Industry-university “consulternships”: an implementation guide

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Consulterns bridge the gap between graduates’ skills and employers’ needs

Employers and academic researchers identify a major gap between corporate needs and graduates’ skills (Oblinger and Verville, 1998). This gap involves graduates who may have little “real-world” experience and need to practice communication and problem-solving skills. Such graduates may need more opportunities to work in teams while developing initiative, persistence, and integrity. Similarly, employers may prefer and expect graduates to already possess such skills at a level of finesse and expertise that are rarely available in a university setting. Real world experiences, such as consulternships, help bridge this gap, as have more traditional university sponsored internships and apprenticeships.

Most interns or apprentices are often entry-level appointments where they engage in menial tasks that are often boring and can leave the students isolated and discouraged. They are clearly on the “bottom rung” of most work groups. Crucial communication and team-building skills are often not addressed effectively. Such skills can be more effectively addressed through a problem-solving consulternship jointly developed between a university team and a firm.

To develop a problem-solving consulternship, a firm or other organization identifies a problem and contracts with a university team of faculty and students to solve the problem. “Partnerships between education and industry are viewed as vital investments in America’s future that can energize and profit all partners” (The Conference Board, 1996). We have defined these partnerships as “consulternships” because they incorporate many aspects of a typical consulting relationship between a firm and external experts. Participating students often are expected to fulfill professional consulting roles to:

- Supplement staff.
- Gather information.
- Provide objective opinions.
- Diagnose and solve problems.
- Develop and implement new methods and systems.
- Introduce and manage change.
- Train and develop client staff.
- Provide an “insurance” policy.
- Do the “dirty” work.

University of Colorado’s consulternships

The College of Business at the University of Colorado at Denver (CU-Denver), established a Center for IT Innovation (CITI) whose goal is to facilitate a match between the academic community, corporations and government agencies and to develop mutually beneficial programs and opportunities. CITI established a Faculty/Student Development Committee to show its members how to effectively conduct internship, externship, consulternship, and mentoring activities with the University. Committee Chair, Mark Endry, CIO at JD Edwards, coordinated such a project using a student-faculty team to conduct a large project within JD Edwards. He stated that “…the concept works. It is cost-effective, provides usable results, and has the added value of building relationships with students and the University. Having professors involved was a real plus too. They brought a completely different level of skills to the project. The CU-Denver students and faculty were our trail blazers” (Endry, 1999).

The client requested proposals from the CU-Denver team and an external consulting group. CU-Denver responded with a bid that was broader and more cost-effective (Endry, 1999). The establishment of this consulternship, and its successful outcomes, demonstrated that a university team could effectively act in a consulting role to solve business problems. Student feedback indicated significant learning outcomes and
the faculty observed significant personal growth, especially in students’ communication skills.

**The consulternship team**

Unlike professional consultants, the university does not have a staff of available personnel to serve on the consulternship team. The project manager may be selected first in order to help select remaining team members. In a university setting, the project manager may be a faculty member or one of the students. If it is to be a student, the project manager designation will take place after the team has been selected. A student and faculty member could co-manage the project. The project manager has a key role in the project’s success and must be carefully selected.

The team should be assembled early in the consulternship. The more involved the members are in the planning and preliminary work, the stronger their commitment will be to the project. Students and faculty must all understand from the outset that the project scope and timing may change as the project progresses. Flexibility is crucial to the overall conduct and success of such consulternships.

In CU-Denver’s consulternship, the team membership changed completely during two phases of the project over 15 months. Because high turnover rates could be expected in any student consulternship team, the project was staffed with more students in each phase than might have otherwise been necessary. This built-in redundancy helped smooth the transition between phases and it ensured adequate participation when students had unavoidable conflicts or emergencies.

The CU-Denver consultern team comprised graduate students in accounting, finance, and information systems programs. Two international MBA students were later included. Most team members had significant practical experience in consulting (e.g. in “Big Five” accounting firms) or in prominent military assignments (e.g. IT manager, US Army). Two students already had graduate degrees (Business and Economics). The students’ inter-disciplinary backgrounds and prior work experiences contributed significantly to the project’s overall conduct and success. In summary, the student team members exhibited the following valuable team characteristics:

- Committed to project goals and timely completion of assigned tasks
- Communicated effectively and shared responsibilities
- Adjusted activities as needed to meet project deliverables
- Technically competent
- Willingness to admit errors and be corrected
- Worked well with multiple constituents (faculty and firm)
- Worked outside of formal structures and authority systems.

**Establishing the consulternship**

To be effective, the university team needs to approach the project like a professional consultant. The business should provide a detailed description of the problem or project. The first step of the university team is to meet with the firm’s representatives. Ideally, this meeting should include members of the university team and employees in the organization who will be interfacing most with the team. The needs of the client should be discussed at length. This will allow the team to begin to understand the concerns of the business. Meeting at the business site will allow the team to see the client’s environment and develop an awareness of the influences bearing on the client’s position.

