

# **The Contribution of the Practice Enterprise to Didactic Innovation in Economics and Management Courses: A Case Study**

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*Abstract.* There is a long-standing academic debate about the need to introduce innovative teaching models in Advanced Learning with a view to encouraging students' proactivity to meet the requirements set in this regard by training institutions, recommendations from the European Union and trade associations. It has been mentioned on several occasions that teaching should be student-oriented, to develop skills such as critical knowledge, problem-solving, the ability to make decisions, teamwork, independence and responsibility. Achieving these soft skills is paramount in Business Schools with an economics-management curriculum, because the latter are considered essential to facilitate access to employment in a continuously evolving and extremely unpredictable business scenario. A substantial contribution in this regard is provided by developing teaching models based on active learning, whereby a virtual approach seems to be most innovative and effective because it is based on learning by doing and proactivity. In this respect, business simulation - also known at international level as Practice Enterprise (PE) – is being used in several universities. The goal here is to combine education and practice, broadening students' knowledge through a direct application of theory, within an experimental setting that reproduces the foundations and structure of a real-world enterprise.

*Keywords:* management, accounting education, practice enterprise

## **1 Introduction**

The times we are living in are full of unprecedented transformations, changes, and complexities. The international context experienced from 2020 onwards, with the pandemic crisis and the outbreak of conflicts within Europe and the Middle East, has produced important consequences on the global economic level, redefining globalization itself and the presence of companies in the markets. At the same time, technological development has not stopped advancing, with Artificial Intelligence (AI) as the undisputed new frontier of profound changes that are already underway. In 2019, it was still stated that “The 85% of the jobs of the future have not yet been invented and almost 50% of the open positions in the last 5 years did not exist in the previous five” (Favini, 2018). Today, the question is which of the current occupations will be replaced by AI performance. All this raises questions for institutions regarding what training to impart amid these unprecedented transformations in knowledge and the economic world. In other words, it is a question of understanding whether the transmission of knowledge, as historically imposed in training systems and academic classrooms, particularly with teaching-oriented lessons and a substantially passive role for the student, should change or be accompanied by methodologies capable of promoting learning and knowledge that are up to the new and changing challenges of the present time.

## **2 Active learning**

One of the major requests coming from numerous authors, from European institutions, and, as far as Italy is concerned, also from the General Guidelines of the Ministry of University and Research, is to promote teaching methods inspired by active learning in the courses of study on Economics and Management. The purpose is to combine traditional teaching with innovative methodologies in which the centrality of the student emerges and to promote the achievement of fundamental skills, useful both in the continuation of studies and for access to the job market (Prince, 2004). A review of the relationship

between lecturer and student is seen from the perspective of establishing a proactive role on the part of learners within their own learning process (Pais, 2024). The objective is to co-design individual training pathways, to train people who are able not merely to fit more easily “within the processes that are formed on the workplace, but also to design and govern them”.

This is the current challenge. What can be offered by Advanced Learning that is new and different at now that creative AI is gaining ground, in a world where new technologies rule thanks to their ability to provide knowledge at any time? This is one of the major challenges for Universities; it should encourage them to try new routes about training strategies, most notably in respect of processing knowledge. The goal here is to co-generate knowledge (Bruno, 2024) under the supervision of lecturers who thus move on from the traditional role that they have covered so far: their task thus involves more than passing on knowledge, because they are expected to facilitate the acquisition and production of knowledge by the students themselves.

In the subject area of business administration this can be done in experimental environments, where the contents learned can be verified and generate new knowledge in their turn. For this purpose, it is important not to confuse workshop activities, aimed at using software to study its use as part of corporate and study processes, with the need to make available environments suitable for experimenting with the main phases of enterprise management. The idea is to establish new training spaces where a student can become familiar with the knowledge of individual aspects and – at the same time – get an overview of corporate management, by considering and following all the interrelations between the departments that make up the structure of an enterprise. This pivotal component in terms of learning can be summed up in three points:

- the compartmentalization of economic-management disciplines is resolved by allowing each student to make the best possible use of knowledge about several subject areas as part of the business process.
- theoretical knowledge is set against its concrete applications, giving students the necessary feedback to measure the competences they have achieved, as well as to acquire additional knowledge, specifically through the observation of the situations with which they have been experimenting.
- the student becomes a key player in the knowledge co-generation process through ICT tools that allow for developing operational conditions and broader, more complex, theoretical assumptions.

