

The PARAGON Perspective From the President

PARAGON Perspective is sponsored by PARAGON Development We are not intending, and will not use this communication to promote our business. There are other times and places and opportunities for that.

We hope to inspire debate and pass along information that may enable all of us to better understand and succeed in our new business objectives in the future. Plus, we hope to make you smile and think. We further hope you pass these along to colleagues who may have mutual interests.

We want to use this forum to do the following:

- Share information we have learned that we consider important concerning best practices, trends, successes and failures, conferences, and other elements that will enable all of you to grow your organizations with maximum top and bottom line results.
- Share information about select client initiatives that may be of interest based on technologies, markets, or business needs that you believe could fit within the scope of those client's interests.
- Share personal observations and even humorous items given to us by others.

We welcome your comments on any topic and encourage you to contribute to future newsletters. The PARAGON Perspective is now in its fifth year. We thank everyone for their newsletter contributions and for the ideas and suggestions that have brought recognized improvements and made it easier for us to produce.

This month's newsletter will highlight our opinion on the business development topic: **"Open Innovation and the Role of Modern Universities"**. The focus of the conclusion to this multi-part series is on describing "open innovation" and the roles of modern universities. It is contributed by Peter Lee, Chief Executive Officer of UniServices which is the commercialization vehicle for the University of Auckland. Our very large thanks to Peter for sharing his insights. This first installment is an introduction to the concept and drivers for open innovation and future editions will go deeper into this concept and then cover where open innovation is found. This paper was also presented at the Chemeca conference.

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Paragon Update

This is the eleventh installment in 2006 which is our 5th year.

Activity is at its highest since prior to 2001; and 2007 looks like it is a year in which corporations will be committed to new growth with an emphasis on organic versus external growth. We are very busy right now with Voice-of-Market™ projects and are already scheduling extensive projects through the first quarter of next year.

Conferences

This space is reserved for announcements of conferences or events that may have value to our readers.

No conferences have been sent to us for the rest of this year and thus there are none to highlight in this edition of The PARAGON Perspective. If anyone wishes to include a notice of an appropriate conference we will be happy to add it next month.

In addition, this space is reserved for announcements of other conferences or events that may have value to our readers and we will gladly add others as requested. We had resisted 'monthly' meetings but, due to the many requests, we have been adding those in 2006.

Technology Transfer/Capabilities

This section is open for clients, friends, and other newsletter recipients to spotlight technologies they have available for licensing, acquisition, development, or could be available to use. Please send a description of your technology to be posted in this section for future newsletters. Inquiries can either be sent directly to those who have posted information, or, we could forward any/all inquiries to you. This section highlights non-client project technologies.

This newsletter has a distribution of several thousand individuals who are primarily in new business development, so the audience has the potential to generate legitimate interest. We do reserve the right to withhold posting any technology closely related to ones in which we have a client conflict.

Technologies of Interest

1. **A client** has technologies available as follows:

- A new technology that enables production of Omega-3 PUFA (Poly unsaturated fatty acids) via a fermentation route. Therefore it isn't based on fish oil and has very superior benefits because of that. The first focuses are in food additives and nutritional supplements. This vegetable based Omega-3 meets kosher and halal requirements in addition to having a large improvement in organoleptic properties.
- An enzymatic and biologic portfolio of products that can be use as biocides that are not based on toxic chemicals.

2. **A client** is looking for new opportunities in novel and proprietary enzymes.

Anyone interested in either of these technology opportunities should contact us as below and we will forward the responses to our clients so they can contact you directly.

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Quotes of the Month

"Courage is the first of human qualities because it is the quality which guarantees the others." *Winston Churchill*

"Reality is merely an illusion, albeit a very persistent one." *Albert Einstein*

"One of the symptoms of an approaching nervous breakdown is the belief that one's work is terribly important." *Bertrand Russell*

"The possibilities are numerous once we decide to act and not react." *Gloria Anzaldua*

"Experience is the name everyone gives to their mistakes." *Oscar Wilde*

"Opportunity is missed by most people because it is dressed in overalls and looks like work." *Thomas Edison*

"The future depends on what we do in the present." *Mahatma Gandhi*

"The world is full of willing people. Some willing to work and others willing to let them." *Robert Frost*

"God gives every bird his worm but he doesn't throw it into the nest." *Swedish proverb*

"The most valuable of all talents is that of never using two words when one will do." *Thomas Jefferson*

Web Site Additions

Our website has been updated but we will continue to add to our alliances and partnerships page. It provides sourcing to our clients on services they may be seeking in specialized functional or industry areas. As such, we will post organizations and individuals who we know to excel in products and services.