In CU-Denver’s case, one faculty member and the Dean first met with the client. This faculty member wrote the proposal for Phase I, negotiated the terms of engagement, and recruited one other faculty member, along with the student team. The students later expressed some lack of knowledge about the project’s origins and preconditions. They should have been involved earlier. Students were fully involved in writing the proposal for Phase II.

**The proposal**

In a typical consulting engagement, the proposal can be written quite quickly, often using existing “boiler-plate” sections. However, the university team may need to do additional work before preparing the proposal. The preliminary meetings and dialogue should provide the information necessary to recruit team members who have the necessary experience or background. The proposal should identify the key issues or problems faced by the client. The team must demonstrate its understanding of the problems and how they will be addressed. The proposal should identify the specific steps and deliverables necessary to accomplish the project’s goals. The trick is to give enough information to gain the client’s trust but not enough so the client can do the...
The proposal should establish routine communication channels. Scheduling and time lines must also be specified as early as possible. Buffers must be built into the schedule to accommodate unforeseen delays. The university team faces a challenge in establishing time lines because the team may not have the project expertise of a professional consultant. If the team lacks the expertise, additional time needs to be allotted for the team to gain the necessary knowledge before beginning the project. A separate section should include a statement about confidentiality and the ownership and publication rights to any reports or findings.

The proposal is key to the project as it describes the team’s interpretations of what the client wants. It serves as a reference point for conducting the consulternship, for any subsequent contract modifications, and for deciding when the work is complete.

**The contract**

For the protection of both parties it is necessary to have attorneys (or the university’s office of sponsored research) draft or review the contract (Shenson, 1990). The contract includes the basic agreement, the scope of services, the method of compensation, and provisions to protect both the client’s and the university’s interests. A proper contract will:

- Avoid misunderstandings;
- Maintain independence;
- Assure payment;
- Minimize undue risk transfers;
- Prevent litigation;
- Protect faculty’s publication rights;
- Maintain client’s confidentiality.

Both parties must sign it (Shenson, 1990). This is an important, but time-consuming, process. It is critical not to underestimate the work necessary to get legal details ironed out (Endry, 1999). A draft contract is available which can serve as a template for similar consulternships.

**Communication**

“Once the proposal has been accepted and the contract signed, it is tempting to rush headlong into the assignment. ‘Damn the torpedoes, full speed ahead’ is a recipe for failure” (Hendricks, 1997, p. 109). Early in the project it is necessary to establish communications linkages with the client’s employees. Introductions are crucial, as an outsider can be perceived as a threat! To alleviate rumors and miscommunication, the consulterns need to be formally introduced, in writing and in person, by an influential executive. The introductions should explain who the team is, why they were hired, and should indicate linkages between the team and key employees.

“At its heart, consulting is about relationships, not project” (Hendricks, 1997). Champions and sponsors must be identified in both the firm and the university. Informational interviews help the team to learn the corporate culture and how they will fit in. The team will have a better chance at getting cooperation and positive results if they do not stick out like a sore thumb and if the employees trust them.

Both parties need to identify a single point of contact such as a senior manager who is actively responsible for the project. The project manager is the likely contact person from the student team. These are the people who should know what is happening at all times and inform their colleagues. The two contact people should communicate openly and frequently to minimize project difficulties. “A successful working relationship crystallizes down to communication between clients and consultants” (Fuller, 1999).

**The workplan**

All parties must agree on the project scope and deliverables. The team must understand the organization, the key players, and the client’s resources affected by the project. The workplan must be concise, clear, and informative. It provides a detailed description of all tasks, the deliverable associated with each task, the start date, completion date, and responsible team member. The project manager uses this tool to track project progress, detect variances, and take corrective action.

In CU-Denver’s consulternship, the initial faculty member, the initial student coordinator, and the client’s primary contact established the first workplan. Subsequently, the entire team created a more detailed work plan using project management software. Key milestones and deliverables were subsequently agreed and modified with the client’s liaison.

**Project management**

While it is true that the plan and the tasks are essential, the project manager and the team must work well together to accomplish the goal. The project manager has a key role in
the success of the project through effective management. Project managers will succeed if they communicate frequently and informally, are actively involved in the project and with team members individually, identify and solve problems as they arise, and make changes when necessary. Failure results from micromanaging the project and spending too much time on administration (Lientz and Rea, 1999).

To be effective, the project manager spends much of the time communicating. Skillful communication requires treating people with respect. It involves listening until each person’s perspective is clearly understood.

In CU-Denver’s case, project management was shared between the faculty and students. Although a goal of rotating student leader was initially expressed, the transitions proved too cumbersome for the client. A permanent student coordinator was selected after eight weeks. A collegial management model proved effective in most instances. Most students felt safe and were quite uninhibited in their student and faculty interactions. In this case, the students effectively monitored and managed conflicts. The faculty and clients were not involved in difficulties arising between students.