To achieve these goals, it is necessary to introduce new teaching methods where knowledge is enabled and each student becomes the key player throughout the learning process. Among active learning methods (case study, role playing games, problem-based learning...) the most comprehensive and widely used are certainly those based on a simulation approach (Gualdi, 2017). This means creating an experimental environment where the student is required to make corporate choices in respect of specific objectives to be achieved.

### **3 Simulation in training processes**

In master's degree programs and university courses, simulation techniques for learning business strategies have been experimented with for some time (Borgese, 2011). This includes business games, where students are asked to evaluate alternative scenarios to achieve planned results. Another approach is the didactic methodology of business simulation. In this case, a company's layout is reproduced in a laboratory, organized into corporate management functions in which the students participate to carry out the main phases of its activity. The goal is to manage a virtual company as if it were real, adhering to operating methods, legal deadlines, and formal and informal relationships. Compared to Business Games, the Enterprise Practice simulation methodology shares the proactive role of students in learning and making managerial decisions, but it differs in the scope of the project. It aims to familiarize students with all aspects of company management according to the learning-by-doing approach, i.e., learning about the company by actively engaging in its operations.

## 4 The Practice Enterprise

Practice Enterprise (PE) constitute a teaching method which reproduces the actual way of operating of a company regarding its organization, environment, relationships and objectives. PE includes all major corporate departments - such as purchasing, human resources, marketing, finance - where each of the students fulfils a specific task, with a high degree of approximation to the real world.

In the laboratory dedicated to PE, students are called to carry out all the management operations of a real company, complying with all legal formalities, mandatory tax and accounting deadlines, using documents, management programs, and communication procedures commonly employed. All of this occurs with the indispensable support of ICT. The accounting information system is the nerve centre where management operations are recorded to obtain documents such as accounting statements, the financial statement, and the data necessary for business control and planning.

The main business functions in which PE is organized are:

1. **Administrative:** This is further divided into offices such as accounting, treasury and finance, and management control.
2. **Personnel:** This function is responsible for the administration and management of human resources.
3. **Commercial:** This is subdivided into domestic and foreign trade. This organizational function is tasked with facilitating virtual purchases and sales with simulated companies from its own country and others belonging to the global network Pen World Wide.
4. **Marketing:** This is divided into offices that handle the company's promotional activities, communication with third parties using digital marketing, and research and development.

Each student is required to carry out the typical tasks of the organizational unit in which they are placed, exercising critical knowledge and the ability to view the company as a system in which all areas contribute to achieving results. The learning process for each student is closely tied to that of their colleagues, involving continuous information exchange to resolve problems and make decisions (Gualdi, 2017). This methodology clearly promotes fundamental skills such as cooperative learning, teamwork, problem-solving, decision-making, critical thinking, as well as encouraging a communicative approach. These are the Learning Outcomes for Professional Skills recommended by the IES (International Education Standard) in the guidelines for the training of accountants. These are defined as “future-proof skills” (Favini, 2018) because they are not subject to obsolescence; instead, their value increases as they become essential for operating in increasingly dynamic and innovative environments. In its typical organization, the simulated enterprise includes business functions such as Marketing, Accounting, Management Control, Treasury and Finance, Human Resources Management, and National and International Trade. Each of these areas allows students to directly apply the knowledge acquired in their respective disciplines, which will be usefully employed to conduct business through the virtual exchange of goods and/or services with other simulated companies in their network. Among the most well-known and significant international networks is PEN-Worldwide, which associates over 7,500 Practice Enterprises.

