

Out-of-your-Box Valorisation:

create new value from your patented technology

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Introduction: opportunities for your patents

Increasingly managers and professionals developing new technology tend to focus on the valorisation of the intellectual property that results from their research and development efforts. The aim is to transfer the latent potential covered by their patents into actual added value in new products. For products within the domain for which the technology was initially developed this is mostly quite straightforward. However, there might be much more latent value in applications within completely different market and product domains for the same basic technology.

The big challenge is to tap into this larger source and find applications of the technology in unexpected areas outside the initial domain. As most present-day approaches to this challenge are quite dependent on chance and contingencies an alternative method is presented in this paper. Basically it is a structured way to combine rigorous analytical steps with diverging creative steps. The results are new -and sometimes unexpected- applications that enable a much more targeted and focussed approach of potential beneficiaries of the technology at hand.

Driven by market and society

Global research and development efforts are resulting in an ever increasing number of patented technologies [1]. The valorisation of these patents has become a focal point in European and member state policies [2]. This stems from the observation that there is a gap between the excellent level of fundamental and applied research and the industrial application of the results that finally deliver societal and economic value [3]. For this reason valorisation of knowledge is of increasing importance for our society.

From the perspective of research institutes and companies the effectiveness and cost efficiency of research and development is more relevant than ever due to budgets under pressure, reduced time to market and fierce competition. The times that research departments enjoyed a lot of freedom in spending their resources has been gone for long. From a financial point of view it makes sense to search for opportunities to leverage these huge research investments; not

only within the boundaries of the product-market combinations within the 'comfort zone' of the organization but also in other domains.

Finally the development and proliferation of 'open innovation' [4] policies, tools and practices during the last decade has lowered the threshold for organizations to collaborate in innovation projects with benefits for multiple partners beyond the conventional buyer-seller relationship. For the organization with technological IP assets this means that an 'inside-out open innovation' approach has become more accepted and that for companies using the technology an 'outside-in open innovation' attitude is becoming normal.

To summarize the keydrivers for multiple IP leverage: Society requires it, organizations benefit from it and innovation trends enable it.

Obstacles for valorisation

Babylonian experience

However, a first challenge appears literally at the source of the patented technology. The technologists or inventors that initiated the new technology are mostly highly specialized professionals with profound intellectual skills on their field of knowledge. For non-experts it is often very difficult to grasp the essence of their explanation of a specific technology because they do not share the same view on the subject matter, the definitions or the fundamental principles that are taken for granted by the specialist.

In short, they speak a different language which leads to confusion or –in the worst case- prevents even the attempt to communicate. It is clear that a skilled and proactive interpreter is needed to avoid losing essential elements of the technology at hand.

Domain bias

Apart from the strictly fundamental research performed in some departments of universities and special research institutions the majority of research topics initially sprout from certain application domains. These application domains trigger the first research questions and provide initial funding for the research and will most likely integrate the research results in their products or processes.

Such application domains can be as broad as 'wireless communication for defense' or 'building structures' or very narrow like 'solar cell packaging process'. After years of developing and refining a technology with the primary focus on this initial application domain it is not trivial to assume applications in completely dissimilar, 'alien' product or market domains.

This 'Initial domain bias' is even more obvious for technologies from enterprise research as the natural focus will be on the primary market served by the company. For example an automotive company can envisage all kind of applications for its technologies –as long as there are four wheels involved. In some way a well intended and forced shift in domain focus is required to widen the pool of opportunities for the technology applications.

Chance

If we suppose for a minute that the obstacles of expert translation and domain bias have been overcome the process of finding new applications can start. A typical approach to this step is performing a brainstorm session with a small multidisciplinary team, resulting in a multitude of potential applications with a mix of realistic proposals and wild imaginative ideas. Next to the widely varying quality of the output it proves difficult to organize efficient and persistent follow up as in most cases there are no existing, natural links to the new application areas.

To overcome the weak link to application areas sometimes an alternative setting is chosen in which representatives of individual companies from various backgrounds are invited for direct interaction and application search. Finally, next to these active approaches, there is also the more passive approach to offer the technology to the market via a brokerage website. Here demand and supply of new technologies can be listed with the expectation that a successful match will occur sooner or later.

However, all of these conventional methods have one thing in common: they rely heavily on chance, on the coincidence that the occasional visitor of a session or website grasps the essence of the technology, envisions an appropriate application and is able to transform this to value in the own organisation. When this randomness could be replaced by more targeted actions this would largely improve results.

Avenues to new solutions

To address the above challenges and effectively convert existing technological IP into new value in 'alien' domains a new approach is desirable: a targeted, open innovation, inside-out valorization approach for technological IP. Not just a theoretical description of the valorization process in general but a practical method tailored to technological IP that can be converted to value, including steps, tools and templates to accelerate results.

