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A Business Model for Innovation Journalism: Biotech Sweden

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Innovation systems can offer readerships and commercial markets for innovation journalism[1]. Editor Jan Sandred identified in 2001 a business opportunity for a magazine covering the Swedish biotechnology innovation system. The Swedish business-to-business magazine Biotech Sweden was created for the biotech market by IDG Sweden, a subsidiary of International Data Group. A project group[2] was set up in 2001, producing the magazine that became a commercial and editorial success, proving the commercial validity of the concept innovation journalism. This paper describes the business model and the steps involved in setting up Biotech Sweden as an innovation journalism publication.

(A first draft of this paper was presented Apr 2004 at the First Conference on Innovation Journalism[3])

> *"Journalism will kill you, but it keeps you alive while you're at it." Horace Greely, 1811 – 1872, American newspaper editor, founder of the New York Tribune.*

1 Introduction

1.1 Definitions

A "business model" is a strategy that describes how a business will make money and from whom. It is used to help decide the best way how to sell and market the products or services. Once implemented, the strategy can be adjusted as the market and its actors (in this case readers and advertisers) develop, experiences from the operations develop, and the goals become more refined.

Innovation is more than just new technology. Peter Drucker defines innovation as "the act that endows resources with a new capacity to create wealth". That could be a new, or significantly improved, service, product, production technique, or management method.

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[1] The Role of Journalism in Innovation Systems, Nordfors, David, Innovation Journalism Vol.1 No.7, November 8 2004. www.innovationjournalism.org/archive/INJO-1-7.pdf

[2] The Biotech Sweden project group 2001 – 2004, in alphabetical order: Kristina Andersson, Subscriptions; Fredrik Bernsel, Editor-in-Chief; Lennart Ekner, Sales; Olov Kalderén, Layout Editor; Jonas Lindholm, Sales Manager; Maria Nilsson, Webmaster; Sven-Erik Remmare, Project Leader; Jan Sandred, Editor, Founder.

[3] The First Conference on Innovation Journalism – Conference Papers. Innovation Journalism Vol.1 No.3, May 3 2004. www.innovationjournalism.org/archive/INJO-1-3.pdf

1.1.1 Innovation Journalism

"Innovation Journalism" is journalism covering the innovation system, in the same way political journalism that covers the political system, or business journalism that covers the stock market and it's actors. Journalism about innovation is not new, but Innovation Journalism was identified a concept and a type of journalism on its own merits for the first time in 2003 by David Nordfors[4].

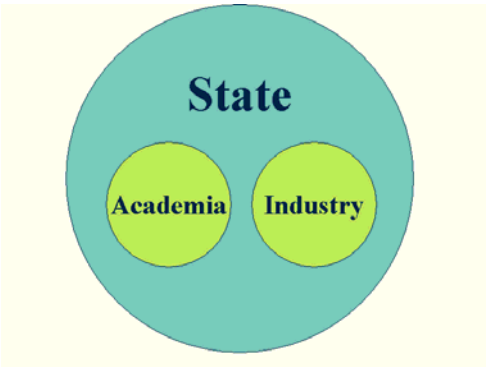
A successful innovation system depends on the interaction and shared knowledge between different professions, such as engineers, business executives, academics, and politicians.

Innovation journalism examines and scrutinizes the interactions, synergies, companies, political actions and the emerging technologies within this system, which would not be visible in an analysis of individual companies, only probing the stock market, or just reviewing the technology.

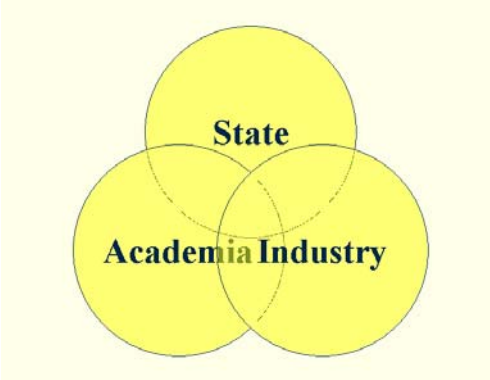
The aim of this paper is to present a successful case study and to give a better understanding of the readers' information needs and how to develop a valid business model.

Figure 1. The Innovation System

A traditional model of the innovation system:



A modern model of the innovation system:



1.1.2 Innovation Systems

Technological knowledge drives modern economies.[5] The transformation of science and technology into economic goods is nothing new. What is new is the how this process has intensified in the last half-century and the increased reliance of industry on knowledge originated in academic institutions.

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[4] D. Nordfors. "The Concept of Innovation Journalism and a Programme for Developing it", *VINNOVA Information* VI 2003:5, ISSN 1650-3120, Nov. 2003. Also published in *Innovation Journalism*, Vol. 1 No. 1, May 2004. http://www.innovationjournalism.org/archive/INJO-1-1.pdf

[5] "Exploring the Black Box: Technology, economics and history", Nathan Rosenberg, Cambridge University Press, 1994.

