

Outsourcing R&D

External contracting of food R&D work has become an essential part of effective food industrial product and application development, says **DR CECILIA KÜHN***. Here she explores the principles of the concept in this comprehensive question and answer session

As product formulation and process specialisation intensify in the modern food industry, companies feel pressed to look externally for enabling certain product development tasks. The basic principles have been discussed earlier^{1,2,3}.

Isolation in the area of technological development results in 'staying behind', 'reinventing the wheel', wasted R&D resources and missed business opportunities. Competitive companies are well aware of how to skilfully combine in-company capabilities with external know-how. Outsourcing food R&D is practised because it provides for increased efficiency of results, time and costs.

VALUE FOR MONEY

Where do you get the best R&D support for your specific problem? You need to do some special fact-finding. Most used sources are the literature, networking, internet and independent outsourcing advisors. A focused literature search is very useful to reveal the groups working in your area, their focus and approach. Then evaluate them. For some practical questions, networking may be necessary because some product development organisations do not publish.

Two easy and price-effective ways to network are the internet (www.foodoutsourcing.net) or asking your industrial peers (suppliers, manufacturers). Using outsourcing advisors bring costs, but you get a professional case analysis, value-added practices and a choice of alternative solutions for your problem.

NBD SCOUTING

You are looking for New Business Development (NBD)

possibilities within the food industry, and contract a specialised NBD bureau to help you. After some months of international work and costs above €50,000, the first progress report is presented to you. You find it very elementary in both commercial and technological aspects. The processes depicted are outdated prototypes from standard textbooks. It is not useful to your company and you decide to stop the project. You feel you wasted time, money and opportunities for your company.

NBD projects require the simultaneous appreciation of several market and technological factors, and can seldom be dislodged from your company. It is usually better to keep the project in-company and to outsource specific tasks, than to contract out the whole project. Remember that at the end any new business must fit your present business. Further, commercial NBD bureaus working for all types of businesses most often lack the necessary insight into the food industry and its intricate technological aspects.

What works well is to have interactive sessions between your company's senior commercial and R&D managers with external experts experienced in food industrial NBD. In this way you use their knowledge and experience in a very effective way, while simultaneously providing for company-fit.

CONTRACTEE'S SINCERITY.

How do I know that the contracted party will give me what I want? If the contractee realises that they cannot deliver what I need, will they tell me? If they realise that there is a better specialist for my question, will they tell me?

Be particularly careful in this regard, since some contractees may not tell you directly. You need to scout well and evaluate their relevant experience, asking for examples of already completed work and references.

Learn from the first meeting onwards about their areas of expertise and their particular approach. Visit their practical facilities. Present them with a rough concept of your project, and ask how they would approach it. Ask in sufficient detail. If possible, check on references provided for related work. Review their relevant publications. You may start with a pilot-project, and build in a good contract termination condition.

Do not accept 'confidentiality' as a reason for not providing you with a reasonable description of their skills & experience. If their projects are too close to your request, ask whether they can work in this same topic for new parties and whether there are any special conditions, before disclosing your own needs (e.g., permission from an earlier customer).

Ask them whether there are better ways of carrying out the project, how they would recommend to organise it, and who would be the best contractees for the different parts.

TOO EXPENSIVE

We only need answers to a few questions and we find the price too high.

Price depends on several factors, and may sometimes include part of the past efforts used to develop the knowledge. To estimate whether the price is fair or not, ask for a work proposal listing and pricing the individual steps. You may also need to do some benchmarking with other suppliers of the same service, even if located in other countries. R&D work is expensive, and such benchmarking may prove very useful. If you lack the time and knowledge needed to carry this out, you may want to use an independent advisor.

You only outsource if contracting out is cheaper than doing it yourself. If you find the price fair but too high, you can limit the work done externally by taking over certain parts yourself or temporarily hiring a project support assistant to work in-company.

Remember that outsourcing confronts you with the actual total costs of doing the work, some of which are disregarded in internal cost estimates (i.e., in-company costs must include also idle time [training, vacation, illness]; personnel administration costs [hiring, courses, firing], etc). Besides facing total costs, steering and stopping of outsourced projects is often easier (ie, avoid 'company politics' issues).

TOTAL PRICE ESTIMATE

You want to explore certain product applications. You select the organisation you want to work with and ask for a project proposal and cost estimate. The contractee pre-

sents you an open-end proposal. He indicates that he cannot give you a total project estimate because it is exploratory work and does not know how much work is actually involved.

If you are not ready for surprises, do not sign any open-end contract. If it is impossible to have a total estimate, divide the work in small steps for which pricing can be given, and build in frequent 'Go/No Go' decision points. Sign only for the first step. You must be able to estimate your cost-results ratio, and also to stop anytime.

INTELLECTUAL PROPERTY RIGHTS

We are paying 100% of the research costs, but we are having problems to get the IP rights for the work.

R&D organisations tend to be quite conservative about IP rights, regardless the degree of competitiveness of the work. A frequent excuse is that they invested in the development of the knowledge and thus must share the revenues of the commercial applications. Watch also their standard conditions, since some have strong IP clauses.

You must insist to get the IP rights for the work you fund. This is sometimes difficult and takes considerable negotiation. In this regard it also helps to consider more than one R&D organisation to reduce your dependency on a particular one.

