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University-enterprise teaching partnership models

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Introduction

This research study is part of the activities of a strategic plan by Assolombarda named "Far Volare Milano" (Make Milan Fly). In particular, the initiative originates from the intent of the Education System and Human Capital team to outline the overall picture of existing forms of *educational partnership* between businesses and the academic world. The term "educational partnership" refers to partnership experiences between universities and businesses which have as their object initiatives aimed at enriching and improving educational activities. Conversely, partnerships focused on research are left in the background, as are orientation initiatives in the strict sense of the term.

Except for the core activities, i.e. curricular training courses, this set of experiences are often difficult to define formally. Moreover, being mostly designed and implemented on the basis of direct relationships between companies and individual professors, the visibility of these partnerships is often limited, and there is a high risk of their fading over time without leaving a concrete trace or being replicated on a larger scale.

Based on these premises, this study aims to identify and analyze the distinctive traits of this "wealth of experiences", part of which is fragmented and submerged, so as to make it available to businesses and the academic community as a useful tool to identify and seize new opportunities in managing the relationship between highly qualified young people and the labour market. In this respect, data were collected through an eminently inductive process, by observing directly on site the practices that have spontaneously developed over time, without reference to a pre-determined classification, but reconstructing such a classification *ex post*.

In parallel, attention has been paid to a process for the identification of the feasibility conditions of the subject experiences, in order to make them "scalable" and replicable within the business system at local, regional and possibly national level. In this way, for each educational partnership program, the study highlighted not only the attainable benefits (both for companies and for universities), but also the operating mechanisms and the organizational and managerial efforts required of enterprises and universities intending to implement them.

Given the main object of the research, this study focuses primarily on experiences developed within the framework of undergraduate and postgraduate degree programs, or in any case designed especially for students following these courses.

The scope of inquiry was limited to Universities in the Milan area (Università Commerciale Luigi Bocconi, Università Cattolica del Sacro Cuore di Milano, Università Vita-Salute San Raffaele, Libera Università di Lingue e Comunicazione – IULM, Politecnico di Milano, Università degli Studi di Milano-Bicocca, Università degli Studi di Milano) and the University of Pavia, with which Assolombarda Confindustria Milano Monza e Brianza has a history of successful partnership.

1. Objectives and methodology

The following research objectives were set:

- understand the **reasons** and the distinctive **dynamics** of a partnership relationship between universities and businesses focused on educational activities, highlighting strategies and management mechanisms adopted by the two parties;
- conduct a bottom-up mapping of partnership **experiences** with Universities indicatively implemented in the last five years;
- identify their **qualifying distinctive characteristics**, operating mechanisms, strengths, critical issues and conditions of applicability from the point of view of both the University and the businesses;
- on the basis of specific criteria (e.g. duration, type of involvement of the company, intensity of the relationship, etc.), **outline the main existing models** of possible University-enterprise partnerships, for the purposes of the above-mentioned scalability;
- collect a few "**exemplary stories**" of partnerships that, through the direct voice of those who experienced them, may facilitate and give substance to the process of communicating and disseminating the research study results, *primarily* at companies;
- identify the possible direction of the **future evolution** of educational partnerships, as well as practical recommendations that universities and companies could follow with a view to strengthening them and improving their quality.

The research methodology included three different research methods.

1. **Documentary analysis** of the material provided by the universities, with reference to their experiences of partnerships with businesses. This allowed us to take a first step in outlining the current situation.
2. In parallel, a series of **in depth interviews** were carried out. The first of these were conducted with representatives of the Departments in charge of managing the relationship with businesses and the employment world¹. As the latter play a key role as "gate-keepers" for access to information and professors inside the individual universities, it was essential to share with them the ways in which the academic world can be "entered and explored". Moreover, speaking with them allowed us to capture an overall picture of relationships with the business world and the specific initiatives that characterize it. Secondly, we interviewed the people who had a direct experience of educational partnerships, i.e. the professors of the different subjects and the contact persons of the courses concerned.

¹ The names of these departments vary from University to University (Stage and Placement – S&P, Career Service, Orientation, etc.). For the sake of clarity and convenience, henceforth we will refer to them as S&P Departments.

The interviews were conducted on the basis of an interview guide, grouping topics to be discussed with the interviewee, in order to facilitate cross-reading of the data emerged and comparisons between the different experiences. In any case, the interview guide also allowed the researchers to collect new ideas and themes brought up by the interviewees and not included in the initial interview guide.

3. Lastly, we conducted a focus groups and semi-structured interviews with representatives from companies involved in meaningful partnership experiences with universities, trying to ensure the appropriate diversity in terms of type of partnership, industry sectors and company sizes. This allowed a more in-depth investigation of the businesses' point of view on the reasons, the benefits and the drawbacks of the various forms of educational partnership.

An additional qualifying element was the close and constant interaction with Assolombarda Confindustria Milano Monza e Brianza, aimed at establishing an ongoing dialogue on the information provided by field work and further research lines to pursue, as well as on data interpretation.

The field work was carried out in the period from late June 2015 to early February 2016, and included the following activities:

- interviews with the Heads of Stage & Placement Departments (sometimes joined by pro-rectors in charge of research and the "Third Mission") (a total of 19 people);
- interviews with the persons in charge of the individual partnerships (a total of 16 people);
- focus group and interviews with company representatives in charge of relationships with universities (a total of 10 people).

The interviews constituted the heart of the research study. In some cases, particularly meaningful responses captured during field work have been provided in quotation marks throughout the report.

The respondents generally showed a high degree of willingness to take the interview: a sign of great interest in the topic, currently considered of strategic importance, and of the will to continue to invest in educational partnerships, now and in the future.

2. Strategic vision and organisational logics for educational partnership: The voice of the universities

Key points:

- Educational partnerships are a **growing phenomenon**.
- The trend is due *primarily* to the convergence of universities' and enterprises' interest in **improving the relationship between young people and the labor market**, the international opening of universities, and the **new generations** of professors and researchers.
- Universities are innovating **strategies and organizational models** to optimize relationships with the business world.
- Tension still exists between **centralisation** (management by central offices) and **decentralization** of contacts and experiences (managed by professors).
- The **benefits** for professors, students, universities and businesses far outweigh the efforts and possible emerging problems.

This chapter presents a summary overview of data collected at the eight universities involved in the study, with the aim to highlight the distinctive features of University-enterprise educational partnership experiences implemented in the Milan and Pavia area. Of course, there are differences between universities, due to a number of factors including:

- institutional structure (public or private);
- size (which entail varying levels of organisational complexity);
- the origin and history of each university, whose relationship with the business world can be more or less intense and deeply rooted (some universities have experienced more recently than others the transition from eminently cultural institutions to educational entities open to the world of work and professions);
- brand strength (which may prove to be strategic at the time of deciding to start partnerships with companies).

In these circumstances, educational partnerships are today a **strategic and growing phenomenon**, because of a number of factors and reasons.

Firstly, it benefits from the increasingly high level of cooperation between Universities and businesses, due to the growing convergence of interests among the players involved:

- universities, increasingly striving to attract students by offering study programs that will actually help them to enter the world of work and ensure their employability profiles;

- young people, increasingly grappling with structural difficulties (confirmed by all official statistics) in finding a job quickly and permanently, so as to allow the parallel development of a life project;
- businesses, increasingly constrained by scarce resources and budget rigidity, and therefore more careful and selective in investing in young human capital (fewer new hires, greater focus on skills that are strategic for the company's business, with little margin for error).

"The main benefits that students can obtain from this experience are undoubtedly the opportunity to enhance their theoretical knowledge by applying it to hands-on practice; to experience teamwork and improve their soft skills; to better understand one of the professions they may choose in the future, and to be introduced to a major company operating in that area. The University benefits from these partnerships because they provide the opportunity to enrich its teaching and become the protagonist of initiatives of great interest to the students. For Accenture, the project is an employer branding opportunity, in that it allows the company to introduce itself as a possible future employer for students whom it also helps to train and orient professionally" – Università Cattolica del Sacro Cuore, Milan and Accenture (see the full case study in the Appendix).

From this point of view, an educational partnership within the framework of undergraduate and postgraduate degree courses is increasingly part of a wider strategy that also extends to Master programs, doctorates and specialization schools: everything is viewed from the perspective of **a closer integration with the world of work and the professions**. This integration is a strategic line for all the "segments" that compose the higher education offering, albeit with varying weights depending on the different scientific and disciplinary areas and the different training involved.

Secondly, it is acknowledged that an important role is played by **regulatory pressures**, mostly from ANVUR (National Agency for the Evaluation of Universities and Research Institutes), which require for each study course the explicit consultation of the businesses and professions for which the students are trained, in order to identify their needs. The need for the universities to formally meet ANVUR's requirements in this respect inevitably results in a strengthening, formal as well as substantial, of interactions and relationships with enterprises. This phenomenon can be read as "coercive institutional isomorphism", an expression that indicates the existence of rules which lead to the spread of practices and relationship systems within and between organizations².

Thirdly, in recent years several universities have undergone a significant **generational turnover**. This is taking place:

- at **management level**, with new Rectors (and Pro-rectors) more inclined to develop strategic plans that include targeted actions for a close cooperation with businesses and an intensification of partnerships, of which S&P Departments become the "operational arm";
- among **faculty members** who, with the advent of new generations of professors, appear to be more willing to approach the business world and to interact with the S&P Departments; for the latter, unlike in the past, the younger professors act as internal stakeholders interested and easy to involve in partnership initiatives with companies.

Finally, the increasing number of university-enterprise educational partnerships is also due to a progressive **international opening** of universities, both in terms of attracting foreign students and of exchanges of visiting professors.

Dialogue with different academic cultures (especially Anglo-American) encourages Italian universities to explore education organizational models that are often characterized by greater integration of theory and practice.

² P. J. DiMaggio and W. Powell (1983), "The iron cage revisited" institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, 48: 147-60.

In this respect, it becomes crucial for a University to be able to offer its foreign students (as well as to Italian students returning from temporary experiences abroad) innovative educational models, inspired by the concept of "active learning" to supplement the traditional frontal lecture format.

For these reasons, closer relationships with the business and professions world have become a sort of "categorical imperative" for all universities.

Today, the ability to interact and cooperate with businesses is a **positioning factor** in the higher education market (placement and employment performance rates have proven to be effective to attract future students), whilst providing an efficient means against the trend that sees the less motivated students slow down or abandon their academic careers.

In this process, educational partnerships play an increasingly important role.

The strategies to cooperate with the business world, described above, increasingly translate into specific **organizational investments** involving first and foremost the S&P Departments and are aimed at strengthening the organizations, hiring dedicated human resources, developing efficient supporting IT infrastructures and expanding the scope of activities and responsibilities.

In this respect, the strategic choices of universities are not alike. Some of them have opted for the **centralization and integration** of previously separate organizational units, in order to create a sort of single "antenna" able to act as an interface with businesses. On the other hand, other universities have chosen to strengthen mixed university-enterprise **committees, focus groups and work groups**, giving them "substance" and operating power, thus overcoming the formal and ritual dimension traditionally attributed to these bodies. Still others have decided to create within their organizational structures **dedicated pro-rectorates**, intended to provide institutional coverage and momentum to the various cooperation initiatives with the business world.

Whatever their nature, the common objective of these choices is to facilitate synergistic relationships with enterprise, and at the same time to leverage as much as possible the added value generated by these relationships.

In parallel, universities, through their S&P Departments, also make significant **cultural investments** aimed at bringing students and faculty in contact with the world of enterprises and raise their awareness on the strategic relevance of the relationship between academia and the business world. This awareness is generally growing in all universities, albeit with different levels of maturity resulting from more or less ingrained familiarity with this type of relationship: a relationship which, depending on the circumstances, may be well-established, recently developed (thanks to generational turnover), or in progress.

With this in mind, S&P Departments are making intense efforts, internally as well as towards the outside world, to disseminate experiences, raise cultural awareness, communicate information and inform about partnership opportunities ("*we provide contacts, we create opportunities*"), and coordinate the various parties involved in organizing them. In brief, they try to act as a vehicle, a hub and a driver inside the university.

As regards the mechanisms that "trigger" an educational partnership, two main approaches can be distinguished:

1. **centralized action** by the S&P Department which, using its contacts with the company (generally with the Human Resources department), seeks to meet a need expressed within the University ("*we amplify the voice and visibility of companies within the complex academic world*");
2. **peripheral action** (often extemporaneous) by an individual professor who leverages a direct personal relationship with a line manager and/or a businessman of a specific company.

The challenge for universities is to **become increasingly effective** in activating synergies between the two processes, improving a two-way communication flow: on the one hand, encourage professors to make their "contacts portfolio" available for institutional use and to ask for centralized support in the management of initiatives; on the other, improve central S&P Departments' internal penetration.

According to respondents, generational turnover and other factors make these communication exchanges easier today than in the past: this allows the creation of a virtuous cycle of cooperation between the centre and the periphery.

All universities recognize the strategic role played by the network of Alumni acting as initiators, facilitators and accelerators of the educational partnership process.

The resulting management organizational model, based on a constant quest for balance between **centralization and decentralization**, is interesting and conducive to its purposes:

- on the one hand, experiences are put to institutional use, synergies are created, resources are efficiently used, and interactions with the outside are coordinated by a single entity;
- on the other hand, more opportunities are seized, operational solutions (methods, times etc.) are more flexible, and the institution achieves a consistent ability to innovate partnerships by maintaining a physiological level of "creative chaos".

Another important aspect from a management point of view is the existence within universities of other "educational containers", different from traditional degree courses (postgraduate schools, masters, doctorates, continuing education programs etc.) which, albeit with different degrees of intensity, create a fertile environment in terms of contacts with businesses, professional networks and project ideas. If the process is properly managed, these experiences will reverberate and cascade into undergraduate and postgraduate courses for the design and implementation of educational partnership initiatives.

Within the universities, **differences** that can be substantial emerge between the various **disciplinary areas** with regard to widespread use of educational partnerships and types of initiatives implemented: while for economics and business, engineering and technology disciplinary areas partnerships are viewed as a "natural phenomenon", for the humanities and pure sciences they tend to be considered "an additional opportunity". In the latter case, it is widely recognized that educational partnerships can help some study areas to dispel their reputation of "weak" degrees; additionally, they can serve as tools to expand the professional prospects of Humanities and Sciences students and to allow businesses to become aware of the potential of these graduates.

"The initiative was launched with the aim to bring the existing educational offering to a higher quality level by opening it up to the "new" world of business for philosophy and psychology students. [...] mutual discovery has generated an interesting synergy: students begin to experience first hand a world unknown to them, with a particular focus on professional developments that were unthinkable until yesterday; companies are discovering that certain forms of thought (philosophical, for example) can be useful and applicable to their day-to day organizational problems, such as the central role of rhetoric in the management of change" - Università Vita-Salute San Raffaele (see the full case study in the Appendix).

According to the respondents, it would be important to ensure that students familiarize with the business and employment world as early on as possible ("early engagement") by moving up the first educational partnership experiences to their freshman year. This would make the experience an effective tool of vocational guidance and motivation to study, to become later on a continuing process of increasing intensity and commitment. In essence, the objective is to accompany the students' personal growth and knowledge with increasingly challenging "tests".

"The choice to focus on the graduate level has been due to the fact that this is when students start to develop analysis skills, content knowledge and personal maturity suitable for the challenges posed by an educational model strongly based on the presence of businesses. After cutting their teeth on undergraduate courses, the students are ready for a higher level. In parallel, the level of intensity of their interaction with real-world business problems grows steadily, with a wide variety of opportunities in the two postgraduate years" – Università Commerciale Luigi Bocconi (see the full case study in the Appendix).

