COMMENTARY

Dancing with the Devil: Partnering with Industry but Publishing in Academia*

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ABSTRACT

We believe that partnering with industry can lead to research that is relevant, rigorous, and refreshing. Our experiences show that the potential benefits of partnering with industry are enormous, but that this is not an easy route for academics interested in operations research modeling or empirical methods. The need for grounded business research is greater now than ever, and, while academics have made great progress, there are still numerous opportunities to demonstrate the relevance of our research. We discuss how to establish industry contacts, identify fruitful academic—industry projects, and publish the resulting research.


INTRODUCTION

Why would an academic want (or need) to partner with industry? We strongly believe that we (academics) have an obligation to address current industry problems and issues in our research. Unfortunately, our experiences show that academic work frequently tends to drift from initial grounded research, often institutionalizing assumptions that were necessary for initial insights. This can quickly turn a promising new area into a sterile exercise for the sake of academic research. A recent recommendation from the Association to Advance Collegiate Schools of Business suggested that business schools should be required to “demonstrate the

*We thank Vicki Smith-Daniels for encouraging us to write this article and for providing insightful feedback. It is based on a presentation, “Dancing with the Devil: Working with Industry, but Publishing in Academia,” we made at the 2007 Production and Operations Management Society Meeting. All opinions expressed here are strictly ours and are based on our collective experiences partnering with industry.

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impact of faculty intellectual contribution to targeted audiences’ (Di Meglio, 2007). While we do not want to enter this particular debate, we would like to note that our model for partnering with industry for research does not discourage academics from exploring uncharted subjects. On the contrary, our position is that partnering with industry will encourage exploration of unexplored research territory that is of vital importance to industry.

There are tremendous potential rewards from such a practice, but there are also numerous pitfalls, and incentives to do otherwise. Our discussions are based on our experiences and address the potential value of partnering with industry with focus on (hopefully) providing some insights of how to do this. We will begin with several compelling reasons to motivate a business school academic to partner with industry.

**Working with Industry Can Fulfill Two-Thirds of the Requirements That Research Be Rigorous, Relevant, and Refreshing**

If academic research is to have an impact on practice, then we must have a thorough understanding of current industry practice and problems. The debates about the relevance of Operations Research (OR) note that, in part, the lack of academic involvement in industrial practice brought the field very close to extinction (Corbett & Van Wassenhove, 1993). In fact there has been a long and healthy debate in the OR community over the years (Woolsey, 1972; Ackoff, 1987; Corbett & Van Wassenhove, 1993). We do not intend to participate in that debate here because we believe the OR community has undergone a (painful) transformation that clearly illustrates the need for industrially relevant research and the dangers of pursuing rigor in favor of relevance. Production and operations management (P/OM) academics have experienced similar situations, most notably in the 1980s, when the field was almost completely unaware of the relevant and refreshing Japanese just-in-time methods and quality systems and their subsequent adoption by Western companies. Indeed, much of the P/OM research in the 1980s focused on topics like establishing rigorous optimal lot-sizing algorithms for use with material requirements planning systems, ignoring the potential benefits of lean production systems with rapid machine changeovers and small lot sizes (both of us plead guilty).

**Working with Industry Is Fun and Exciting**

The challenge of discovering new problems and finding innovative solutions is what attracted us to academia in the first place (we appreciate the fact that some people do not find this fun, but we certainly do). Working with industry provides unlimited opportunities to explore firsthand uncharted research territories and (hopefully) implement ideas in the real world. As academics in professional schools, what could possibly be more exciting, not to mention informative and inspiring, than seeing actual business processes and listening to managers discuss problems that are not known in academic circles? We both acknowledge that most, if not all, of the interesting problems we have worked on came from our interactions with managers. Many of these experiences contradicted what we had learned as students or went against common wisdom (and successfully attacking sacred cows can be extremely rewarding). Working with industry brings real-life relevance to our research and confidence that what we are teaching is useful and practical.
Working with Industry Keeps Us Honest

Working in ivory towers where we are rewarded for another academic publication, whether the research has industrial relevance or not, provides a great temptation to overly simplify problems in the name of tractability. Indeed, both of us have had coauthors argue that using a model that is known not to adequately reflect reality, but that yields analytically tractable results is favorable to a more accurate modeling of the problem. Working with managers quickly prevents such behavior, unless the simplifying assumption leads to meaningful insights.