EXPLORATORY WORK

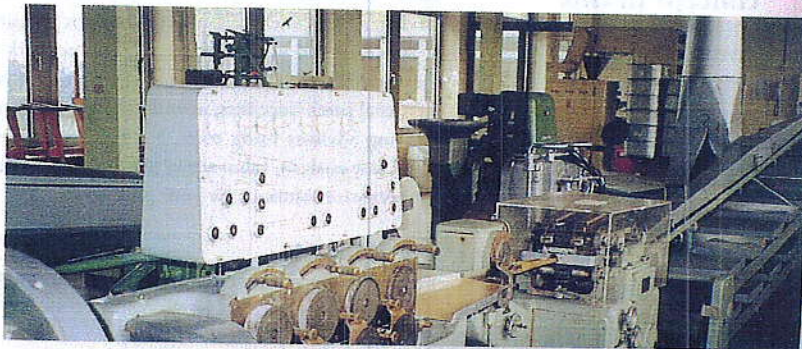
You have a new ingredient and want to explore its food applications. You approach a product development organisation, whose project proposal only sketches the work plan and does not specify the deliverables.

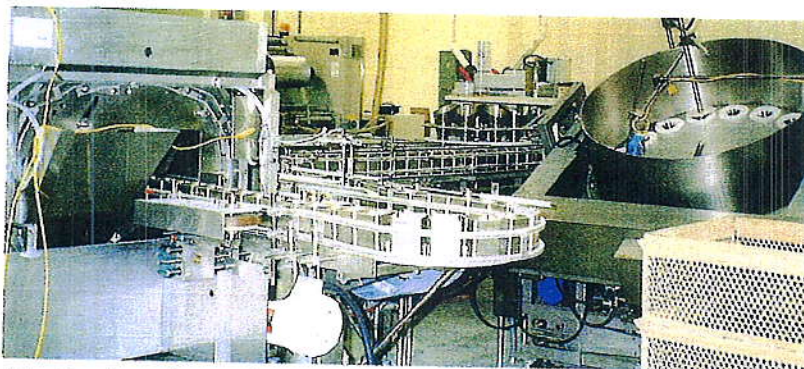
In exploratory work, the results of one step dictate subsequent work. Deliverables *per se* can not be forecasted. A detailed work plan is not known ahead. This does not mean that you should just accept any 'exploratory' proposal.

To prevent insufficient results, you should have a good idea of what will be tested and in which depth (functionalities, systems, applications), and what the scope of the results will be (deliverables). Instead of one large contract, it is useful to divide the work in phases. In this way you can have close control of ►

Above left: Chefs-de-cuisine can develop new product concepts that your product developers translate into industrial formulations

Below: Specialised pilot-scale equipment is used for exploration, development work, market research samples and sometimes even special production runs.





The pilot plants of some R&D organisations are actually versatile small-scale production facilities.

◀ the work and can evaluate results frequently. Before you contract-out any exploratory work, it is useful to carry out some preliminary trials yourself that will help you focus your questions. These can often be carried out with your existing equipment or with the support of a business relation.

Particularly in exploratory work, take care to focus and direct the work closely, know what will be done and be informed in advance of any changes (methodology, applicability, work-time estimate), include frequent progress reviews and a 'sudden' contract termination clause.

MISCONSTRUED METHODOLOGY

In the first progress report meeting, I noticed a misunderstanding of one of the methods used, thus leading to faulty results. Inquiring about it, I then realised that my contact person is not the one that does the work. My official contact is a senior specialist, but the one carrying out the work is a junior assistant.

Insist in meeting and involving the person that will actually do the work as early as possible in your project, and keep in regular contact with him/her. In certain cases you may even want to include the person's name in the contract, to secure work consistency. This allows you to check on the suitability of the person for your work, to better communicate your needs and to supervise work progress.

You may want to agree in writing with the contractee how to solve these type of situations (corrective work, costs, time).

Remember that you need to have sufficient knowledge on the topic to supervise it adequately. If you lack essential knowledge find appropriate support to prevent overseeing important mistakes.

SELF-HELP

What type of self-help support on outsourcing food R&D is available?

The most effective self-help ways involve information from industrial peers, either by direct contact or using indirect communication routes (e.g., publications, internet). Besides your own business relations, peer contacting can be done through professional as-

sociations, outsourcing societies, outsourcing clinics and internet (www.foodoutsourcing.net). Outsourcing publications in trade magazines provide useful hints. The guide *Outsourcing food R&D* overviews industrial practices in special report form (ISBN 90-5859-0011).

CONFIDENTIALITY

Before disclosing any product development plans or contracting work, you must ensure that the other party will keep all your information strictly confidential. Some companies require signing a confidentiality agreement at the beginning of the relationship, sometimes even before the contract stage and ahead of exchanging any project information.

In this way you also cover any sensitive information you may have to disclose, and preliminary work that needs to take place. The penalty for infringement varies from case to case, and generally increases in the measure that the work moves from development to research.

INTERNAL RESISTANCE

You realise that you need to outsource R&D work, but your team resists it indicating that it will be a waste of time. You sense that the actual reason is job-protection, and that you must reassure your team so company development is not hindered.

An alert outsourcing attitude provides for the effective updating in external developments and rapidly evaluating when to use them. Resisting outsourcing on principle isolates you and reduces R&D effectiveness. Not all work should be outsourced', and the skilled manager knows which is suitable. Your team must be aware of the benefits of selective outsourcing, and also of the risks of resisting it.

As part of the company, your team also benefits as new R&D tasks become possible and the company develops. Besides allowing to gain time, improve results and reduce R&D costs, outsourcing helps your collaborators devote their time to the more important strategic R&D tasks.

If the internal resistance is based on fears and not facts, you may choose to start with an outsourcing exploratory session to review outsourcing alternatives and gain trust in this practice.

REFERENCES

1. R&D looking outside. *International Food Ingredients* 5:34-38, 1998
2. Outsourcing in Germany. *International Food Ingredients* 6:21-24, 1998.
3. 'Outsourcing in Spain'. *International Food Ingredients* 1:35-38, 1999.

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