In contrast to these considerations, it should be pointed out that educational partnerships can be perceived and experienced differently by different students. One factor that greatly affects both motivation and participation is whether or not these initiatives earn the participating students credits (Crediti Formativi Universitari - CFU). In those circumstances, it is interesting to note that in any case there is also growing attention to extracurricular (or "non-credit earning") initiatives, as students start to understand their real value for enhancing their personal development as well as their curriculum vitae. In other words, educational partnerships in their diverse forms help the transition to a different, more realistic idea of employability.

We should not forget that, alongside educational partnerships in the strict sense of the word (in their various forms), there is a whole universe of related extracurricular professional training initiatives, generally managed by S&P Departments, in the form of: soft skills workshops, corporate case study presentations, visits to companies, illustrative meetings on the professions, public speaking training, mock job interviews, small personal aptitude assessments, dialogue with company mentors, etc.

These form a galaxy - more or less wide depending on the individual university - of interconnected activities in constant exchange with each other, in a sort of osmosis of contacts and ideas from one to the other and vice versa. Taken as a whole, these initiatives "create a culture" within the universities on the subject of cooperation with businesses, paving the way for further developments of the relationship.

As regards the **type of companies** with which to implement *educational partnerships*, the **size factor** makes a significant difference. Large companies not only have the ability to manage the partnership process independently (from the search for a suitable university partner to making contacts and subsequently organizing the practical aspects), but it is often the universities that apply to them for specific initiatives because of the strength of their brand. Conversely, small and medium-sized enterprises have greater difficulties (of an operational, communication, cultural or other nature), particularly in establishing contacts with universities. From this point of view, the **associations representing businesses** currently play a significant and potentially growing role as facilitators and links between companies and academia.

"The main benefits that students can gain from an initiative resulting from the interaction between theory and practice, which is at the heart of the mission of ANIMP (National Association of Industrial Engineering), are undoubtedly the improved skills they can achieve through the program, and above all the fact that those skills will be certified. [...] a training experience with an internationally recognized professional network is also a plus, not only when entering the labour market, but also in view of the entire career path" – Politecnico di Milano and ANIMP (see the full case study in the Appendix).

The responses of university stakeholders clearly show that educational partnerships are actually a **"win-win situation"**, in that the dialogue they establish between students, companies and professors generates benefits for all those involved. Among other things, this process has the merit of facilitating the meeting between demand and supply of highly qualified personnel.

This reduces the risk for each stakeholder to tend to be self-referential; on the contrary, it helps to build a bridge between the two worlds, academia and business, that are characterized by different institutional goals, languages and time horizons.

Thus, educational partnerships take on the essence and the features of a liminal space straddling two worlds, a sort of "**Middle Earth**" where different needs can meet and seek a synthesis.

This role as link can take as many forms as there are types of partnership available: from adjunct professors (combining professional mindset and theoretical references) to project work and workshops (exploring the applicative dimension of theoretical constructs), to the more complex forms like university spin-offs.

The more these "links", where different professional cultures coexist and mingle, are numerous and lively (i.e. able to generate "high-frequency" relationships), the easier it becomes **to overcome mutual negative prejudices** ("*companies are opportunistic*", "*universities are closed to dialogue with the outside world*") often arising from a lack of knowledge of the system of constraints by which the other party is bound.

The following are the advantages which, in the opinion of the respondents, educational partnerships generate for the different stakeholders. In other words, the reasons that make it worthwhile, for each of them, to "take the plunge" into this venture.

UNIVERSITIES:

- breaking away from self-reference;
- making themselves known to companies and the labour market also in areas outside their traditional fields of interest;
- enriching and qualifying educational programs;
- having a marketing and communication tool for reaching families, now increasingly sensitive to the issue of return on investment in university education in terms of real job and career opportunities for their children - in some cases, as a result of direct family experience (from the notion of "good student" to that of "long-term employable person");
- generating fund raising opportunities;
- driving the research processes.

STUDENTS:

- "grounding" of theoretical knowledge (help them understand the practical "use" of what they study);
- opening to the world of employment; orientation;
- building up the "Experience" section in their CV;
- keeping an open mind towards professional worlds seemingly distant from their study areas, which they had not known or considered before;
- a useful step to start building a professional project ("*it turns on a little light in your mind*");
- acquisition of a language suited for interacting competently with potential employers.

"Students have the opportunity not only to acquire professional skills, but also and above all to develop an "authorial and creative dimension", a long-standing wealth of knowledge that is difficult to teach through lectures, as it requires a meaningful hands-on experience. They also learn to deal with the real world of employment and adulthood, where they have to meet deadlines agreed with an external party and to structure a method to do things. They have to prepare themselves for innovative career opportunities (at a crossroads of digital and radio media) in a world that offers very few opportunities for traditional radio jobs (i.e. hosting)" – Libera Università di Lingue e Comunicazione IULM and Radio DeeJay (see the full case study in the Appendix).

COMPANIES:

- employer branding, in particular the opportunity to become attractive to students of degree courses where they are not known as potential employers (especially for SMEs or industry sectors typically less attractive to young people);
- recruitment (often through dissertations and internships), with high-potential students at the top of the list;
- access to updated knowledge through exchanges with professors;
- access to new ideas and innovative solutions proposed by students;
- better understanding of the new generations (in order to fine-tune human resources management policies).

The company has the opportunity to access innovative ideas, or in any case to submit its proposed solutions for evaluation by an external party before putting them into practice. And let's not forget that an educational partnership provides a setting for the company to draw value from the relationship with the professor, enabling access to high quality knowledge and skills. In this specific case, there was another unexpected result when the Sales Manager became an adjunct professor at one of the University's schools: this further strengthened the business-university educational partnerships" – Libera Università di Lingue e Comunicazione IULM and Il Gigante (see the full case study in the Appendix).

PROFESSORS:

- feedback on course contents (how up-to-date and current they are with respect to practical applications);
- opportunity to set up structured sessions (e.g. focus groups) when introducing new courses or updates to the degree course curriculum;
- joint course planning;
- knowledge transfer and testing of the practical implications of taught theories;
- internal and external reputation;
- motivation, especially for professors belonging to worlds "far removed" from that of businesses.

By contrast, the interviews also explored the critical issues that, in the respondents' opinion, make it harder to start and successfully manage partnership initiatives:

- for S&P Departments, **high expenditure of time** and effort to give continuity to the process, both in terms of internal work on professors and students and of "personalized" attention to companies (multiplicity of people involved on both fronts);
- **work overload for professors**, whose efforts are often thwarted by limited budgets and resources and whose career advance is dependent on assessments of their performance in other areas ("teaching is not rewarded or recognised");
- **internal coordination issues** in the face of a fragmented universe of unconnected initiatives, where institutionalizing experiences and designating a single contact for all external stakeholders are highly complex processes;
- obstacles posed by **petty personal interests**, jealousy and refusal to share one's contacts;
- **Ministerial constraints** make it difficult to focus more on the applicative part of the courses, which by its nature requires greater flexibility ("how do I classify the educational partnership experience in terms of CFUs?")
- as mentioned above, the two worlds that are expected to interact have different motives, time frames, and sometimes even **interests** that need to be "phased";
- universities' internal **bureaucracy**, which interferes heavily, particularly in the case of complex initiatives, creating constraints and obstacles, frightens businesses.

These issues that can only be handled effectively through the joint efforts of the parties involved.

"The workshop required a significant amount of initial "co-planning" for an accurate identification of the objectives, the allocation of work among professors and managers, and the subdivision of students' work between lectures and field activities; in particular, timing course activities in sync with business activities took considerable effort. The special thing about this experience is that it is part of the company's actual innovation process. [...] A very important aspect was that the experience produced a practical contribution, something to show for it ("it was not a theoretical exercise: the students did some real work that otherwise we would have had to do")" – Università degli Studi di Milano and Sodexo (see the full case study in the Appendix).

Most people believe that in the future educational partnerships between universities and enterprises will become **an increasingly widespread practice**, also as a result of the pressure of international competition between education systems. The use of these practices will become more and more a distinctive factor in determining the positioning of universities which, therefore, are expected to make growing **investments** in services, processes and skills dedicated to this type of activity.

A significant opportunity could lie in linking these initiatives to broader processes for an improved use of **local** systems and focusing on "comparative advantages" throughout the territory, in relation to which to design educational partnerships and, more generally, the joint planning of degree courses and alternation approaches.

Another value added element could be the development of an **"all round", permanent partnership** with a core group of companies, around which other business could then be aggregated with which more one-off relationships could be maintained. In this respect, educational partnerships could serve as a "foot in the door" to establish the relationship and then aim for broader forms of cooperation, from teaching to internships, company-based dissertations, orientation and research to continuous education for company personnel.

"[...] cooperation in terms of research activities also effectively influences teaching activities, creating a virtuous circle in which the university and the enterprise make a joint effort to achieve continuous innovation; the latter becomes the content of the education offered to students, who then enter the labour market and increase the economic system's competitiveness. [...] at the same time, research activities are strongly focused on producing innovation that is not confined to the closed circuit of universities but can be introduced on the market. In both cases, these experiences become a source of constant updating and diversification of research and teaching areas, not only for those who are directly involved in these activities but also for the departments concerned and the university as a whole" – Università degli Studi di Pavia (see the full case study in the Appendix).

This is why it is strategic for universities to be able to offer businesses, under the umbrella of strong relationships, a broad and flexible range of partnership opportunities, with different degrees of commitment and intensity. This diverse offering for cooperation opportunities could then be formalized under framework agreements, memorandums of understanding, and permanent platforms for discussion and exchange.

3. The point of view of businesses

Key points:

- Partnerships with universities in the area of education are a strategic channel in terms of employer branding and **ability to attract highly qualified young people**.
- Access to **knowledge and innovative ideas** is also an important driver for companies.
- **Relationships with faculty members**, often facilitated by the presence of alumni in the company, often act as the "spark" that triggers new areas of cooperation.
- For the company resources involved, participation in university teaching is often a driver of **motivation and increased personal satisfaction**.

Exchanges with businesses, conducted through a focus group and one-on-one interviews, confirm first of all that there is **great interest** in and willingness to invest in relationships with universities, today and in the near future. From the perspective of businesses, these relationships are viewed as a qualifying strategy to position themselves in the labour market, particularly with respect to highly qualified young people.

The same interest and availability are expressed by the universities, creating favorable conditions for increasingly wide, intense and fruitful cooperation.

The respondents unanimously agreed that in partnerships with universities the **personal relationship with the professor** plays a crucial role and seems to be the one recurring element that triggers educational partnerships: a personal acquaintance appears to be essential in building an initial relationship of mutual trust and verify the actual correspondence between the university course and the company's business activities.

Typically, opportunities for making personal acquaintances are meetings for professionals (conferences, events, etc.) and the presence in the company of alumni, especially young people, who still maintain relations with their professors. Thus, the existence of a large and dynamic personal network is a key prerequisite for companies to approach universities.

In terms of overall strategy to the academic world, nearly all businesses rely on **early engagement**, i.e. the ability to intercept students as early on as possible in their academic career and start with them an employer branding action aimed at raising their awareness of the company's business, its products/services and its "style" and familiarizing them with the professional skills sought by the company. It is a process that proceeds backwards, from postgraduate to undergraduate degree courses, from the last to the first years of university studies.

Interestingly, for many companies this process of reaching back throughout the education chain - of going back upstream like the salmon - does not stop at universities, but tends to continue on to secondary schools, particularly those with technical and vocational concentrations.

In a future perspective, it is in the interest of businesses to aim for "all-round" partnerships within which, starting from strong, long-lasting and high-quality relationships with some selected universities, they can develop multiple projects with different levels of commitment and intensity, in line with their evolving business needs.

Finally, the study highlighted in an indirect but clear manner the important role played by **Assolombarda Confindustria Monza e Brianza**, in its capacity as both direct sponsor of educational partnership initiatives (for example, the testing of a university program based on work-study alternation conducted with the undergraduate degree in Computer Science at the University of Milan) and as **active link** between companies and universities: a mission that ranges from the simple passing on of information to the organization of events and *ad hoc* projects, from playing the role of "social partner" in the review and updating of the educational offering to ongoing coordination work on both fronts.

A second area that was investigated with company representatives concerns the identification of the benefits that educational partnership experiences produce for businesses.

Within a rather diverse array (see Table 1), one of the top benefits recognized by companies is employer branding, i.e. the opportunity to strengthen their positioning as employers vis-à-vis a segment of human resources as strategic as that of university graduates. This need for positioning is felt in at least two areas: on the one hand, disciplinary areas (and the relevant skills) where there is greater competition and difficulty finding professional profiles (this applies for example to some categories of engineers); on the other hand, the universe of "new audiences", students or graduates in disciplines other than those traditionally found in companies' workforce (and therefore not identified by ordinary search and selection activities), with whom the company wishes to get in touch. For the latter case, some companies use educational partnerships as opportunities to promote themselves and gain access to innovative cultural contributions by human resources whose background and skills are unlike any other in their employment.

"The idea of offering this additional, highly specialized training opportunity, resulting from the on-field experience of EY professionals, came from the company. They represented to the University their need and desire to contribute to the training of those who could become their future workforce. [...] In this way, the participating students can have access to very specific knowledge right from the experience of those who apply it to their work every day" – Università degli Studi di Milano-Bicocca and Ernst & Young (see the full case study in the Appendix).

Two more benefits pursued by businesses are closely connected with this first goal of achieving visibility:

- on the one hand, orienting students towards the industry, business and professions that are specific to the company;
- on the other hand, improving the knowledge and skills of graduates, viewed as their future human capital.

The common rationale of these two objectives is to be able to start "preparing and fertilizing the soil" by establishing an early contact with potential future employees through educational partnership experiences. In a future perspective, this early investment may provide significant savings in terms of time, effort and resources.

With more hands-on partnership initiatives – where companies can see the students in action and test their skills on small projects – companies clearly have the opportunity to identify and actually **recruit** the best talents. What takes place in these cases is a pre-selection, whose natural outcome is typically the activation at the "observing" company of an internship, often followed by recruitment.

Another significant advantage sought by companies is the possibility of acquiring, through cooperation with universities, **innovative ideas** and original solutions for their business activities.

The students are considered an interesting audience for at least three reasons:

- their young creative minds, free from undue influences and from the superstructures created by past experience;

- their ability to provide, in relation to certain business issues, an "unorthodox" outsider's perspective, in contrast with the company's own reasoning and views;
- the fact that they often represent a strategic segment of customers and users targeted by many companies.

Not coincidentally, in view of these characteristics recognized in students, quite a few process or product **innovations** have been generated during projects and workshops involving university students, the results of which have been translated into viable solutions, such as industrial patents. While it is certainly useful to companies, this type of cooperation also significantly enriches the student's curriculum.

"The program includes two six-month workshops in the freshman year and a more complex one in the sophomore year. They are therefore designed to extend throughout the entire degree course, enabling students to work on products of growing complexity. [...] It is also a "natural" solution for this type of study course, where the work focuses on learning to do and on meeting the students' need to apply the theories and methods taught during lectures. This perfectly fits the bill of companies seeking qualified help in re-designing their products or developing new design solutions" – Politecnico di Milano (see the full case study in the Appendix).