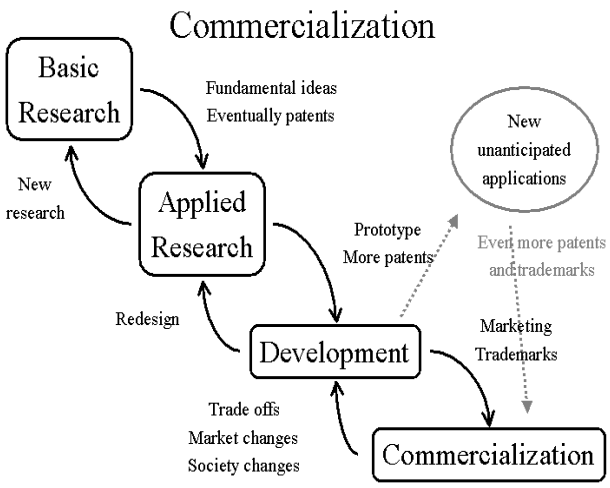
Traditionally the state has been seen as the driving force for national economic growth. The state funds research in academia to serve the industry with highly skilled personnel. The industry receives startup funding through government programs like interest-free loans. Big governmental investments like the U.S. Apollo project created the modern IT and material industry. In Sweden the development of the fighter aircraft Jas 39 Gripen also was a political investment in growth.

But today industrial innovation is not done isolated by entrepreneurs in companies or universities. Not only scientists, technicians and business executives are needed to commercialize an innovation, but also lawyers, capitalists and marketing people. And in addition the political system is deeply involved, especially in regulated high-tech areas such as telecom, health care, biotechnology and environmental technology. Consequently the innovative process depends on economic, political, social and cultural factors, and these factors in turn depend on each other.

1.2 The Myth of the Linear Innovation Process

Innovation is not a linear process. The innovation process is a nested system of feedback-loops between basic research, applied research, development and commercialization, as illustrated in the figure to the right[6]. And at the end of the day, after a long tedious innovation process, the development phase often leads to the conclusions that the inventions actually don't work at a reasonable cost, or there is no market for them, but someone has another idea.

Commercialization of research is not linear[6]



This commercialization process takes time, for pharmaceutical companies up to 10, 15 years. Meanwhile the market changes, economy changes, politics changes, values change, society changes, and strategies change. As a result, the process often ends up with new unanticipated applications, because when the planned application does not work on the market, the innovators will try to save their project by changing the application of their technology.

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[6] Figure from "Major Trends and Mechanisms to Commercialize Research Results in the U.S." by Charles W. Wessner. in "Commercialization of Academic Research Results", (Nordfors ed., Sandred, Wessner co-eds.) VFI 2003:01, Vinnova 2003. http://www.vinnova.se

After that, new businesses must deal with threats like management failure, technology obsolescence, alternative business models, debilitating legal proceedings and hostile acquisitions. And if they succeed they must deal with fierce competition on the market.

1.3 The Myth of the US Innovation Machine

There is a myth in Europe that the United States have is this highly well oiled innovation machine – The government put money in the universities and out pop biotech start-ups, which instantly became Amgen. It just isn't so.

Innovative regions need a favorable environment, a "habitat", of the physical, legal, and social mechanisms that is needed for fast product development and commercialization.[7] Silicon Valley is the foremost example of a beneficial environment for innovation and entrepreneurship. It is a gathering place for researchers, entrepreneurs, venture capitalists, and skilled workers who turn new ideas into innovative products and services.[8]

Many places around the world try to copy the success of Silicon Valley by building science parks, facilitate access to capital and start technology transfer programs.

But a science park is not enough. Academia and politicians must together set the right conditions and recruit innovative companies into the park; otherwise they become only real estate developments.

Access to venture capital is not enough. Politicians and industry must together set the right regulatory regime; otherwise the venture capital companies just become banks.

A university technology transfer program is not enough. Academia and industry must together develop favorable conditions and mechanisms for co-evolution of ideas between industry and the university; otherwise the program starves to death.

The key issue is the interaction, the sharing of knowledge and experience in this environment. Given the right environment people form networks. They make business with each other; they share their experiences; they learn from each other and have constructive discussions on various research and business topics.

The success of an innovation system depends on the interaction and shared knowledge between these different players.

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[7] "The Silicon Valley Edge – A Habitat for Innovation and Entrepreneurship", Chong-Moon Lee, William F. Miller, Marguerite Gong Hancock, Henry S. Rowan, Stanford University Press, 2000.

[8] Joint Venture's 2004 Index of Silicon Valley.

1.4 Media as an Actor in Innovation Systems

Today it is widely known that media is the primary source of information within politics, academics and industry. How the journalist tells the story impacts society. Thus media becomes an active component – an actor and not an observer – of the system.[9, 10, 11, 12, 13]

The media cannot tell you what to think, but they can affect what you think. This is known as the media's "public agenda setting role", or the media's power to define the significant issues of the day.[14] Media plays a crucial role in enabling different issues to become acknowledged as public issues. Media directly influences the public agenda, and that in turn affects the policy agenda.[15]

People follow the news, discuss the news and often act on it. And, believe it or not, they trust media.[16] Therefore media creates the common shared knowledge between the actors in the innovation system.