In business simulation, the times and methods of learning change. It is assumed that the “push” model, based on learning and subsequent application of skills, is no longer adequate. Instead, a training method is needed in which the search for knowledge is driven by the problems to be solved, with the help of new digital technologies and a learning methodology that extensively uses the web, particularly collaborative platforms for skill dissemination and sharing (Gualdi, 2017).

This is known as networked learning, i.e., non-standardized learning, which evolves with the continuous interactions that occur within the network ecosystem, generating exchanges and new knowledge available to participants. In this context, the role of the teacher is redefined as a learning facilitator, guiding training in a more individualized relationship with the learner, helping them understand and learn from mistakes made in the business decision-making environment. Mistakes are considered positive, as they are inevitable in an experimental context and can be transformed into learning opportunities.

In the previous section several examples have been mentioned to prove that an experimental environment allows students to learn in a more effective way compared to traditional lecturing, because by experiencing the cause-effect relationship of knowledge applications, students are better able to understand complex situations and settings. The practice enterprise is a training environment where these relationships can be developed because:

- continuously evolving situations are presented, because of the ongoing flow of information and documents that company management can provide. All this raises questions and confronts students about issues that keep changing and will need to be addressed making use of the knowledge acquired, as well as of the experience accrued and of the teacher's support.
- the experiments with knowledge take place in a risk-free setting. The virtual enterprise is a protected environment where students can make choices and decisions, possibly incurring in mistakes that are regarded as "formative". In this way they learn to understand their limitations, to assess their abilities, to live any failure as a part of the training experience and continuous source of learning inputs. A proactive approach, teamwork, exchange of views, dialogue and the ability to make decisions are essential requirements in a practice enterprise. Teamwork enables students to understand the relationship among group members, just as in real life, with all the resulting potential but also the ensuing criticalities. A far greater amount of energy is released among students in a virtual enterprise than during frontal lectures or in the case discussions mentioned earlier.
- the practice enterprise method is flexible and suitable for the formative objectives, for the context within which it is presented, suggesting situations that can be complex in respect of the competences and skills that are expected to be acquired during the training schedule.
- in a virtual enterprise the student has the chance to get quicker feedback in respect of the decisions taken and to immediately measure the progress made regarding the learning process.

A practice enterprise makes it possible to redefine the concept of knowledge: the latter is no longer linear, clearly defined and hierarchically structured, but rather continuously evolving and restyled. To create a learning environment of this kind it is essential to underscore the construction of a knowledge base, not merely its reproduction. This results in learning environments that are based on real life, on case studies, as opposed to predetermined teaching sequences; the proactive construction of knowledge is encouraged through cooperation with others (Jonassen, 1994). Moreover, it is worth mentioning that the practice enterprise is characterised by distinctive elements that facilitate the acquisition of knowledge (Gualdi, 2017), more specifically:

- repetitive actions: the students appear to be able to better retain the knowledge and skills acquired through the repetition of work procedures, which also makes them more secure and independent in terms of decision-making.
- an interactive learning process: knowledge, skills and competences are formed through a continuous exchange of information and assessment with the lecturer and students in the practice enterprise. Furthermore, the resources of interactive learning are harnessed by external experts and by students from other practice enterprises with which an exchange relationship is established by means of online communication. All the above confirms that multiple sources of learning are involved as part of a virtual enterprise.
- teamwork: working together with other people forces each student to establish a cooperation relationship that can have a positive impact on the learning process, if properly managed. For teamwork to be effective in respect of achieving the set objectives, the prerequisites are a solid organization structure and work procedures, being willing to listen, as well as a leadership able to coordinate and synthesize the various options suggested by group members. These are all traits of the practice enterprise, given that students do not work on their own because they are continuously confronted with decisions that need to be made with other students from their office or from other departments within the company, with a view to coordinating work to achieve the planned objectives.
- a tailored learning pathway: the substantial difference compared to traditional teaching in a classroom is a result of the close relationship established between teacher and learner in a virtual setting.