Finally, the respondents pointed out two more, partly unexpected aspects:

- on the one hand, it emerged that the involvement of human resources in educational partnership activities in which they are called upon to play an active role (as professors, tutors etc.) with the students has a significant motivating effect and induces a high level of commitment to this type of activity, even when it is not directly related to their ordinary professional duties; for example, there have been situations where managers have voluntarily and gladly offered their free time (e.g. on Saturdays) to carry out this type of activity. In accepting this one-off engagement they were prompted by the professional prestige that university teaching entails, as well as by the awareness of (and, in a way, "taking responsibility for") the task assigned to them, i.e. the improvement of young people's education.
- on the other hand, emphasis was placed on the ethical value of cooperating with universities, in terms of awareness of its inherent social significance and of adherence to Corporate Social Responsibility principles. This awareness generates in companies a genuine sense of pride: the pride of conducting an activity that is perceived internally as an important social function, whose "ethical" output is the facilitation of young graduates' transition to the labour market.

Company representatives were also asked what were the main problems experienced in cooperating with universities in relation to the design and implementation of educational partnership experiences.

In the first place, it should be noted that the problems reported by businesses are, on the whole, significantly smaller than the benefits described so far. However, the reported obstacles are mostly attributable to the difficulties sometimes encountered by companies in relating to the academic world and, more generally, with university administrations, whose motives, **time frames and operating procedures are very different** from their own. In particular, businesses sometimes view university organizations as sluggish and affected by bureaucratic hurdles, especially when "official" procedures have to be followed. This state of affairs is linked to the comments made above on the importance of direct relationships with professors, which often allow to cut some of the more complex organizational steps, perceived as "labyrinthine". Additionally, contacts within universities often appear to be fragmented, making the partnership process even more complicated.

A second aspect highlighted almost unanimously by all the interviewed companies concerns the **time** and **energy** that the companies have to invest in educational partnerships with universities. This expenditure weighs mainly on the staff directly involved in the implemented initiatives, and is directly proportional to the degree of complexity of the

projects. Specifically, partnerships are viewed as especially time consuming when the partnership process is particularly complex, e.g. when organizing workshops or *project work*. In these cases, the managers or professionals involved are required to offer extra time, which is not always easy to find, but without which the process would not work.

Finally, it is reported that in many cases universities tend to activate educational partnerships only in the final stages of degree courses. Businesses consider this **delay** as a hindrance to the possibility of fully seizing the partnership's opportunities, both for the company and for the students. In this respect, it may be more effective to adopt a progressive relationship involving students from the time they enter university, with different methods and objectives depending on the course year.

Table 1. Overview of the benefits and drawbacks of educational partnerships

BENEFITS	DRAWBACKS
Employer branding	Slow university bureaucracy
Orientation	Fragmented contacts
Training for employment	Extra time and energy
Recruitment	Partnerships are implemented late in the course of study
Innovation	
Employee motivation	
Perceived social usefulness	

Finally, companies were asked their opinion on the **value added** they think they can generate for the universities with which they develop educational partnership initiatives, and therefore for the students.

In this regard, the company representatives we interviewed mentioned the following possible benefits for universities:

- help in accomplishing part of their institutional mission (**preparing students** for the labour market);
- offer of **motivating** situations, useful for personal and professional growth;
- improved **quality of teaching** through contact with the practical and applicative dimension of knowledge ("reality check");
- a first step to move towards further levels of collaboration (for example, in the field of research and knowledge transfer);
- an opportunity for **discussion** and an opening to the outside world, to be valued as a useful "antidote" to self-referentiality.

On the other hand, businesses believe they offer students:

- support in terms of **guidance and coaching for their entry into the labour market;**
- the enthusiasm and **motivation** that arise from being able to engage in concrete activities (as demonstrated, for example, by the high attendance rate recorded in some extracurricular, and therefore not strictly mandatory activities);
- the opportunity to experience the real world first-hand, to learn hands-on, to "try doing", to **experiment** with forms of "situated learning" able to create links between theory and practice and to make them understand what the things they studied in books "are for";
- an opportunity to bring together and have **an overview** of the systemic interrelationships between curricular disciplines, too often taught (and learned) as "tight compartments", independent of one another.

"Through this experience, students can not only see some of the theoretical contents taught in the classroom actually applied, but also engage their personal abilities by immersing themselves in the situation that could become their future profession. This opportunity plays a very important role in orienting them to a profession, which is the specific task of the university. Furthermore, interacting with a large company allows students to become familiar with the

assessment criteria typically used in the world of work, which can be very different from those applied in the world of education" – Università Cattolica del Sacro Cuore di Milano and Henkel Italia (see the full case study in the Appendix).

4. Educational partnership models

Key points:

- Throughout the area under review, the range of available experiences is **wide and diverse**.
- **Most of these experiences can be classified under ten different models**, ranging from individual classroom presentations to the creation of learning workshops for innovation, right down to redesigning entire degree courses in collaboration with the business world.
- The differences between the various models of educational partnership entail other differences: between the **goals** of universities and enterprises; between the **actors driving** the process; in the levels of **engagement of professors and businesses**, in the degrees of commitment and involvement required of **students**.
- Based on the combination of these variables, universities and businesses can identify the **practices that best fit their needs and possibilities**.

4.1 Models

As we have already mentioned, virtually all the situations we reviewed show a general trend towards an increasing intensification of investments in university-enterprise partnerships for educational purposes; on the other hand, it is also important to reach a more in-depth understanding of the most widespread forms in which these partnerships are implemented.

As part of this research study, meetings with both university and business representatives enabled us to gather a significant amount of information on the experiences that are being carried out in the Milan area. This information took the form of passionate "narratives" that suggest that the topic is, in fact, gaining increasing significance.

It is important, in light of these findings, to make a further analytical effort and classify these narratives on the basis of common patterns for ease of interpretation. The purpose of this is, above all, to achieve one of the main objectives of this study: to disseminate and make available to all stakeholders – first and foremost to companies and universities – a set of particularly significant experiences and recommendations useful for future developments.

The practices identified in the target area are not only **numerous**, but also extremely diverse. Some of these we only mentioned, others we have explored more in depth with the stakeholders we met. For some models, we investigated particularly significant examples.

This chapter presents the results of the efforts made to identify the most common models of university-enterprise *partnerships* and to analyze their characteristics on the basis of common variables.

In addition, in order to better outline the different models, the chapter contains the most meaningful examples examined at the different universities, summarizing the key features of each.

In general, each of the different forms of university-enterprise educational partnerships can

be classified under the ten models listed below. For each model we also describe a particularly interesting practice implemented by one of the investigated universities, whose main features are provided in the Appendix³.

1. **Presentations** by company representatives during lectures, parts of curricular courses or **teaching assignments** (individual lectures or short cycles) carried out by business professionals as part of curricular courses.
 - a. **Rounds of meetings with companies for Philosophy and Psychology students of the Vita Salute San Raffaele University**
2. **Corporate business cases used as teaching tools, sometimes with company representatives in attendance.**
3. **Business project work** included as part of a curricular course and taken into account for the final exam assessment. The company may be involved both in the assignment of projects to student groups, and in the **assessment process**; at the end of the experience, **internship** positions are sometimes made available to the best students.
 - a. **Business case Competitions and Communication experts at Università Cattolica del Sacro Cuore**
 - b. **Business Project work at Libera Università di Lingue e Comunicazione IULM**
4. **Teaching sessions delivered at companies/visits to company facilities.** In-company teaching is a distinctive element of many of the identified models: from educational workshops to jointly designed degree courses. However, there are also cases where companies spontaneously make their training spaces available to universities, so as to offer students learning experiences rich in highly specialized contents. This can also be done on a one-off basis for different subjects.
5. **Intensive multiple day workshops** held on campus or in-company (in the form of company visits), usually for students divided into groups.

In these experiences, students learn through the acquisition of skills and energies triggered by a "real" business need. Participating students are expected to demonstrate not only understanding and critical analysis of the problem presented to them, but also the ability to suggest creative solutions. The company takes part at the beginning, with a presentation in the classroom to explain the case and assign the goal to students, as well as throughout the process, closely following the groups' work, and at the end of the experience by participating in the assessment of the output, also in terms of practical sustainability of the submitted proposals.

 - a. **Innovation workshop at the University of Milan**
 - b. **Cycle of product development workshops at Politecnico di Milano**
 - c. **Independent digital content producers at Libera Università di Lingue e Comunicazione IULM**
6. **In-company dissertations:** students develop a dissertation focused on a need/activity/project emerging or ongoing within a company, combining the writing with an internship period at the company being studied.
7. **Extracurricular education** on specific topics, delivered by a company/association at the university, within the framework of a partnership established at university level or with an individual Faculty/School/Department/Research Center.

³ While not investigated in depth, business case studies, educational sessions/visits to enterprises and in-company dissertations are mentioned and described in several of the practices collected in the Appendix.

- a. **ANIMP/IPMA Italy and Project Management course at Politecnico di Milano**
 - b. **Talent Lab EYF at the University of Milan Bicocca**
8. **Funding of a chair** by a company that provides the financial resources required to recruit an expert professor of that subject.
- a. **Saipem International Chair at Politecnico di Milano**
9. **Planning and delivery of degree courses**, based on close cooperation between businesses and the university. This type of cooperation does not concern individual subjects, but rather the implementation of **undergraduate or postgraduate degree programs entirely developed in collaboration with the corporate world** which, as such, may include courses taught by company representatives (at the university or at the company), the assignment of business projects to students, in-company dissertations, and specialized training internships or apprenticeships.
- a. **ULISSE work-study alternation program at the University of Milan**
 - b. **The professionalizing program of the Degree in Chemical Sciences and Technologies at the University of Milan Bicocca**
 - c. **The "new" postgraduate degrees of Bocconi University**
10. **Spinoffs and university-enterprise joint research workshops** on topics that will be later taught in doctoral courses and even in postgraduate degree courses.
- a. **Enterprise/University-research-education: a virtuous cycle at the University of Pavia**

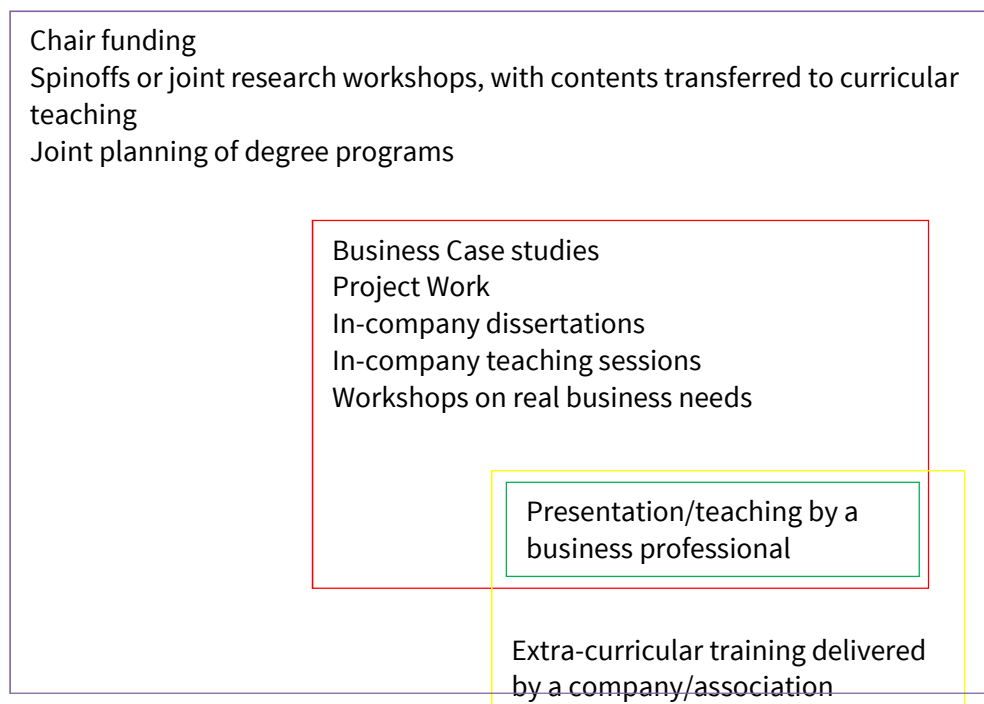
4.2 Characteristics and resources involved

The different models of university-enterprise educational partnership reviewed in the course of our research study were different in the way they were implemented: individually, as part of one-off initiatives, or within the framework of broader and more structured cooperation programs that provided for combinations of different experiences.

If we imagine these practices as a set of "**Chinese boxes**", the most complex and comprehensive experiences (such as work-study alternation projects, joint planning of graduate courses, or the funding of business chairs) can be viewed as "containers" of simpler partnership models (corporate teaching assignments, project work, in-company dissertations to mentions but a few). Even as stand-alone experiences, the latter have their own, legitimate *raison d'être* and allow students to achieve goals that, while less ambitious, are nonetheless important.

Figure 1 below is a representation of the identified partnership models, both as stand-alone experiences and in combination with others, with increasing levels of completeness and complexity.

Figure 1. Educational partnership models: possible combinations



To further clarify this notion, we will report two particularly significant experiences as exemplary of all the cases we investigated:

- the Degree in Computer Science at the University of Milan under a work-study alternation program, designed and delivered in close cooperation with Assolombarda Confindustria Milano Monza and a group of associated companies, particularly interested in these graduates;
- the Degree in Chemical Sciences and Technologies at the University of Milan Bicocca which, while not providing for real work-study alternation opportunities like the previous one, adopts a similar joint planning approach.

Both are complex and "complete" models, which, however, were built from simpler components – such as project work, in-company training sessions, or in-company dissertations – appropriately combined and offered to students according to "variable geometries" during undergraduate degree courses.

"The project is undoubtedly innovative and complex because of the very high level of integration between the world of tertiary education and that of business: we are not talking about some contextualized meeting opportunities, but of rethinking a fairly large part of the three-year course in close cooperation. [...] A project like the one described requires a huge coordination effort for its launch and management, as each of the many parties involved has different needs and operating processes" – University of Milan and Assolombarda (see the full case study in the Appendix).

"Under the professionalizing program, third year students take several courses agreed with the partner companies and taught by company professionals. In this way, not only the course contents reflect what, from the company's perspective, the students should learn in order to be ready to enter the world of work, but are also strongly influenced by the practical experience of someone who, at the company, puts them into practice every day. [...] The professionalizing program helps students who intend to end their studies with an undergraduate degree to combine the knowledge of scientific methods and contents with the acquisition of the

professional skills that companies feel are most important" – University of Milan Bicocca (see the full case study in the Appendix).

What distinguishes the "simpler" components from the more complex experiences?

The models have different **degrees of intensity of partnerships** between universities and businesses. Different intensity means different **procedures to formalize** the partnership; **process management** (both at university and at business level) that is more centralized or more left to individual responsibility; variable resource allocated by the two parties, as well as a higher or lower level of **commitment** required of the students involved in these experiences.

For all the educational partnership models identified by this research study, some distinctive variables were outlined in order to facilitate readability and comparison based on the same observation parameters, as shown in Table 2.

In particular, the identified characterizing variables are as follows:

Company's objectives - Companies that enter into educational partnerships of various types with universities may be driven by different motives. The most common are:

- **Employer branding:** need to be known and to establish their reputation as employers with different audiences of students, i.e. potential future employees.
- **Orientation:** help guide the career choices of students, starting from information on the characteristics and contents of different professional profiles found in the company, as well as organizational areas and contexts where they could be employed.
- **Recruiting:** conduct the first phase of the selection process earlier, by intercepting potential candidates when they have not yet completed their course of study. "Early action" allows companies to make contact with a higher number of potential candidates, among whom they can more easily identify those with the cultural characteristics and abilities best suited to their business needs.
- **Access to knowledge and innovation:** build new knowledge together with students and professors and develop innovative ideas that can be applied within the company.
- **Motivation of internal resources:** support the motivation of their own resources by giving them the opportunity to test themselves in roles and areas other than those in which they usually apply their professional skills.
- **Corporate social responsibility:** fulfill the obligation to contribute to social development by supporting the often difficult transition to work of the younger generation.

