

MIT Lab for Innovation Science and Policy

WORKING PAPER

Engaging in Regional Innovation Ecosystems: Six Questions to Get Your University Partnerships Right!

Lars Frølund Visiting Innovation Scholar, MIT Innovation Initiative

Fiona Murray Professor of Entrepreneurship, Co-Director, MIT Innovation Initiative

Max Riedel Senior Consultant, Siemens University Relations

JULY 2017

1. Introduction

Collaboration between universities and companies is one of the critical drivers of the innovation economy. These relationships have long served a critical mainstay of corporate R&D— from creating the knowledge foundations for the next generation of solutions, to serving as an extended “workbench” to solve short-term, incremental problems, to providing a flow of newly minted talent. As corporations cut down on their internal R&D activities and look to open innovation as an alternative, universities have become an even more essential partner. Indeed, companies are now looking to universities to anchor an even broader set of external activities, especially those grounded in engaging with regional innovation ecosystems. Silicon Valley, Boston’s Kendall Square, Berlin, Singapore are among some of the critical innovation ecosystems providing a wellspring of new innovations not only from their universities, but from all of their key stakeholders. Indeed today, we consider flourishing innovation ecosystems as being grounded in effective interactions among universities, corporations, entrepreneurial community, the government and risk capital.

From a corporate perspective, the university-corporate axis of interaction is naturally a strong element of stakeholder engagement, particularly in an innovation context. Thus, as well as serving as sources of new people and ideas for corporations, university collaborations serve as a lynchpin for corporations seeking to open up new avenues of engagement with the broader innovation ecosystem. For example, universities may anchor engagement with (and support of) the early stages of the innovation process through to start-up formation, thus allowing corporations a mechanism of reaching out and into the broader ecosystem. A new innovation ecosystem approach to corporate innovation therefore places an even greater reliance on university relationships if they are to serve not only as a source of people and ideas, but also as a conduit to new start-ups, and to deeper ecosystem interactions.

It is not simply the traditional corporate giants who are taking universities and their innovation ecosystems seriously. Companies from Amazon to Facebook, and from Google to Uber are also using universities around the world as a key part of their early stage-innovation and new ventures strategy. And more regionally-based companies in sectors from mining to compound semiconductors are insisting that all the key ecosystem stakeholders play a role in supporting and shaping the regional economy. These relationships are often grounded in interactions that include the university as a source of relevant research and training, start-ups (via strategic investment, collaboration or acquisition), the government (through the provision of financial support, an effective regulatory environment and a clear industrial strategy), and even risk capital.

[SIDEBAR: A regional example is the role that semi-conductor company IQE plc is playing in supporting the regional innovation ecosystem in Wales – as part of a broader UK industrial strategy that emphasizes the specific comparative advantage of particular regions around the country. By developing its own world class expertise in compound semi-conductors, IQE is well positioned to play a collaborative role with Cardiff University to develop a Translational

Research Facility and to engage with an academy for training of key scientists and technicians. In support of these efforts, the UK government supported the creation of a “Compound Semiconductor Applications Catapult” to bridge the gap between companies developing novel semiconductor materials, topologies and devices, and those developing systems for end-user applications. Other regional efforts from the start-up community link more general entrepreneurship support to this specialized set of activities, thus ensuring that all stakeholders are effectively engaged and the corporations are closely connected into the ecosystem.]

While the aspirations of university-industry partnerships are easily described, many companies, despite the availability of financial resources and human capital, still find it challenging to establish and run partnerships effectively. The challenge of such relationships is only amplified in an ecosystem approach when multiple stakeholders, each with their own ambitions, must be aligned for collective impact. Our research and experience has shown that corporations (and universities) confront a general level of frustration and a mismatch in culture and governance when they collaborate. This arises from many sources but at the core is the fact that university culture – characterized by high autonomy and distributed governance – maps poorly to a corporate culture. More narrowly, universities often provide companies with a large and at times bewildering array of faculty and programs and offer many different modes of engagement. Lastly, even when modes of interaction are selected there remains a profound mismatch in expectations of what joint engagement might deliver for each party and whether the mission goals of each party are compatible.

Given the promise and the challenges of university-industry interaction in today’s ecosystem context, it is timely to explore the factors that make a systematic approach to strategic university-industry collaboration successful and to place these factors in the context of the broader imperative for innovation ecosystem engagement. As we will show, a systematic approach to strategic university partnerships within innovation ecosystems is about companies being effectively prepared for engagement and interaction prior to their strategic engagement (as universities themselves should be too). Such preparedness can arise in a number of ways but we argue that by working through six fundamental questions, corporations can develop a more effective approach to their interaction with a range of universities, thus delivering more value for both parties and setting the stage for more effective ecosystem engagement.