Practice Evolves Rapidly

Not staying current with industrial practice can quickly make a field lose credibility with practitioners. For instance, flexible manufacturing systems, as discussed in literature in the 1980s, diverged from evolving industrial systems, which obviously led managers to subsequently ignore a large part of the academic research.

Keeping current on rapidly evolving managerial practice can help us understand how a firm responds to competitive pressures and incorporate this into our models. For example, on a follow-up visit to a mobile telephone remanufacturer, we found the company had moved to a facility half the size of the previous one. When asked if business had dropped, the manager explained that, in fact, sales volume had doubled; but that they no longer held any finished goods inventory and did not need the extra space (this information inspired a later paper, see Guide, Teunter, & Van Wassenhove, 2003).

Working with Industry Demands Relevance: P/OM and OR Are Applied Sciences, So Relevance Is Key

There can and should be methodological work in P/OM and OR, but there should be a minimum of work on artificial problems. P/OM academics are in an excellent position to serve as management engineers (Corbett & Van Wassenhove, 1993), whose roles are to identify industrial problems that cannot be readily solved with the current methodological toolkit. This drives the advancement of scientific management. We believe the need for management engineers is greater now than ever before. Our own experiences in closed-loop supply chains have revealed a multitude of problems that cannot be solved adequately by the traditional OR/IE toolkit (Atasu, Guide, & Van Wassenhove, 2007). Supply chain relations are increasingly global, and this introduces many new problems in coordination, risk management, and consumer behavior (to name but a few areas). Increasing interest in the role business is to play in sustainability has introduced a whole new set of complexities that managers are ill equipped to handle. Academics often lack an adequate understanding of these new pressures. Stated simply, as the industrial world becomes more complex, the need to work on real problems increases. Failing this, we should expect an acceleration of the decline of academic relevance.

Working with Industry Allows Us to Show and Better Understand the True Potential of Quantitative Models

OR should not be marginalized in industry and education, and P/OM definitely should not. Quantitative models for P/OM are crucial to industry, but we have to some extent scared away industry by doing sophisticated technical work that can
be categorized as impractical or irrelevant (or both), and we have certainly given students (especially MBAs) an excellent excuse to avoid this “irrelevant technical stuff.”

Note that nowhere in our previous discussions did we use the word “easy.” Partnering with industry can be very time consuming and difficult because we often have divergent goals (see the Appendix for our definition on partnering with industry). However, we did argue that this work, if done well, can be refreshing, relevant, and rigorous.

**WALKING A TIGHTROPE**

One of the most important things to remember is that we should not compete with consultants. Consultants are well equipped to do their job and have substantial resources not available to most academics. Consultants are usually well trained and recognize many industry problems as variants of problems with established solutions. They typically have a copyrighted go-to-market strategy with a standard approach to a given application field. Academics should focus on problems in which consultants cannot engage because they require too much expertise and/or too much of a time investment to be profitable. Academics can, perhaps carefully, partner with consultants because the relationship can be complementary. Run-of-the-mill problems that are best handled by consultants also hold little possibility of publication in an academic journal.

In the words of a well-known P/OM academic (John McClain at Cornell), “there is a world of difference between a manufactured problem and a manufacturing problem.” Do not think your optimal scheduling scheme for production that takes hours of computer time to run is going to be interesting to a company facing a dynamically changing production schedule that requires frequent updates. Managers have enough to do without tracking down information and/or collecting data so you can validate a model that has little promise of impact at their firm. Trying to get managers interested in your research, unless it is very relevant to their problems, will most likely result in a hasty end to the scheduled meeting. Managers have to solve problems with too little information and too little time. Competitive pressures, both internal and external to a firm, often require that a manager make a decision fast. In addition, large and ever-changing workloads prevent a manager from spending excessive amounts of time on any one problem. The trick is to find a problem important to the company that is not documented in academic literature and into which you can provide some good insights. This requires that you spend time talking with the managers and the people responsible for doing the job. We’ve found it crucial to visit the facility and spend time making certain we understand what is really being done, not just what managers think the process is. Our experience shows that the people who actually do the job are the ones who best understand it, and these are the right people to explain the current state of the process. Processes are continuously evolving and often change greatly in very short periods of time, and it makes little sense to propose improvements to a process that does not really exist.

