

Corporate / University Collaborations in Product Development

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ABSTRACT

Corporate and University collaborations are successful when a specific process is initiated and employed. This presented process has resulted in development of multiple new mainstream consumer products for corporate partners such as Whirlpool, Black and Decker, Tupperware, Eastman Kodak, and others.

Items that must be addressed in Corporate /University collaborations include:

- confidentiality agreements or non-disclosure agreements (NDA),
- defined scope of work for all parties involved,
- personnel, financial, and facility resource commitments for both Corporate and University entities,
- finite timeline for project duration,
- intellectual property (IP) ownership agreements, and
- defined corporate product introduction and researcher publication dates.

BACKGROUND

Corporations are frequently seeking Research and Development partnerships with Universities. However, differences between the process of University research and the needs of a Corporation prevent potentially successful collaborations.

University	Corporation
<ul style="list-style-type: none">• Research is routinely performed and outcome is important to both researcher and institution because of tenure, prestige, patents, and licenses.• University-based researchers have little knowledge and understanding of market demands in a corporation's industry and lack expertise needed to create successful products (Litan and Song, 2008; Golish, Besterfield-Sacre, and Shuman, 2008).	<ul style="list-style-type: none">• Corporation is solely concerned with how research impacts the financial bottom line.• Research must lead to development of profitable products in the marketplace or impact production processes and provide a significant competitive advantage to the corporation.• Corporations have little insight into existing academic bureaucracy at Universities.

Obstacles to University and Corporate Joint Product Development Projects

Obstacle 1: Confidentiality Agreements

- For each collaborative project, a confidentiality agreement must be negotiated and signed by all parties involved (researcher, the researcher's parent institution, and corporation).

Obstacle 2: Agreement on the scope of research

- Allocation and availability of both the academic researcher and the corporate entity's staff must be outline and defined.
 - Agreement must set fixed research and development timelines.
- There often is a disconnect between both parties' schedules.
 - Academic researchers operate in terms of semesters or years.
 - Corporations have short product development cycles with specific deadlines for product introductions.

Obstacle 3: Ownership of Intellectual Property

- Prior to the start of research, ownership of Intellectual Property (IP) resulting from collaboration must be defined. Without an agreement in place, conflicts regarding ownership may arise.
- Many U.S. Corporations seek collaborations with foreign Universities to fund research and development because of IP issues.

METHODOLOGY

- *The model /process presented is predicated on the premise that the researcher and his or her home institution are seeking to initiate collaboration with a corporate partner.*
- Best practices start with finding a good corporate match for a joint product development project.

Steps Prior to Completing a Formal Research Agreement

Step 1

- Researcher must identify a topic area to be addressed by the collaborative effort, such as:
 - Unmet need in the marketplace or
 - Scientific area in which the researcher is currently working

Step 2

- Researcher must identify Corporations working in that industry or technology area.
- Has this Corporation...
 - Previously entered into external partnerships or funded R&D work?
 - Shown openness to receiving and evaluating technology or inventions from outside the corporation?
- If the Corporation is open to outside submissions, identify the appropriate point of contact.

Step 3

- Because of strict scheduling deadlines, legal agreement templates are essential.
- Template agreements that the university should have in place:
 - Confidentiality Agreement or Non-Disclosure Agreement (NDA)
 - Scope of Research Agreement
 - Tentative framework for scope of research and development efforts
 - License or Purchase Agreement (provided the research is successfully completed)
- *Having discussions with your University's Technology Transfer Office (TTO) in advance of any collaboration is important as the TTO will help with the collaboration process to ensure IP generated by your research is protected.*

Steps Prior to Completing a Formal Research Agreement

Step 1: Work in Progress

- Communication between University and Corporate partners is crucial. Daily or weekly correspondence will ensure both parties are proceeding towards the completion of the project.
- This standardized communication protocol will avoid misinterpretation of information and delays.

Step 2: Knowledge Translation

- Knowledge translation is converting academic research findings into the language of key stakeholders (Corporations) to further the uptake and use of the research findings (Landry and Amara, 2012; Agrawal, 2001).
- Research findings must be presented by the University researchers in the language and terminology easily assimilated by corporate product designers.
- Corporate product designers need to understand and use the information provided quickly and easily to adapt research to the design and production confines of their company.
- Strong communication channels between the University and the Corporation will allow the free flow of information between the technological experts on both sides.

DISCUSSION

- Universities have begun addressing these issues and developing flexible Intellectual Property policies.
- Penn State has a new research model, with the resulting IP of the Corporate sponsored research belonging to the Corporate sponsor.
- Other Universities will soon realize that changes need to be made in order to incentivize Corporations to first look domestically for research collaborations.

FUTURE WORK

- We are extending our use of the Corporate /University collaborations model into areas composed of small start-up companies and niche markets where product development resources are scarce.
- By having successful collaborations with small corporations in niche markets, we hope to classify the above process as a product development 'Best Practice' and publish the template collaboration agreements we have developed.

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