RESEARCH ARTICLE

Models and Practices of Virtual Internships outside Europe

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Abstract

This paper explores virtual internships outside Europe in order to identify the main barriers for implementing virtual internships and describes the model proposed for virtual internships in distance universities. First, we have searched for *real cases* from different geographical areas outside Europe. Second we have studied *reality* from other sources like Internship Resources from Institutions and Associations, Software and Courses, Company/Student Questionnaires and Virtual Projects and Experiences. We have called it Other Resources. Another aspect of the research, the third one, is the study of the theoretical background of internships. The paper is organized as follows. In Section 2 we describe the Methodology of the research. Section 3 is devoted to explain the Case Studies, section 4 shows other web resources, Section 5 describes the theoretical background of training. Section 6 is devoted to explain the models to implement virtual internships outside Europe. Section 7 shows the main barriers and suggests the way to avoid them. Section 8 describes the model proposed for virtual internships in distance universities.

Keywords: *Case studies, Human resource management, Outside Europe, Virtual internships.*

Introduction

As any researcher well knows the vitality of the findings of any research depends largely upon a continual synthesis of theory with observation. Unfortunately this exercise is costly in terms of the time and the effort involved in finding sources, in assembling and interpreting data, and in searching journals and periodicals for informed comment on contemporary events. This exercise is ultimate worth while when the outcome permits to achieve the objective of the research. Of course it is not for us to say if we have fulfilled the main objectives of WP12 Virtual Internships Outside Europe: best practice; but we hope that you will agree with us that the work carried out is at least a good start and that the main findings are useful for anybody wishing to know about virtual internships outside Europe.

One of the main results of the research is that there are at least six models of virtual internship outside Europe. This is the reason for avoiding the creation of a Best Practice Manual; instead, we have preferred to make a list of the barriers and to propose a way to avoid them when it is possible. We have defined an ideal model of virtual internship that suits the needs of distance universities.The document is organized as follows. In Section 2 we describe the Methodology of the research. Section 3 is devoted to explain the Case Studies, section 4 shows other web resources, Section 5 describes the theoretical background of training. Sections 3 and 4 could be skipped if the reader just wants to know the main findings of this report. Section 6 is devoted to explain the models to implement virtual internships outside Europe. Section 7 shows the main barriers and suggests the way to avoid them. Section 8 describes the model proposed for virtual internships in distance universities.

Methodology

First, we define the object of our research. Traditional internship model consider there to be two different set of participants. First university, composed by the students taking part (ST) and the academic or teaching staff (AT), and secondly the Company representatives (CR). Virtual internships involved a third participant, ICT supported environment. We define a Virtual Internship as one involving the use of an ICT supported environment, where students interact with each other and companies, independent of time and space, and across traditional geographical boundaries, in order to carry out a specific and meaningful work-based activity that sometimes fits within the student's compulsory educational curriculum.

Objective

To determine models and practices of virtual internships outside Europe. The geographical areas to be studied will be:
- USA
- Canada
- South America
- Asia
- Africa

In general, our research activities were organized around seven major planning tasks:

- Virtual Internship Cases Studies.
- Internship Resources from Institutions and Associations.
- Software and Courses.
- Company/Student Questionnaires.
- Virtual Projects and Experiences.
- Internships and Companies.
- Internships Students and Universities.

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Case Studies

We explored the main websites from companies outside Europe from four different geographical areas (24 from USA & Canada, 3 from South America, 5 from Asia, and 1 from Africa) that offer virtual job internships.

Internships Theory

Internships is associated to the theories of the development and transmission of the knowledge. Penrose, Arrow and Hayek gave us the first theoretical works, later. Nonaka [1] focused on the empirical studies about the relation between tacit and explicit knowledge. Why do universities participate in internships programs? To fill the gap between university student's abilities and business demands for high education students. The fact is that how a business works totally can not be taught at university, because part of it includes tacit knowledge, a kind of knowledge [2] that sometimes can not be made explicit and that must be acquired though socialization inside the firm [3].We have chosen to acknowledge that some people refer to descriptions of tasks, methods and procedures as declarative knowledge

[4]. For our purposes, all procedural knowledge are tacit ones, so we cannot articulate them; and declarative knowledge is explicit.

- Why do students participate in internships programs?
- It is compulsory in their curriculum and it is a direct route to work.
- Why do firms participate in internships programs?