After you have found the right problem, you will need to convince a manager you are capable of solving it in a way that leads to useful insights and that you
can do so in a timely fashion. In many cases, starting on a small, well-defined operational problem and producing useful results will lead to larger projects. This is understandable because the manager’s career is on the line and you can simply head back to your office.

At this point, it makes sense to discuss a crucial step in the process of working with industry: getting and managing contacts.

DEVELOPING CONTACTS

Identifying and establishing good industry contacts takes time, persistence, and a bit of luck in many cases. Several years ago we had a short, two-page piece in the *Harvard Business Review* in which we cited Robert Bosch Company as being one of the leaders in product recovery (Guide & Van Wassenhove, 2002). This prompted the director of product service at Robert Bosch Tools, NA (Bosch) to contact us. He wanted to thank us for mentioning Bosch in a positive way and invited us to visit his facility. This relationship has since produced a much richer understanding of closed-loop supply chains from a market-development perspective and cooperation on numerous studies.

It pays to remember managers are usually very busy, and making time for an academic is not routinely very high on their priority list. Don’t come over as the little boy with the hammer in search of a nail. Make certain they know you want to hear about their situation and explore the potential for mutually beneficial projects. Be persistent, but not a pest. Ask the manager if they mind a phone call, or whether an e-mail to set up a time in which they have a free hour would be better. Don’t take managers being slow to respond as a sign of disinterest; many firms have strict policies that must be followed to bring in an outsider. Work with the industrial defense sector in the United States requires an extensive background check and, most often, U.S. citizenship. Managers have varying workloads, and contacting a manager at the end of a quarter or the end of the year will guarantee a “can we talk later?” response. Be flexible and offer to come to visit them. This is an excellent way to arrange a facility tour and perhaps talk with a number of people.

There are numerous sources for contacts for most academics. Former students and college and university alumni are all potential sources of information. Teaching executive education can put you in touch with experienced managers. Many colleges have centers focused on a variety of areas, including supply chains, technology, information systems, social responsibility, and other current interest areas. Sitting down with the center director and explaining your research interests can lead to offers to make presentations at corporate sponsor meetings. If you have industrial advisory boards, ask to sit in on their meetings and listen to what they believe is important.

Offering to give talks at professional societies, such as the American Production and Inventory Control Society, is an excellent platform to reach a number of managers interested in what you have to say. If you choose this route, be prepared for tough questions and quick dismissals of your work if it is purely theoretical with no practical applications. This may seem like a chicken-and-egg problem at first. After all, how can you give talks about good industry-driven research if you do not
have the contacts to begin with? Sometimes just letting managers know you want to learn opens the door. When one of us was a doctoral student starting research on remanufacturing, his advisor introduced him to a manager of a remanufacturing facility. After asking numerous questions, the manager asked if it would not be better to just come and visit the facility to see what was going on. This led to a very long-term working relationship and a rich understanding of how remanufacturing facilities really work. The plant manager had never gone to college, but had 20+ years’ experience he was excited to share, and he even became a coauthor on an article.

This brings us to a final way to generate contacts, publications in journals managers read. The obvious choices are places like California Management Review, Harvard Business Review, and Sloan Management Review, but there are also numerous trade journals. This builds your reputation as an academic interested in solving real problems and working closely with industry. It does require that you have a success story with a significant managerial message, but it is an important part of building a portfolio of contacts. We’ll discuss publication outlets in depth in a later section.

After you make a contact, identify problems, and help provide useful solutions, you will quickly establish a reputation in a company. Success will bring your work to the attention of other managers, particularly if the manager is rewarded based on the partnership’s results. Before you agree to work with another manager at the same company make certain this is acceptable to your initial contact. Keep your original contact updated about the work and results if this will help alleviate any concerns. After time, you may serve as a trusted confidant for the manager during the course of his career. Be careful not to divulge any information from these conversations to other managers at the company. If you are working with a number of companies in the same competitive space, be certain there is no information leakage; it is often a good idea to be up front that you are working with other groups. You should have a strong enough reputation as an ethical person for them to be comfortable that you are beyond reproach.