If you would like to be included in this listing, free of charge, please submit a request to us with a short (50 word) description of your products and services, as well as direct contact information. We view this as a mutual service to our clients as well as companies, consultants, and other entities we have had the pleasure to work with.

We encourage readers to review the organizations and individuals on the website as they are limited to those people we have personally qualified. This is also a service we offer without any compensation as our intention is to serve as a catalyst for success in a broad way that extends beyond those areas where we are best in kind.

Interesting Words

Pertinacious: (pur-tin-AY-shuhs) Adjective

1. Holding resolutely to a purpose, belief, or opinion.
2. Stubbornly unyielding

Nudiustertian: (nu-di-uhs-TUR-shuhn) Adjective

Of or relating to the day before yesterday.

Miscible: (MIS-uh-buhl) Adjective

Capable of being mixed together.

Prelapsarian: (pree-lap-SAYR-ee-uhn) Adjective

Relating to any innocent or carefree period in the past.

Skosh: (skosh) Noun

A small amount; a little bit

“Open Innovation and the Role of Modern Universities”

Part three

By Peter Lee

Roles of Modern Universities

Expectations are high that universities can contribute more to their respective economies and to innovation. Commercialization of research for universities is current, it is sensitive to many influences and it is growing fast. The activities are associated with the rising importance in industrialized countries and regions within countries to technology-led economic development, the knowledge-based economy and research-based innovation.

Universities are becoming increasingly motivated to form industrial partnerships, and seek ways to monetize their research. Modern Universities have added a commercialization dimension to their traditional research based teaching role. They seek to link their research capability to outcomes which create value in addition to providing a basis for their academic prerogative. There are numerous motivations for universities to see commercial links:

- Incremental income from commercial contracts for cutting edge research adds scale to existing staff and facilities;
- Inventions find their way into practice through new businesses;
- Connections to commerce enhance both research and academic purposes;
- The reputation of the university improves;
- There is the potential to share in the benefits of commercial success through royalties or equity positions;
- More start up companies and licensing arrangements are created;
- There are opportunities for local and international companies to congregate around university technology so that mutual business interests might be recognized

These motivations strongly align with the motivations of companies who seek to invigorate their business with external innovation.

According to a study by Marie Thursby, professor and chair of economics at Emory University, sponsored by the Ewing Marion Kauffman Foundation lower cost is not the chief factor for outsourcing (6). Cost is eleventh in importance in this list of motivations. In other words, the companies who practice open innovation see the value of business impact to far outweigh the cost of achieving it. The quality of R&D personnel available and opportunities for university collaboration are often more important attractors. The study found the top four motivations for multinational companies to locate research activities in other developed countries to be:

1. The quality of R&D availability in that locality (The New Zealand government is a strong supporter of local research and has established three priorities: biotechnology, creative industries, and information and communication technology).

2. There is good protection of intellectual property in this country (New Zealand's systems for protecting intellectual property rights are considered among the best in the world).
3. The proximity to a world-class research university with special scientific or engineering expertise in this country (The University of Auckland is the premier research university in New Zealand and has been rated in the top 1% of research universities in the world).
4. The ease with which to collaborate with universities (UniServices has few limitations in the way it can conduct business). This flexibility has enabled The University of Auckland to become one of the most commercially oriented universities in the world with half of its externally funded research sourced from contracted work.

The University of Auckland in New Zealand rates highly on all accounts and is becoming attractive for commercial innovation.

Universities are distinct among technology providers, because of their diverse and fundamental knowledge, and the cutting edge nature of the research they conduct. They have broad networks that extend into many companies and industries beyond those readily available to most individual companies. Universities act as nodes for global intellectual activity in their fields of specialty, and thought leaders in their regions.

