

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"** part 2. The focus this month is on describing "open innovation" and its sources. It is contributed by Peter Lee, Chief Executive Officer of UniServices, the commercialization vehicle for the University of Auckland. Our very large thanks to Peter for sharing his insights. This first installment (published in the September 2006 Paragon Perspective) is an introduction to the concept and drivers for open innovation. 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 tenth installment in 2006 which is our 5th year.

Clients are generally investing in growth again and we see an increase in projects that are new platforms or 'step out' growth. In fact, we typically see a balance between commercialization projects and new platforms but almost all new projects are new platforms as companies set up growth for 2007 and beyond.

Conferences

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

PDMA (Product Development and Management Association)
Atlanta, GA
October 21-24, 2006

PARAGON highly recommends the PDMA conference in October (if it isn't too late) which focuses on new product development. This conference is an excellent combination of teaching skills and processes plus many case studies showing examples of outcomes from various approaches. It is also a healthy combination of value for people responsible for managing or setting up new product process with those who are responsible for executing new product development.

The conference presentations are informative and valuable. It is reasonably priced and many amenities are included in the overall program. It is always well attended and presents networking opportunities.

Information and registration can be found at: www.GlobalExec.Com/PDMA2006/.

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.

University of Auckland:

We have worked with technologies from the University of Auckland and it is very worthwhile to look at their capabilities. In fact, they have made numerous breakthroughs in area in medicine, materials, bio-technology, and agriculture and we have found their accomplishments are much closer to having commercial value than the basic research that most universities produce. They also have a commercial 'arm' that works with business and 'speaks their language'. This company is UniServices. One technology in particular that we have been involved with is a huge breakthrough in muscular skeletal modeling (including skin) with applications in: Surgical planning; Sports medicine; Forensics; Ergonomics; and Animation.

Again, this is only one example of hundreds. So those of you looking for new technologies would be well served to check out this 'hidden treasure' of advanced technologies without the visibility of many other institutions with a fraction of the value.

Technologies Being Sought

A client has technologies available and are looking for investors or licensees.

- An innovative, proprietary gene delivery technology based on ovine adenovirus with the potential to manage or treat a wide range of conditions including cancers and infectious diseases.
- A potential treatment for colon cancer via an effective and novel means for delivering short chain fatty acids to the colon at clinically efficacious concentrations.

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

A client is interested in licensing or acquiring new, novel technologies with value in the cosmetics and personal care applications.

If you have, or know of, any potential technologies or products for this client, please, send us your information. We will forward it to the client so they can contact you directly. Please send the information to:

Jack Peregrim @ (203) 288-4154 or peregrim@paragondevelopment.com

Quotes of the Month

"Well timed silence hath more elegance than speech." *Martin Fraquhar Tupper*

"Discovery consists in seeing what everyone else has seen but understanding it for the first time." *Albert Szent-Gyorgyi*

"The best way to predict the future is to invent it." *Alan Kay*

"A pessimist sees the difficulty in opportunity; an optimist sees the opportunity in every difficulty." *Sir Winston Churchill*

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

"In life, as in a football game, the principle to follow is: hit the line hard." *Theodore Roosevelt*

"Grow angry slowly, there is plenty of time." *Ralph Waldo Emerson*

"In the long run, men hit only what they aim at." *Henry David Thoreau*

"Storms make trees take deeper roots." *Claude McDonald*

"In rivers, the water that you touch is the last of what has passed and the first of that which comes. So with life and present time." *Leonardo Da Vinci*

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

Diacritical: (dy-uh-KRIT-i-kuhl) Adjective

1. Distinctive; capable of distinguishing.
2. Serving as a diacritic (a mark such as ^ or ~ or other accent marks typically found over a letter in a word)

Quaggy: (KWAG-ee) Adjective

1. Marshy.
2. Flabby; spongy.

Prevenient: (pri-VEEN-yuhnt) Adjective

Coming before; anticipatory; preventive.