1. What business goals drive your university partnerships?
2. What are the key focus areas of your university partnerships and how are they selected to ensure alignment with your business goals?
3. Who are your primary university partners and by what criteria are they chosen?
4. What collaboration formats match your focus areas and business goals?
5. What people, processes and organization support your university partnerships?
6. What key performance indicators are most useful to evaluate your university partnership?

While each of these questions is relevant in its own right, they are also closely coupled and when answers are aligned, provide a logic for engagement that is more strategic and (we argue) likely to be effective. Taken together, these questions can be systematized into a *university partnership canvas* that enables a corporation to both assess and further develop their university partnership approach in a way that moves them from an ad hoc approach to partnerships towards a more strategic perspective thus setting up both the university and the corporation for a more effective approach to ecosystem engagement.

2. From ad hoc to strategic partnerships in regional innovation ecosystems

During the last two decades, companies have shifted their approach to university relations from informal arrangements focused on collaboration with individual researchers to the establishment of strategic programs for university relations that span multiple different goals and topics, to now a focus on universities situated in regional innovation ecosystems such as ETH/Zurich, Carnegie Mellon University/Pittsburgh, and Technical University of Munich/Munich, to mention a few.

In the ad hoc approach, university research collaborations are first and foremost established by individual researchers / engineers in the company, and focused on specific aspects of R&D needs identified by those individuals. This means that ad hoc collaboration partners are likely chosen based on personal experience and the network of the researchers / engineers in the company. All in all, the rationale for university partner selection is about familiarity and the collaboration partner is an individual researcher or lab leader and not the university as a whole. While this may mean that many potentially valuable aspects of a university partnership were ignored, these ad hoc approaches are very effective in creating what has been described as an “extended workbench”¹. Extended workbench means that a specific collaboration, often situated in a specific business unit of the corporation, has a well-defined, narrow scope to help solve a concrete challenge in a current research agenda for which the corporate engineer does not have the capacity or the competence. Hence, the corporation extends its workbench into the university researcher or lab to solve specific problems. Such collaborations are often small, but they may be agile and developed on a short, flexible time-scale and contractually handled through single contract research agreement. From the perspective of the corporation, the organization of the collaborations is limited to the project organization (typically within a business unit) and as such, there is no centralized organization of the university collaborations. From the university’s perspective, individual researchers and their students, gain funding, insight into relevant problems, and opportunities to access novel assets or partners.

¹ Perkmann, M., & Salter, A. (2012). How to Create Productive Partnerships with Universities. *MIT Sloan Management Review*, 53(4), 79–88.

The challenge of the ad hoc approach, from a corporate perspective, is that it leads to a large number of collaborations (sometimes several hundred) with no synergy and each research agreement being negotiated individually, which puts a high workload on legal departments, leading to delays in the project start. From the university perspective, autonomy is preserved, but opportunities for broader engagement and impact are limited. Consequently, large companies (together with some of the leading universities) have increasingly looked to create more strategic programs for university collaboration.

As companies developed their strategic agreements, they also began to divide the universities into different tiers with tier-one being for universities in a strategic relationship. These universities were selected not only on the basis of personal experience of a corporate researcher, but also via an internal audit focussing on excellence in the technology areas of strategic importance to the company and familiarity to the company as a whole. A distinct feature of strategic university-corporate programs lies in the way that companies started to use company-wide master research agreements to create transparency in collaboration activities with a university, (potentially) enhance their negotiation position, and enable projects to be deployed more rapidly, and in ways that might enhance inter-faculty collaboration in topics of shared interest. Such approaches can be traced back to those deployed in the 1980s between Harvard Medical School and Hoechst A.G., Washington University and Monsanto, and MIT Exxon in the U.S. and longstanding relationships such as Rolls-Royce with University of Oxford². They are particularly interesting to universities as they enable individuals from corporate labs to be embedded on-site at the university, provide a more stable source of funding, and allow for deeper multi-faceted relationships. From the university perspective, such strategic approach can be structured at the university level, or (as is often the case), with a specific department, lab or centre (as determined by the scope and focus of the business goals and research topics).