There are many surveys on this matter and may be each one will have a different answer [5]. Take for example the case of Achieving Scale and Quality in School-to-Work Internships: Findings from an Employer Survey (MDS-902) T. Bailey [6]. The data does suggest that the most important motivation for participation in internship programs remains philanthropic.

According to our data and experience the reasons for internships are:

General and theoretical:
- Increase in the firm productivity by training.
- Philanthropy.

Common and practical:
- It is a cheap kind of work.
- Seek for new workers to replace the old ones in a near future.
- Cover a temporal vacancy.
- Cover a temporary rise in the amount of work of the company.
- Avoiding or reducing costs of work. In example the cost of social security of the worker.

Models

The research carried out had determined six different virtual internship models. These models are different answers to a question: How universities, students and company interact with each other.
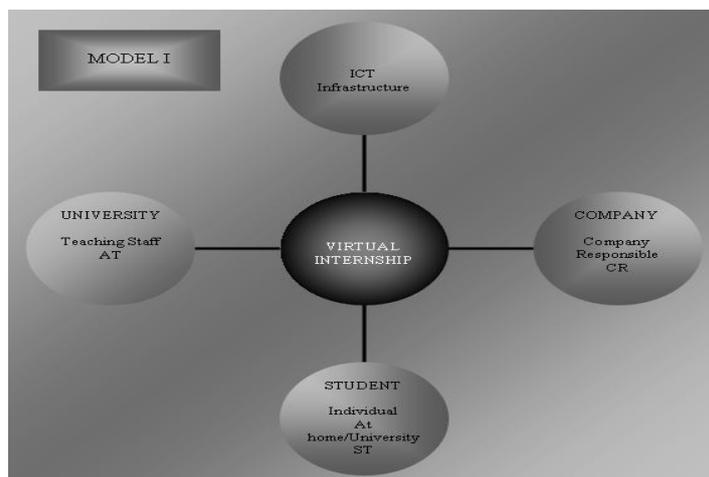

Fig.1: Model I

The structure of the Virtual Internship is very simple. The student remains at home working for the firm and there is an agreement between the firm and the university that allows the virtual intern to obtain an academic credit.
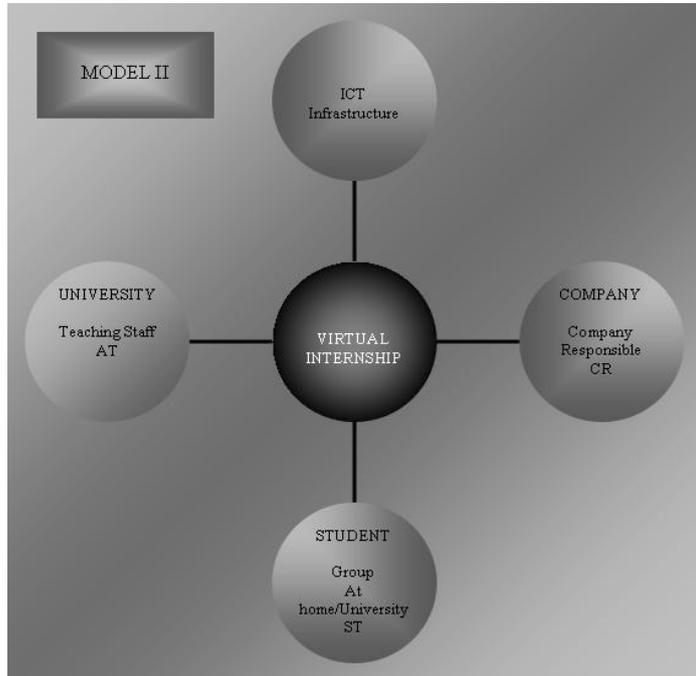
difference with the former is the need of funding from trans-national organizations such as the United Nations, or various relief or developmental agencies.