University's objectives - Universities also approach these experiences with specific goals in mind which, if clarified from the outset, can facilitate the planning of potentially value-generating initiatives.

Some of the universities' main objectives we identified include:

- **Innovation in teaching and expansion of academic offering:** partnerships with companies may be prompted by the university's wish to expand its course offering or to innovate/update the existing one, with innovations both in the contents and in the teaching methods.
- **Attraction/retention/motivation of students:** as mentioned above, among the criteria used by prospective students to choose a university and the study area they will engage in, a growing role is played by a university's ability to open up and relate to the productive world and, more generally, to the universe of professions. In this

respect, partnerships with businesses are viewed as useful tools to attract and retain new students.

- **Orientation:** one of the main tasks of universities is to orient the choices of those who are about to enter the world of work, often for the first time. Close cooperation with companies, i.e. the key players of an increasingly complex and constantly evolving labour market, can undoubtedly improve the university's chances of successfully pursuing this goal.
- **Placement:** while it is essential that universities support their students in identifying professional goals for their future through appropriate orientation initiatives, it is equally important that students are also subsequently offered support tools to achieve those goals. In this respect, the involvement of businesses in teaching activities is already a first opportunity for students and companies to make contact, and can be viewed as one of the ways in which the university carries out its task as facilitator of young people's transition to work.
- **Access to financial resources:** the availability of financial resources is often an important driver for the development of university-enterprise partnerships. Financial considerations are frequently a factor in the development of synergies in the area of research, more rarely in those aimed at educational partnerships. Nevertheless, among the experiences we reviewed this was one of the identified goals, and it is therefore worth mentioning.

Key players in the process and level of centralization of its management - Another factor that creates clear differences between university-enterprise educational partnerships concerns the players involved and the role played by each of them. In particular, these experiences differ based on who has the main responsibility for planning, delivering and managing the initiative. In this respect, the actors in these processes - starting from professors and company representatives - may have different responsibilities and obligations, or share and manage the entire project on a joint basis.

The leadership factor also affects the **degree of centralization** that the different partnership models imply or require. For some partnerships, it is essential to activate institutional functions within the university (specifically, the departments responsible for orientation/internships/placement/company relations, university-business exchange committees, officials in charge of the "Third Mission") and the company (mainly Human Resources and Communications/External Relations). Other initiatives, on the other hand, can be developed simply on the basis of personal contacts between professors/researchers and company professionals.

Degree of involvement and commitment required of students - The more structured and intensive the partnership practices, the higher the level of involvement and commitment required of students in carrying out the partnership activities. In this regard, some partnership models integrate within the teaching activities, at different levels and in different course years, without encountering any problems related to the students' level of knowledge. Conversely, other models require students not only to have already reached a certain level of knowledge on the subject in question, but also to have already tested themselves in similar experiences involving work alongside an external "client", or team work. In these cases, the differentiating factor is not only the degree of knowledge achieved by students, but also the extent to which they are "familiar with" coping with active learning activities and with interlocutors other than their university professor.

Once the identified models are cross-referenced against their characterizing variables, the resulting summary table (see below) can be useful not just as an overview of the investigated phenomenon, but also to compare the different educational partnership practices on the basis of common parameters.

Table 2. Overview of educational partnerships models

VARIABLES MODEL	<i>Company's goals</i>	<i>University's goals</i>	<i>Leading players⁴</i>	<i>Degree of student involvement and commitment</i>
<i>Presentations/Teaching assignments by company representatives</i>	Employer Branding (EB)	Educational innovation + Orientation	Professor and company representative	Low
<i>Business case studies</i>	EB + Orientation	Educational innovation + Student motivation	Professor	Low
<i>Project Work</i>	EB + Orientation + Access to innovative ideas	Educational innovation + Student motivation	Professor and company representative	Medium
<i>In-company teaching sessions/Visits to companies</i>	EB + Orientation	Educational innovation + Orientation + Student retention	Professor, company representative, company	Medium
<i>In-company dissertations</i>	Access to innovative ideas + Orientation + Recruiting	Educational innovation + Orientation + Placement	Professor, company representative, company, university	Medium-High
<i>Extra-curricular training delivered by company</i>	EB + Orientation + Recruitment + Internal resource motivation	Improve educational offering + Attract students + Orientation	Professor, company representative, company, university	Medium-High
<i>Workshops on real business needs</i>	Access to innovative ideas + Orientation + Recruiting	Educational innovation + Orientation + Placement	Professor, company representative, company	Medium-High
<i>Chair funding</i>	Access to innovative ideas and knowledge	Access to financial resources + Improvement of educational offering	Professor, Company, University	Medium
<i>Joint planning of degree programs</i>	EB + Orientation + Recruiting + Access to knowledge	Improve educational offering + Attract students + Retain students + Placement	Professor, company representative, company, university	High

⁴ Within the same partnership model, different players may be involved depending on the university where they were developed. However, it is interesting to try to identify which of the parties involved most frequently play a leading role in designing and implementing the various practices. Business and university involvement requires a more centralized management of certain types of activities.

<i>Spinoffs and joint research workshops</i>	Access to innovative ideas and knowledge + Recruiting	Educational innovation + Orientation + Placement	Professor, company representative, company, university	High
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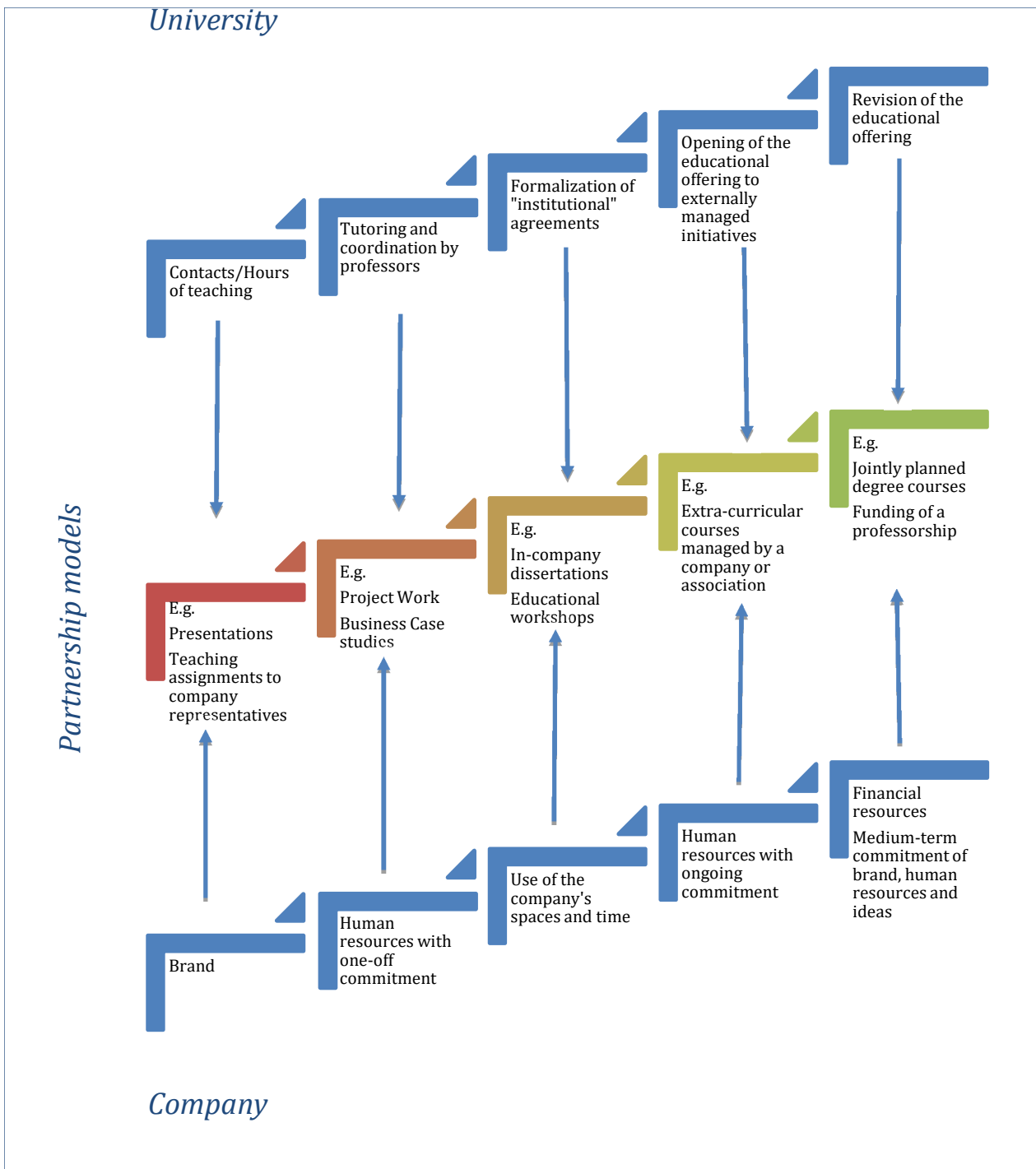
Another perspective that may prove useful to gain an overall and, if appropriate, comparative view of the different models, is the effort required of the university and the company to activate the initiatives.

Based on the evidence that emerged from the research, we were able to build a *continuum* along which to place the different **commitments and resources** that the two players are required to provide when they decide to implement the practices described in this document.

For this purpose, we developed a scale (Figure 2) which, for universities, places at the lowest level a "**minimum**" of commitment/resources, as can be considered professors' personal contacts with business professionals and teaching hours made available to welcome the business world; at the highest level, a "**maximum**" of commitment/resources, relating to the redesign of entire degree programs requiring commitment at central level or coordination by the university, and revision of the educational offering based on exchanges with the business world. At the intermediate level we find the professor's commitment in coordination activities (one step above the "yielding" of teaching hours), redesign of the curriculum of some courses (not an entire degree course), the signing of agreements at central level (and not just between professor and company representative), which are essential for some initiatives, requiring centralized management in order to be concretely implemented.

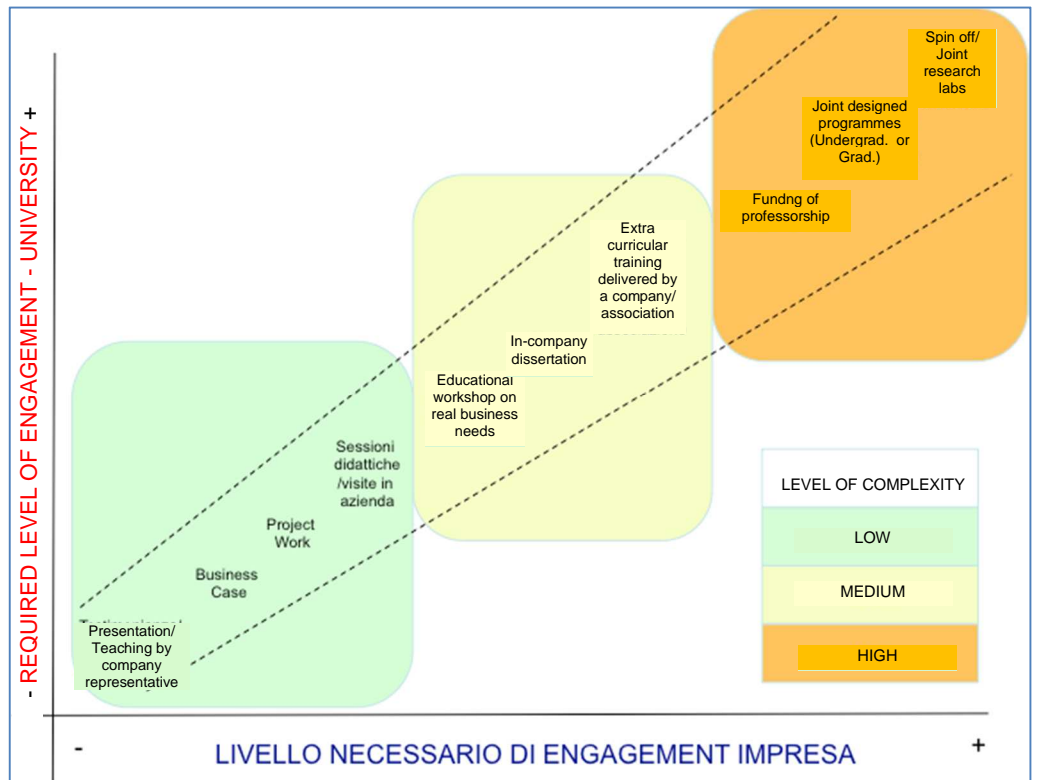
By the same criterion, the level of commitment and resources engaged by the enterprise is also shown along an ascending *continuum*, depending on the different educational partnership models implemented: from making the company's brand available in support of some initiatives, possibly linked to occasional classroom presentations (minimum), up to the commitment of financial resources, human capital and reputation, for example by financing a chair or jointly planning a degree course (maximum).

Figure 1. Commitment/Resources engaged by universities and enterprises for the different partnership models



In light of the considerations set out above on which and how many investments universities and companies are required to make as a prerequisite condition to implement the different forms of educational partnership, below (Figure 3) we attempted to arrange the different models by growing **intensity** and **magnitude** of the generated effects. On this ideal scale of possibilities, the level of commitment and involvement required of the players grows in direct proportion to the complexity of the governance and management of educational partnership practices and the magnitude of the generated effects. This diagram could also serve as a guideline to help individual players (whether companies or universities) choose their own positioning along the scale, in line with the goals and resources (spaces, people, time, energy and money) they are concretely willing to allocate.

Figure 3. Degree of engagement required by university and company to generate effects



5. Recommendations

Key points:

- Investment policies to increase and improve the effectiveness of university-enterprise partnerships involve, for both players, **external as well as internal relations**.
- For businesses, it is crucial to **increase the presence of their managers and professionals involved in university teaching, invest in dual paths**, stimulate and support the role of their representative associations within **collaboration initiatives at local or sector level**. Internally, it is important to promote the **pooling** and leveraging of **contacts and experiences**.
- For universities, it is essential to develop a **shared** strategy to direct the development of individual experiences towards consistent goals and **communicate it effectively** to the business world. It is also vitally important to strike a **balance** between fragmentation and centralized management of the initiatives and to promote **de-bureaucratization** so as to accommodate the different timing and processes of the business world.

Based on an analysis of collected data, we have developed some recommendations, both for companies and for universities, to improve the quality and effectiveness and to promote a more widespread use of educational partnership initiatives.

For each of the parties involved, some **areas of attention** and future investment can be identified, which reflect on two different "operating approaches":

- on the one hand, "foreign policy", i.e. **relationships with the outside world** and the other party;
- on the other hand, "domestic policy", i.e. the **organizational and management mechanisms** in support of partnership practices.

As regards businesses, on the external front three well-defined areas of commitment emerge:

1. Increase the presence of their managers and professionals within academic programs: this will create a wider **network of relationships**, able to generate more and better partnership opportunities beneficial to the company;
2. Invest energy and resources in the creation of **"dual" paths** (i.e. based on work-study alternation) to be implemented as part of degree programs of interest to the company's business, as a possible response to skill shortage as well as to ensure an inflow of qualified knowledge and expertise; promote, through the communication channels activated with the university in support of these programs, relations aimed at innovation transfer (relationships/contracts/applied research partnerships);
3. Support and encourage the role of **business associations** by participating in educational partnership projects promoted at local level by associations of companies operating in the same territory or sector, or asking these associations to sponsor new initiatives. This recommendation can be especially important for small and medium-sized enterprises, which do not always have enough time, resources and visibility to implement partnerships with academic institutions on their own. In this regard, the

associations can play an active role in developing projects and partnership initiatives with universities specifically designed for SMEs.