The development of such programs has led universities and companies begin to work together on what John Dewey would call perplexing and trying situations, i.e. situations in which we know “(...) what the problem exactly is simultaneously with finding a way out and getting it resolved”³. This change from incremental problem-solving (extended workbench) to joint deep exploration is important because it signals that universities are not any longer (just) places for solving already defined problems, but a place for those (grand) challenges that do not present themselves with a clear solution set that just need to be implemented efficiently but instead have a more open-ended, exploratory emphasis.

² See: <http://www.nytimes.com/1982/10/17/business/corporate-links-worry-scholars.html?pagewanted=all&mcubz=0>

³ Dewey, J. (1998). Analysis of Reflective Thinking. In L. A. Hickman & T. M. Alexander (Eds.), *The essential Dewey, vol.2: Ethics, logic, psychology* (pp. 137–144). Bloomington: Indiana University Press.

On the organizational level, the creation of strategic programs has led to the institutionalization of specialized units for university relations often situated in the corporate R&D organization with reporting lines to the senior management. These units play a leading role in e.g. defining the topics of the collaboration, designing formats, developing criteria for selecting partner universities, offering advice regarding intellectual property rights, evaluating collaborations, and continuously managing the possible mismatch of understandings and expectations between the company and the university. On the university side, there have been fewer organizational changes to match such strategic programs, but the development of specific corporate programs for engagement with a particular research centre, department or initiative has become more commonplace, as has the role of both licensing and contract professionals in corporate engagement. Much like the corporations with whom they partner, universities have chosen a wealth of different organizational solutions to the interface with the corporate world.

Strategic programs for university partnership increasingly serve as the fulcrum for broader innovation ecosystem engagement (not least because large corporations are seeking innovation throughout the process from idea to impact). Companies may link to the ecosystem via a range of local entities e.g. local government, the school system (on, for example, STEM education), start-up communities (including accelerators). However, particularly for universities actively engaged in start-up creation and research translation, familiarity with the university, as well as its growing collection of innovation activities becomes the natural point for broader links to the innovation ecosystem. This shift also aligns with the ways in which universities are, today, taking a role in local and regional economic development (as well as playing on a global stage). Conversely, it would be hard to imagine innovation ecosystem engagement happening without a deep connection to the local university, and so the university-industry relationship becomes part and parcel of the corporate-ecosystem engagement.

As university-corporate interactions become more complex, and more is demanded of them, it is not surprising that there is a growing tension on both sides of the relationship to determine how to fulfill expectations. On the corporate side, business units, global R&D as well as venturing units and top-management are now engaged. On the university side individual labs, centers and initiatives, as well as entrepreneurship programs are all relevant to engagement. Our research comes from an interest in both understanding and guiding how to optimize this naturally complex interface. In doing so, we have found that if the specialized corporate teams (as well as the university teams) work through the six fundamental questions we propose, they are more effectively positioned to develop a systematic and strategic approach to interaction with a range of universities in different innovation ecosystems.

3. Six Questions for a Systematic Engagement with Universities in Innovation Ecosystems

The six questions can be divided in three groups. The first is about the business goals – the strategic goals that university partnerships might deliver. The second set of questions emphasizes the topics (what), partners (who), and collaboration formats (how) of university partnerships. Together, these four questions form the core of a systematic approach to university partnerships. The third group is about ensuring that the right people, processes, and organization and evaluation (key performance indicators) are in place so that both the university and the company can ensure that the partnership are meeting the business goals of the company and delivering value to both parties.

What business goals drive your university partnerships?

The need for university partnerships is manifold, but it is often difficult for companies to effectively articulate these goals in clear business terms. While not exhaustive, working with companies who have emerging best practices in this field, we find that the business goals that drive university interactions can often be grouped into five distinctive categories:

1. Short term, incremental problem-solving within an existing product line, sometimes referred to as “extended workbench” and probably most closely associated with the Fraunhofer-model;
2. Talent identification and hiring. Talent acquisition at multiple levels – from undergraduates, to PhDs, and post-docs is undoubtedly, for many companies, a primary business goal of partnerships;
3. Long-term development of new technologies/solutions to broad-based customer needs which may lead to new product lines or new businesses. This is often referred to as “grand challenges” or “deep exploration”;
4. Systematic exposure to new start-ups (either research-driven or student-driven) while still part of the university has become an emerging imperative need. While there is no agreed upon nomenclature, we will call this “start-up pipeline”, and for many companies drives the engagement of the corporate venturing function with universities;
5. Publicity and political influence. A high-profile partnership with e.g. Stanford will promote the innovative image of the company and in some regional innovation ecosystems e.g. the National University of Singapore, a partnership may give greater access to high-level government officials.