Fig.2: Model II

The structure of the Virtual Internship is also simple. The student remains at home working for the firm and there is an agreement between the firm and the university that allows the virtual intern to obtain academic credit.
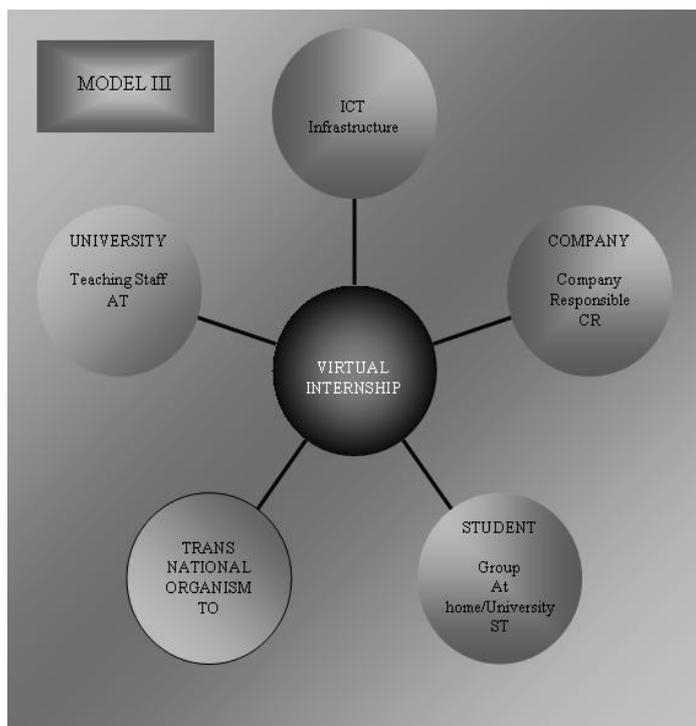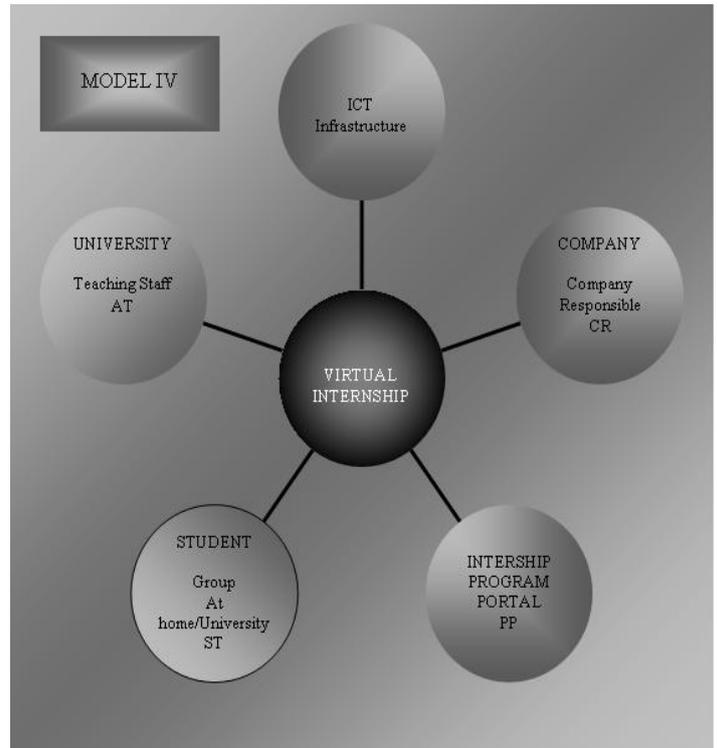

Fig.4: Model IV

Students enrol in virtual internships with the structure of the Model II, the only difference between the former is the existence of a Virtual Internship Program (another actor) run by another firm different from the employer's firm that is free of charge to students, universities, and employers.
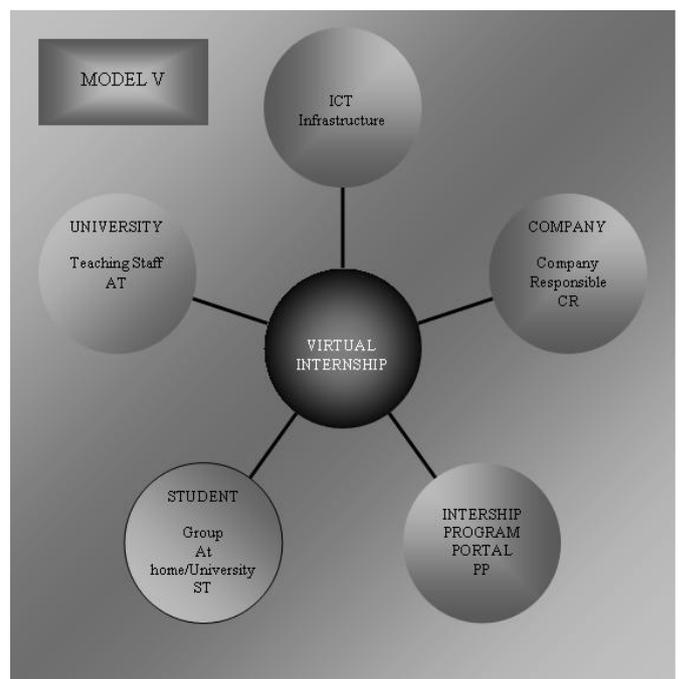