In terms of internal operation, at least three areas of attention have been highlighted:

1. A well-defined **coordination point** needs to be identified in order to avoid the fragmentation of initiatives. As already mentioned, such initiatives are the result of personal relationships and are often unplanned.
In this regard, the direction of educational partnership projects with universities could be (at least partly) centralized within the company and assigned to the Human Resources function, and specifically to the Recruitment, Selection, Employer Branding and Talent Management departments. This would give the initiatives continuity over time and, above all, define a corporate *policy* based on an overall strategy concerning relations with the academic world.
2. A second aspect, connected to the previous one, relates to **knowledge management**, i.e. the importance for the company of leveraging the contents of partnership initiatives internally, by sharing them within its professional community. The purpose of this is to allow the wealth of experience and contacts of individual managers and specific business units to become shared "capital equipment" that could potentially be used by others within the company.
In this perspective, simply disseminating information about specific initiatives carried out by some employees may be enough to arouse curiosity and emulation by other colleagues interested in relating with the university in educational processes.
3. Lastly, in terms of HR Management and development policy, companies may find it useful to encourage, through forms of explicit recognition, the **motivational dimension** expressed by people involved in university teaching activities. These forms of recognition, designed to suit the company's policies and mission, can contribute to the creation or expansion of a team of training resources (a sort of internal faculty) to be used in relationships, at different levels, with the academic world.

Conversely, as regards universities, the priority area of investment seems to be the area of "domestic policy", structured on several levels:

1. Like businesses, universities also need to determine how (and where) to establish an **internal coordination point** for the various initiatives implemented in random order by schools, faculties or departments, or even individual professors. Today, this coordination is formally provided by S&P Departments, in which all universities have invested and that seem to operate with increasing effectiveness. However, there remains a "physiological" level of internal fragmentation (and dispersion) of experiences, contacts and ideas which could be usefully put to the service of the entire institution (if not in whole, at least in part), on the one hand, in order to avoid duplication and inefficiencies; on the other hand, so as not to miss partnership opportunities because of inability to seize them.
In light of these considerations, it may be useful for universities as well to increase their involvement in activities and projects that facilitate internal sharing (especially horizontal) of knowledge with regard to relations with businesses, overcoming the traditional barriers that often separate departments, disciplinary areas and individual disciplines;
2. The second recommendation to universities can be summed up in the invitation to **lighten the bureaucratic burden** on the implementation and management of processes, in order to be more in tune with the needs and inevitably faster pace of the business world. Essentially, this means streamlining and making more flexible the university's internal procedures, which companies sometimes perceive as "byzantine"

and difficult to understand and, what is worse, which "discourage them from going through with the partnership".

At the same time, it would be wise to **plan more flexible "educational containers"** (both degree courses and individual disciplines) within which to implement the partnerships. Universities actually have the independent decision-making powers to make their curricula more permeable to forms of "contamination" with the outside world, so as to capture the added value without distorting the "pure" educational value of degree programs and without compromising the institution's educational mission.

3. Thirdly, universities should develop a **comprehensive strategy** ensuring, for each study area or "family" of degree courses, an integrated approach to educational cooperation with the outside world, leaving behind once and for all the phenomenon of one-time initiatives. This type of approach could, on the one hand, encourage better integration between different educational partnership experiences; on the other hand, it could facilitate the planning of progressive partnership actions with businesses, in parallel with students' personal and cultural growth during the 3-5 years of academic career.

On the "foreign policy" front, universities need to invest in two main areas:

1. First, universities should strengthen strategies and activities aimed at **communicating with companies** on partnership opportunities, so as not to risk missing opportunities because of information deficiencies. In this respect, focus should be placed not only on institutional communication, but also on strengthening the network of direct contacts with businesses, while improving internal coordination as discussed above.
2. Secondly, they should fully leverage the potential of the **alumni network**, a strategic channel for dialogue with businesses, as well as a wealth of contacts that can be easily put to use.
The alumni network management strategies that each university independently develops should include the common purpose of promoting educational partnership opportunities for the different degree courses and disciplines. For this purpose, relationships with the younger alumni just starting their professional career may be particularly useful, as they are more likely to maintain recent contacts with some of their professors and to still feel an emotional bond to their alma mater.

In light of these general considerations, below are some operational recommendations as to specific strategies that universities and companies can put in place in their educational partnership approach.

As regards universities, and in particular their **Stage & Placement** departments, a first link can be established between the **level of engagement of their stakeholders** (professors and companies) and the degree of involvement and commitment required of students (see Figure 4).

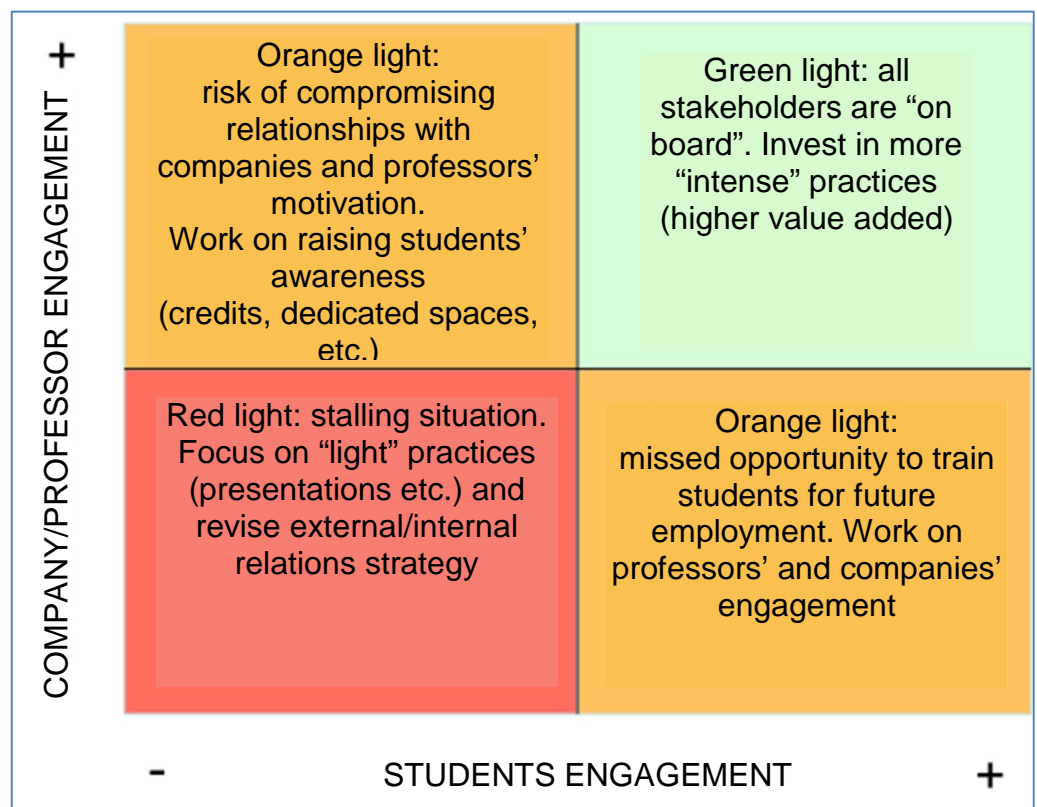
When both the company's and professor's engagement level and the students' degree of involvement and commitment are low, the "red light" turns on: in this case, the university should analyze and redefine its external and internal action strategy, focusing on 'light' practices (presentations, business case studies, etc.) with the aim to raise awareness among stakeholders and start to "prepare the soil."

When only one of the two parties shows a low level, the light is orange. One of the following will apply:

- the students lack involvement and commitment: this risks compromising the relationship with businesses and the motivation of university professors. In this case, it is advisable to work on the students' engagement, implementing targeted actions to "get them on board";
- if, on the other hand, it is the companies and the professors who lack engagement, this may lead to missing a valuable opportunity to better "serve" students, preparing them for their future job. In this case, the situation can be corrected through communication and the involvement of businesses and professors, starting with the more sensitive to these issues.

Finally, the light is green when there is a high level of commitment and motivation of all the parties involved (professors, businesses, students). This is the best time to invest in more "intense" and structured practices that can generate medium to long-term added value.

Figure 4. Possible action strategies for S&P Departments (professors'/companies' engagement vs. students' engagement)



Still with regard to university **S&P Departments**, a second analysis criterion explores possible action strategies to respond to the varying level of engagement of businesses and professors, this time analyzed separately (Figure 5).

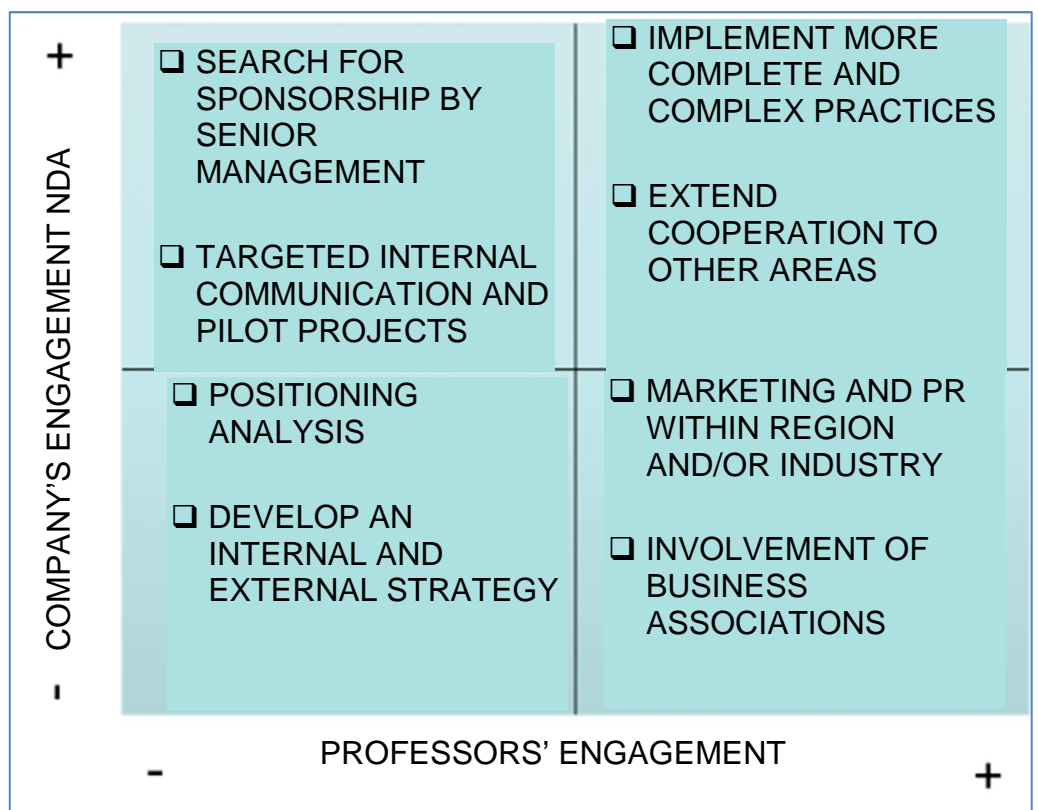
If both are low, universities - on the basis of their underlying guidelines - should analyze their external and internal positioning and build a very specific and structured action strategy, starting with small realistic steps.

When the weakness is found on the internal front (professors), the priority is to obtain strong sponsorship by the university's senior management, set up a targeted internal communication plan, and launch pilot educational partnership projects that will open the way to other initiatives.

Conversely, when the companies' engagement is low, the focus must necessarily shift onto marketing and public relations investments within the geographic area and/or industry sector. In addition, it should be considered whether to use the support of business associations as a means to reach the companies.

Finally, when both stakeholders show a consistently high level of engagement, the strategy to be pursued is not only to implement more complex and complete initiatives, but also to extend the cooperation with businesses to other areas, such as applied research or the creation of innovative entrepreneurship (spinoffs).

Figure 5. Possible action strategies for S&P Departments (professors' engagement vs. companies' engagement)

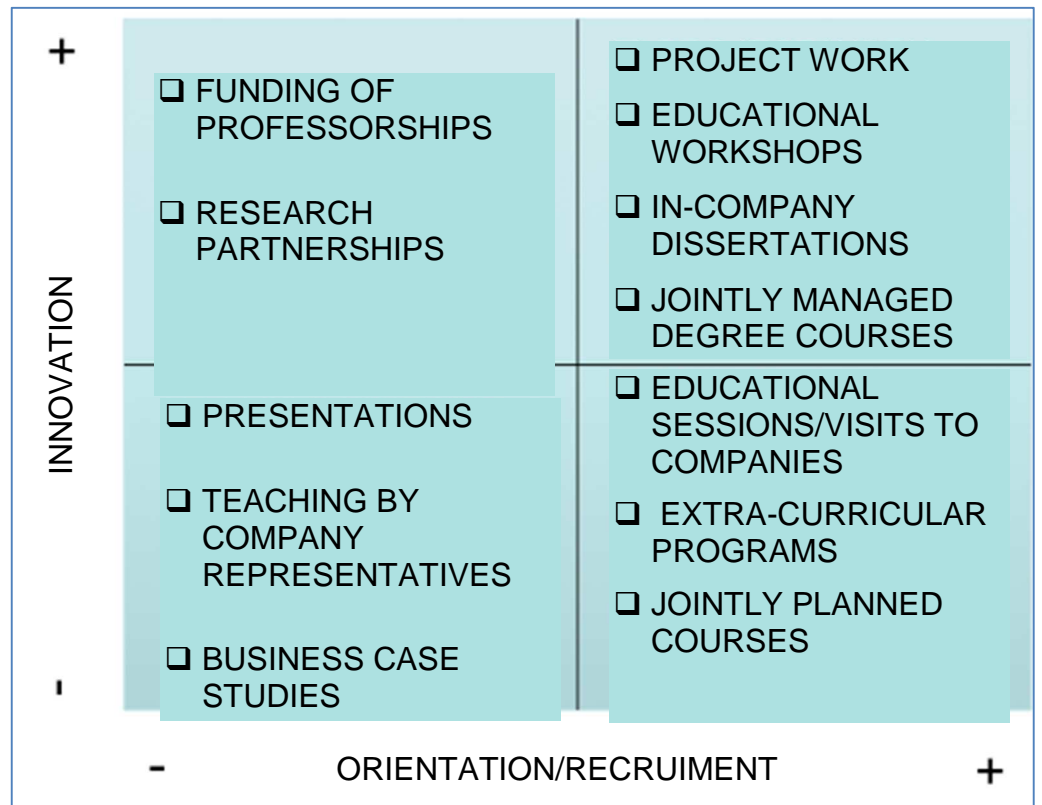


Instead, as concerns **companies' choices** with regard to the different types of educational partnerships with universities, we propose a method that cross-correlates the two **main benefits sought by companies**: innovation and orientation/recruitment.

In this case, the necessary premise is that, although in effect each practice affects both aspects, this analysis evaluates the need that is considered the top priority.

As shown in Figure 6, each combination of business needs configures a small portfolio of opportunities, to be adjusted to the needs of a specific time in the life of the company.

Figure 6. Possible action strategies for S&P Departments (professors' engagement vs. companies' engagement)



6. Concluding remarks

This research study has allowed us to highlight the fact that educational partnerships between companies and universities are currently considered a strategic and growing phenomenon by all the parties involved.

Educational partnerships have the advantage of producing a **wide range of positive effects** for universities, professors, students, companies and their managers and professionals. They bring added value that very often has synergistic effects, according to a win-win logic.