A Stanford Business School study demonstrated that disparate information and its transmission are keys to innovation. The study author Martin Ruef (7) concludes that the most creative entrepreneurs spend less time than average networking with business colleagues who are friends and more time networking with a diverse group that includes acquaintances and strangers. His research shows that "entrepreneurs who spend more time with a diverse network of strong and weak ties...are three times more likely to innovate than entrepreneurs stuck within a uniform network." Not surprisingly, universities with their eclectic diversity are proving to be effective hunting grounds for entrepreneurial companies seeking radically new approaches to problems that can result in game changing outcomes.

For example, Procter and Gamble conjectured that the solution to their cold-water cleaning problem would be in a laboratory that is studying enzymatic reactions in microbes that thrive under polar ice caps. The University of Auckland, which at the time was one of four universities in the world with an established protocol for working with Procter and Gamble on open innovation, turned out to be a source not only of enzymes from Antarctica but also relevant connections to local business and industry throughout Australasia.

Many companies who are early adopters of open innovation are finding relationships with top universities that have the specialties to align with their business needs have a competitive advantage in this new scheme for innovation. Universities are also becoming selective in the relationships they form with companies and increasingly seek to develop relationships with commercial partners with the following characteristics:

- Have a clear corporate strategy and the will to effectively source and implement external innovations;
- Adequate and complementary internal R&D and marketing capability;
- Track record of successfully reducing open innovation to results;
- Will provide prompt and useful feedback, either negative or positive, on proposals for cooperation;
- Strong connectedness and knowledge of their markets and customers.

University and Business Relationships

Universities have established commercialization offices to provide effective links between the interests of business for innovation and their academic research. The commercialization arm of The University of Auckland is a wholly owned subsidiary called UniServices Limited. UniServices has been in business for 17 years and has grown to become the largest organization of its kind in Australasia. UniServices has developed a range of effective practices to connect the commercial interests of companies to the intellectual property and research capabilities at The University of Auckland.

Many commercialization offices have banded together into associations dedicated to sharing best practices. The largest of these is the Association of University Technology Offices (AUTM) <http://www.autm.com>. The equivalent to AUTM in New Zealand is the University Commercialization Offices of New Zealand (UCONZ).

Intellectual property needs to be protected by well defined legal agreements. There are a wide variety of collaborative arrangements and associated agreements (e.g. confidentiality, material transfer, joint development, license, etc.) and they all need to be skillfully applied to ensure an enduring relationship. Agreements are needed early in a relationship to clarify expectations. Both parties need to be flexible and have the means to accommodate the special needs of each and the nature of the technology. It is important that both parties are well practiced in the many ways that intellectual property can be identified, developed, owned and rewarded.

The **protocol for discovering solutions** used by UniServices on behalf of companies seeking open innovation at The University of Auckland is a stepwise process:

- The company shares with us their needs for innovation. These can be breakthroughs or new insights to critical issues that would greatly enhance their businesses but have not yielded to local R&D. It can be a formalized list of questions or simply a review of their growth strategy. We treat this information in confidence;
- We take these expressions of need and seek novel solutions among the diverse local capabilities and knowledge. These solutions are compiled into a documented response and shared with the company;
- If there is sufficient interest, the company may select a subset of the ideas for further review generally by visiting the researchers and their facilities;
- Based upon the outcomes of this more intense exchange, we can establish a small team of graduate students to interact with the company over a period of several months in order to develop more detailed proposals. The students are insightful and have produced some exciting outcomes;
- The proposals are often sufficiently attractive to justify the commissioning of contract research for further development;
- As the relationship develops, The University's knowledge of the company grows and so does the number of inventions relevant to the company's interests.

Companies can also access the broad array of university research capabilities through commercialization managers we have established in The University of Auckland to represent the interests of specific industry segments. These **commercialization managers** direct centres which cluster relevant capabilities around specific industries. An example is the Centre for Light Metals established less than three years ago to support industry built around the manufacture and use of light metals. In that time, the Centre has developed a global, multi-million dollar consulting and contract research business. Based upon this and other similar successes, we are establishing additional commercialization managers to represent other commercial sectors.

