

Best Practice for Innovation

FOR NORTH AMERICAN POLYMER INDUSTRY

PLASTICS, RUBBERS, COMPOSITES

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Bullet points for Innovation

- ▶ Innovation is a costly procedure,
- ▶ It is risky,
- ▶ It can be very long and go nowhere.

BUT...

- ▶ Innovation brings in THE competitive edge,
- ▶ Then sustains that competitive edge,
- ▶ Customer loyalty is insured.

Thus, if it is properly done,

it is ALL the investors want to see!



Current Situation

Globally, there are two types of innovation approaches taken by companies.

► Insourcing

Conducting all Innovation with company's internal sources.

► Outsourcing

Relying partly or completely on resources outside the company.

These were somehow explained in the Closed and Open innovation concept, respectively (Chesbrough, 2003).



Myth:

These are all for new IT industry and similar, not for our industry!!!!

- ▶ There are many articles on the pros and cons of both methods. The majority of those arguments use IT technology examples which are not easily extended to Polymer industry.



- ▶ In this article, I will try to investigate our own industry's situation and provide customized Pro's and Cons for this industry.



Pros of Outsourcing



Speed

Corporate Hierarchy and bureaucracy is not going to hinder innovation process.



Cost

Building in-house capacity, hiring, and more importantly, keeping top level talented people is a very expensive and hard task.



Expertise Variety

In polymer industry, even large companies with internal R&D units, cannot bring and maintain all expertise of their field. This turns them into “INSIDE THE BOX” thinkers, i.e. can’t think outside the box of their expertise.





Are the Pros valid for our Industry as well?

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- ▶ In this current structure, not really!
- ▶ Universities and research centres that are mostly thought of as the R&D partners in our industry, cannot provide the two most important advantages of outsourcing which are speed and cost-effectivity.
- ▶ We need a small and agile structure, low overhead costs, and experts with access to all what it needs to boost companies' innovation. If the structure of the outsourced company is even more complicated than the outsourcing company, what would be the point?



Cons of outsourcing in Polymer (Plastics, Rubber and Composites) Industry



Intellectual Properties (IP)

In Polymer industry including Plastics, Rubbers and Composites, most of the companies will go to the universities or research centers for outsourcing. Those centers ask for a share in IP and most of the times they do not provide exclusivity to the company.



No industrial perspective

In our industry there was no hands on, industrially experienced and equipped firm for outsourcing. Most sources were purely academic people with no or low industrial experience and mindset.



Is there a way to stay away from outsourcing Con's?

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Definitely!

Let's remember what those cons were:

- ▶ IP issues

You should work with a company that does not claim IP on your core competency. You may share IP on other less critical aspects of your products.

- ▶ Lack of industrial perspective

For industrial R&D, we need some people with industrial experience, and not only academic or laboratory visions. So again, some people with proven footprint in industry are required.





When should we outsource?

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- ✓ Whenever you need a vast and/or new knowledge to overcome the problems and introduce new products.
- ✓ When it is not your core competency,
- ✓ When it is at early stages of research where there are a lot of technical issues,
- ✓ When you have no IP issues with the outsourced firm.
- ✓ Whenever you find a company with a collection of knowledge/experience/equipment. One way or another, it will be beneficial for your company to work with them.

outsourcing



What is your core competency?

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- ▶ It is recommended to not to outsource fully your core competency. This is true, specially if you can not protect it by developing intellectual property.
- ▶ But what is your company's core competency? Here is an example in plastics industry.

Example: Imagine a company producing cast films used merely in some specific sections of construction industry and sells it all around the globe and it's all or majority of the directors are in civil or construction related fields.

At first, the core competency might be like Plastic Processing or more specifically Film processing. But it is not true. That's why for instance they will never be able to get into food packaging or other similar industries. Their core competencies are:

Customer Understanding (Construction), Logistics and component integration in construction fields.



OK, but where?

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You may say:

“I have not heard of such a company in Polymer industry in North America!!!”

You got ONE now...

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- ▶ You are right. There are not many of such firms in Plastics, Rubber and Composites industry.
- ▶ **Axipolymer Inc.** collected a panel of highly experienced industry people and started its activities in Summer 2017 with more than 100 years of accumulative industrial experience in North America.
- ▶ The basic pillars on which **Axipolymer** is based, is shown at the following slide.





Based on these pillars, Axipolymer provides various services:

- ▶ **Define innovation strategy** with the company management and **Generate novel ideas** within the company,
 - ◆ **Explore** the company's **strengths** and identify major potential projects,
 - ◆ **Conduct** feasibility studies for upcoming projects,
- ▶ **External "New Product Development"** arm of companies in Plastics/Composites industry,
 - ◆ **Execute product development process** from A to Z via our internal-external resources (from ideation to product launch),
 - ◆ **Identify opportunities** to develop formulations containing novel technologies such as nanomaterials & bioplastics in existing or new products portfolio of the company,
 - ◆ **Protect** the companies by **developing intellectual property (IP)**,
- ▶ **Characterization and analyses** services for internal R&D or Production departments of companies with preferred rates.



Last point:

**Companies Win customers simply
because they are Better at
Innovating than others.**



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