It is worth pointing out that, with regard to students, there is a growing demand for **active learning tools and methods** to be implemented in their study courses. In other words, university students increasingly feel the need for new, more "engaging" learning experiences than traditional lectures: they believe that these approaches are, on the one hand, better suited to the learning styles typical of their "Millennial" generation, and on the other hand, more appropriate to develop skills and abilities that can be used in their future occupations. This need can be effectively met by investing in educational partnership initiatives, viewed as integration of more traditional teaching methods.

Another interesting aspect is the fact that educational partnerships act in many cases as a **"trigger" for new cooperation processes** between universities and companies, first and foremost research projects. Many respondents shared the opinion that this phenomenon will grow in the near future, both in terms of quantity and of new planning and implementation mechanisms.

There is currently a **multiplicity of forms** in which educational partnerships are implemented: from simple presentations and teaching assignments to companies, to degree courses jointly planned and taught by universities and enterprises, through on-field project-work and educational workshops.

One of the key objectives of this study was to **develop a modeling** of these experiences through an inductive bottom-up process and classify them on the basis of a set of variables that also emerged from the experiences we reviewed: main goals pursued by universities and businesses; degree of involvement and commitment required of students; leadership and level of centralization of the process; complexity of management; resources (time, energy, space, etc.) to be invested by universities and companies.

This modeling allowed us to produce **operational recommendations** for company and university representatives, useful to better understand which forms of educational partnerships should be implemented in relation to their specific needs and availability of resources.

Figure 7 shows a proposed comprehensive diagram representing the phenomenon of educational partnerships as part of a wider system of relationships between companies and universities. In particular, the diagram maps the main logical and relational flows, as well as the areas of attention and key factors that the players involved should closely monitor.

Educational partnerships must satisfy an essential **precondition** in order to generate value added and, hopefully, establish themselves and evolve over time: i.e. the **identification of the "right" players** on both fronts. "Right" means interested, open-minded, sufficiently flexible, capable of leadership within their organization, willing to give more of their time than is normally required.

Once the process is started, there are essentially two areas where educational partnerships generate **added value**:

1. on the one hand, **innovation** (creative thinking, alternative solutions, new perspectives, patentable ideas, etc.) which requires a high degree of involvement and commitment by the students, as well as rigorous methodological support by the faculty;
2. on the other hand, **orientation** to the world of work, and "professionalization", i.e. training of high-potential profiles.
To achieve the latter goal, an effective connection needs to be established between the company and the professor, so as to ensure consistency between the partnership experience and the teaching objectives of the course. This is a crucial step to prevent the partnership, which is mostly focused on giving students the opportunity to put into practice what they have learned in theory, from being reduced to a mere practical exercise, unsuitable to produce long-term learning results.
In other words, provided that it is effectively managed and coordinated, an educational partnership between a university and a company can actually help build the conditions for students to learn to transform knowledge into skills, generating value for themselves (in terms of employability) and value for the professional and organizational contexts in which they will operate.

In turn, the effective generation of value in these two areas (innovation and orientation/training of professional profiles) accelerates **placement processes**. Through their involvement in partnership practices, companies have the opportunity to "observe at close range" the students in action, in the classroom or at the company, and to assess their characteristics and employment potential. In this regard, on the university side, the proper functioning of S&P Departments – in terms of efficiency, effectiveness and quality of interaction and connection with businesses – is crucial to ensure that management of the company's requirements is not only formally correct but also timely and satisfactory.

The entry of the university's graduates into employment with partner companies can be a strong incentive to implement new educational partnership initiatives. The **alumni community** is a valuable reservoir of professionals (managers, entrepreneurs, consultants etc.) who certainly deserve to be involved in educational processes, also because of their level of motivation, "generational proximity" to the students, and still recent contacts with their professors.

Finally, the connection between educational partnerships and research activities should also be investigated, for at least two reasons:

1. because some forms of educational partnership (such as workshops, professorships funded by companies, etc.) can, in turn, create **joint on-field research opportunities**;
2. because partnership with businesses in the area of research (spinoffs, applied research agreements, industrial doctorates etc.) inevitably generate **new contents** (besides enriching those already well-established), which can be transferred to students in more properly educational contexts.

In other words, educational partnerships not only contribute to universities' research activities, but can also trigger what could be described as a "**positive circularity**" that links research, education and production system in a sort of continuum, strengthening the joint role of universities and companies in supporting the competitiveness of local systems.

To summarize the core findings of this research study, we could say that educational partnerships are a phenomenon that can influence the interaction dynamics within the heterogeneous "**organizational field**"⁵ made up of universities, businesses, students (and their representatives), families, business associations and professional associations. Even more so if, as all the stakeholders we spoke with confirmed, it is expected to grow in the near future.

This is because, as explained above, the educational partnership takes on the essence and the characteristics of a "**neutral liminal space**" that encourages discussion, exchange, constructive interaction, awareness of the constraints in which the other party moves, and therefore the removal of mutual prejudices.

The more numerous and intense the relationships between the various players, the greater their ability to integrate and cooperate successfully.

In order to be fruitful, this process needs to be ongoing. It is not only a matter of commitment in terms of time and energy required of both universities to businesses, as already mentioned above. Rather, **an additional effort is needed on the part of all those involved** in the process:

- greater empowerment of **students** with respect to their learning and professional training path;
- a further organizational change of **universities** in the direction of greater dynamism and openness to the outside;
- greater medium-term vision on the part of **companies** in terms of quality and skilled human capital requirements;
- more vigorous action by the **teaching staff** in promoting the combination of theory and practice within the learning processes they control.

In other words, the idea is to generate a process of **mutual adaptation** of all those involved in the educational partnership. This adaptation process is already fully in place in contexts where partnerships are a commonly used and effective practice.

While keeping all this in mind, businesses and universities should always be aware of the need to **maintain their respective institutional roles**, in order to ensure the quality and long-term mutual usefulness of the relationship.

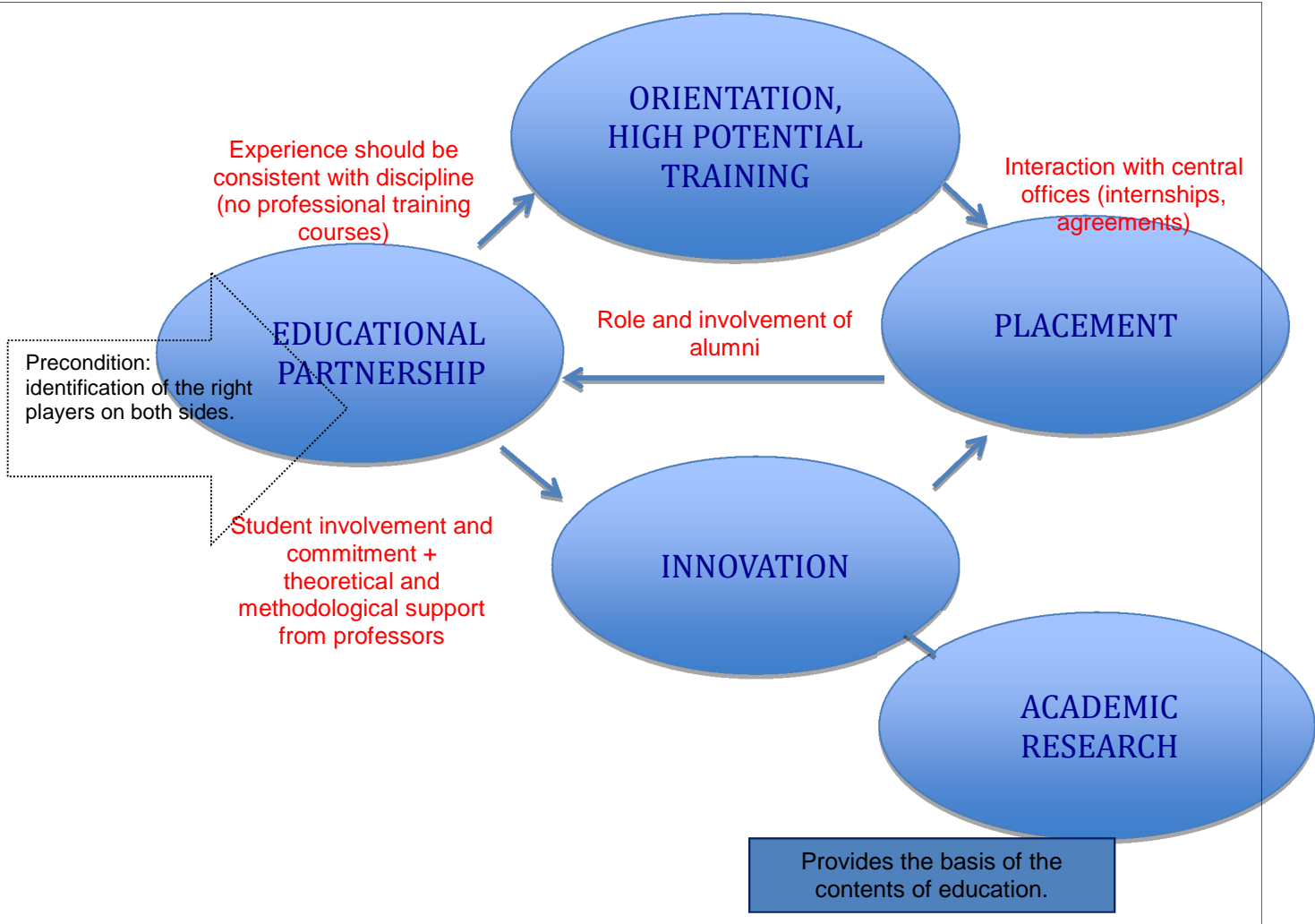
While today a separation between the two worlds can only exist at the cost of self-referentiality, we should avoid the risk of university falling into the "trap" of catering to the short-term needs of the production world through the creation of "disposable" professional profiles, exposed to rapid obsolescence in the labor market.

On the contrary, educational partnership experiences may hopefully be useful to train professionals whose skills are, on the one hand, closer to the requirements of the production world and, on the other, able above all to maintain practical long-term employability in the face of the evolving needs of the labor market.

This should also be in the interest of businesses when planning their human capital requirements for the medium to long-term future.

⁵ An "organizational field" is defined as "a set of organizations that, in the aggregate, constitute a recognized area of institutional life" (P. J. DiMaggio and W. Powell (1983), "The iron cage revisited" institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, 48:147-60).

Figure 7. Educational partnership and university-enterprise relationship: An overview



7. Appendix: Case studies

7.1 Rounds of meetings with companies for Philosophy and Psychology students of the Vita Salute San Raffaele University

For the last two years, Vita-Salute San Raffaele University has offered two workshops involving close cooperation with businesses, both coordinated by Professor Norman La Rocca: "Laboratorio Filosofia Impresa", within the undergraduate degree in Philosophy, and the "Business Sense Lab", as part of the undergraduate degree in Psychology.

These initiatives were launched, thanks to strong support from the Deans, with a twofold purpose. In the first place, to raise the existing educational offering to a higher quality level by opening it up to a "new" world, the world of businesses, encouraging philosophy and psychology students to broaden their horizons to different future employment opportunities and to imagine practical implications of their studies ("they fly high, and it is useful to help them come down to earth"). Secondly, the university thought that involving companies in teaching would be a first step towards expanding the partnership to other areas related to research and the third mission.

The workshops are designed as a series of company presentations revolving around a topic that serves as a common thread for the course year: for example, Corporate Social Responsibility or organizational change. The companies involved have the opportunity to tell their stories and describe their projects on that topic to the students, as well as an interesting chance to exchange opinions with an audience that has an "unconventional" approach and way of thinking. This generates a synergy resulting from mutual discovery: students begin to experience first hand a world unknown to them, with a particular focus on professional developments that were unthinkable until yesterday; companies discover that certain forms of thought (philosophical, for example) can be useful and applicable to their day-to-day organizational problems, such as the central role of rhetoric in the management of change. As the range of stimuli that the various meetings produce is quite diverse, the professor is called upon to perform the essential task of giving unity and coherence both to the company presentations and to the students' learning process.

Since their inception, the workshops have generated with several companies an expansion of the partnership to other fronts: for example, to mention just one, the partnership with Vodafone as part of the company's institutional program aimed at discovering new talents.

The benefits to teaching that come from these partnership experiences are manifold: a wave of concreteness that fascinates students, as demonstrated by a higher attendance than at

traditional lectures, despite the minimum number of credits earned; effective orientation towards the corporate world, essential today for philosophy and psychology graduates; added value for companies, which get to know a "new and unsuspected" reservoir of resources outside their traditional recruitment markets ("in a world that produces economists and engineers, we can use someone with a philosophy background who is trained to think"); improvement of internal coordination between the Placement Department and part of the faculty, called upon to cooperate effectively in the management of the initiative; readjustment of the idea that the business world has about certain degree courses ("I did not think that philosophy could have such close connections with our management challenges," said a manager involved).

By contrast, the biggest stumbling block, especially for a university that has such close links with the hospital and with medicine, was to overcome the initial distrust of enterprises to worlds that are not naturally related; this aspect will still require substantial investments of time and effort to communicate, promote and develop the partnership.

7.2 Business Case Competition at Università Cattolica del Sacro Cuore

DSS Business Case Competition is an initiative promoted and coordinated by Prof. Chiara Frigerio as part of a course entitled "Business Decision Making Information Systems" (advanced), within the framework of the postgraduate degree in Business Management of the Milan Università Cattolica's School of Economics.

The activity, developed in partnership with Accenture – with which the University's Technology, Innovation and Financial Services Research Center has signed a multi-year partnership agreement – stems from the need to give students the opportunity to apply in practice, already during their course of study, the theoretical knowledge learned in the classroom and to achieve a better understanding of the contents of what could be their future profession.

DSS Business Case Competition addresses this need by involving lecture-attending students, divided into small groups, in the development of feasibility plans for the introduction within specific business contexts of information solutions in support of business decisions. More specifically, the activity stemmed, as mentioned above, from a partnership with Accenture, which intervenes at different times and for different purposes. Upon launching the competition, Accenture gives the students a presentation setting out certain guidelines for an effective development of feasibility studies for the design of decision-making information solutions. The students are expected to follow these guidelines and are asked to choose a company with respect to which to develop their proposal. Their group work is followed closely by the professors who, while not interfering with the students' independent work, offer their support up until the time of giving an oral presentation in front of company representatives. The work performed in this initiative accounts for 60% of the final exam grade. The projects are assessed not only on the basis of their contents, but also on the ability to work in teams, to meet deadlines and perform the assigned tasks, and to effectively present and discuss their project.

The selected projects are offered additional visibility when they are presented and discussed again in front of the professors and Accenture, with the latter participating in their assessment.

As already mentioned, the main benefits that students can gain from this experience are undoubtedly the opportunity to enhance their theoretical knowledge by applying it to hands-on practice; to experience teamwork and improve their soft skills; to better understand one of the professions they may choose in the future, and to be introduced to a major company operating in that area. This type of benefits certainly requires a commitment that is far greater than would be expected of them if they were taking the course in the traditional mode, as is the case for non-attending students. The University benefits from these partnerships because they provide the opportunity to enrich its teaching and become the protagonist of initiatives of great interest to the students. For Accenture, the project is an employer branding opportunity, in that it allows the company to introduce itself as a possible future employer for students whom it also helps to train and orient professionally.

In the future, the DSS Business Case Competition experience could evolve into a form of university-enterprise partnership like the one already tested at our faculty through the Business Labs: these are partnership workshops focusing on specific sectors/work areas that are relevant to Business Management students (e.g. consulting, healthcare, luxury and fashion etc.), in which several companies cooperate with professors by giving a select group of students (selected on the basis of grade point average and number of credits earned) the opportunity to make visits to the company and to access internships related to the development of projects to be jointly agreed with the professors. Having a duration of three

years, the partnership guarantees a certain continuity, which optimizes its effectiveness in providing students with significant opportunities for their professional future.