Often we take doctoral students and colleagues along on a plant visit and many times colleagues call and ask for a contact name. We both view this as an excellent way to spread our fascination with industry-driven work, but it has caused more than a few headaches for us over the years. Several years ago, we asked a manager to speak and lead discussions at a workshop we were organizing. As we were walking him to his car at the end of the workshop, several academics from the workshop were already calling his mobile phone to propose projects and ask for financial support. After he returned home, he was subjected to a flood of e-mails again suggesting projects and asking for money. Fortunately, the manager had a sense of humor and simply replied to all the e-mails, copying us, suggesting that they coordinate through us. We have both experienced literally dozens of instances in which all the problems that erupted could have been avoided by employing a simple golden rule of using your colleagues’ contacts—DON’T unless you clear it with them first and seriously consider asking them if they want to participate in the project.

After the preceding discussions, it should be clear that (i) getting good contacts is not a trivial task and (ii) having a contact approached by a colleague without
your knowledge or consent is bound to cause, at a minimum, some difficult moments. We have found that persistence pays off when establishing a good contact at a firm. We should also note that having several people from the same school contact a manager without some form of coordination is going to make your group look disorganized and unprofessional.

At this stage, we have discussed why you should work with industry, how it is different from consulting, how to develop contacts, and simple rules for ethical behavior. Now for the part most academics are concerned with: How, what, and where can I publish the results of these academic–industry projects?

**LEVERAGING INDUSTRY PROJECTS INTO PUBLICATIONS**

We have both been fortunate enough to work with a variety of companies on a multitude of problems. In particular, our long relationship with managers at Hewlett-Packard Company (HP), both in the United States and Europe, has been particularly useful in understanding the business aspects of closed-loop supply chains and helping to define the area from an academic perspective. Our joint work with HP on closed-loop supply chains has, to date, produced an award-winning teaching case on product returns (Guide & Van Wassenhove, 2001) and a pilot project for managing laptop recovery in Europe (Guide, Muyldermans, & Van Wassenhove, 2005) and inspired us to explore design drivers for reverse supply chains (Guide, Souza, Van Wassenhove, & Blackburn, 2006) and to discuss practical managerial aspects of designing and managing reverse supply chains (Blackburn, Guide, Souza, & Van Wassenhove, 2004). *Needless to say, not every industry relationship is so productive, but we believe that a good academic–industry project can lead to a variety of publishing opportunities.*

Teaching cases are a fantastic vehicle for making certain you understand the problem at the company. Writing a teaching case requires you to carefully structure the situation up front, because cases are often used to illustrate a way of structuring a problem or the use of a quantitative method. Writing and using your own teaching cases allows you to get a poorly understood problem into the classroom and affords you a high degree of credibility with students. If the teaching case is well written with a good teaching note, it can help diffuse knowledge of the problem into academia. Our working relationship with HP on product recovery problems began with a teaching case on managing product returns (Guide & Van Wassenhove, 2001). Writing the case allowed us to understand, via the back-and-forth communications with managers, the processes on a much deeper level than we could have accomplished with a few 1-day visits to HP facilities. This deeper understanding provided us with some insights that were not readily apparent when we first began to discuss the problems of product returns.

*Academic–industry partnerships can also lead to theory building and general managerial insights.* Our work with HP and Bosch managers provided us with a detailed knowledge of product-return processes at two companies with very different products. We saw a high degree of similarity in processes, despite the differences in product clockspeeds, and we began to question whether one design for the reverse supply chain would work in all situations. Our research led to the development of simple models that allowed us to determine the drivers of supply
chain design (Guide et al., 2006) and a paper that put the findings of the technical research into managerial terms (Blackburn et al., 2004). Note that, although the technical research begins far in advance of the managerial insights, the technical paper was published much later. There is a perception of a higher risk in modeling based on industrial reality and we will discuss this in a later section.