While each of these goals is distinctive, some are often highly interrelated. For example, working collaboratively on grand challenges can serve as a pathway to talent identification, and at times, to the start-up pipeline. Likewise, the more immediate extended workbench engagement might lead to hiring of specific skilled individuals who are attracted to the particular needs a company might have in their R&D activities. At the core, the opportunity for a corporation is to engage in setting out a collective view of their business goals and how they relate to their university interactions. While easy to say, this is rarely done in practice!

WHAT are the key focus areas of your university partnerships and how are they selected to ensure alignment with your business goals?

Companies have rigorous processes and a range of organizational settings for negotiating and deciding on the innovation priorities of the company. Within the context of the business goals outlined in question one, the selection of the key focus areas for university partnerships must dig beyond the business goals and into the specific innovation priorities of the company. In other words, for a particular business goal, e.g. talent identification, the focus areas must be prioritized so that the “WHAT” can be well defined: for example, by technical competence/capability (e.g. bioprocess engineers), challenge areas (e.g. new distributed power systems), or product domains (e.g. more efficient turbine blades). The selection process should be just as rigorous as any other internal process, to prevent university collaborations that are out of the scope with the business goals. Of course, these focus areas can be defined in a number of ways and will be different from company to company: whatever the dimension, it is the rigorous process of clarification of the “WHAT” and alignment to the business goals that is of greatest value for a systematic approach to university partnerships.

Good examples of rigorous processes are the use of so-called innovation boards and/or internal calls for proposals. In one example, the innovation board of a large corporation comprises the heads of divisions that are relevant to the prioritized business goals for university partnerships e.g. R&D, production, and marketing innovation. This group makes decisions on which focus areas can be a part of future projects with universities and monitors on-going projects with strategic partner universities. A key to the Innovation Board is that it allows coordinators of research clusters in the corporation to present ideas for a future projects and focus areas. This bottom-up process ensures that the focus areas of the current and future projects with universities are constantly aligned with the business goals that drive the university partnerships.

WHO are your primary university partners and by what criteria are they chosen?

Selecting university partners is not an easy task. However, leading corporations are increasingly moving towards a practice that ensures that selection criteria are more explicit (in ways that are particularly welcome by many universities). The most common selection criteria include:

- Familiarity (previous joint projects, personal relationships, many hires – indicating a good fit),
- Location (determining whether proximity – to headquarters or to an ecosystem is critical),
- Excellence (ranking of the university, top-journal publications of a lab or single researcher etc.),
- Legal framework (especially regarding intellectual property rights, access to starts-ups etc.)
- Culture (especially regarding entrepreneurial culture, openness to industry, interdisciplinarity etc.)

Our research shows that successful companies continuously define and refine the selection criteria (and the ways in which they rank universities against these criteria) as their experience base and goals change. A large US corporation, for example, has developed an online tool that track the productivity and impact of many universities with a focus on specific criteria for translational impact. The online tool helps R&D groups in making data-oriented decisions on whom to partner with and makes sure that the selection criteria are aligned to business goals of the company.

WHAT collaboration formats match your focus areas and business goals?

Choosing collaboration formats lies at the heart of successful university partnerships. While traditional formats have mainly focused on sponsored research (of one or many projects), the range of formats is expanding to include: single lab contract research, embedded individuals, consortia membership, large co-created research centers, focused research calls, student/corporate hackathons and idea contests, collaboration on publicly funded projects, fellowship programs, and joint-conferences and workshops.

| Format | Example |
|---|--|
| Single lab contract research | Fraunhofer Institutes interactions with corporations |
| Embedded individuals | MIT's Materials Technology Lab which encourages corporate researchers to work in a specific on-campus lab. |
| Consortia membership | University of Cambridge Institute for Manufacturing corporate membership programme. |
| Co-created Research Centers | Binnig and Rohrer Nanotechnology Center by ETH Zurich and IBM |
| Focused, open research calls | Amazon Catalyst research grants initiated and piloted with the University of Washington, Seattle. |
| Student hackathons | MIT hackathon with the NMMI on Advanced Fibres for America (AFFOA) |
| Student competitions | The Siemens Global University Challenge |
| Collaboration on publicly funded research | DARPA proposals, EU Horizon 2020. |

More novel and ambitious formats include the new Cisco University of British Columbia relationship to turn the university into a living lab for smart building systems⁴. Or the Global Innovation Exchange funded by Microsoft and established in collaboration between Tsinghua University and the University of Washington which provides a compelling example of the more complex but increasingly relevant multi-party, multi-continent relationships⁵.