7.3 Communication experts at Università Cattolica del Sacro Cuore

The Labcom (Corporate Communication Research Laboratory) of Università Cattolica del Sacro Cuore has had in place a multi-year partnership with the company Henkel Italy since 2011. Under the partnership, the company has intensely cooperated in the teaching of the courses in Economics and Business Communication Techniques taught by Prof. Rossella Gambetti to students of the undergraduate Business Language Expert degree and the postgraduate degree in International Management (School of Language Sciences and Foreign Literatures), the undergraduate degree in Economics and Business Administration (School of Economics) and the postgraduate degree in Psychology of Organizations and Marketing (School of Psychology).

The start of this partnership dates back to an experience in which, in Academic Year 2011-2012, Language Sciences students of the degrees in Economics and Business Communication Techniques and in International Communication (about 250) worked at a project to develop a web campaign addressed to young people advertising the brand Pril. After being given specific guidelines defined by Henkel, the students supported by the advertising agency Tbwa created and produced YouTube videos featuring the brand Pril, with the aim to get the highest possible number of viewers within a given period of time. The videos were accompanied by a plan for brand promotion on different media. The 10 most viewed videos were subsequently voted by the "general public" of the students of Università Cattolica del Sacro Cuore during a final event held in the Auditorium and presented by two famous TV and radio VJs, with the enthusiastic participation of about 500 people including the academic authorities, the Marketing Department of the Detergents Unit, the Media Manager and the Brand Manager of Henkel Italia, a group of journalists of the Communication and Advertising area and the students.

Since then, Labcom and Henkel Italia have had other partnership experiences in the form of project work. In her courses listed above, Prof. Gambetti has included for lecture-attending students a series of group projects aimed to address real market situations. The projects involved the development of proposed brand communication campaigns accompanied by promotional plans for different Henkel Italia brands of detergents. Played the role of an advertising agency, the students tried their hand at suggesting innovative, effective ideas to promote Henkel products. The rating obtained by the projects was an integral part of the final exam grade. The projects were rated by company brand managers, who devoted time and energies to ensure they would receive real business feedback, precisely because their purpose was to enhance the students' professional skills.

Through this experience, the students had the opportunity not only to see some of the theoretical contents taught in the classroom actually applied, but also to test their personal abilities by immersing themselves in a situation that could become their future profession. This opportunity plays a very important role in orienting them to a profession, which is the specific task of the university. Furthermore, interacting with a large company allows students to become familiar with the assessment criteria typically used in the world of work, which can be very different from those applied in the world of education. On the other hand, the company has a chance to make itself better known among young consumers and to gather new ideas for the development of its products. The professor is responsible for coordinating the activities and to tackle any problems that may arise along the way from the groups of students: in the words of Prof. Gambetti, this effort is rewarded with great satisfaction and the awareness that students are being given the opportunity to turn their knowledge into value generating skills.

7.4 Business Project Work at Libera Università di Lingue e Comunicazione IULM

Within the framework of the undergraduate degree in "Marketing, Consumptions and Communication", an educational partnership tradition has become established in the last few years between Professor Francesco Massara and several partner companies. The underlying idea is to have students work on real-life business cases. Partnerships are now a common practice at some of the characterizing disciplines of the degree course: "Marketing and brand", "In-store marketing", "Retail brand communication."

The idea came to the professor, who uses the case study method in his teaching and was looking for a way to increase the students' motivation and commitment, particularly when exploring and evaluating different options alternative solutions to a management problem. This need merged with the interest of some companies in being involved in teaching for several reasons: employer branding opportunities, early selection of talent, access to innovative ideas for their business. Hence the decision to use real problems brought into the classroom by companies as learning tools. These problems should fulfill three conditions: be challenging for students, have real relevance to the company's business, and be coherently related to the course program.

Among the latest partnerships, an initiative was recently implemented with the distribution chain "Il Gigante", which was interested in redesigning the format of its supermarkets and had already set up an internal work team in this regard. It was agreed, together with the professor, to have the students work on the same project, as they could give feedback as potential customers as well as develop innovative solutions.

The students worked in small groups after being briefed on information that was first shared with the professor and then presented in the classroom by Sales Manager Guido Benassi. In presenting the challenge, the company representative described the company and the competitive system within which it operates. The professor then provided methodological support to the students in setting up the groups' work in subsequent sessions. The students worked at a project for redesigning the format of "Il Gigante 2.0" supermarkets, including naming and payoff. All the groups' entries were presented in the classroom to the professor and the Sales Manager, who reviewed them: the best were brought to the attention of the company's dedicated work team. The students were also rewarded with the possibility of a guided visit to one of the company's stores together with company representatives. The company arranged follow-up sessions to explore the feasibility in real life of the two best projects, involving all the people in the sales chain: Sales Manager, Area Manager, Store Manager and Department Manager.

For the students, this project-work experience on real cases has many positive aspects: it is fun, and therefore arouses their motivation and engagement more than traditional lectures; it allows them to experience reality first-hand and to test their skills doing things; it trains them to work to meet the needs of a "customer/client" and not for a grade.

The company has the opportunity to access innovative ideas, or in any case to submit its proposed solutions for evaluation by an external party before putting them into practice. And let's not forget that an educational partnership provides a setting for the company to draw value from the relationship with the professor, enabling access to high quality knowledge and skills. In this specific case, there was another unexpected result when the Sales Manager became an adjunct professor at one of the University's schools: this further strengthened the business-university educational partnership.

Finally, a point that may be worthy of consideration is the fact that, with the exception of the case mentioned above where Mr. Benassi was very helpful in providing support in the classroom, the implementation of these experiences, while creating benefits to all involved (students, universities and companies) relies solely on the good will of the professor and his/her desire to invest more time and energy than would be required by an ordinary workshop, expecting nothing in exchange but the enthusiasm demonstrated by the students.

7.5 Innovation workshop at the University of Milan

A year ago, the University of Milan and Sodexo started an educational partnership as part of the postgraduate degree in Management of Innovation and Entrepreneurship. This "innovation workshop" is part of the "Innovation and Entrepreneurship" course. The initiative is conducted, on one side, by Prof. Mario Benassi, professor of the course and Dean of the degree program, and on the other side by Massimo Colombo, Marketing Manager of Sodexo.

The idea was sparked by a contact during a public meeting and was later developed and implemented, with a significant investment of time and energy by both the company and the university, as an initiative that could meet both parties' needs: for the former, receiving concrete help in the implementation of its internal innovation process; for the latter, providing students with an opportunity to test on the field the things they learn at lectures.

The workshop required a significant amount of initial "co-planning" for an accurate identification of the objectives, the allocation of tasks among professors and managers, and the subdivision of students' work between lectures and field activities; in particular, timing course activities in sync with business activities took considerable effort. What is special about this experience is that it take place within Sodexo's actual innovation process: once data are collected inside and outside the company, a funnel flow process starts with "gates" for the selection of ideas. At the step that the company calls "pre-prototyping", the students came into play: out of about 120 students attending the course, 24 were selected on the basis of their level of motivation. Divided into small groups, they competed against each other in developing two ideas for innovation presented by the company.

Over a period of about five months, with the methodological support of the professors and managers (with whom they met on a monthly basis and whom they could contact if needed), the students did a considerable amount of field work: interviews with potential customers, quantitative analysis, financial sustainability tests ("the secret was to deal with the theme of innovation paying the same attention to creativity and to the figures," commented Massimo Colombo). The final output was a presentation to the company accompanied by a real business plan. The two winning groups received an award and two students were selected for a curricular internship and in-company dissertation, enabling them to develop and follow up on the experience.

From Sodexo's point of view, it was very important that the educational partnership experience should meet a real and current need of the company and that it should produce a practical contribution, something to show for it ("it was not a theoretical exercise: the students did some real work that otherwise we would have had to do"). Another key factor was the fast pace of the process: group activities, follow-up checks on things done, launch of new steps. It was also an excellent opportunity to get to know talented students. According to the professor, the most important lesson learned by the students was hands-on knowledge of business processes and the acquisition of a consultative work method based on listening, meeting deadlines and high-quality outputs. Having to expose themselves personally in a real-life situation was perhaps the biggest challenge they had to face.

Finally, a crucial role was played by the professor, who as mentioned above is also the Dean of the degree, in facilitating the institution's relationship with the company, which otherwise would have been affected by the cumbersome nature of some internal mechanisms typical of university bureaucracy.

7.6 Cycle of product development workshops at Politecnico di Milano

The Politecnico's postgraduate degree in Design Engineering includes a cycle of product development workshops implemented through a close partnership with a group of companies. Coordinated by Professor Matteo Ingaramo, the workshops are led by a team of professors with different disciplinary expertise ranging from design to material engineering, mechanical engineering and production technology, all functional to the development of the product on which the students work.

The program includes two six-month workshops in the freshman year and a more complex one in the sophomore year. They are therefore designed to extend throughout the entire degree course, enabling students to work on products of growing complexity. In the first year they may work on a simple object, like a staple gun, while in the second the challenge gets harder in terms of product complexity, for example a folding bicycle or a slicer.

As to the genesis of the experience, the decisive element is the Department's permanent network of partner companies, with which it maintains ongoing relationships that often extend to other areas.

It is also a "natural" solution for this type of study course, where the work focuses on learning to do and on meeting the students' need to apply the theories and methods taught during lectures. This perfectly fits the bill of companies seeking qualified help in re-designing their products or developing new design solutions.

The workshop starts with a presentation given by the company at the university, in which students are briefed with regard to the product development problem that needs to be addressed, usually concerning a product to be revised. Students work in groups with the support of the team of professors, using the university's technical laboratories. They also make one or more visits to the company in order to familiarize with the real process: this is where they meet company engineers willing to share their knowledge and experience and to help the students grasp the extent and specific constraints of their design activity. In the second year, sometimes the professors arrange visits to companies not directly involved in the partnership, but that can still help workshop participants to acquire additional functional skills, for example companies operating in the mechanical and plastic industry. The workshop ends with a final presentation at the partner company, including a graphical rendering and/or a polystyrene prototype.

The added value of this experience is evident at several levels: it offers students the opportunity to do a "real job" and, downstream, to gain access to internships and in-company dissertations; it allows professors and company technicians to cooperate on matters of applied research, sharing design methods; it provides companies with innovative ideas that sometimes can be mass produced with an internal investment; in some cases it leads to the production of patents which, in addition to giving the company an actual return, enrich the students' CV; it promotes work across multiple disciplines through the existence of an integrated faculty.

The challenge for the company is to adopt the right approach: they need to operate in sync with the course time frame, which is inevitably different from business work cycles, and to follow the students, who are not experienced professionals and therefore need supervision and guidance. In formal terms, the issue of intellectual property rights on the workshop's product also has to be properly managed through specific agreements between the companies and the university.

7.7 Independent digital content producers at Libera Università di Lingue e Comunicazione IULM

An innovative educational partnership with Radio DeeJay has been launched this year for freshman students of the undergraduate degree in Communication, Media and Advertising, as part of the course entitled "Entertainment in multimedia society". The experience is part of the "Radio Communication Workshop", held by Professor Tiziano Bonini who, along with his academic endeavors, has many years of professional experience in the world of radio.

The idea of a partnership was prompted by discussions with Lorenzo Fabbri, in charge of the digital strategy of the L'Espresso Group, who was seeking qualified partnerships to share know-how and experience in relation to the radio network's digital development plan. After a first year in which the initiative was limited to a seminar during which Radio DeeJay contributed a testimony within the course, it was decided to offer the students a more comprehensive and ambitious program that would characterize the entire course.

The process began with an initial presentation in which the company described its digital strategy and invited the students to produce possible contents for the radio's website. The chosen format was a few minute sound journal series, where students could freely talk about themselves and discuss a theme. In the following weeks, the students were given the use of the university's radio studio with the assistance of an experienced tutor, while the professor, in addition to uploading manuals and support guides onto the community page, helped them during lectures to develop the logic underlying the profession with which they were experimenting. The journals were developed using the open platform Spreaker, by an Italian start-up whose representative explained the application's operation and potential during a course lecture. At the end, the journals were sent via link to the professor and counted for about 30% of the course grade. Jointly with Radio DeeJay, the best journals were then selected and rewarded with publication as podcasts on the radio's website and with the opportunity for the students to spend a day in the studios: another educational and highly motivational moment. The most talented among them were also given opportunities for internships and professional experiences.

In the words of those involved, this experience provides a fruitful convergence of interests and a source of added value for everyone: the students, the institution, the professor and the business partner.

Students have the opportunity not only to acquire professional skills, but also and above all to develop an "authorial and creative dimension", a long-standing wealth of knowledge that is difficult to teach through lectures, as it requires a meaningful hands-on experience. They also learn to deal with the real world of employment and adulthood, where they have to meet deadlines agreed with an external party and to structure a method to do things. They have to prepare themselves for innovative career opportunities (at a crossroads of digital and radio media) in a world that offers very few opportunities for traditional radio jobs (i.e. hosting).

The professor and the university have the opportunity to innovate the teaching methodology, adopting a supple, flexible format that helps to handle even large numbers of students (about 400) and the satisfaction of effectively orienting students and preparing them for a future job by training them as aspiring "independent broadcasters". Last but not

least, they can enjoy free visibility on the digital platform of Radio DeeJay, a medium that interacts with teenagers and young people on a daily basis.

The main benefits to Radio DeeJay are having free contents available on the website, and what is more, contents produced by youngsters who are age peers and share the tastes and sensibilities of their target audience, as well as the possibility to experiment with new formats and new forms of serial narrative in the digital environment. Also, the possibility to select the best talents is not to be overlooked.

In exchange for all these benefits, the professor, and in part the company as well, are required considerable effort in evaluating the journals produced by the students and in coordinating the entire the process.

7.8 ANIMP/IPMA Italy and Project Management course at Politecnico di Milano

In the last few years, Politecnico di Milano, under the coordination of Prof. Augusto di Giulio, and ANIMP/IPMA Italy (National Association of Industrial Plant Engineering/International Project Management Association Italy) have started a partnership to deliver an extra-curricular project management course to obtain the IPMA certification in Project Management – Introductory Level.

Before describing in greater detail the characteristics of this initiative, whose players include, along with the university, an association created with the aim to bring together the business world, professors and scholars who share a professional commitment in the area of design and construction of industrial systems, large projects and infrastructure (<http://animp.it/animp/>), we would like to explain what prompted the need to offer students an opportunity to improve their knowledge and skills in the field of project management. The idea of offering an extra-curricular course on these topics to all engineering students of any degree, from the third year, was initially considered at the Lecco campus. This was not coincidental: the need to fill certain gaps in project management skills is felt especially by students who intend to enter the labor market at the end of their three-year course of study, without going on to a postgraduate program. Because of the local economic structure, which tends to attract graduates who have completed a three-year degree, the Lecco campus has a greater number of these cases.

With this in mind we conceived the idea of offering 5 project management training modules to be delivered jointly with ANIMP/IPMA Italy on Saturday morning, at the end of which attending students are given the option (with access on a voluntary basis) to take the exam for Certification in Project Management – Introductory Level issued by IPMA Italy and certifying knowledge of the basic principles of PM.

The course aroused great interest among the students (not only those enrolled at Lecco), and was soon extended to the Milan campus.

The main benefits that students can gain from an initiative resulting from the interaction between theory and practice, which is at the heart of the mission of ANIMP (National Association of Industrial Engineering), are undoubtedly the improved skills they can achieve through the program, and above all the fact that those skills will be certified. As mentioned above, a training experience with an internationally recognized professional network is also a plus, not only when entering the labour market, but also in view of the entire career path. In turn, the University expands its offering, becoming a vehicle for important opportunities for students and strengthening its ties with associations like ANIMP that facilitate encounters with the business world.