But in reality the shared knowledge is rather superficial and people have a different impression and different understanding of the same information. The reason is that different actors mostly read different media. The academics have their magazines, the politicians their, and the industry their trade publication and financial magazines.

The same news is treated differently in different media. The trade publications do their story, the business press focus on the stock market, the science magazines concentrates on the scientific issues, and so forth.

So, within a specific innovation system like biotechnology there is a lack of knowledge about what's really going on. There is a lack of good common information sources.

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[9] "News: A Reader", Howard Tumber ed., Oxford University Press, 1999.

[10] "Mass Media and Society", James Curran, Michael Gourevitch eds, Oxford University Press, 2000.

[11] "Television and the Public Sphere, Citizenship, Democracy and the Media", Peter Dahlgren, Sage, 1995.

[12] "Political Communication Ethics An Oxymoron?" Robert E Denton ed. Praeger, 2000.

[13] "Communication for and Against Democracy", Mark Raboy, Peter A Bruck, eds. Black Rose Books, 1989.

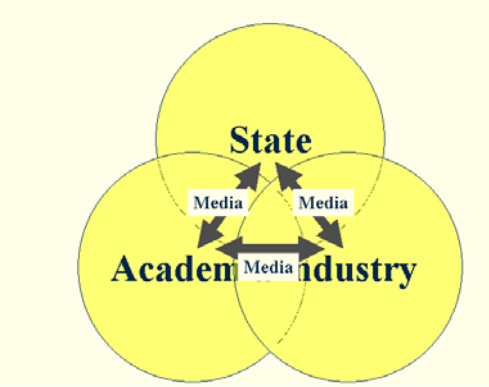
[14] "Do the Media Govern? Politicians, Voters and Reporters in America", Shanto Iyengar, Richard Reeves eds. Sage 1997.

[15] "Agenda-Setting", James W Dearing, Everett M Rogers, Thousand Oaks, 1996.

[16] "Just the Facts: How "Objectivity" Came to Define American Journalism", David Mindich, 1998.

The largest cost for the information departments within corporations is the collection and distribution of information from different sources to inform the right persons within a company.[17] That is to inform the professionals within a corporation about important issues happening within different areas that affect the innovation process, for instance new policy issues that concerns the product developers or new technologies that concerns the marketing department, and so forth.

The Role of Media in Innovation Systems



Here is a business opportunity for new media based on innovation journalism that creates a quality common knowledge within an innovation system.

2 A Business Opportunity for Innovation Journalism

Nordfors suggests that each type of innovation system – National, Regional or Sectoral - is a market for innovation journalism, i.e. National, Regional and Sectoral Innovation Journalism[18]. Biotech Sweden is in these terms an example of Sectoral Innovation Journalism.

A Sectoral Innovation System is different from an industrial sector. An "industrial sector" is a way of grouping industries doing similar things. The sectoral innovation system consists of a wide variety of industries and professions that are needed for an area of innovation to be succesful. It is key to write for all actors. There is no problem writing for a wide audience.

Within explanatory journalism there exists well-developed methods and tools to write for an uninformed reader how complicated things work, for example to produce "popular science".

The key issue is to never underestimate the reader's intelligence. But also never overrate the reader's knowledge.

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[17] Mark Vadasz, Executive Information Manager GE Health Care (formerly Amersham Biosciences), Gunilla Wredenberg, Information Consultant CGI Rinfo, Swedish Association of Information Managers. Private communication.

[18] The Role of Journalism in Innovation Systems, Nordfors, David, Innovation Journalism Vol.1 No.7, November 8 2004. www.innovationjournalism.org/archive/INJO-1-7.pdf

2.1 Prerequisites and Preparations

2.1.1 Find a Target Group

There must be a well-defined target group. Magazines are read by people and not by companies. Even the most expensive multimillion dollar equipment or long-term outsourcing service, are bought by persons that makes non-rational and emotional decisions.

Given that the magazine is filled with brilliant editorial content, there are also a few market prerequisites:

2.1.2 Find an Uninformed Target Group

There must be a need for a specific sort of information from the target group. It is easy to talk oneself into the idea that an audience needs the information they want to provide. This is not true. For example wedding magazines, magazines for people that have recently become parents or product review magazines, are by definition not interesting after the wedding is over, the baby is born, or once you have bought the product. It this cases a business model that builds on single copies or short-term subscription is preferred.

2.1.3 Find an Uninformed Target Group That Wants to Read

In Sweden there's a rule of thumb in making magazines that says "Half of the target group don't read. And the other half must be convinced." People can have a lot of excuses for not reading magazines: lack of time, unfamiliarity, or just reluctance.

It is necessary to market the magazine to the target group. Usually it takes three to five years to get a magazine profitable. It takes deep pockets and a lot of effort.