The former is expected to pass on in a direct way the information, concepts, knowledge that are necessary for their job description. The lecturer also needs to continuously assess the student's work, reporting any errors made and pointing out correct work procedures, as well as being there to offer support if any criticalities should arise.

- student turnaround: each student is expected to cover a position within the company, performing the tasks involved in the relevant job description, to which they need to adhere until the required objectives have been achieved. Once this has been done, other positions will be covered, taking it in turns with students from other company departments or offices. In this way the student develops an overall view of the company with multi-faceted skills, as well as harnessing – always within the limits of a virtual activity – abilities and positive approaches in the areas where they are most successful.

## **5 Digital technologies and accounting education**

It is precisely the web, with its infinite applications and the vast amount of data and information it makes available, that drives innovation within the methodology of business simulation.

An acceleration of this innovation occurred during the COVID-19 pandemic, with the increased use of communication platforms for distance learning and cloud software for sharing data and information without barriers (Hernandez-Lara & Gualdi, 2021). Some universities have experimented with creating virtual laboratories for simulated companies, i.e., non-physical spaces where all business management activities can be transferred (Gualdi, 2022). This approach has addressed the problem of partial or total inaccessibility to university premises and simultaneously expanded the number of participants, as the capacity for platform connections is considerably higher than that of physical classrooms or laboratories. The full use of digital technologies offers significant opportunities for carrying out required tasks (Veneziani, 2012). In addition to completely dematerializing the processes involved in managing the Practice Enterprise, the use of the web and management software enables the sharing of all information with three main objectives:

1. Verify in real time the performance of operations from all economic, financial, and equity perspectives.
2. Facilitate students' unified vision of business management and the interdependence between the different organizational roles they occupy.
3. Promote a system of self-checking and continuous verification of the work done.

These objectives require the establishment of a company's information system, with the accounting system as the central pivot around which the company's administrative management activities are carried out. From this perspective, we can identify the most affected areas:

- General accounting and financial statements
- Human Resources Administration
- Treasury management
- Digital marketing
- Administrative management of sales and purchases
- Planning and management control
- Auditing

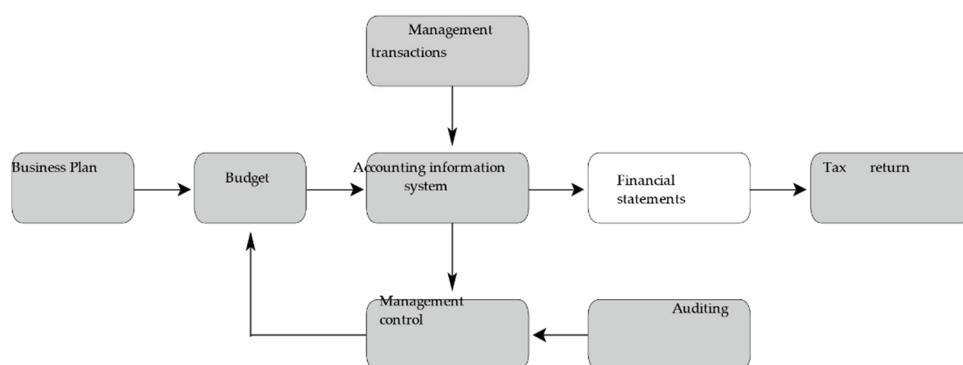
In each phase, students must identify relevant accounting documents, record them accurately in the accounts, settle finances by deadlines, and fulfil legal obligations. Additionally, they must produce documents related to sales, purchases, process periodic salaries along with legal obligations, prepare operational budgets, and analyse variances based on periodical accounting balances. Auditing periodically verifies management using available information.

The company's information system, thus structured, requires students to take responsibility for data entry and processing, researching congruities and correlations, promoting problem-solving focused learning.

Collaboration and teamwork are fundamental aspects of the training and verification process in business management.