Fig.3: Model III

In this case students enrol in virtual internships with the structure of the Model II, the only

Fig.5: Model V

Students enrol in virtual internships with the structure described in Model I, the difference between the former is that in this case students have to pay to enrol in the Virtual Internship Program which is run by another firm different of the employers firm. There is no relation between the student and the company, the Portal supervises the interns work.
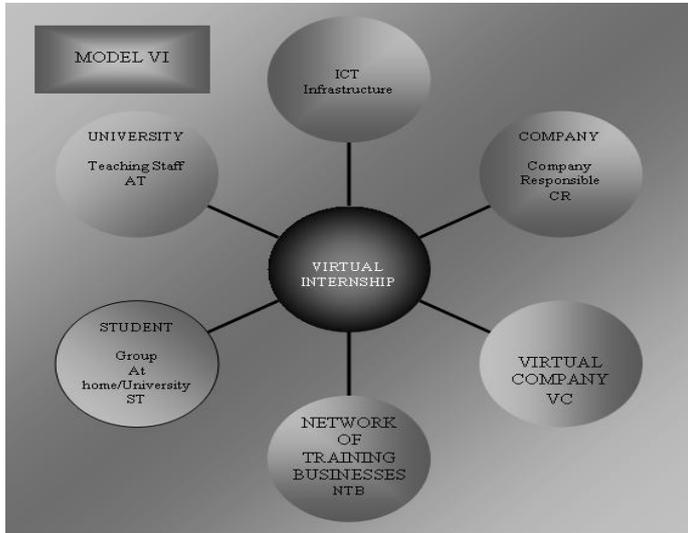

Fig.6: Model VI

In this case students enrol in virtual internships with the structure described in Model I or II, the difference between the former is that in this case firms are also virtual.

Barriers

The objective of this section is to identify, extract and remove the common barriers to all models in order e-students to gain valuable experience and for employers to gain valuable productivity and more capable future employees.

In general our findings were organized around for tables:

- Technical Barriers
- Pedagogical Barriers
- Organizational Barriers
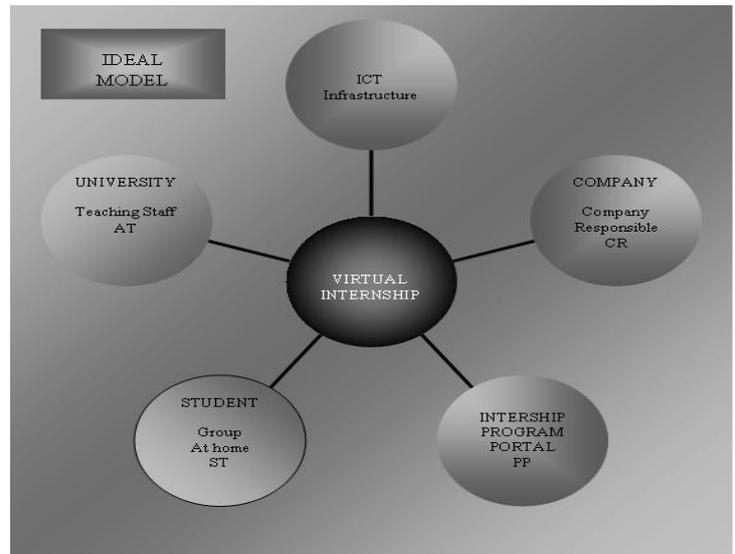- Economic Barriers

Fig. 7: Virtual Internship Model

Table 1: Technical Barriers

Technical barriers	Source	Target outcomes
Finding Virtual Internships (even knowing what companies offers virtual internships in their discipline. While company websites for internships overwhelmed at the prospect of placing and applications into an anonymous pool with hundred of other applications)	2.3.5.2. The Global Engineering Colleague	A comprehensive, searchable database of virtual internship opportunities
Most companies do not provide information about Virtual Internships and in most have any application form	2.3.1. Virtual Internships Cases Studies	To make virtual internship matter for the company / Provide information in their websites.
Most colleagues that have announced that they offer a virtual internships do not have the possibility in their website to apply for the position / In the majority of the cases they do not have any information at all on the subject	2.3.1. Virtual Internships Cases Studies	More collaboration agreements between colleagues and companies
Finding answers (there is an endless series of questions that students must find answers to, even after they have identified a virtual internship opportunity -e.g., where do find the proper forms?, What do I need to be a virtual intern?-)	2.3.5.2. The Global Engineering Colleague	To create a comprehensive 'one-stop-shopping' resource for answering questions related to the Virtual Internship experience
Finding community. A growing number of students will have faced the challenge to be an e-intern.	2.3.5.2. The Global Engineering Colleague	Access to these e-interns and their experiences to recognize that they are part of a growing