2.1.4 Find a Non Price Sensitive Uninformed Target Group That Wants to Read

But a potential need is not enough. The subscribers must have the money to pay for the magazine. New entrepreneurs are information-hungry, but short on cash. With the increasing number of free publications and the popularity of Internet, it is almost impossible to charge for general news or general information.

As private persons we are usually stingy when it comes to paying for information. Innovative businesses on the other hand, are very much dependant on what they learn. If they can save money or earn money based on useful information, they will pay well for compelling editorial content. A real edge is the key.

2.1.5 Find the Opportunity

Magazines are expensive and advertisements are the main financial source. The market must have powerful potential advertisers interested in reaching the magazines target group. And other market channels like direct mail must not easily

reach the target group; otherwise these market channels will most certainly already have exploited the market.

2.1.6 Don't Waste the Opportunity

Beat the competition. Don't let competitors exploit or take the niche. Publishing is intensely competitive.

Finding a new market is a catch 22. Once a profitable appears on market others will quickly follow.

2.1.7 Create the Market

New markets are not discovered – they are created. For example Apple defined the term "user friendly interface". At the time when the Macintosh was introduced in 1984 it was not given that "user friendly interface" meant mouse, point-and-click, windows and icons.

The biotechnology market is a quite recent one. The expression "biotechnology" is used in many different ways. There are nearly as many definitions of it as there are people. It was essential for us to choose a definition that defined a suitable market for the publication. We wanted to find a good definition of "biotechnology" that matched the criteria above.

It turned out that the most important part was to define what biotechnology is not. The magazine was deliberately named "Biotech" and not "Life Science", as the term "life science" was cumbersome and used to broadly, which made it difficult to find a well-defined and appropriate target group.

Biotechnology was also defined not to be "health care" or "medical technology". In that case things like syringes and wheel chairs had to be included, which intuitively is not biotech. Also the health care industry already had several publications. The most important Swedish publications are Dagens Medicin, Läkartidningen, Incitament, Medicament, Landstingsvärlden and Pharma Industry.

Finally, biotechnology was defined as "the art of biological engineering", or more precise "to develop, produce, analyze, or use biological systems on a cellular or molecular level."

2.1.8 Map the Existing Information Flow

Traditionally, business-to-business publications are formed within an industry, usually a trade organization, written by people who have insights in the trade and/or the technology. The scope of Biotech Sweden was wider.

Knowledge is more than information and facts. There are several theories about knowledge flow and how knowledge is created, but the predominant model - the

constructivist model - believes that humans construct all knowledge in their minds.[19]

Knowledge requires learning and is an organic, not mechanical, process. Individuals create their knowledge by using different intentional or intuitive learning strategies, together with her or his unique knowledge influenced by culture, experience, skills and talent. Individuals must be able to hypothesize, predict and transform information, to construct knowledge.

Knowledge does not exist outside the human mind and therefore it cannot flow between individuals and even less "between organizations or companies".

What can flow is information and opinion. Meaningful knowledge is created through reflection and by discussion of information and facts among individuals.

The biotechnology market has a very large number of information sources, such as scientific peer reviewed journals, seminars, conferences and proceedings, books, technical reports, consultants and experts. And an increasingly part of the biotechnology information is marketing material and analysts reports.

The knowledge and the flow of information are prerequisite for innovations. For example, more than in other industries biotech companies are dependent on close collaboration with academic researchers for their success.[20]

A pilot study was made in 2001 by interviewing biotechnology executives and researchers in biotech companies in Uppsala on what type of information services and resources they need. One result was that they very often considered themselves to be on the "cutting-edge" or forefront of their particular areas of research and development. It was essential for them to go to the right meetings and keep in touch with the right people.

They also often complained that they had more information than they could assimilate, but mistook this to be the information they really needed. They often forgot that they needed information about regulations, safety assessment, environmental effects, commerce, funding and financial resources, patents, laws and regulations. Furthermore they need insight in politics, ethics and opinion, especially in areas like stem cells and genetically manipulated organisms (GMO).

Efficient media must take this into account and in a broader perspective, and not just provide business information and technology facts. This is especially important

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[19] Examples of constructivists include John Dewey, Lev Vygotsky, Jerome Bruner, Jean Piaget, and Seymour Papert. While each of these constructivists advocated a different method of nurturing learning and integrating knowledge with individuals' ability to learn, all support that learners construct knowledge themselves rather than simply receiving it. Typically this is done in cooperative groups, focusing on solutions rather than receiving information.

[20] "Network Position and Firm Performance: Organizational returns to collaboration in the biotechnology industry", Powell, W., et al, 1999.

within the biotechnological field, as biotechnological innovations are created through a complex system in which public and private organizations interact.

2.1.9 Analyze the Interaction Within the Innovation System

The Swedish biotechnology innovation system is strongly dependent on public research organizations. There are eleven major public Swedish biotechnology research organizations, which collaborate with each other.