Finally, academic–industry projects are a great way to get your doctoral students involved. Several doctoral students under our supervision have gone on to conduct dissertation research inspired by discussions with practitioners. A recent INSEAD doctoral student was intrigued by a statement from a Bosch manager that Bosch would always offer remanufactured goods in a market where they were not the market leader because remanufactured products would cannibalize their competitor’s market share faster than Bosch’s share (Atasu, Sarvary, & Van Wassenhove, 2007). Just to be clear: We are not advocating that you let your doctoral students run free in companies unsupervised. It is an opportunity for your students to listen to managers and develop the skills needed to abstract a problem from a real industrial setting so that it becomes tractable. If we do not immerse our students in academic–industry projects, then we should not be surprised when they favor the safe route of incremental technical research.

The processes of getting contacts with managers and identifying and defining a good academic–industry project are time consuming and risky. The only safe way for a doctoral student to participate is with close supervision and your judgment about selecting a problem that will lead to research that is publishable in high-quality academic outlets. Junior faculty members simply do not, in the majority of cases, have the time and resources to spend establishing a contact network, finding a good problem, and framing this problem so that it leads to publications. This assumes junior faculty were not exposed to our world view during their doctoral program. How do we encourage junior faculty members to engage in industry-driven research if the process itself could hurt their chances of tenure? The answer is simple: senior faculty have to take the lead here. Junior faculty should only be brought onboard after the project is specified and a suitable problem is defined, that is, one that is a good fit with their technical skills. This is not an easy process to encourage because many senior faculty are often busy (sometimes running a consulting firm on the side), and many others are not familiar with industry practice themselves. It does provide an excellent platform for junior and senior faculty to work together and establishes an expectation that research is supposed to be grounded in industrial reality.

Fifteen years ago at INSEAD, a small group of faculty argued over the exact meaning and importance of industrial excellence. This led to an industrial project linked to a yearly competition (industrial excellence award) selecting the best factory in France and Germany. The project allowed the group to discuss and refine their ideas about industrial excellence and to test them in reality. It engaged junior faculty in plant visits and discussions, providing them with war stories for their classes. It also exposed doctoral students to real plant problems and inspired several to engage in a doctoral study on the topic. The project led to academic and managerial publications, a book (Loch, Van der Heyden, Van Wassenhove, Hurchzermeier, & Escalle, 2003) and an awful lot of visibility and credibility in industry.
Up to this point we have focused on the enormous potential benefits from working with industry. However, we readily admit this is not for everyone. Visiting companies takes time and energy and working with managers can be frustrating. If your university is in a relatively isolated area, significant travel time will be required. We have tried to introduce the practice of working with managers to many of our doctoral students and coauthors only to achieve mixed success. Some academics simply do not enjoy the process of developing contacts, defining a project, and developing publications from it. The feedback from managers often forces us to make painful revisions to our models, perhaps spoiling elegance in favor of messy reality. Working with industry also forces us to admit that we do not have all the answers and requires that we broaden our horizons by becoming familiar with other disciplines in order to understand the business problems, rather than just the P/OM or OR components.

**THE DARK SIDE OF ACADEMIC–INDUSTRY PROJECTS**

We have already mentioned that working with industry has its difficulties and we would be remiss if we did not devote some discussion to the difficulties we have faced.

**Games Managers Play**

An obvious situation to avoid is the one in which the manager has already made up his mind and now wants confirmation. Any results that do not conform to the person’s long-held beliefs will quickly be discredited or suppressed. Yes, business practice is subject to politics but, coming from academic environments, this should not be unfamiliar.

A lack of support can also be fatal. Two scenarios are possible in our experience. First, the manager is not powerful enough to require that all the different groups cooperate. For example, one of us recently did a project with a reverse supply chain group at a large company that makes computer-networking equipment. We quickly discovered the returns of used products obtained via trade-ins were not the responsibility of the reverse supply chain group until these returns were physically in the system. An examination of the records showed that over half the trade-in units never reached the company. The manager at the acquisition group quickly explained that companies do not know what they are trading in and that the match was perfect. He refused to cooperate, and the project showed us the number of different divisions that controlled parts of the process, prohibiting a neutral and comprehensive study.