Another useful device has been to establish **advisory groups** of commercial representatives who interact with the research staff of institutes within The University that focus on specific technical disciplines. These commercial representatives benefit not only from the technical interaction with the institute but also the business interactions with each other. Participants often find common interests that would not have occurred as a result of normal business relationships. In this way, local industry with special products and services can discover useful business relationships with multi-national companies with the global reach and market awareness unavailable locally.

For example, another benefit to International Paper Company of its membership in the Media Lab at MIT was the realization of common interest with a manufacturer of low cost integrated circuits and a consumer products company who were seeking to increase the value of their product by integrating digital information into the packaging. The project took many directions and resulted in a range of new products and services such as smart warehouses, which can automatically locate and identify stored items.

UniServices has experimented with a **focus group** technique to discover potential applications for unique technical capabilities. The technique is similar in format to a consumer products focus group, but the kinds of participants and the range of outcomes are different. Ideally, there are eight to ten invited participants who are industry insiders and experts (including potential customers). They have the capacity to understand your idea and immediately give you valuable feedback. A typical group might include a mix of business leaders, product development executives, consultants and academics. If your idea is compelling, then people in the room want to become part of the opportunity and become a partner in the project. If you choose the individuals wisely, they're a group of people with common interests who cannot resist the opportunity to be involved with the early stages of a new development in their chosen area. The session exposes them to ideas and people who have important insights that could influence their industry. So, it is a forum to generate but it also provides the participants with value in terms of networking and idea sharing. To get real value you have to get the best people you can find. You have to find a mix of participants who are effective and it is advisable to use a company that specialises in this process. Like a consumer focus group, representatives from your organisation should not be part of the event. Ideally you can observe the day's proceedings through one-way glass and an independent team of facilitators hosts the event. The idea being evaluated is looked at from several perspectives, and participants are challenged to come up with business proposals in a competitive environment. You should come away from these events with completely different thinking and more persuasive ideas. Most importantly, the commercial representatives who shared the discovery process are natural partners in the commercialization process.

For example, the Bioengineering Institute at The University of Auckland used this technique to seek valuable applications for its ability to model a body's muscular skeletal system in an anatomically correct and precise

way. The expert panel identified a broad array of potentially valuable applications and commercial partners in diverse fields (e.g. predictive surgery, facial animation, sports medicine and forensics) well beyond the perspective of local knowledge. This illustrates that there are no longer unique technology to industry linkages that were once considered as the basis for research facilities dedicated to specific industries or companies. Rather, there is immense value in discovering new linkages among seemingly unrelated capabilities and needs.

Often the concepts proven in the laboratory are not ready for commercial investment. The concepts have been taken as far as a university is comfortable taking them within its traditional academic charter. However, they are not sufficiently developed or tested against market and business criteria to be of immediate commercial interest. This gap between a proven concept and commercial investment is often termed the "Valley of Death", and quite rightly so. It is a high risk environment, where failure is the most likely outcome. Often the Commercialization Offices, such as Uniservices, find themselves in the role of "Family and Friends" by providing the investments necessary to test the idea and develop it to the point where a company or venture capital fund might invest. At The University of Auckland, as with many universities, the number of potentially valuable ideas is greater than the funds available to test them. Some Universities have established funds, which leverage their own investments, in order to bring more concepts forward for external investment. UniServices is preparing its own **Growth Fund** on behalf of The University of Auckland for this purpose. It expects to multiply by many times the number of spin off companies and licenses that will result from The University's research.

Summary

Modern universities are highly motivated to seek commercial outcomes from their research. As the tyranny of distance falls away with the emergence of virtually instantaneous and low cost global connectivity, companies are finding the benefits of open innovation to be irresistible. Modern universities and some companies are well along in establishing protocols for discovering worthwhile collaborations and the means to pursue them. UniServices on behalf of The University of Auckland is committed to be a leader in this movement and is testing and implementing procedures to facilitate companies to utilize its innovative capacity to invigorate their next generation of products and businesses.