The CU-Denver consulterns recognized that a successful project required teamwork where everyone communicated openly and regularly. “The teamwork attitude reminds people that everyone’s work is interdependent, and the success of the entire project requires that people cooperate with each other” (Woods, 1997). The entire team shared responsibility for conducting and concluding the project, as well as looking for opportunities to continuously improve the process. In a successful project, all parties have to have the necessary skills and knowledge. The university provided such support through team training. In CU-Denver’s consulternship, initial training was provided by faculty and several external consultants. The entire team attended a half-day training session. Faculty members later provided training as needed.

Student commitment to CU-Denver’s project was “locked-in” because students registered for academic credit (three to six hours of independent study). Students were expected to complete an academic paper on a project-related topic of their choosing. Students were also paid a modest hourly wage ($10.00), although the low wages were almost more of an irritant than help in achieving project commitment. Faculty members were compensated on an overload basis, which did not reflect the significant workload associated with the consulternships. On an overall basis, the project team exhibited the following characteristics:

- Minimal monitoring, without excessive directions, controls, or reports.
- Recognized differences in individuals and their unique characteristics.
- Helped team members to be more creative.
- Allowed individuals to guide their own work.
- Helped team members respond positively to new proposals, rather than react negatively.
- Developed tolerance for mistakes and errors.
- Provided a safe atmosphere for failures.
- Allowed each person to serve as a resource rather than a controller, encouraged each to work as a facilitator.

### Further considerations

In order to bridge the gap between academic thinking and the practical business world, most projects need a blend of academic rigor and practical solutions (Endry, 1999). Pat Hellman, IT Operations Manager at JD Edwards, expressed concern for the amount of time students could put in on a project as well as the amount of “real world” experience the students would have (Hellman, 1999). This did not prove to be a problem as both students and faculty were quite experienced and made significant investments in the project. In evaluating Phase I, “the students didn’t have any preconceived notions . . . they asked a different set of questions and blended well with our IT employees” (Endry, 1999).

Working within an academic schedule can often be difficult. Businesses operate in a very competitive environment with tight deadlines and it is not always easy to schedule meetings on short notice. Project timelines can be supplanted by daily “brushfires”. Therefore, the university team must be flexible and adapt to a shifting set of priorities. The university’s academic schedule imposed severe constraints at certain times (finals, mid-terms, etc.). “Fitting the project into the school calendar” was a challenge (Endry, 1999). Potential scheduling conflicts were discussed at the outset and students were “protected” during these critical periods. “The students and information requirements should have received more attention at the beginning. The slowness with which we developed . . . slowed the project terribly at the beginning” (Hellman, 1999).
Summary

Today’s competitive business environment places demands on graduates that cannot often be provided within the academy. Business and education must cooperate to create more real world opportunities for students. Under the consulternship model, a student-faculty team is used for a problem-solving project. Both parties can win by establishing consulternships.

To be successful, the university has to approach the project like a professional consultant. Since the university does not have a readily available talent pool from which to choose, the team has to be carefully selected. Members should possess demonstrated skills that enable them to perform as a team. Teams need to be formed as early as possible to maximize involvement in the project from beginning to end. A written proposal must be prepared and a formal contract executed.

An effective team must spend time at the company meeting the staff, observing how the employees operate, and learning the company culture. The team should review the proposal, confirm the project goals, and draft a workplan. The plan includes a detailed description of all the tasks to be performed and the associated deliverables, an estimate of the time to completion, the sequence, and the person responsible for each task. A project manager, with good leadership and communication skills, must be selected to help motivate and support the team, and solve problems. Finally, it is up to each team member to accept individual responsibility for making the project a success.

Suggestions for future consulternships include: “Make sure all parties have a crystal clear idea as to what a successful engagement will look like, what the final deliverables will include, and think in terms of a school calendar not the fiscal one alone” (Hellman, 1999). With a cooperative, supportive client, good communication, a well-thought-out and detailed plan, strong leadership, and a well performing team, the university team and the business will both win. The tangible benefits of a consulternship are summarized as follows:

- Practical educational opportunities.
- Research linkages.
- Knowledge dissemination.
- Faculty development.
- Improve “town & gown” relationships.
- Organizational learning.
- Effective change management.
- Financial benefits (resource inflows to university, savings to firm).

From the client’s perspective, the benefits were:

Cost-effectiveness, ability to get what we needed while providing an opportunity for students. Exposure to students who could be interested in positions with us in the future. Exposure to the professors who might work with us on things in the future (Endry, 1999).

References and further reading

Endry, M. (1999), Written questionnaire, April.
Grant, W. (1999), Project Checklist and Schedule Considerations, Center for IT Innovation (CITI), June 15.
Hellman, P. (1999), Written Questionnaire, April.