The strongest cluster of interaction is the Stockholm-Uppsala area. Karolinska Institutet in Stockholm has the largest amount of researchers and, as a consequence, has the most co-authorship on academic articles with other public research organizations.[21]

But the science articles form only a small portion of the innovations within industry, although they together with patents are important tools for firms to gain recognition and validation for the technologies they promote. It is likely that many academic researchers only agree to collaborate with industry if they have the possibility to publish their results. Even if Karolinska Institutet has the largest amount of co-authored articles with industry, it has a relatively low share of industry collaboration compared to other public research organizations in Sweden.[22]

A typical Swedish company in the biotech innovation system possesses core competencies that are based on science, research and development. However, as recognized above, these core competencies are typically very narrow and focused on a specific scientific discipline. They have to be complemented with competencies like regulatory, management, marketing and sales. This part is a scarce resource in Sweden. The number of professional executives and opinion leaders in the biotech industry in Sweden is rather limited and the majority has their background from the same company: Pharmacia in Uppsala. Thus, all of those influential persons know each other, which on one hand facilitates involvement in joint projects, but on the other leaves the executives in a backwater. Most of them have the same experience – a large multinational company and insignificant understanding of entrepreneurship.

Therefore Swedish biotech companies are dependent on external networks as sources of intelligence as well as competencies related to marketing and

[21] "Knowledge Production and Knowledge Flows in the Swedish Biotechnology Innovation System", Anna Nilsson, Anna Sandström, Ingrid Petterson, Centre for Medical Innovations Karolinska Institutet, 2001.

[22] Same as above.

commercialization of pharmaceutical research. This is also the case for Finnish biopharmaceutical companies.[23]

Swedish biotech companies establish links to larger firms, often to license their innovations to these companies, but also to get market data.

Small biotech companies often collaborate for access to the expensive analyst reports on potential markets for their inventions. Swedish biotech companies also collaborate with consultant companies working with related technologies that provide the biotech companies with insights in market potential and new application areas.

Another important channel for receiving information on trends is participation in various kinds of seminars and conventions.

2.1.10 Identify the Actors in the Innovation System

Biotech Sweden was designed to be a "hub" in the biotechnology market. The magazine should provide the market with knowledge, information and news, and act as an arena for debate and opinion making.

Biotech Sweden should independently monitor and inform of what is happening in the biotech industry. The magazine should cover new findings, technology, products, finances and regulatory. When designing the magazine all of the actors that influences and/or is entirely dependent on the biotech market, were identified.

The actors in the biotechnology innovation system was identified as

- **The producers**: The biotech companies themselves
- **The researchers and developers**: Research institutions, academia
- **The financers**: VC, funds, financial institutions, analysts
- **The watchdogs**: The law firms and patent bureaus
- **The creators of public opinion**: Politicians, organizations and prominent individuals who form and influences public opinion, and laws that follows the technology and basic research development.
- **The service providers**: Provide the companies with infrastructure, tools, equipment, and so forth.

2.1.11 Set Goals

The target group was estimated to 75,000 individuals in Sweden. The penetration goal was set to 25 percent within a year and the magazine should be profitable within 1 year. It is important to point out that these were not formal goals.

[23] "Market Orientation of Knowledge Intensive Entrepreneurial Firms – Preliminary Evidence From Biotechnology Firms", Maija Renko, Turku School of Economics and Business Administration, Turku, Finland / Florida International University, Miami, USA, 2003.

2.1.12 Find the Finance

A new magazine is costly and there is a need for a financially strong supporter. After several Swedish publishing houses turned down my prospect, Fredrik Bernsel, Editor-in-chief of Nätverk & Kommunikation at IDG Sweden, in November 2001 got interested in the idea of a Swedish magazine for the biotech industry, based on the innovation system.

IDG Sweden AB is a wholly owned subsidiary to International Data Group Inc. IDG is the world's largest publisher of IT-related information. The company was founded in Boston in 1964 and had 2003 a revenue of $2.58 billion and more than 12,000 employees in 85 different countries. The IDG magazines have 100 million readers worldwide, every month. In total IDG publishes more than 300 IT and business magazines, has 300 web sites, produces and sells 4,000 book titles in 38 languages and more than 168 globally branded conferences and events.

IDG Sweden was founded in 1983. Today, the company has more than 200 employees; among those around 80 is editorial staff at the company's different magazines and web sites. IDG Sweden publishes 15 IT and business magazines, web sites, recruitment services for IT professionals, events, conferences and seminars, and reprints.

3 Putting Together the Publication

IDG Sweden uses six phases in their magazine development model.

1. Write a short memo that includes everything from concept, or editorial idea, dummy and table of content, to sales promotion. Special emphasis is put into a sales letter. By that you make the business idea more clear. If that is not possible the idea was too fuzzy.

2. Let selected customers and readers evaluate the concept. By that you get a feeling for if there is a market for the magazine. Here usually two out of five ideas fall.

3. Develop a budget and a schedule for the project.

4. Engage a project team. This is considered the most important phase. A group formed by the wrong persons can spoil the project. A well functioning group can take a moderate business idea to a success.

5. Put together an advisory board.

6. In the sixth phase the business development group within IDG Sweden is coaching the project during the first 12 months.