A second possibility is that the people reporting to the manager have no incentive to cooperate. One civilian employee at a military remanufacturing facility informed us that the officers in charge rotated every 3 years, but that he had been there 20 years doing things the same way (his way), despite the military officers’ pleas to develop more responsive systems (in fact, the facility was closed because of a lack of performance a couple of years later). Getting the right information in such situations can be very difficult. We have also seen projects with great potential shut down because of intrafirm competition and rivalry. Your best bet in these situations
is to hope for upper management support or to simply cut your losses and try again when conditions change. Just like desk attempts to solve a problem and produce a publishable paper, projects with industry also have a failure rate. Careful selection and quality control can go a long way in improving chances for success in both environments. There is no reason to assume that industry projects would be riskier and more prone to failure. At least, that is not our personal experience.

Data Collection
Companies do not know what they know. The advent of cheap computing power and the inexpensive cost of data storage ended the discussions about information companies should track. The default position has been simply to put every piece of data that could be collected into a database with the idea that sooner or later it might be useful. Despite what we would like to believe, our experience shows that information technology and software connectivity at most firms is still a long way off (and no, the wide introduction of enterprise resource planning systems has not solved this). The information you need is often in multiple databases and/or in incompatible formats, and the data must be extracted slowly and manually. In a recent project, we found the company did not track the information we needed directly, but that we could extract the elements from several databases. The ensuing programming nightmare almost resulted in a complete nervous breakdown of the postdoctoral student working for us.

We have spent days combing through archived paper records, rummaged though hundreds of filing cabinets full of process flow documentation stored in hot aircraft hangers, and spent weeks on shop floors trying to determine the distribution of processing times for operations. Data collected for you by the company are often suspect and you will never have enough. Our experience shows that you (or a trusted student) should do the actual data collection if at all possible. Getting to know the people who do the task is an excellent way to get information and often workers will truthfully divulge information to a harmless academic rather than a manager or engineer. When one of us was trying to collect shop-floor data, he found that the workers always claimed the engineering standard when questioned about processing times. After lengthy discussions (and a few beers) with a shop floor supervisor after working hours, the supervisor began introductions with “he’s a Ph.D. student who needs help from us to finish his work.” Workers immediately began to discuss how different each piece was and the methods they had for coping with the variances.

Providing data to academics makes many managers justifiably nervous. Much of the information we need is considered sensitive and not released without assurances that it will be disguised if it is to be used in a publicly available document. Make certain you find out who has the responsibility to give final approval for release in this case. We have a teaching case that, after 4 years, is still waiting for approval. Managers with whom we were recently working could not discuss profit margins with us, as that was against company policy. Managers at another firm could not discuss market share, because top managers were wary about possible monopoly charges from the Federal Trade Commission. Understand that company policy may be frustrating, but you must respect the constraints the managers are
under. Assure managers that they will be allowed to screen any work before it is made public and that sensitive data will be disguised (e.g., multiplied by pi). We usually state that figures we give when discussing a company are realistic, but not necessarily real.

**Nondisclosure Agreements and Lawyers**

Almost every company with which we have worked has a standard boilerplate nondisclosure agreement (NDA) that we have been asked to sign. This is reasonable because it protects sensitive information from being made public or disclosed to their competitors. However—and we cannot stress this point enough—*read what you are signing, and if you do not understand it, do not sign it until you do*. The majority of companies have perfectly reasonable expectations to safeguard their interests. A few use NDAs designed for consultants that require you to assign any intellectual capital from projects to the company, and most universities claim the right to any intellectual capital developed while you are working for them. Even if this is the case, most companies will be reasonable and delete this clause on request. If they will not, then the project should be approached as a for-profit consulting job. It is very likely you will not be allowed to publish any results, so you might as well be (well) paid for your time.

Keep agreements as simple as possible. Once lawyers get involved, the project is likely doomed. We normally reach an agreement with companies wherein we do not take any compensation for our time, but the company pays expenses. If we need a full-time research associate, things can get a bit messier. Most big U.S. universities have an Office of Sponsored Research and this can cause real problems with high-mandated overhead rates. We had a very difficult time explaining to HP managers at one point why we needed $100,000 for a research associate when they only paid their engineers $75,000. Explaining an overhead rate of 50% is difficult, unless you are dealing with a government entity. University bureaucracy makes any negotiations for overhead rates quasi impossible. Check at your school, as centers usually have lower overhead rates and there are other ways to arrange for compensation. We are not advocating circumventing your university’s rules and regulations for sponsored research, but rather are suggesting you explore various options.