There is not an online virtual internship forum		community of e-interns
Compatibility of PC and software.	2.3.1. Virtual Internships Cases Studies. Number 1,3,4,5, 10.	Grant from the employers
The use of specific software by employers that is unknown to the students.	2.3.1. Virtual Internships Cases Studies. Number 1,3,56.	Grant from the employers
High speed-online access.	2.3.1. Virtual Internships Cases Studies. Number 1,3,4,5, 10.	Grant from the employers
Strong Web-Based Resources	2.3.1. Virtual Internships Cases Studies. Number 5	Knowledge and resources
Web-Based Resources Open to the Public	2.3.1. Virtual Internships Cases Studies. Number 5	Knowledge and resources
Web-Based Resources with Private Access Only	2.3.1. Virtual Internships Cases Studies. Number 5	Knowledge and resources
Web-Based Resources with Private Access Only	2.3.1. Virtual Internships Cases Studies. Number 5	Knowledge and resources
Web-Based Resources Open to Public in "Lite" Version, Restricted Access to "Full" Versions.	2.3.1. Virtual Internships Cases Studies. Number 5	Knowledge and resources

Table 2: Pedagogical barriers

Pedagogical barriers	Source	Target outcomes
Most virtual internships are not mandatory	2.3.1. Virtual Internships Cases Studies 2.3.2.1. The Internship Institute	Make virtual internships matter
Barriers among disciplines	2.3.5.1. Houston Baptist University's project (HBU).	Make virtual internship last longer, so that, companies can give e-intern assignments from different departments
The kind of virtual internship. The aim of Virtual Internship is the acquisition of work-based competence and this will only occur when the company representatives share their tacit knowledge with the students.	2.3.1. Virtual Internships Cases Studies. Number 9.	Virtual Interns must be involved in the live and core activity of the firm and not just act as consultants to the firm involved in the virtual internship.
Absence of reasonable opportunities for the student intern to gain experience.	2.3.1. Virtual Internships Cases Studies. Number 9	verification of the student intern's training activities
The lack of guidance and motivation of the virtual intern.	2.3.1. Virtual Internships Cases Studies. Number 9	verification of the student intern's training activities
The lack of regularly review and assessment of the student intern's progress by the Student Intern's Educator.	2.3.1. Virtual Internships Cases Studies. Number 9	verification of the student intern's training activities
The employer's lack of verification of the student intern's training activities	2.3.1. Virtual Internships Cases Studies. Number 9	verification of the student intern's training activities
The non-existence of communication between intern's employer and the student intern's educator about his or her progress.	2.3.1. Virtual Internships Cases Studies. Number 9	verification of the student intern's training activities
The student must document his experiences for the	2.3.1. Virtual	verification of the student

employer's and educator's review and verification.	Internships Cases Studies. Number 9	intern's training activities
Language	Implicit when Internships are international.	
Lack of communication	Tacit knowledge could only be acquired through socialization.	