References

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6. *Survey on the Factors in Multinational R&D Location and IP Protection*. Marie Thursby. Presentation at a meeting of the Government-University-Industry Research Roundtable of the National Academies in Washington D.C. Feb. 2006
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As always:

We address many topics and most are at the request of readers, clients, and other business colleagues as this one was.

We hope that this perspective has stimulated thoughts and helps improve your future returns. It has been our intent to pass along things we have learned or experienced on topics involving growth and new business development. Particularly ones that may be provocative or be beyond those considered every day. We do not try to presume to be the leaders in all areas we cover and we invite others to contribute with comments, additions, or criticisms. We encourage feedback in any media and will post your contribution in a future newsletter if you allow it.

We also will continue to focus on topics that the readers choose in almost all cases over ones we consider within our staff so please continue to send requests for topics that you want to have covered.

Trivia:

Why do people get sick more often in winter?

There are many hypothesis for this but unfortunately there isn't any perfect answer. A leading theory is that confinement breeds infection. In winter, we spend more time indoors in rooms that may not get a lot of circulation. This gives us more opportunities to be exposed to respiratory viruses. The winter air, inside and out, tends to be less humid. This dries nasal passages and makes them more vulnerable to viral infections. So, while your mother told you not to go out in the wintertime without wearing a jacket, the cold environment itself has not been proven to make people get sick in the winter.

We hope you learned something from this and/or stimulated an action that leads to new opportunities for you and your organizations.

Previous issues of our newsletters can be found at <http://www.paragondevelopment.com/perspective.html>.

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Mission:

To ensure that our clients make decisions that optimizes their growth and measurable value creation. We will do this with unequaled effort and efficiency.

Background:

PARAGON employees and affiliated industry partners are dedicated to helping clients optimize their planning and development efforts. We bring a network of external industry experts who provide objective information and insight into critical areas affecting our client's success potential. In addition to our own experience base and the external access to knowledge, we utilize a decision making process that combines best practices such as Voice-of-Market™; Stage-Gate; and Discovery Based Learning. Very simply stated, we combine efficient processes with the information necessary to ensure that commitments are made with solid, objective knowledge. We allow planning and development from the 'outside in' that compliments internal efforts.

We are not industry specialists. The experts from our PARAGON Network™ provide the specific knowledge in their fields while PARAGON brings process and functional experience that generates and interprets the relevant information.

Focus:

Our client assignments are broken into three main areas:

1. Retainer agreements in which we offer discounted plan with minimum thresholds for numbers of Forums or phases. They are exemplified by clients who may write us into their R&D or new product development processes in which a PARAGON Forum is required as a part of a gate approval.
2. Evaluation and monetization of assets such as technologies, operational capacities, or new product extensions. PARAGON's support is particularly valuable when the potential is unknown but falls outside core markets or industries.
3. Support in strategic planning and strategic expansion into non-core business areas. The deliverables are typically in the form of a strategic commitment into new platforms.

Mechanics:

The steps employed are a combination of internal (client) and external events. The internal events include:

- Setting criteria for the project.
- Examining the internal knowledge base.
- Setting scope and charter issues.
- Determine specific outputs required for overall success.

External events are:

- PARAGON Forums that have 6-8 external experts who bring distinct but complementary knowledge about markets, industries, trends, competition, channels, downstream value, and function excellence that is specific to the assignment. These are typically day long events that have been referred to as “Super Focus Groups” with the client involved in the planning and then viewing the group and providing guidance and direction throughout the day. All this without the outside experts knowing whom the client is and they are thus unbiased, creative, and provide different perspectives than our client has because of their ‘inside-out’ viewpoints.
- Surveys and interviews with people from our PARAGON Network™ that generate very targeted information that our clients require.

We hope that you have enjoyed the issues of *The* Paragon Perspective that you have received and will let others who might find this newsletter useful know about our publication. To provide us with profile changes; or to let us know about other individual interested in receiving our newsletter; or for other information just click on this link <http://www.paragondevelopment.com/contact.html> (or copy and past this shortcut) and complete the Contact/Request for Information form (be certain to include your email address) or you may simply reply to this email and provide us with (or ask us) the information.

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