Framework Conditions for Enhancing International Academia-Industry Collaborations – a Learning Process

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Abstract

Internationalisation of research and cooperation between academia and industry is imperative for increasing knowledge transfer, business capacity, and competitiveness. Using experiences from the Swedish Competence Research Centres (CRCs), different major tasks, methods, and issues for broadening capacity to an international level are presented in this essay. This discussion takes its starting point in the present status of a representative R&D (research and development) environment. A framework of questions is proposed to structure the potential pathways to produce a strategy for internationalisation. One of the most important tasks when operationalising a strategy is to ensure that the most important stakeholders in an environment perceive a clear win-win case. Hence, positive answers to questions such as "What is in it for me? What do I need to invest? What do I forsake?" need to be considered from the actor's and the stakeholder's perspectives. Furthermore, clear KPIs (Key Performance Indicators) and a thorough timeline are considered crucial for the implementation of successful internationalisation approaches. [1]

1. Overview

Internationalisation in R&D environments needs to follow a structured approach so as to be able to include all relevant actors, positions, and possible areas of interests. A four-step structure of different stages of internationalisation, including evaluation and reflection phases, is presented in figure 1. Securing stability, satisfaction and assurance in current activities/projects among partners is essential before internationalisation efforts and developing a strategy. This is important since there is a risk that resources allocated to internationalisation can be interpreted as a negative burden in CRC/among partners. This also includes commitments and perceptions from partners and other stakeholders. In addition to a stable environment in place, further issues to be considered in advance are the available recourses and potential benefits of the proposed strategy. If the resources/benefits are not sufficient, it is important to consider taking a step back and ask whether there may be a better window of opportunity for the proposed internationalisation efforts, e.g. after one to three years. It is also important to evaluate the exact implementation of the strategy, since the means chosen will decisively influence the future direction of approaches to internationalisation.[2]

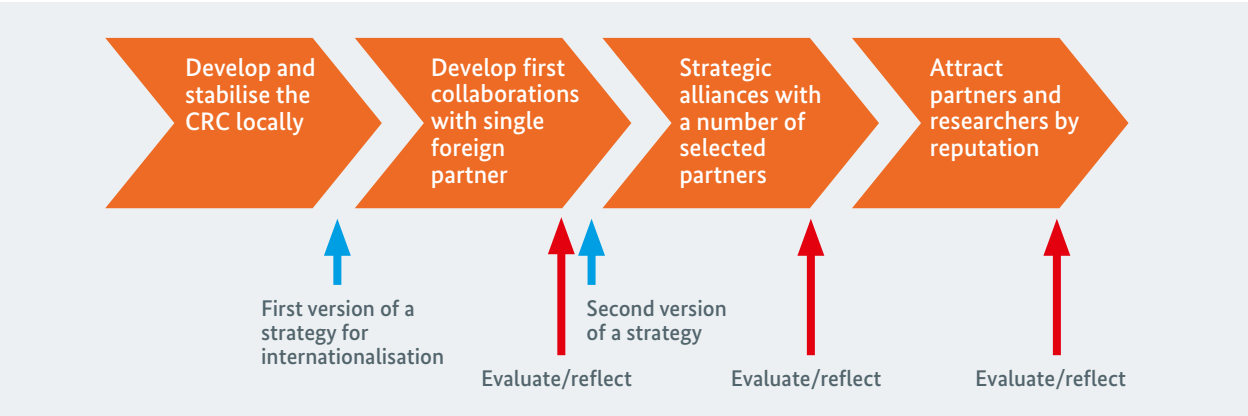

Figure 1: Different stages to implement a proposed internationalisation strategy.

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2 Most of the material for this article is based on final project reports from Swedish R&D-environments financed by Vinnova, the programme "Global Links" and the study "International Co-operation of Competence Research Centres – Final Report of the COMPERA joint study" by IWT Flanders (Agency for Innovation by Science and Technology, June 2010.) COMPERA was a European Commission ERA NET.

2. Developing the Strategy

If indeed deciding to start producing a strategy for internationalisation, there are several general as well as very specific questions, depending on the actor's unique conditions, that need to be answered at this point (compare figure 2). Structured answers to these questions will help starting to build a policy framework for the strategy.

It is recommended to answer the questions in a smaller group (management team) and then to follow up with further partners on a strategic level (e.g. the board). If necessary, actors may continue by involving specialised project leaders in the process. It might be useful to apply, for example, the matrix-method or SWOT-analysis (Strengths, Weaknesses, Opportunities, and Threats) to structure the answers derived from the different groups. However, this effort should neither be too complicated nor should these exercises consume disproportional amounts of time. It remains important to communicate intentions and ambitions on all levels.

