses exactly tailored on their common lack of competences. In addition to fostering collaboration, participation allows reducing costs and rendering scalable and repeatable on-demand training initiatives without affecting their quality.

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