Abecedarian: (ay-bee-see-DAYR-ee-uhn) Noun

1. One who is a beginner in some field.
 2. One who is learning the alphabet.
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"Open Innovation and the Role of Modern Universities"

Part two
By Peter Lee

Open Innovation

The world's innovation landscape has changed. The use of external research and development resources has increased significantly over the past decade. Henry Chesborough documented this trend in his book *Open Innovation* (3). Many companies are realizing that research has become global and most innovation is occurring outside of their own research and development organizations. With a clear sense of consumers' needs, they can identify promising ideas throughout the world and apply their own R&D, manufacturing, marketing, and purchasing capabilities to them and create better and cheaper products, faster. Open innovation has become increasingly viable as the knowledge economy grows and real time global communications become more accessible. According to Chesborough, we are moving from a period of relatively "closed innovation" in which companies use only ideas generated within their companies, to one of relatively "open innovation". Chesborough is convinced that companies must now rely not only on their own advancements, but also on the information and innovation coming from a variety of sources, including high-tech start ups and universities, to create new products and services. An innovation strategy has become an important component of a company's business strategy, and core to the sustainability of an enterprise. It was, and still is, a radical idea.

Communications costs have come down so fast as to become insignificant. By now the new information technology, such as Internet and e-mail, has practically eliminated the physical costs of communications. The rapid and dramatic reduction in the cost of a three-minute telephone call from New York to London, shown in Figure 2, illustrates this point.

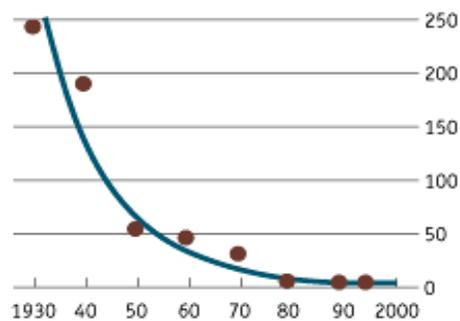


Figure 2: Cost of a New York to London telephone call in 1990 \$US.
From the World Bank; *Economist*

The fortress model of research and development, where centralized laboratories work in isolation, in order to protect their developments, is now an anachronism for most commercial research, as the benefits of invigorating their businesses with external innovation become more obvious and accessible. Many companies are implementing infrastructure and processes to safely open up internal development to external sources of innovation.

Open innovation can be seen as the equivalent in the knowledge economy of the role that outsourcing of raw materials played in manufacturing. In the early stages of the automotive industry, companies secured their supply of raw materials by vertically integrating their supply chains back to their source. The Ford Motor Company not only produced all parts of the automobile and assembled it, but it also made its own steel, its own glass and its own tyres. It owned the plantations in the Amazon that grew the rubber trees, owned and ran the railroad that carried supplies to the plant. As an efficient and reliable supply industry emerged around Ford Motor Company, it was able to improve its business by concentrating more on its core business of assembly, distribution and marketing of finished products and increasingly outsourced the supply of its component materials.

Procter and Gamble are an example of this new trend for open innovation. A. G. Lafley, the CEO of Procter and Gamble, set a visionary tone: "We want P&G to be known as the company that collaborates, inside and out, better than any other company in the world". He sees this collaborative ability to be an important competitive advantage: "I want to be the absolute best at spotting, developing and leveraging relationships with best-in-class partners in every part of our business". They have coined the phrase Connect and Develop to contrast their new model for innovation from the more traditional Research and Development approach. Procter and Gamble have made a corporate commitment to outsource half of their new development ideas and have put the resources in place to make this happen. Once a year Procter and Gamble asks its businesses what consumer needs, when addressed, will drive the growth of their brands. These needs lists are then developed into science problems that need to be solved and expressed as scientific briefs. Their internal technical resources are now concentrating on what they do best, which is to assemble these innovations into branded products for the benefit of their consumers. The external resources are supplementing rather than substituting for the internal R&D department.

Sources of Innovation

Where and how in the world does a company go to satisfy its needs for innovation? Useful knowledge has become widely diffuse, spilling well beyond the knowledge held by central research laboratories. There are multiple sources of fresh ideas and it requires a robust strategy to effectively segment these sources and position a company to intercept and influence what can otherwise be an overwhelming and confusing flood of concepts and technical resources.

One can look to the leadership of the pharmaceutical industry for best practices in open innovation. The identification of early drug candidates and the acquisition of the underlying intellectual property is a requirement for the continual development of therapeutics. Successful business models of large pharmaceutical companies are based upon engaging with a network of biotechnology companies and academic institutions to feed the front end of their drug development pipelines. For example, Roche breaks its external sourcing process into four-stages "Want, Find, Get and Manage".

"**Want**" should be an explicit statement of business need which completes the sentence "I wish I could, but don't know how" in a way that potential providers, who are not necessarily in the same industry, can relate to.