⁴ See: <https://newsroom.cisco.com/press-release-content?articleId=1197152>

⁵ See: <https://www.insidehighered.com/news/2015/06/19/university-washington-and-chinas-tsinghua-u-launch-institute-microsoft-millions>

Of course, effective collaboration formats depend on the set of goals that the partnering company wishes to pursue. For companies prioritizing short-term, incremental problem-solving then contract research is the most likely format to seamlessly extend the workbench via collaboration because this allows the company to finance a single researcher, group or lab to solve a problem within a short time period with contractually defined milestones. If the goal is talent acquisition, then student-oriented activities such as hackathons, competitions and fellowships are formats that allow the company to get to know a large number of talented students and evaluate their fit with the company. Employees who are embedded within the university are also well positioned to identify talent particularly at the PhD and post-doctoral level. To meet grand challenges, a variety of formats are emerging as best practice: open grant calls (perhaps preceded by a shared hackathon or brainstorming to raise awareness and excitement) or, for even longer-term engagement, the creation of a joint research centre or joint lab. When well designed, these formats also provide access to talent and thus touch upon several business goals.

As mentioned above, engagement with the start-up pipeline has emerged as a critical new business goal for university partnerships (and ecosystem engagement). Here again a variety of formats are possible, all which serve the goal of identifying and connecting to the pipeline of *proto-start-ups*. Formats to link to such proto start-ups recognize that the companies are engaging with the varied innovation & entrepreneurship programs at the university and the wider innovation ecosystem. Our research show that the successful companies are exploring a variety of collaboration formats in this domain – often separating the formats between engaging with student-led start-ups (e.g. via business plan competitions or student accelerators) and those lab-based start-ups where interaction is embedded in various forms of support for translation.

For companies with an expansive set of goals there is a need to manage a complex portfolio of relationships and formats. A good example is a large pharmaceutical company where the unit for university relations continuously evaluate and prioritize the collaboration formats in relation to the different business needs and the phases in the drug development process. Private public partnerships are, for example, used for business goals that can't be met by the company single-handedly and fellowship programs are used to drive know-how about grand challenges and for talent acquisition.

In the end, the road to successfully partnering with universities in innovation ecosystems is therefore not about picking a particular, and sometimes hyped, collaboration format, but about systematically prioritizing and re-prioritizing the different formats according to inevitably changing business goals. Beyond that, it is about providing the right organizational support to ensure success (to the extent possible), or at least identify and manage sources of tension. In our last two questions, we turn to these issues.

What people, processes and organization support your university partnerships?

With complex new partnerships across a range of universities, corporations must put into place the most effective internal structures and processes to drive success. For us, this raises the question of what structures are the most likely to enable effective interactions? What key competences are ideal in university relationship managers? And, what processes are most likely to support the internal alignment between the expert and management level in the company and between the company and the university?

In terms of structure, the shift from an ad hoc approach to a strategic approach has led to the institutionalization of specialized units for university relations. But the question remains as to what the most effective structures to support partnerships: should corporations establish units for university relations and if so, should they be a part of a central R&D function or a part of more decentralized business units? Our findings show that strategic partnerships do not necessarily have to be supported by a centralized unit with direct reporting line to the CTO or a SVP. Once again, the primary business goals (as well as the particular choice of WHO, WHERE, HOW), will shape choices. If the business goals emphasize incremental problem-solving - and the problems are identified at the business unit level - then the organization of the partnerships support should be within the business units, with a reporting line to the management of the business unit, and light-touch cross unit coordination. If, on the other hand, the key goal is to tackle grand challenges then the unit for university relations should be centralized with a direct reporting line to the CTO. A good example is Siemens who has created a cross-cutting organization of internal and external university relationship managers to run their strategic program with universities.

Regardless of the organizational structure, the employees who serve at the university-corporate interface are of critical value as they must act as knowledge brokers between the company and universities in the strategic program. Our work has found that there are two designated roles for each university in the program:

- A management sponsor (usually a top-manager such as a board member or country CEO), who is nominated for a specific university.
- A university relationship manager for R&D supports the sponsor on the company-side.