Table 3: Organisational barriers

Organisational barriers	Source	Target outcomes
Employers lack of ability to qualify the value and feasibility of having e-interns	2.3.2.1. The Internship Institute	To provide value-feasibility assessment / Career Services can also screen site sponsors
Misconception among employers that having e-interns is too much work for too little gain	2.3.3.1. Z University. Org (ZU)	To enable employers to gain valuable productivity and students gain practical knowledge
Employers need guidance to improve program quality and e-intern productivity	2.3.3.1. Z University. Org (ZU)	To Consult career fair services
Communication barriers among e-interns an professionals	2.3.5.4. The Virtual Volunteering Guidebook	To create opportunities for students to network and gain professionals insight
Communications tools. Lack of synchronous interaction (e-mail may be no sufficient)	2.3.2.5. The Virtual Business Training Center (VBTC) 2.3.5.2. The Global Engineering Colleague	To consider other real time communications tools (e.g., text chat, videoconferencing)
A lack of sufficient company representatives or staff members (for recruitment and for the period that the virtual internship last)	2.3.5.3. Campus Careers Fairs and Recruitments Presentations. Students Benchmarks Best practices	Regarding company representatives: companies must select them carefully, train them well and measure their impact
Virtual interns can be hard to reach, and they can forget to report to work. Some do not treat the position as a real job because there's no boss looking over their shoulders. How do you manage someone whose only contact with you is online? In a few cases, letting a virtual intern proceed with little supervision can work just fine if you are not asking them to do anything they haven't done before.	http://www.findarticles.com/p/articles /mi_m0DTI/is_6_31/ai_102272833	Employers supervision
Most virtual interns will need more hand-holding.		Start a system of daily or weekly progress reports where virtual interns can talk about projects and any problems they are having. Also, designate a person in the company who coordinates projects with interns and communicates with them frequently. It is important for interns to know there is someone in the company they can contact when they have questions.

Ability to juggle school, work and other extra-curriculum activities.	2.3.1. Virtual Internships Cases Studies. Number 9	Students capability
A generation weaned on virtual internships will expect to be judged by the work they complete instead of the number of hours they work. In other words, they will expect to be treated like free agents.	http://www.findarticles.com/p/articles/mi_m0DTI/is_6_31/ai_102272833	Employers should be prepared for a different mind-set.
In some cases virtual interns need a home campus	Distance Universities do not have a Campus prepared to host students physically.	That means that the university has to change or create space or enough space for the virtual interns on campus and this could mean changes in their organization
Security of the firm. The firm will try to hide some information to the virtual interns because they will mistrust somebody that they cannot see.	2.3.1. Virtual Internships Cases Studies.	
The firm dimension. Small and medium firms will have trouble when trying to implement an internship due to their lack of experience, and because some of the employees will have to dedicate time to the virtual interns. Employees will react against the virtual interns because their work will increase without any kind of payment. The firm will have a benefit from the work of the virtual intern while some employees will have to dedicate part of their time to the virtual interns.	2.3.1. Virtual Internships Cases Studies.	

Table 4 : Economic barriers

Economic barriers	Source	Target outcomes
Shortage of opportunities is outpacing e-students demand	2.3.1. Virtual Internships Cases Studies 2.3.2.1. The Internship Institute	Enlist more site sponsors Employer Outreach
The limited number of virtual internships offered by an individual company which increase the cost of selecting the right student by the university.	2.3.1. Virtual Internships Cases Studies.	
Collaboration Barriers between public-private research	2.3.4. Company/Student Questionnaires	Improve interactions between individuals Maintaining continuity and feedback among students, companies, and colleagues Make virtual internship an important issue for companies, colleagues, and institutions
In most specialized portals Virtual Internships resources are not free and are in the case they are free the quality is poor Virtual Internships are just pilot experiences	2.3.2. Internships Resources from Institutions and Associations	Give scholarships Enrich resources about Virtual Internships
Companies may forget that to hiring a virtual has employee-employer obligations	Be aware of potential legal land mines, too. Federal wage and hour laws require that 1) training must benefit the trainee, 2) trainees do not displace other employees and will	

"work under close observation," and 3) the employer "derives no immediate advantage" from the trainee's activities. It remains to be seen how these rules apply to virtual interns.

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To wire and equip a home office or university	2.3.1. Virtual Internships Cases Studies. Number 1	Grant from the employers.
Space for virtual interns (firms might benefit because they do not need new space to increase the inputs of the firm but that space must be provided by the university)	2.3.1. Virtual Internships Cases Studies.	Grant from the employers. The student will work at home.
Need of funding (sometimes the students have to pay to get the virtual internship)	2.3.1. Virtual Internships Cases Studies. Number 5.	
The enormous cost of opportunity for the student and university if the Virtual Internship is on full-time basis.	2.3.1. Virtual Internships Cases Studies. Number 3, and 10	
The degree of development of the geographical area. Virtual internship programs have succeeded and are in demand in the most developed countries.	WP12 study. It is difficult to find virtual internships outside the North America & Canada Area.	

Model Proposed

The structure of the Virtual Internship is very simple. The student remains at home working for the firm and there is an agreement between the firm and the university that allows the virtual intern to obtain academic credit. The recruitment process is done through the Portal.

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