Figure 1. Overview of the process of accounting

## The process of accounting



This stage is crucial for evaluating both the simulated enterprise's results and individual student achievements. Verification should not be postponed until the course's end but should coincide with business simulation operations. The computerized structure of the simulated company encourages self-checking and provides essential information for subsequent evaluations.

### 6 Planning, monitoring and evaluation

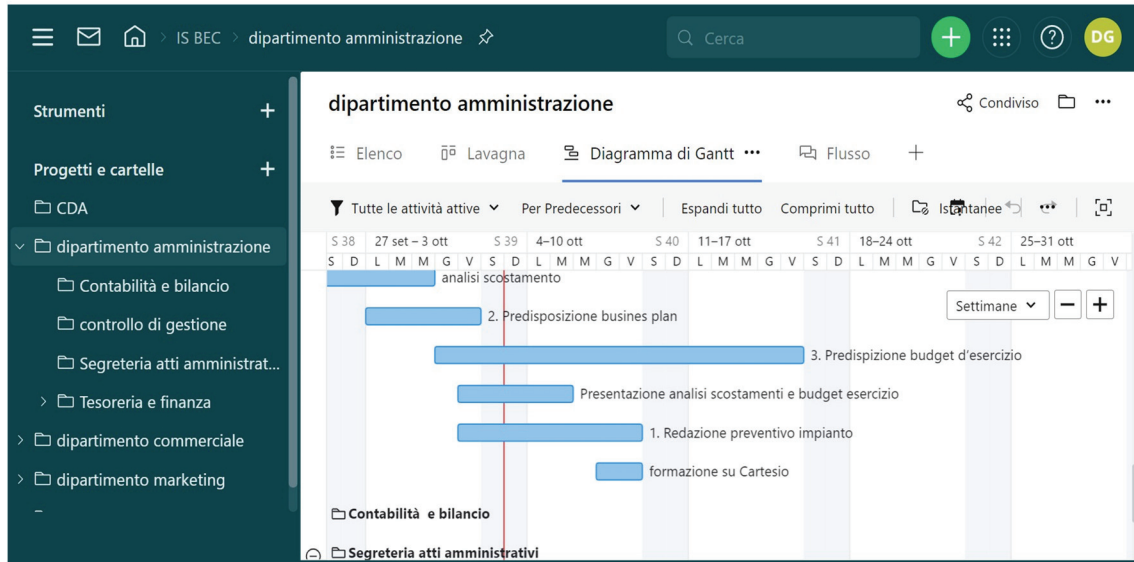
Essential for this purpose is the provision of work tools, i.e. dedicated software, capable of:

- Planning the activity assigning tasks to each student, establishing timelines for performance, and verifying completed tasks.
- Utilizing economic and financial planning tools is essential, not just annually but also monthly, to analyze changes compared to formulated forecasts.
- Conducting regular checks on the performance of each organizational unit within the simulated company is necessary.

The planning of each student's activities is based on a work plan developed for each simulation session, identifying tasks to be completed on schedule (Fig.1) . This information is electronically communicated to each student, accompanied by a Gantt chart to track progress over time and ensure compliance with established timelines. Each student must provide feedback on task status and a final report upon completion, allowing for assessment of effectiveness and efficiency, ultimately aiding in the formulation of the teacher's evaluation criteria.

Figure 2. Planning monitoring and evaluation

## Planning, monitoring and evaluation



The planning and control activities include the development of a business plan and operational budget (Fig.2-3). Economic and financial objectives are defined, requiring each organizational unit to operate within budgetary limits and be accountable for any deviations. Variance analysis compares actual data from periodic general ledger accounting with budgeted figures, revealing conditions for achieving objectives and guiding decision-making. This collaborative process fosters the development of skills such as problem-solving, decision-making, and teamwork as students discuss and choose sustainable solutions to achieve company goals.