3.1 The Challenges

3.1.1 Publisher Unfamiliar with the Biotech Market

IDG had no knowledge in biotechnology or the biotech market. The company's expertise was solely in IT and telecom. Consequently all personnel must be educated. This was done informally by the author and Fredrik Bernsel at the office and at "publisher meetings" together with the sales people and potential advertisers.

3.1.2 Biotech Market Unfamiliar with News Media

To discuss and get information on the readers' needs, and also to get credibility on the market, an editorial advisory board was formed with representatives from the industry, academia, venture capital and science parks. The board helped to create the basic content requirements for the magazine and also gave important input on the actors in the biotechnology market.

The advisory board of 2001–2003:

Academia

Mathias Uhlén, Prof. Microbiology, KTH - Royal Institute of Technology

Lena Kjellén, Prof. Med. Biochem. and Microbiology, Uppsala University

Finance

Folke Meijer, CEO Karolinska Institutet Holding AB

Ingvar Wiberger, PhD. CEO SLU Holding AB, Swedish University of Agricultural Sciences

Science Parks

Per Lindström, Project Manager Uppsala Science Park, Uppsala University

Bent Christensen, CEO Medicon Valley Academy A/S, København

Industry

Lars-Eric Utterman, Executive VP Proteomics, Amersham Biosciences

Hans Hultberg, Director Global Discovery Alliances, Astra Zeneca

Håkan Englund, VP Business Devlpmt & Licensing, Pharmacia Diagnostics

Marianne Bäärnhielm, Communications Manager, Pharmacia Corp

Tomas Moks, PhD. VP Commercial Development, Biopharm, Biovitrum

Maris Hartmanis, PhD. CEO Gyros Microsystems

Björn O. Nilsson, PhD. President, KaroBio

Sven Andréasson, CEO Active Biotech

Erik Walldén, CEO Pyrosequencing

In the months before launch, we found that Swedish biotech companies were not as ad-savvy as IT companies. We found that we had to teach them the business model of a trade publication and what market opportunities it can give advertisers.

IDG Sweden had successfully tried the idea of hosting dinners – "Founders Club" – for prospective advertisers; the first occasion was when the company launched the magazine Industry Standard.

As a result, IDG Sweden hosted the first "Biotech Founders Club" dinner on April 16 as a way to attract new advertisers to new publications. Marketing staff from biotechnology or related companies met more experienced peers from other businesses to exchange ideas and ask questions. The staff presented the Biotech Sweden concept and how it serves the biotechnology market.

It is of importance to note that IDG Sweden does not deal with contract publishing. The business model is founded on independent good, impartial reporting to make a highly credible magazine. The editorial staff editorial decisions are made separate from the ad sales staff. It is not possible for the sales department, or any advertiser for that matter, to buy editorial content.

But the magazines are also commercial products. To develop a magazine is collaboration between the all the different parts, like editorial, sales, subscription, etc. It is not possible for the various parts to work totally independently of each other.

3.1.3 No Market Directories or Databases

As the biotechnology market was brand new there were no mailing list or address register to buy. The commercial address registers like Micromedia and Postens Adressregister PAR, only register job titles and is crude in differencing high-tech companies.

The final register was a combination of a huge number of sources.

3.2 The Benefits

There was no international competition. A pilot study showed that the target group read various magazines like Nature, Science, Cell, The Scientist, various patent magazines or general daily papers.

Still there is no other magazine with the same concept as Biotech Sweden.

3.2.1 Quick Establishment

Timeline of Biotech Sweden:

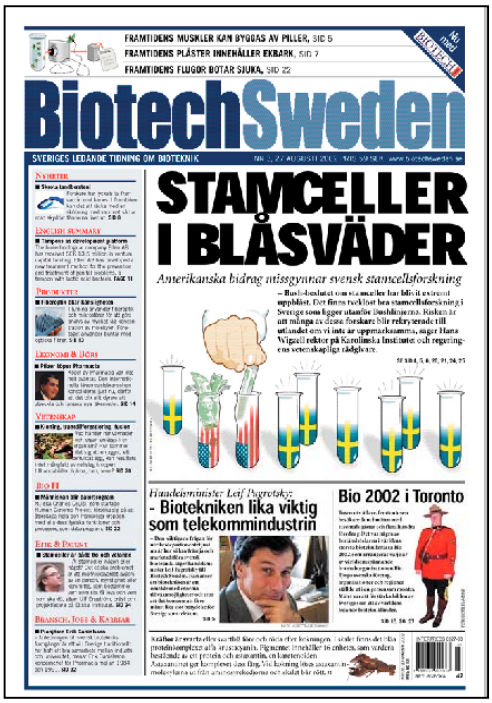
- 1st December 2001, idea formalized
- 16th January 2002, officially announced
- 20th March 2002, First issue BiotechVärlden, published by E+T Förlag AB
- 21st March 2002 Kemivärlden Biotech (supplement), published by

Mentorgruppen AB

- 9th April 2002, first issue of Biotech Sweden launched (pictured to the bottom right on the previous page)

A magazine must be established quickly. It took approximately four months from the first idea until the first issue of Biotech Sweden was on the market.