We like the idea of doctoral students working with firms in order to better understand business models and what is important. Under no circumstances, however, should your student be paid by the firm. Managers should also be explicitly informed if you do not want them to discuss job possibilities in industry with your students. One of us allowed a doctoral student to be paid by a company during an 8-week internship. The division director, being suitably impressed by the student’s performance, discussed future employment possibilities with the firm and was noticeably upset when we explained that this was inappropriate behavior because the student worked for us. The expectation at our schools is that we are preparing students for a career in academia, and it hurts our credibility for a student to take an industrial position, especially if this happens before completion of the degree. We are aware that there are varying attitudes, but you need to be explicit about your rules of engagement for students and managers. A good experience at a company
working on real issues can inspire a doctoral student. When one of us went to study a scheduling problem at a military remanufacturing facility, he was immediately exposed to aircraft overhaul operations in which an airframe can have as many as 4,000 components, with each component composed of hundreds of parts, each traveling through dozens of work centers. The problems were fascinating and complex and provided an education themselves.

**How Am I Going to Get This Stuff Published?**

Years ago, one of us was working on a project with a major airline on maintenance and scheduling problems. The work yielded some very interesting insights and models that were successfully implemented and saved the company millions. Yet the paper met with strong reviewer resistance. One reviewer claimed he had 20 years’ research experience in airline maintenance models and assured the authors that the problem did not exist in practice. This claim was boldly made despite the fact that a manager from the airline was a coauthor on the study. The good news is that, most of the time, good research gets published in good outlets and, thank goodness, the editor eventually accepted the airline maintenance paper as well. *Your job is to tell a convincing story, keep it simple, and show how the problem is pervasive and generalizable in practice.*

Most journal departmental editors are eager to get papers that are rigorous, relevant, and refreshing. Because work coming out of academic–industry partnerships often already has 2/3 of the criteria met, your final responsibility is to make certain the work meets the rigor expectations for that journal. Departmental editors are usually willing to provide feedback on papers that address a novel problem from the real world, provided they are asked nicely and given a reasonable amount of time and that you address any of their concerns in the version you submit for formal review. Both of us have served in various editorial roles over the years and we often suggest that authors submit papers for screening, especially if the topic is new. Ask your colleagues for feedback. Quotations and information directly attributable to managers by name often also go a long way toward convincing a reviewer.

**ACADEMIC RESISTANCE**

Perhaps a better title for the section would be “That’s a good idea, I’ll do it after——” where the blank can be tenure, promotion, or “I meet the right manager.” The possibilities are almost endless. The following subsections cover the most frequent comments we hear.

**I Will Work with Companies After I Get Tenure**

We frequently hear this comment from younger colleagues. The outcome is always the same. If you are awarded tenure after 6 years of doing careful incremental and technical research in your office, there is no incentive to change. Your research strategy paid off and you are now an expert at reading papers and carefully extending results. It is not plausible that you are going to adopt a new and perceived more risky research model.
It Is Too Risky for a Junior Faculty Member

This is most often advised by people who were awarded tenure based on the model previously discussed. We have already discussed the need to introduce your doctoral students to a different model for research. Senior faculty can actively mentor junior faculty and get them increasingly involved in academic–industry projects as they become more comfortable with the process and get manuscripts in the pipeline.

My School Doesn’t Give Credit for Publishing Cases, Managerial Articles, and/or Practice (Implementation) Articles

The first thought that comes to mind is “are they in a b-school?” (i.e., what does the “b” stand for?). If that is true, then we advise going to a school that does value a balanced research portfolio. Even if you are at a school that does not value practitioner research, think of your research as a portfolio of products. Each of these products is targeted at a different audience. Despite the fact that your school disdains faculty who publish in California Management Review, the article(s) will still have impact and draw attention to your work from managers who are in a position to help you. We are not advocating that you ruin your tenure chances by focusing only on managerial journals, but that your recent piece in Management Science can easily have a companion piece in an influential managerial journal, and both you and your school will eventually benefit from this.

