



Special report:

# Firm/Organisation- University Partnerships: What the research says

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## Overview

Firm-university partnerships offer many significant benefits including:

- Increasing innovation and spin-offs
- Increasing evidence-based practice capability
- Enhanced knowledge transfer and generation
- Higher levels of organisational ambidexterity, flexibility and agility
- Greater competitive advantage
- Lower R&D costs
- More accurate decision-making

However, there are factors which can lead to firm-university partnership failure including:

- Tensions between the needs and values of the firm and the university
- Different cultures
- Different drivers and concerns
- Perceptual differences
- Mistrust
- Poor relationship management
- Poor partnership management skills

The characteristics of successful firm-university partnerships include:

- Proximity
- Organisational isolation – not part of an industrial cluster
- Open meritocratic management
- High levels of organisational absorptive capacity and a learning orientation
- Focus on managing and learning to manage the relationship
- The quality of the organisational interface with the university
- Joint / robust problem / research question generation
- Understanding the differing needs of the partnership as it matures
- A focus on longer-term innovation, rather than short term organisational issues

## Why bother?

When one looks at successful evidence-based organisations and firms it becomes apparent that there is a strong association between the success of the organisation's evidence-based practice, their innovation capacity and their interaction and collaboration with evidence producing organisations such as universities and institutions.

What follows is a review of the research evidence about firm-university collaboration and partnerships and its place in developing evidence-based practice.

## The rise of firm-university collaboration

A range of studies from 1984<sup>1</sup> through to 2019<sup>2</sup> have chartered a significant rise in partnerships and collaborations between firms/organisations and universities and knowledge producing institutions/organisations.

The primary drivers for this increase have been found<sup>3</sup> to be:

- The global shift from product/service dependent economies towards knowledge-based service economies
- Globalisation and global supply chains
- ICT and high level technological (including AI) innovation, adoption and penetration
- A significant increase in the adoption of open innovation in organisations
- An increase in competitiveness across a wide range of industries
- Increases in market, political and economic turbulence and uncertainty
- A significant increase in change and potential brought about by scientific and technological advances

Interestingly, it has been found<sup>4</sup> that being in a science or technology-based industry is not a primary indicator or predictor of firm-university collaboration/partnership.

## The outcomes of firm-university collaboration/partnerships

A number of studies over the last 20 years have found that there are a range of outcomes including:

- Increasing organisational evidence-based practice capability<sup>5 6</sup>
- Increased organisational R&D outcomes and effectiveness<sup>7</sup>
- Enhanced knowledge transfer and learning for both the organisation and the university<sup>8</sup>
- Development of organisational ambidexterity for both exploitation and exploration<sup>9</sup>
- Greater levels of organisational absorptive capacity<sup>10 11</sup>
- Competitive advantage<sup>12 13</sup>
- Network development and connection to other innovation clusters<sup>14</sup>
- Organisations have lower overall R&D costs and fewer 'false positives' for innovations whilst having higher innovation outputs<sup>15</sup>
- Better decision-making, especially where both sides of the alliance are involved in the decision-making process<sup>16</sup>

## Evidence-based practice and firm-university collaboration/partnerships

At the heart of evidence-based practice is the issue of access to good research on which to base decision-making and the ability to generate context specific knowledge through good valid and reliable research for problem-solving, innovation and business/organisational development.

Firm-university partnerships have been shown<sup>17</sup> to provide potentially very useful and lucrative opportunities for both parties. Indeed, studies<sup>18</sup> have shown that firm-university partnerships have been responsible for a significant proportion of new spin-off business. Many of these spin-offs have been based around new findings and technologies developed as a direct result of research that was conducted in a firm-university partnership and have been responsible for significant proportions of economic growth and new enabling advanced technologies and knowledge.

## Problems with firm-university collaboration/partnerships

However, such organisation-university partnerships are not without their challenges, which usually need a period of honest negotiation and monitoring.

Some high profile and major multi-million dollar university / organisational collaborations have ended in failure. For example, a major US transportation agency worked with a university to solve a particular scheduling problem, but discovered a year into the collaboration that the university was unable to solve the issue or even research it properly as the expertise didn't exist in all the areas necessary.

Firm-university problems have been found to include:

- Tensions between competitive advantage and the confidentiality needs of an organisation or firm and the open publication needs of the university / faculty<sup>19</sup>.
- Organisational cultural differences were found<sup>20</sup> to be a major issue, including problems around:
  - Speed and perception of time differences, firms work to significantly shorter-term goals than universities, for example.
  - Different goals, purposes and outcomes.
  - Different levels of responsiveness to different concerns.
  - Stability. Organisations tend to be in greater flux than universities and faculties.
  - Learning orientation. Both organisations have different orientations to learning and the primacy of learning over other issues like profitability.
  - Language differences. Both use language in very different ways.
  - Performance evaluation differences and expectations.
  - Different management and leadership expectations.
  - Perceptions of 'work' are different.
  - Perceptions of accountability and freedom are different.
- The concept of academic freedom drives a lot of research output and practices. Whereas organisations have tighter research needs and outcome requirements which have been found<sup>21</sup> to be the cause of tension. For example, firms want to solve concrete problems as fast as they can (largely because time, competition and change can make the problem irrelevant in a very short space of time). Universities, on the other hand, want to make sure that the research is as rigorous and objective as possible. Additionally, researchers are looking to generate open knowledge, whilst business people usually want to hold on to knowledge for the competitive advantage.
- Perceptions of 'academic' and 'profit' from both viewpoints is very different and has a range of different consequences and effects<sup>22</sup>.
- Low levels of knowledge transfer effectiveness<sup>23</sup>. This has been found largely to be as a result of problems with:
  - Differences in partner attributes, such as:
    - learning orientation
    - culture
    - flexibility of policies and procedures
  - Relationships
    - trust

- commitment
- bilateral information exchange capability and priorities
- Management issues
  - skills of joint alliance management
  - structural issues
  - strategic differences

## Characteristics of a successful firm-university collaboration/partnership

Over the years numerous studies have found that the following characteristics tend to underpin successful firm-university collaborations and partnerships:

- Organisational/firm proximity with the university<sup>24</sup>, particularly:
  1. Geographical proximity
  2. Organisational proximity, e.g. previous collaboration and connections
  3. Cognitive proximity, or similarity of interests
- Intense industrial clustering is a counter predictive factor for firm-university collaborations and partnerships<sup>25</sup>
- Open meritocratic management within the organisation/firm, whereby employees are encouraged to express and share their opinions, and where the ideas that are considered to be best are used<sup>26</sup>
- High levels of organisational absorptive capacity and a learning orientation<sup>27</sup>  
<sup>28</sup>
- An iterative learning orientation towards the relationship and alliance between the firm and the university<sup>29</sup>
- The quality of the organisational interface with the university. This has to be led from a learning perspective, and
- Joint / robust problem / research question generation<sup>30</sup>
- There are considered<sup>31</sup> to be a series of generalised stages or phases of firm-university collaboration, each with their own success factors:
  1. Genesis or the creation stage
    - reputation of founder
    - long-term vision
    - university management support
    - resilience and motivation of the initiator
    - positive previous experience
  2. Planning phase
    - support and a positive mindset from colleagues on both sides
    - resilience and motivation of the initiator
    - research interest shown from faculty and firm
    - quality of the faculty
  3. Initial operational phase
    - quality and positivity of interactions between faculty and the firm's staff
    - frequent contact
    - a change of director – this phase usually needs a different director from the founder of the initiative
    - supportive dual advisory board
    - a deep understanding of academic and the firm's concerns, issues and restrictions
    - space and facilities – both to meet, conduct research and problem solve
    - learning orientation
    - knowledge management
  4. Intermediate phase
    - frequent contact

- understanding of joint goals and priorities
  - technical and scientific leadership
  - understanding of organisation's concerns
  - resilience, perseverance and motivation of the director
  - quality of the research being undertaken
5. Growth phase
- supportive university / faculty and firm
  - continued interaction
  - state support
  - quality outcomes evident
  - technology and high levels of knowledge transfer
  - creation of a centre
6. Maturity phase
- aggressive centre leadership
  - high levels of academic and technical quality
  - support from the firm's industry
  - good succession planning
  - concern with, and avoidance of, burnout
7. Viable self-sustaining entity
- consolidation of learning, results and relationships
  - concern to maintain a high reputation
  - high levels of technology and knowledge transfer
  - integration of evidence-based practice in firm
  - adoption of 'cutting-edge' research and practices
  - the ability to plan, adapt and change

## Focus on innovation

A large number of recent studies<sup>32</sup> have found that a focus on innovation and an R&D perspective by both sides of the alliance helps significantly with many of the issues and is a strong mediating dynamic between the two organisational types.

There is a very strong predictive value here in that collaborations that focus on innovation and Research and Development are significantly more likely to succeed, and both sides tend to be more open to new developments and emergent outcomes.

Otherwise, what tends to occur is that both sides have their own, often unspoken aims and goals which are substantially and often change at different stages of the collaboration. This where frustrations build, and trust lessens.

This issue and understanding cannot be understated. A number of good studies have all shown very similar findings<sup>33</sup>

## Conclusion

University-firm/organisational partnerships can provide huge benefits for the organisation, the university, the economy specifically, and science, technology and knowledge, in general. However, there are challenges that need to be overcome, in particular, the issues of different cultures and cultural values which have been credited with many of the firm-university partnership failures. These failures can result in multiple million-dollar losses, lost confidence and potential. However, the chances of success increase significantly with leadership and management focusing on understanding the changing nature of the firm-university partnership as it matures and with both sides thinking of this as an innovation partnership.

Understanding the dynamics and using research-based evidence firm-university partnerships can result in major benefits for the partnering organisations, the economy and society, in general.

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