During that time two other Swedish publishing houses, E+T Förlag AB, and Mentorgruppen AB, announced competing magazines. One, BiotechVärlden from E+T Förlag AB, was already on the market as a newsletter in October 2001. Biotech Sweden was officially announced on 16th January 2001. BiotechVärlden was then quickly refocused to a general business magazine in tabloid format for the biotech market and the first tabloid version was published 20th March. The day after Kemivärlden Biotech from Mentorgruppen AB was published a supplement to Kemivärlden, the major Swedish trade publication for the chemistry industry market. We knew that both E+T Förlag AB and Mentorgruppen AB were working on competing magazines so we were not surprised. There was actually and advantage - more magazines gave more credibility to the biotechnology publishing market as such. And it helped to bring Swedish biotech magazines to the attention of the biotech market. We tried to learn from the market's reaction to the magazines and made some last minute adjustments to our product. We were all the time convinced that we had the winning concept.


FRAMTIDENS MUSKLER KAN BYGGAS AV PILLER, SID 5
FRAMTIDENS PLÅSTER INNEHÅLLER EKBARK, SID 7
FRAMTIDENS FLUGOR BOTAR SJUKA, SID 22
BiotechSweden
SVERIGES LEDANDE TIDNING OM BIOTEKNIK
STAMCELLER I BLÅSVÄDER
Amerikanska bidrag intressvynar svensk stamcellsforskning
Finansminister Leif Pagrotsky:
- Biotekniken lika viktig som telekommindustrin
Bio 2002 i Toronto

In August 2002 Biotech Sweden acquired BiotechVärlden and a combined magazine was published (pictured to the right).

Biotech Sweden AB, a wholly owned subsidiary to IDG Sweden AB, was formed.

3.2.2 Choosing the Market

The Swedish biotechnology market consisted in 2002 of slightly more than 300 companies, but most of them were very small, mostly one-man firms with a PhD and a patent. To be an actor on the market a company must have products or services to sell, and also be interested in buying products and services.

The various niches in the Swedish biotechnology market were identified to be: Agrobiotechnology, Bio-IT, Biomaterial, Bioproduction, Biotech Suppliers and Distributors, Biotech Suppliers and Manufacturers, CRO (Contract Research

Organization), Diagnostics, Functional Food/Health Products, Pharmaceutical, Veterinary Medicine, Intellectual property, Drug Design and Services.

3.2.3 Initiating Market Activities

Biotech Sweden is the official membership magazine for Swedish biotech organization SwedenBio.

Biotech Sweden also partners with Naturvetareförbundet, the Swedish Association of Scientists, where the members can get a 30 percent discount on the one-year subscription.

Biotech Sweden is the official magazine for the Scandinavian trade show trade Biotech Forum.

Biotech Sweden is also an active member in TNC Biotermgruppen.

4 The Result

4.1 Readership Penetration and Composition

According to Tidningsstatistik[24], the Swedish Bureau of Circulation, there were on 11th November 2003 14,900 audited subscribers, whereof 12,900 controlled circulation (non-paying) and 2,000 paying subscribers. This gives a penetration of the target group of 19.87 percent.

Key persons in the Swedish biotech industry	45 %
Academia, universities, research institutes	20 %
Research and laboratory personnel	15 %
Key persons in industries directly associated to or dependant on the biotechnology industry	7 %
Research physicians	5 %
Finance sector, VC, Investors	3 %
Patent agencies, lawyers	2 %
Politicians, members of parliament, political ombudsmen	2 %

4.2 Reader survey

A reader survey was performed in May 2003. Originally the reader survey was intended to check the "market value" of the readers by mapping their places of work, budget responsibilities, and levels of decision-making. The aim also was to

[24] Tidningsstatistik AB. www.ts.se

check if the editorial content in the magazine corresponded to the readers' requirements and needs.

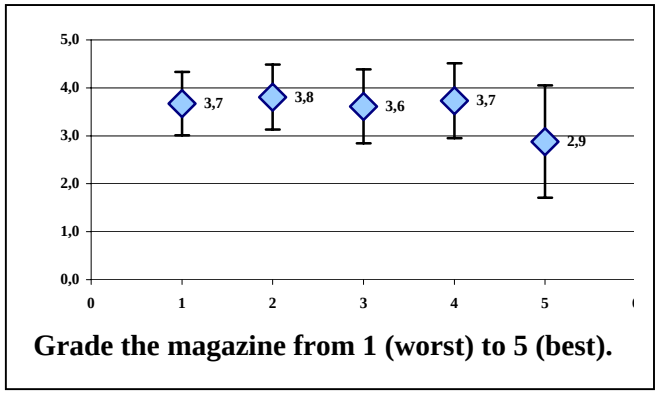
The survey was not performed with a research publication in mind, such as this report. The results are not statistically exact, they should be seen as an indication of how the magazine was received by the target group. It should be noted that the data can be used for indicating how the readership matches the innovation system.