Wants can be identified and prioritized using techniques such as gap analysis, technology road-mapping, competitive intelligence and patent mapping. Witzeman et al (4) have described this process as completing the equation in Figure 3.

$$A + B = C$$

Figure 3: Internal Resources (A) + External Resources (B) = Meeting Customer Needs (C)

The equation not only implies an explicit role for external innovation (B) in satisfying customer needs (C), but also allows for external innovation (B) to enable a more valuable solution to a customer need (C). That is, (C) should not be seen as fixed based upon internal strategy, but rather as dependent on both (A) and (B). This approach enables identification of unusual and discontinuous opportunities to provide new customer offerings that would have been unthinkable when the firm relied solely on internal resources. History is full of examples where a radically new solution has come from sources beyond the inherent capabilities of the incumbent provider. For example, no one in the telephone industry knew anything about fibreglass cables. They were developed by a glass company, Corning.

“Finding” sources of a rich supply of external innovation at the front end of a business development process can follow the same principles of segmenting and positioning frequently used by companies to effectively market their products at the delivery end of a business development process. In this case, a company evaluates potential suppliers by describing its unmet needs so that they can be segmented and positioned to maximize the probability of valuable responses. Means of discovering solutions include:

- Proprietary networks of employees with a global reach who are assigned to seek potential solutions;
- Suppliers, with close ties to your business, who have a shared interest in your success. They can bring a rich source of technology with an established link and relevance to your products;
- Internet tools for discovering linkages include the websites NineSigma and InnoCentive, where companies and a wide range of potential providers can match needs with capabilities in a managed exchange. YourEncore connects a community of retired technical specialists with business needs. Yet2.com is an online market place for intellectual property exchange and brokers technology transfer into and out of companies, universities and research institutes. The Internet is proving to be a useful means of bringing people together but not a substitute for the interpersonal interactions required for effective innovation;
- Maintaining a network of direct connections with universities and other research institutes.

3M, long recognized as an innovative product company, applied a concept of “Lead Users” to effectively find sources of invention. The concept of “Lead Users” has been described by Eric Von Hippel, Stefan Thomke, and Mary Sonnack (5). 3M learned to express its needs as basic technical questions so that they are not bound to the industry from which they emerged. This is an important step in engaging a broad community of inventors.

For example, if an auto company wants to find innovative ways to improve car braking, it should surely search among automobile users who are at the leading edge with respect to this need - say, auto racers. But it should also go on to search for innovative ideas in other fields that have a high need for “stopping things in a hurry” such as aerospace. (Indeed, aerospace is where innovations such as ABS braking were first developed: military and commercial aircraft users have a very high incentive to stop their vehicles before running out of runway!). Sources to consider include other companies outside of your industry, well connected consultants, entrepreneurs, government and contract laboratories, research institutes, communities of practice, subject matter experts, suppliers, academia, and knowledge brokers.

“Get” involves accessing the innovative solution. The process varies by source but generally involves a staged evaluation of the solution at increasing levels of detail from testing the initial concept through to application. A staged process with rigorous pass/fail criteria can be used to sort through several potential solutions in parallel, with the least viable options being discarded early in a gated process and the more attractive options progressively receiving increased attention and investment.

“Managing” external innovation involves establishing processes for linking and applying the external source of innovation to internal product development. This generally requires an internal champion to promote the external solution and engender a “proudly discovered outside” over “not invented here” approach to problem solving. Agreements need to be established early in the engagement of external providers. Agreements are enabled by precedent and the experience of both parties but will normally require some negotiation to ensure that both parties understand the basis for the collaboration. The form of the relationships can include partnerships, joint ventures, research contracts, and licensing arrangements.

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 some people have whiter teeth than others?

Just like the color of your eyes and hair, the natural tint of your teeth is hereditary. Some people have very white enamel—the thin coating on the surface of teeth—while other people’s enamel has a more yellow hue. Environmental factors play a role too. Teeth are kind of like rings on a tree. They tell a lot about a person’s health and history. Taking antibiotics tetracycline or amoxicillin as a child can affect the calcification process causing discoloration. Certain foods can also darken teeth. If a substance will stain a carpet, it will stain your teeth. Coffee, tea, cola, and red wine are common culprits. Dentists recommend frequent cleanings as they can help, but severe food stains may require a whitening product or process.

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 unequalled 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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