Figure 3. Budgetary Control

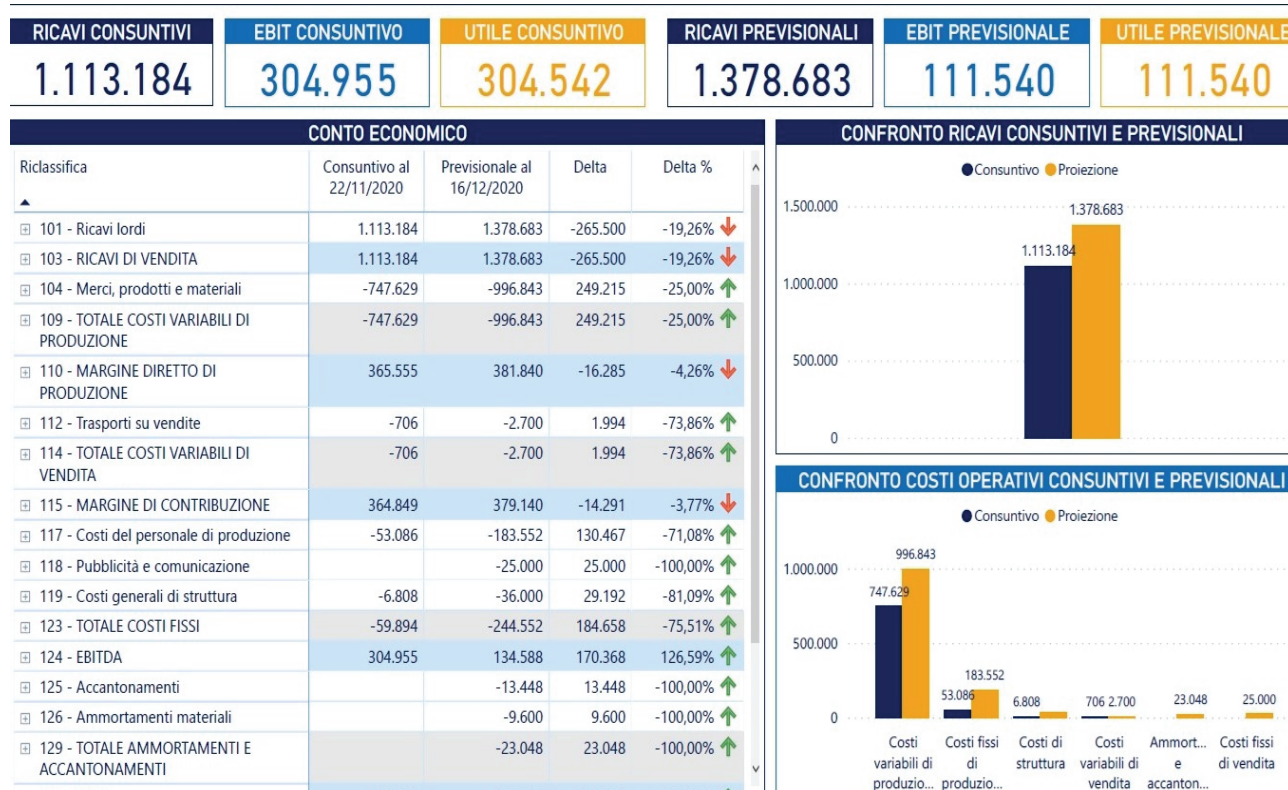


Figure 4. Performance Practice Enterprise

## Performance

|                                                                                                                            |                                        |                                        |                                          |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------|------------------------------------------|
| <b>1. R.O.S.</b><br><i>Redditività monetaria dell'azienda</i>                                                              | <b>ROS 22/11/2020</b><br><b>27,39%</b> | <b>ROS 16/12/2020</b><br><b>8,97%</b>  | <b>ROS PREVISIONALE</b><br><b>9,76%</b>  |
| <b>2. FATTURATO DI PAREGGIO</b><br><i>Limite minimo di Ricavi per la copertura dei costi fissi operativi</i>               | <b>FP 22/11/2020</b><br><b>182.741</b> | <b>FP 16/12/2020</b><br><b>845.930</b> | <b>FP PREVISIONALE</b><br><b>889.277</b> |
| <b>3. LEVA OPERATIVA</b><br><i>Indice di rischio operativo e sensibilità del reddito rispetto ai volumi</i>                | <b>LO 22/11/2020</b><br><b>1,20</b>    | <b>LO 16/12/2020</b><br><b>1,87</b>    | <b>LO PREVISIONALE</b><br><b>3,40</b>    |
| <b>4. INCIDENZA GESTIONE NON CARATTERISTICA</b><br><i>Indice della gestione non caratteristica sul risultato operativo</i> | <b>IGNC 22/11/2020</b><br><b>1,00</b>  | <b>IGNC 16/12/2020</b><br><b>1,00</b>  | <b>IGNC PREVISIONALE</b><br><b>1,00</b>  |

Auditing is a critical step in evaluating and controlling the practice enterprise, conducted by a student unit separate from the organizational structure. This unit is tasked with supervisory and accounting control activities, including preparing financial statements and analysing business cycles such as the sales cycle, the purchasing cycle, the warehouse cycle, the treasury or cash cycle and the employee

cycle. Audits assess the congruity between processed documents, legal deadlines, and accounting records, highlighting the appropriateness of administrative management in key areas such as personnel administration, treasury, and sales. A review of the correctness of their operation shall include the most relevant aspects of corporate management, grasping its formal and substantial elements about how appropriate the selected operational procedures and instruments prove to be.

In advanced courses, auditing extends to assessing business risk within the simulated company, mirroring real-world auditing practices (Fig.4). Similarly to what happens in the reality in which the auditing firm operates, the audits concern the appropriateness of the structure for corporate functions, the company information system, the internal organization, the internal reporting and monitoring system of the company situation, the specific risk factors, and personnel policies. While theoretical in nature due to the simulated company's non-operational status in the market, this activity provides students with practical experience in corporate auditing tools and enables them to form opinions on structural adequacy.