- The opportunity – what is it?
- Take small steps – what are the potential KPIs per step?
- Secure own support – what recourses are available?
- Different methods/analysis – what methods/ analysis do we need?
- Negative brainstorming – why not?
- After execution of a strategy – what is the ultimate vision/mission?
- Policy implications in your environment – what can you see will change?
- Project/stakeholder level – what benefit/disadvantage?
- Environment level – how does the world see you today and what will they see after 5-10 years? What do you want the world to see?
- Policy/agency level – how can they help you?
- Political level – how can they help you?

Figure 2: Potential questions that need answers in a strategy of internationalisation.

Some ideas on general challenges most likely to be encountered during the process are presented in figure 3. Specifically identified challenges should also be included and prioritised in the strategy.

- Critical phase building relationship: industry and academia
- International R&D-program should meet industry needs (old and new partners)
- Identify the message of better/optimal partnership (may need to lose a few of current partners)
- Overcome state aid funding rules of consortium vs. the win-win scenario for internationalization
- Effective international IP agreement
- Managing large consortium (by expanding to an international level)
- Effective communication strategy, e.g. benefits for all stakeholders – not only monetary

Figure 3: Major challenges for expanding a R&D-environment/CRC to the international level.

After obtaining valuable answers and identifying major challenges – both of which will help building the strategy's framework on a policy level – it is important to also add a concrete action plan for the execution of the strategy, i.e. a project plan. The project plan includes sub-projects, analytical tools (e.g. patent analysis, people, money/budget, vision, mission, goals, milestones, KPIs etc.) for the first international project(s). After developing the strategy on a policy level, and before creating the project plan, it might be good to once more ask if the internationalisation process should continue at this stage. In some cases, as already mentioned above, it can be clever to wait for a clear window of opportunity. Whether it would be useful to wait for such a window depends on conditions specific to the actors/centres and potential external support. One such example is when Vinnova (Swedish Agency for Innovation Systems) decided to first allocate a small amount of money for an international program for R&D-environments to then be able to plan a complete strategy (including the project plan).[3]

[3] Ibid., p 2.

3. Important Remarks

It is important to start on a small scale in order to better convince the actors themselves as well as the relevant partners of a rewarding and successful internationalisation strategy as a part of the overall R&D strategy. Involving partners in a real project for increased internationalisation can be an often underestimated challenge. Examples of initial internationalisation projects:

- Cooperation = new strategic partners/industries (for new markets/knowledge transfer, new value chains etc.)
- IP = international patent application/licensing etc.
- Patent analyses of other potential co-operators/ competitors (R&D-environments)
- Environment analyses – cooperation with other CRCs
- Increased visibility (by publication, strategic alliances, exchange of people on different levels, participation in conferences etc.)

Some of those can be part of the production of the strategy itself, if appropriate.

Communication, which requires recourses, is essential to get partners involved. This includes ensuring that current and new partners meet. This will harmonise expectations, secure mutual interests and commitments, but also ensure that each partner at the multiple levels involved has a defined role and, therefore, avoid overlap.

4. Swedish Cases

Two CRC/R&D-environments identified 7 goals and 10 KPIs that have been achieved and fulfilled, see figure 4. One of the international scientific advisory boards identified increased international capacity as a clear benefit for evolution of the CRC and its partners. Sometimes a strategy results in benefits that were not foreseen – these spillover effects may, for example, sharpen the R&D plan and increase international visibility which, as a result, allows for better possibilities to recruit top scientists.

CRC 1

- Implement [ ] knowledge in decision making in international companies/public sectors
- Secure [ ] relevant and scientifically based methods and tools on an international level
- Reinforce the international competence in [ ]

CRC 2

- New foreign companies
- Co-ordinating EU-industries
- Recruitment of international advisors
- New academic international partners – incl. postdoc exchange

Figure 4: Different goals and KPIs for two CRC in Sweden

5. Conclusion

Before creating a project plan for internationalisation it is important to ensure that a R&D-environment/ CRC is mature enough to be broadened to an international level. An explicit international strategy helps the centre to influence the mindsets of different stakeholders and become more selective and strategic towards cooperation. It is not only important to see the benefit for an actor's own CRC/R&D environment with internationalisation, but also to understand foreign partners' added benefit to their own value chain. International alliances and cooperation take time to build up.

It is also wise to use existing national/international support structures, if available, and previous/current experiences when developing an internationalisation strategy. Sometimes there are "hidden" experiences in an existing environment or "just next door". It is also advisable to be aware of where to start a mission of internationalisation, e.g. on a project level, company level, program level or a combination. Finally, identifying what not to do drives the project forward. Being critical and reflecting and evaluating international activities resembles a crucial step in internationalising of a research and development environment in industry-academia collaborations.