Benefits

The adoption of such a new approach will

- enhance conversion rate – there will be more conversion from existing IP into additional value from new applications because the success rate is higher
- maximize assets utilization – the IP assets will be reused in the application area where the expected revenues are high
- improve efficiency - the process of finding new applications will be much more efficient and less time consuming
- provide satisfaction & fun – all professionals involved will share enthusiasm through the dynamics and results from the approach.

Key considerations

There are 7 key considerations when looking for such a new approach to IP valorization:

1. Structured:
the approach should have a solid methodology that is documented and that can be used in a man independent way. You surely don't want to be depending on that one single genius in your organization to make it happen.
2. Out of the box:
although highly structured the method should not only allow but even specifically enforce out of the box thinking, because this is the place were exciting new things happen. This means that involved professionals should be actively guided 'out of their boxes' and not merely encouraged to come up with wild ideas.
3. Chance independancy:
you want to be sure that in the end you have covered all potential new applications for your IP and that you don't depend on chance –or on the accidental intellectual condition of your teammembers.
4. Translation:
a careful translation step from the specialist language into a application domain-agnostic language is key to the succes of such a method. The initial translation from a patent attorney (into the original patent text) should of course be used in this process but is surely not sufficient to adress the non-legally trained stakeholders in the process.
5. Teamshift:
to further stimulate out of the box thinking it should be possible to divide the adopted process into sparate steps that can be executed by different people with varying background knowledge and opinions. This will allow the involvement of professionals from outside the organization, indispensable for fresh ideas.
6. Condensed:
preferably the core activity of arriving at specific new applications can be completed in a short time period, reducing the hassle of agenda synchronization and multiple project commitments of the people involved.
7. Skillful facilitation:
Facilitators of such a process should be knowledgable as well in the technological domain as in the business domain to ensure useful results. Additionally they will need leadership and training skills to effectively guide a varied group of professional people.

A novel approach

The key considerations mentioned above have emerged from practical experience in the field of patent valorization which often included the struggle for useful new application areas. This struggle finally resulted in a new approach for patent valorization to overcome the problems of babylonian confusion, domain bias and chance. It has been called TiP[®], 'Technology into Products', because this is the essential result of the method: it converts existing technology into applications in new products for which they were not intended originally.

This is all aimed at generating additional value and revenue from a technological asset; an asset in which already a lot of effort, manhours and money has been invested, including the investments in protecting the intellectual property by patents. It is a structured approach with well defined steps and tools for optimum speed and effectiveness on the road towards new applications. Typically these applications will be found in products and domains that are unrelated to the domain in which the patent has been generated.

Houston, we have a solution...

The issue at hand is the exact opposite of the well known phrase 'Houston we have a problem' [5]: we do have a solution but are still looking for the problem that needs this solution. A straightforward approach that is often adopted to tackle this issue is the conventional brainstorm, mostly based on an introduction by the inventor or patent holder. The aim is to move in a straight line from solution to problem, which is indeed the shortest route in the physical world. But in the world of new and unknown applications a detour is proposed in which the following areas are travelled:

specific solution → generic solution → generic problem → specific problem.

interpetration of tech-talk

As a first step the specific solution, the patented technology in its initial domain, is translated to describe the solution in terminology that is no longer connected to the original research domain. Special attention must be given to prevent the loss of significant attributes and characteristics of the technology within this step. This step involves in depth discussion with the inventors, patent analysis and desk research of related technologies.

the route out of the box

The description of the resulting generic solution is the starting point for step two, a structured and guided divergent, creative session. This session is preferably executed by a multidisciplinary group of professionals where the multitude of participants is from outside the organization. The major challenge in this step is to prevent taking 'shortcuts' towards the specific problem descriptions. This challenge can be addressed by proper process tools and facilitation. As a result a number of generic problem descriptions will emerge that are still domain-independent.

back to earth again

Only in the final third step the move toward very specific applications –the problems to be solved- is made. Results from this step typically describe very specific product features in specific markets, enabling the identification of

potential target companies to commercialize these products. The multiple opportunities resulting from these steps can be further prioritized using conventional assessment methods when desired.

rooted in history

The TiP® method might remind the reader to the approach within the TRIZ methodology [6] but in this case in the reversed direction; where TRIZ leads you from a specific problem to a specific solution via generic descriptions, TiP® takes you the other way around, from a specific solution to a specific problem- your new application area.

The methodology has been developed and refined by Verbeek Business & Innovation B.V. , an innovation consultancy firm based on decades of management experience in high tech manufacturing industries and with active network partners in various fields of expertise such as licensing, technology and business development.

Next steps

For a free initial assessment of your patents you are invited to contact info@verbeekbi.nl to make an appointment. Together we will explore how your business can be improved by leveraging your IP assets in new ways.

References:

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