We observe that it is helpful when the university mirrors these two roles by a university sponsor (usually a vice president or dean) and an industry-partnership manager. It is this core team, on the corporate side, who drive the various processes that are implied by our six questions e.g. business goal identification, topic selection, partner selection, and format design. Of course, at the level of a portfolio of university partnerships, the key individuals within the corporation must be at the table for these conversations (including the sponsor for each relationship), and have an overview of the entire strategic engagement in various innovation ecosystems. But as noted above, the overall reporting structure (to the extent that all

relationships converge into one more widely managed portfolio, as we propose), depends upon the primary driving goal of these relationships. Beyond these internal organizational decisions, for a given university partnership our evidence suggests that it is helpful for the corporate team (and the university-corporation team) to explicitly address the six questions and use them to build a shared understanding of success.

What key performance indicators are most useful to evaluate your university partnerships?

Given the profile and promise of many university partnerships, evaluation becomes a critical element of an effective strategic approach to university-industry engagement. But as with any critical activity, the metrics of success must be carefully defined in ways that ensure that what is measured and tracked is closely aligned with the business goals. Both the KPIs and the process of evaluation (as noted above) are key to ongoing effectiveness.

Often used key performance indicators (KPIs) for university partnerships are: cash investment, number of joint project initiated per year, number of students hired, number of patents or licensing agreements, amount of public funding leveraged, effectiveness and efficiency of projects, number of faculty members and students involved in projects per year, number of ideas that turn into product development, and number of investments of starts-ups. Our research show that the successful companies uses a variety of KPI (quantitative and qualitative) that are constantly defined and redefined in terms of their fit to the business goals, and the collaboration formats. Taking each major business goal in turn:

- If the goal is incremental problem-solving, then the KPIs should prioritize the effectiveness, timeliness and efficiency of the single researcher, group or entire lab in delivering a solution.
- For talent identification and hiring metrics might include number of applicants for key roles, successful hiring ratios, retention, and then later performance within the corporation;
- For grand challenges, KPIs may include number of proposals submitted, diversity of these proposals (and new faculty engaged), external funding leverage, and later, effectiveness/breadth of solutions.
- For access to the “start-up pipeline” KPIs might include number of new start-ups from the university, fraction that are a match (for due-diligence), engagement by business units;
- Lastly, if the goal is publicity and political influence, then high-level meetings, media mentions, satisfaction from the media relations team are among the relevant KPIs.

As this exercise has outlined, working through the six questions leads a corporation towards a strategic perspective on their partnerships, thus setting up both parties for a more effective approach to interaction and then to ecosystem engagement. To facilitate the use of this question-based process, we have created *The University Partnership Canvas*: a visualization of each of the six questions.

Figure 1: The University Partnership Canvas

UNIVERSITY PARTNERSHIP CANVAS MIT Innovation Initiative

Created for: _____ Created by: _____ Date: _____ Version: _____

2 FOCUS AREAS
What are the key focus areas of your university partnerships and how are they selected to ensure alignment with your business goals?

3 PARTNERS
Who are your primary university partners and by what criteria are they chosen?

1 GOALS
What business goals drive your university partnerships?

4 FORMATS
What collaboration formats match your focus areas and business goals?

5 PEOPLE, PROCESSES AND ORGANIZATION
What people, processes and organization support your university partnerships?

6 EVALUATION
What key performance indicators are most useful to evaluate your university partnerships?

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/> or send a letter to Creative Commons, 175 Second Street, Suite 300, San Francisco, California 94105, USA.

Designed and developed by Lars Frelund, Max Riedel and Fiona Murray

4. The University Partnership Canvas – assessing and developing university partnerships

As already mentioned, many companies have recently shifted their focus of university (and broader ecosystem) engagement from incremental problem-solving towards long-term development of new product lines and systematic exposure to new start-ups. And yet, in doing so they may not have shifted the other elements of their engagement approach and realized that there is a mismatch or tension in the answers to the different questions. In particular some of the governance challenges that emphasize intellectual property may no longer be salient if the company is seeking novel ideas, or, the modes of engagement (formats) need to emphasize following idea generation on the journey from the lab and out into start-ups in the ecosystem, e.g. through equity investment.

In such instances, the canvas offers a tool to systematically:

- assess the existing approach and identify mismatches and tensions between the business goals and e.g. the selection of topics, format selection and against this background the define possible solutions to overcome the mismatches and tensions.
- explore the impact of changing business goals on the existing university partnerships and against this background make timely decisions on what to change.