I Do Not Like Working with Industry

This is a perfectly valid reason in our opinion. We have both taken colleagues along on trips to companies and seen that it was pure misery for some individuals (us included, because we had to listen to their complaints for several days). Many of our colleagues are very happy for us to find and frame problems for them to then attack with analytic methods. This can be a very profitable working relationship, provided both parties respect the skills of each other.

SUMMING UP AND SOME FINAL THOUGHTS

Two decades ago, one of us had some links with Bekaert through former students and courses/presentations at the company. These experiences laid the foundation for understanding the great things they had done in quality management. Work started with a case, written by Michael Lapré, then a research assistant. After the case, Michael agreed to do his dissertation on analyzing how Bekaert had learned from projects for quality improvement over the years. Michael spent 6 months in the company going over mountains of reports and interviewing people to understand what Bekaert was doing. The study by Michael eventually led to articles in Management Science (Mukherjee, Lapré, & Van Wassenhove, 1998; Lapré, Mukherjee, & Van Wassenhove, 2000; Lapré & Van Wassenhove, 2001), Harvard Business Review (Lapré & Van Wassenhove, 2002), and California Management Review (Lapré & Van Wassenhove, 2003). The results of the study were presented by Michael to the executive board, and it is the only time either of us has ever heard a chief executive officer say immediately “Gentlemen, I think we all agree this makes a lot of sense, let’s implement it as of today.” The project gave us a great deal of
credibility at the company and a lot of visibility and credit with other companies. It has led to many follow-up contacts with the company for other projects, training, and consulting.

Another example of just how much a positive industry experience can influence or define a research agenda comes from the work one of us did as a doctoral student exploring heuristic scheduling systems at a U.S. Navy remanufacturing depot. This initial experience was so exciting that it led to an academic career focused on understanding remanufacturing and closed-loop supply chains. All the research we have done in this area was either based on or inspired by industrial practice.

The other key point we would like to make is that one needs to cast the net very widely. Explore broad contacts; get to know the company and its people; do seminars, training, projects; write a case, learn from it; help the company solve a real problem that hurts them; select various abstracted problems from that; write academic papers for top journals on them, but also write managerial and implementation papers. Make certain you leverage all you can from your industry partnerships and use what you learn on this project to do more with what you learn from the next project.

These broad contacts/relationships can be very useful over the years because they provide economies of scale and scope (i.e., reduce investment time). Companies need/like these relationships. Sometimes we give them consulting time for free in exchange for them letting us do a project on something we want to try. Solving a very practical process improvement problem at Pitney-Bowes led to managers agreeing to track data for us so we could develop models that we found interesting, but that were not immediately useful to managers there.

In any case, this industry-inspired research may require upfront investment but does not necessarily require more effort than other types of research in the long run. Industry research does not have to be less rigorous, nor does it have to have a lower success rate (or higher risk). In our experience, good work always gets published. It is all about quality standards (and having fun). [Invited.]

REFERENCES


**APPENDIX**

We use the term partnering with industry or academic–industry partnership throughout our discussion. What exactly does this mean? It means we have defined a project with a company, established a schedule, arranged for data collection, have a list of contacts in the company, and have discussed deliverables with the managers. We do not charge for our time in exchange for the right to publish (subject to approval from the company) and the knowledge we obtain from the project. The company is expected to pay for our expenses (travel and a reasonable per diem) and the expenses of a doctoral student accompanying us. If the project
Commentary: Dancing with the Devil

Scope is sufficiently large, we may ask for the firm to cover the cost of a postdoctoral student or a research associate working full time on the project. We spend significant amounts of time with managers and engineers at the company, carefully documenting the relevant processes, and have regular meetings with the managers to discuss what we have found so far and whether there are any additional data or resource needs. Some of this can be done by phone or Internet conferences, but much of the work requires our physical presence at the facility. This represents a real commitment for both the managers and the academics working on the project. Spending an hour on a plant tour does not make you any more familiar with the real problems than watching a basketball game makes you a professional athlete. Academic–industry projects require that you obtain expert knowledge about the actual processes and procedures in place at the company, and this is not a trivial commitment. However, we do believe the efforts involved have a very high payback.

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