The fact that the program is held outside traditional undergraduate and postgraduate degree courses requires additional coordination efforts, especially on the part of professors who often have to take on themselves (without any internal support) the students' needs or requirement. However, as reported by Prof. di Giulio, over the years the course has become increasingly well-established, with students demonstrating growing interest in attending it.

7.9 EYF Talent Lab at the University of Milan Bicocca

The Empower Your Future Talent Lab initiative was born from a partnership between Bicocca University – in particular under the coordination of Prof. Alessandro Capocchi – and Ernst & Young (EY). The extra-curricular program, focusing on auditing, is open to 20 second-year students of any of the university's postgraduate Economics or Law degrees.

The idea of offering this additional, highly specialized training opportunity, resulting from the on-field experience of EY professionals, came from the company. They represented to the University their need and desire to contribute to the training of those who could become their future workforce.

The Empower Your Future Talent Lab initiative takes the form of an extra-curricular training course subdivided into eleven sessions (held on Saturday morning), in which senior and junior EY professionals lecture on topics that are relevant to the auditor's profession. Therefore, although the program was conceived and designed by EY in collaboration with Prof. Capocchi, the teaching is carried out by the company's professionals. In this way, the participating students can have access to very specific knowledge right from the experience of those who apply it to their work every day. EYF Talent Lab is open to students enrolled in the first semester of the second year of postgraduate degrees in Tourism Economics, Economics and Finance, Marketing and Global Markets, Economic Sciences, Economic & Business Sciences, Statistic and Economic Sciences, Service Management and Law. Students who apply for participation are selected by the university, on the basis of their academic background and career, for a further interview with the company. At the end of the eleven sessions, the students take an assessment test (reviewed jointly by the professor and the company) and receive a Certificate of Attendance. The best performing students, as well as those who have impressed the company during the selection process, may have the opportunity to start an internship at EY, often aimed at recruitment. In this way, the training programs leads naturally, as it were, to first access to the labor market.

For companies, this type of program can be advantageous in several ways: first of all, it is an important employer branding initiative, through which they can make themselves known to profiles they do not usually recruit from (as mentioned above, the course is addressed to students of a diverse range of postgraduate degrees). Additionally, the company plays an important role in professional orientation by delivering very practical knowledge through its professionals in the classroom. Such direct contact with students makes it easier to identify the best candidates and those who could be genuinely interested investing their energies in EY. Last but certainly not least, the possibility to act as professors proved to be an important source of motivation and positive energy for company personnel involved in the initiative. These benefits arising to companies are reflected by corresponding benefits to students: acquisition of new skills, continuous contact with company professionals, opportunity to get noticed by a potential employer and to network with students from different backgrounds.

By promoting this type of initiatives, the university translates its contacts with the world of work into something concrete, welcoming contributions from the companies that will ultimately employ their students as an enrichment to their educational offering.

7.10 Saipem International Chair at Politecnico di Milano

Under an agreement recently signed between Politecnico di Milano and Saipem, the company will fund a postgraduate professorship for a three-year period starting from Academic Year 2014-2015. The endowment will be assigned every year to a professor of international renown in the field of energy and plant engineering.

This form of university-enterprise partnership is certainly innovative and suggests important reflections on the increasingly significant role played by businesses in the advanced training of Milan university students. Not coincidentally, is the result of a long-lasting relationship between two players whose partnership, both in teaching and in research activities, has been ongoing for years. Saipem's contribution is not limited to financing – though essential to attract international professionals of such high standing – but also extends to the joint choice of the main areas on which the beneficiary of the professorship should focus in their teaching and research activities. When the new member joining the faculty is an internationally renowned expert in energy and plant engineering who works in close contact not only with the Politecnico faculty, but also with the company, this translates into new forms and new contents of the educational offering, with students' training increasingly in step with the new industrial challenges. Students working with a foreign professor are exposed to teaching and assessment methods that can be very different from those to which they are accustomed; this stimulates their interest and curiosity and opens their minds to new forms of learning.

The experience offers many potential benefits to all those involved. In addition to the above-mentioned benefits for students, it is worth emphasizing the updated knowledge made available to them. A professor who is an internationally recognized expert and is in constant contact with the company brings updated contents to the classroom and opens windows onto topics that are relevant to the companies that could be the students' future employer. The innovations introduced by the professor, particularly in terms of teaching methods, contents and exam procedures, require students to adjust for a period that must necessarily be short: this helps them get used to sudden changes of conditions, a circumstance that will characterize the work environment in which they will operate in the future. Additionally, on the one hand the institution, and particularly the faculty working more closely with the international lecturer, benefits from this wave of innovation both in terms of research and of teaching. On the other hand, the company has a greater possibility to influence the direction to be followed by the training of its future work force, as well as research activities. Moreover, the knowledge and experience brought by the appointed professor would hardly have been available to the company without the partnership with the university as a venue for the parties to meet, develop projects and share ideas.

No doubt the world of university and that of business move in different environments and with different approaches, requiring significant alignment efforts when implementing initiatives like Saipem International Chair. However, the results are evident and fully justify the investments made in financial as well as human resources involved in activities over and above the standard ones.

7.11 ULISSE work-study alternation program at the University of Milan

Starting in Academic Year 2015/2016, the University of Milan in close collaboration with Assolombarda, has promoted the conduct of an experimental study-work alternation program within the framework of the undergraduate degree in Computer Science. The project aims to facilitate early familiarization of computer science students with work in structured business environments.

The initiative stemmed from a dual need: for the university, the need to retain students who often find jobs before the end of their studies – but not jobs as qualified and with such strong companies as those they could aspire to after completing their degrees; for businesses, the increasing demand for highly qualified professional profiles to cover positions in the ICT area. Assolombarda plays a key role bridging the gap between the two worlds, enabling them to meet each other's needs and build a common path leading to the achievement of their respective goals.

What is the experimental program about? The three-year undergraduate degree in Computer Science offered by the University of Milan is redesigned to allow interested students to receive education and hands-on training simultaneously through direct experiences in companies. In particular the program includes, in the second year, a ninety-day project at a company, to be agreed and led by a professor who initially also determines the contents with the company; general supervision is provided by Assolombarda. In the third year, the students have the opportunity to join the company through a high-level apprenticeship that includes the preparation of their dissertation (related to the themes of the work they are carrying out). The students who apply for this course are selected firstly by the professor and the university's Center for Study and Professional Orientation based on their background and credits earned. Subsequently, the pre-selected applications are sent to the company for a further interview.

The project is undoubtedly innovative and complex because of the very high level of integration between the world of tertiary education and that of business: we are not talking about contextualized meeting opportunities, but of rethinking a fairly large part of the three-year course in close cooperation. The main advantage for the students is the opportunity to gain experience working in large companies within highly qualified projects, enhancing not only their skills, but also their CV and putting into practice the theoretical knowledge learned. Also, this kind of experience made while still studying may help improve their chances when first entering the labor market. As to businesses, these initiatives can help train their future workforce, also through direct contact with the company's internal processes, culture and distinctive characteristics. This approach results in more "targeted" and successful recruitment and selection processes. For its part, the University has a greater chance to retain students and expand its educational offering. On the other side of the coin of such a wide range of possible benefits there are undoubtedly some issues arising from the same elements of innovation and complexity discussed above as positive aspects. A project like the one described requires a huge coordination effort for its launch and its management, as each of the many parties involved has different needs and operating processes. At the heart of the initiative, the students are not yet used to intensive work-study integration and may react with justified concerns of not being able to complete their degree on time and successfully. However, and more importantly, for the students this project can provide a great opportunity for faster entry into the labor market in world-class companies, supported by high-quality education that opens the way to long-term professional development.

7.12 Professionalizing program of the Degree in Chemical Sciences and Technologies at the University of Milan Bicocca

The University of Milan Bicocca's undergraduate degree in Chemical Sciences and Technologies offers the option between two programs, one of which is the "professionalizing" program. What does this mean? It means that the students, once they complete the second course year, can choose to go on to a more traditional third year in which they are provided all the necessary skills to continue their education with a postgraduate degree, or to a professionalizing third year that will prepare them for entry into the labor market.

The idea of offering a dual opportunity to Chemical Sciences and Technologies students stems from the desire to strengthen the skills of undergraduate degree holders by making those skills more "ready" to meet the needs of businesses. From the idea to its implementation (which has remained virtually unique in the Milan area), the partnership of Università Bicocca with Assolombarda and Federchimica plays a very important role. The associations act as a bridge between the institution and faculty members on one side and, on the other, companies wishing to play a leading role in education. Under the professionalizing program, third year students take several courses agreed with the partner companies and taught by company professionals. In this way, not only the course contents reflect what, from the company's perspective, the students should learn in order to be ready to enter the world of work, but are also strongly influenced by the practical experience of someone who, at the company, puts them into practice every day. The possibility is also being considered, and may be implemented from Academic Year 2017/18, to hold the courses taught by company representatives at the partner companies and not only in classrooms, as part of university-enterprise dual programs. All the professors provided by companies are executives in high responsibility positions. At the end of the professionalizing program, the students take an internship, related to their dissertation, at a local company, based on the student's participation in a project in which the company is currently engaged.

The benefits for the students who choose this program are primarily the possibility to give their education very specific characteristics, especially by acquiring across-the-board skills that are essential in the world of work. The professionalizing program helps students who intend to end their studies with an undergraduate degree to combine the knowledge of scientific methods and contents with the acquisition of the professional skills that companies feel are most important. Moreover, direct contact with professors coming from a business background opens a window on the world of professions to which the students could have access, helping to guide their future choices. For their part, companies who enter university classrooms and welcome students into their offices have a better chance to influence their education, making it closer to their own professional needs, to make themselves known as employers and to identify the most interesting profiles.

By offering this type of program, the university enriches its educational offering and improves placement opportunities for its students. However, this benefit can be offset by the effects of the economic crisis which, by reducing the chances of young people at their first employment, also reduces the program's attractiveness in the eyes of the students. For this reason, the crisis threatens to undermine not so much the value of the program itself in training professionals ready for employment, as rather the likelihood that, once the training is accomplished, opportunities for employment actually exist.

7.13 The "new" postgraduate degrees of the Bocconi University

In the last few years, the two postgraduate degrees in Management and Marketing Management offered by Università Commerciale Luigi Bocconi have undergone a thorough and systematic innovation process, with special attention paid to teaching methods. As reported by the two Directors, Prof. Lojacono and Prof. Borghini, efforts were made to make the involvement of businesses in education even more pervasive and effective. The two degrees were entirely conceived and designed on the basis of partnerships with companies, which, as the interviewees point out, is in the university's DNA.

The choice to focus on the graduate level has been due to the fact that this is when students start to develop analysis skills, content knowledge and personal maturity suitable for the challenges posed by an educational model strongly based on the presence of businesses. After cutting their teeth on undergraduate courses, the students are ready for a higher level. In parallel, the level of intensity of their interaction with real-world business problems grows steadily, with a wide variety of opportunities in the two postgraduate years.

Presentations by managers and entrepreneurs and business case studies, often involving the presence of company representatives in the classroom to compare the solutions proposed by students against those actually implemented, are but a small part of what the program offers. In this regard, an important aspect is coordination with research activities at the partner companies, in order to maintain an updated portfolio of case studies to be reviewed. In project work, the students divided into groups are briefed by company representatives and then work projects focusing on real problems that the partner companies are currently dealing with (for example, entry into a new market); at the end of the project, the students give a presentation to the company managers, who give feedback on the quality of the work done. This approach is very stimulating to students and motivates them to work as a team even outside course hours.

In the postgraduate degree in "Management", a significant investment is made on soft skills. These are developed through a boot-camp which, on the basis of personal abilities and teamwork, focuses on how to create effective presentations: the students receive immediate feedback during the "Advanced Marketing" course where they present their market surveys to company managers; through seminars on personal abilities conducted in cooperation with company recruiters; and through an assessment experience jointly led by a university professor and a business manager.

In the postgraduate degree in "Marketing management", because of the type of subject matter it deals with, partnerships with businesses are also carried out through the systematic participation by students in national and international contests launched by large companies: the University encourages and supports the involvement of groups of students as a means to improve the quality of their learning.

In both degree courses, there has been a progressive opening to international experiences; this is particularly true of educational partnerships, as the corporate structures of many companies, which are the natural interface in the relationship, are increasingly located abroad.

The main consideration of the two Directors is that educational partnerships, in their various forms, are increasingly becoming an essential and distinctive element of high-quality education. In particular, the choice of a systematic and ongoing approach helps create a habit to combine theory and practice and to prepare for the world of work; it also has positive effects on students' motivation by providing a variety of stimuli. Of course, it also forces them to manage the stress caused by being thrown into the pool without being sure they can swim.

At the same time, a high level of commitment is required in terms of contact, planning and coordination activities with business partners and with the teaching staff.

Another important element for professors is the opportunity to get feedback on the actual effectiveness of the program offered, so as to redesign it if necessary. As for the companies, the benefits are quite clear: employer branding, possibility to identify young talent, innovative ideas produced by students and exchange opportunities with a highly qualified teaching staff.

7.14 Enterprise/university-research-education: a virtuous cycle at the University of Pavia

Research is an important ground for cooperation between universities and companies: a ground that often produces major joint projects capable of generating value in terms of innovation, employment and reputation for the benefit of the entire local economic system within which the university and the company operate. More rarely, cooperation in research activities also effectively influences teaching activities, creating a virtuous circle in which the university and the enterprise make a joint effort to achieve continuous innovation; the latter becomes the content of the education offered to students, who then enter the labour market and increase the economic system's competitiveness.

Two experiences made at the University of Pavia seem to exemplify the establishment of this virtuous circle that sees universities and businesses launching partnerships in the sphere of research, which then flow into the contents and forms of education. Specifically, the experiences concern Neuheart srl, a spinoff of the Department of Applied Experimental Pharmacology created with the aim to develop new active ingredients for cardiovascular diseases, and the microelectronics laboratory resulting from a partnership with STMicroelectronics and dedicated to research on analog/digital interfaces, in particular in the field of communications.

The former experience (more recent) currently involves three researchers, in addition to professor Vanoli and professor Govoni who are the initiators of this program, while the latter one involves, under the scientific direction of professor Svelto, four full professors, an associate professor, two researchers, seven doctoral students, five thesis students and a group of STMicroelectronics employees attending the laboratory. In both cases, the research activities carried out are strongly focused on producing innovation that is not confined to the closed circuit of universities but can be introduced on the market. Also, in both cases these experiences become a source of constant updating and diversification of research and teaching areas, not only for those who are directly involved in these activities but also for the departments concerned and the university as a whole. How do these experiences influence teaching? As already mentioned, this occurs through an almost natural transfer process that takes place via the people simultaneously engaged in research and in teaching, who therefore take the results of their work into the classroom: innovative, leading-edge knowledge made available to undergraduate and postgraduate degree students. Those among them who demonstrate the willingness and ability to continue research work on these topics will have the opportunity to dedicate their thesis to these experiences. This is an important opportunity, both for the students who decide to undertake one of the professional paths available in the near future, and for the university-enterprise laboratory that can see them operate before deciding whether to continue the partnership.

The will to keep this virtuous circle going should not be taken for granted. While it sounds like the most natural thing that could happen, the ability to maintain an open dialogue between two worlds that (due among other things to reasons of formal organization of academic activities) often follow parallel paths is not so straightforward. The experiences made at the University of Pavia are the result of this specific will and make it concrete throughout the process, improving their visibility.