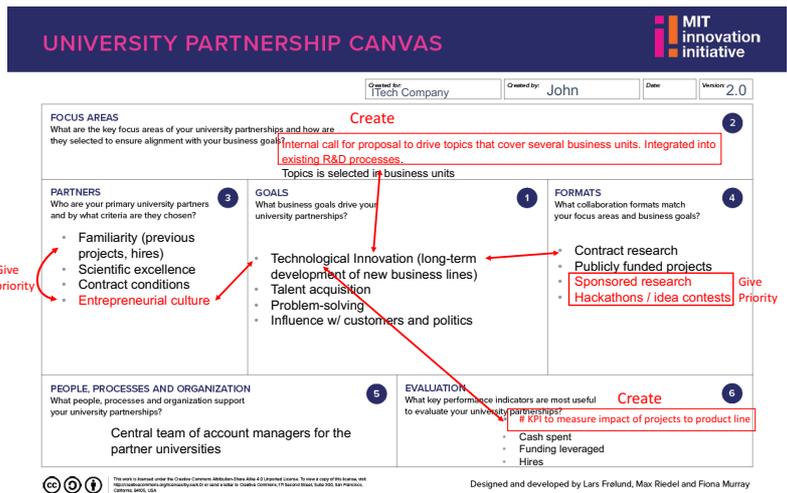
In an example from our research, a technology company used the canvas to assess a strategic program for university partnerships that had been ongoing for more than 5 years with the primary business goal to drive long-term development of new product lines or new businesses (“grand challenges” or “deep exploration”). The assessment was done by the people responsible for university relations globally. We asked the people to first fill out the canvas by answering the questions one by one and to insert red lines and/or remarks if/when they found a mismatch or tension, i.e. when the answers to the six questions were not reinforcing each other.

The assessment made explicit several mismatches and tensions:

- Format selection: in spite of the business goal to drive long-term development of new product lines or new businesses the company's preferred collaboration format was "contract research". Contract research is a good match for short-term, incremental problem-solving but not for driving long-term development of new business lines.
- Topic selection: the company had no central process for selecting the topics that are aligned to the innovation priorities of the company. Instead the topics were selected in the business units level which led to projects with a narrow scope, i.e. projects with a good fit to the preferred format, but a misfit to the primary business goals.
- Partnership selection: Although the company focussed on long-term development of new product lines or new businesses, it had given low priority to "Entrepreneurial culture" in their selection criteria.
- Partnership evaluation: the company did not have a KPI that was useful to evaluate the impact of projects in the partnership and the creation of new product lines or new businesses.

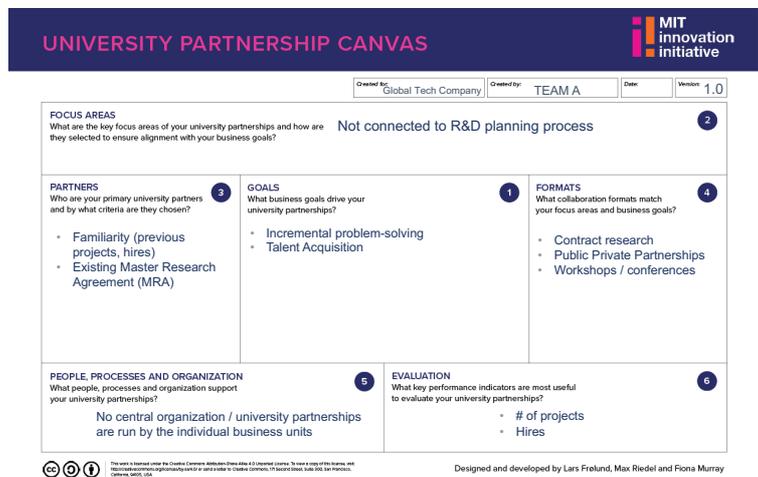
We then asked the company to come up with solutions that would overcome the mismatches and tensions – and to write these tentative solutions on the canvas. They decided to prioritize sponsored research and hackathons with the idea that hackathons should inform new projects that should lead to new business creation. In regards to selection criteria they decided to still give "Familiarity" top-priority, but they would give "Entrepreneurial culture" more priority and lower priority to "research excellence". In regards to selecting their key topics, they decided to create a centralized call for proposals with (if possible) direct CTO funding to drive more sponsored research projects and hackathons within topics that potentially would impact several business units. Finally, they decided to create a KPI that should measure the number of new business new product lines or new businesses based on joint research projects. Their result is shown below where the **RED** arrows indicate a mismatch and tension:

Figure 2: The University Partnership Canvas with mismatches, tensions and possible solutions



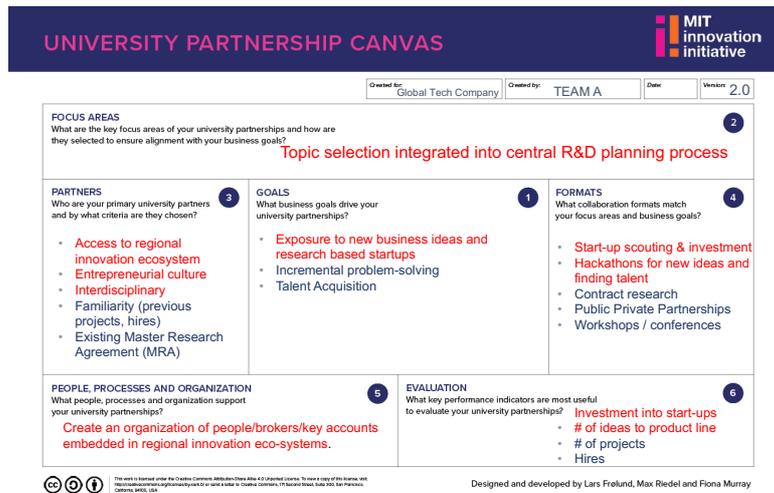
In another example, a global technology company wanted to re-prioritize their business goals from primarily short term, incremental problem-solving towards a focus on systematic exposure to new business ideas and research based start-ups, talent acquisition, and long-term development of new business lines (technological innovation). The company first assessed their current approach to university partnerships by using the canvas. The result is shown below:

Figure 3: Using the University Partnership Canvas for Assessment



They then inserted the re-prioritized business goals and against this background explored the impact of the re-prioritized business goals on their approach to university partnerships by working through the questions from two to six. Their result is shown below (the key changes are marked with **RED**):

Figure 4: The University Partnership Canvas with re-prioritized business goals



When working through the questions on the canvas the company realized that the change in business goals had a profound impact on their approach to university partnerships. The company will need to 1) setup internal processes that makes sure that the key topics for university partnerships are aligned to the overall R&D priorities of the company, 2) use their resources on hackathons and sponsored research instead of short-term contract research, 3) create an organization of people that are embedded on the innovation ecosystems who will work as brokers and key accounts for the company in the regional innovation ecosystems. Finally, the company will have to redefine their KPI and their partner selection criteria.

5. Getting Your University Partnerships Right

Partnering with universities in innovation ecosystems is a challenging business, but by using the University Partnership Canvas (and thus answering the six questions) a corporation can develop a systematic approach to their interaction with a range of universities, thus delivering more value for both parties and setting the stage for a more strategic approach for ecosystem engagement. We would also like to point out that the canvas should not only be seen and used an internal tool for assessing and developing a corporation's approach to university partnerships. We also advise corporations to use the University Canvas in their ongoing dialogue with universities. In this way, the canvas can be a tool that a corporation and a university use to create transparency on the goals, formats, KPIs, organization etc. of a partnership that is about to begin or to be further developed.

6. Acknowledgements

(...)

7. About the Research

The article draws on the results of a four-year research project, MIT's Regional Entrepreneurship Acceleration Program (MIT REAP), and years of experience in advising on creating successful university-industry partnerships. The four-year research project investigated strategic programs for industry-university collaborations in 10 global technology companies with a focus on: 1) the development of specialized units and people for university relations and their professionalization, 2) the change from an ad-hoc approach to a strategic approach to university partnerships and 3) the corporate success factors for university partnerships. The research was conducted through a qualitative inquiry consisting of participant observation, semi-structured interviews and workshops. MIT REAP helps regions foster economic growth and social progress. This is done through an evidence-based, practical approach to strengthening innovation driven entrepreneurial ecosystems that includes five key stakeholders: corporations, universities, entrepreneurs, risk capital and government. So far 274 participants from 29 regions worldwide has participated in MIT REAP and the article draws on the challenges these regions have tackled regarding university-industry partnerships. Finally, the authors draw on extensive experience in advising company and university executives in setting-up and further developing university-industry partnerships in specific regional innovation ecosystems.