Figure 5. Risk assessment



## 6 Planning, monitoring and evaluation

This paper aimed to illustrate the rationale behind promoting courses centred on active learning in Economics and Management. This initiative seeks to modernize traditional teaching methods and align with invitations from authors, institutions, universities, and professional associations catering to accountant training. Through discussions, it became evident that this shift aligns with the imperative to equip students with practical, interactive skills crucial for both further academic pursuits and entry into the workforce.

Experimental learning environments based on learning by doing, particularly business simulations, facilitate the direct application of theoretical knowledge within contexts that replicate organizational dynamics and business environments. Managing a Practice Firm underscores the emergence of key skills such as cooperative learning, teamwork, problem-solving, and decision-making - skills indispensable in navigating unpredictable and fiercely competitive professional landscapes. Moreover, participation in a Practice Enterprise cultivates a holistic understanding of business management, transcending the compartmentalization often seen in economic and business disciplines.

The integration of digital technologies and collaborative platforms has further enriched the opportunities afforded by Enterprise Practice. Students can now engage in remote communication and virtual

laboratories, transferring simulated company operations to web-based platforms via cloud software. This integration not only facilitates seamless information sharing but also establishes an internal control system vital for assessing the effectiveness and efficiency of both company activities and individual student contributions. Task planning, budgeting, and auditing activities play pivotal roles in crafting projects that are functional, measurable, and credible in terms of outcomes achieved.

In this paper the importance has been highlighted of developing training methods suitable to promote an interdisciplinary approach, a strategy to go beyond the academic separation between the various subject areas, in a way that has become known as cross-disciplinary (Pais, 2024) with a view to integrating available knowledge. The expected outcome is to train people who are able not merely to interpret the processes underway but to manage and govern them (Pais, 2024), so that they will not be taken by surprise when something happens and are able to produce a more sustainable future for the labour market and for enterprises.

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