The result of the full survey (16 questions) is owned by Biotech Sweden and will not be disclosed here. In this report we focus on three questions: 1) The quality of the magazine, 2) Which of the covered areas the readers would like to see more of, and 3) Which general areas the readers are interested in. These questions indicate how well the magazine corresponds to the readers information need.

The survey was carried out as a questionnaire mailed to a number of randomly chosen readers. The survey was voluntary. No compensation was given. Number of respondents was 80.

Science and research news is – not surprisingly –by far the most popular section in the magazine. Science often gets very high reader appreciation in magazines. The second most popular sections are general news and feature articles. Here the opinions are quite varying. This is probably due to the breadth of the magazine's readership. The English news summary is the least popular section, which is not a very big surprise.

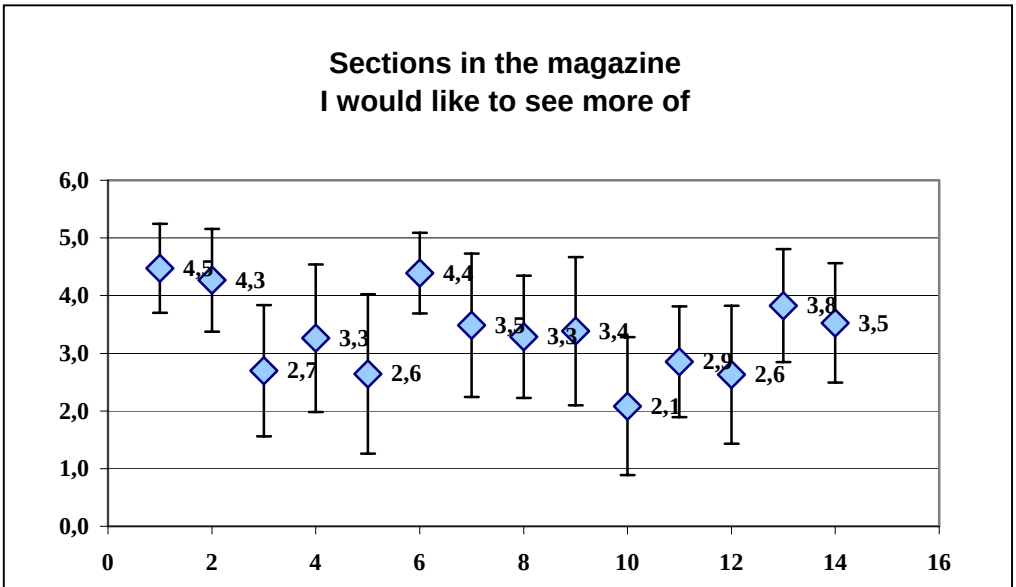
4.2.1 Data: Perceived Quality of the Magazine



1. Quality of the magazine	Average	Standard deviation	Number of respondents	No answer
Overall quality	3.7	0.66	77	3
Quality of facts and data	3.8	0.68	74	6
Well-written	3.6	0.77	76	4
Trust in writers and editors	3.7	0.78	75	5
Use in work	2.9	1.17	76	4

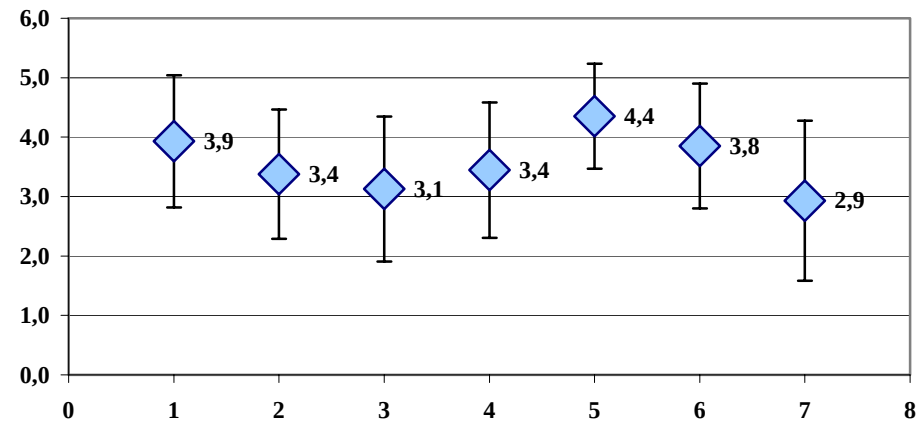
The question "use of the magazine in my work" has a greater spread than the other.

4.2.2 Data: Popularity of Sections and Areas



Grade the importance of the sections in the magazine from 1 (less important) to 5 (very important).

2. I would like to read more about	Average	Standard deviation	Number of respondents	No answer
News – Swedish biotechnology	4.5	0.77	76	4
News – International biotechnology	4.3	0.89	75	5
Laboratory equipment	2.7	1.14	73	7
Economy news	3.3	1.28	76	4
Stock exchange list + recommendations	2.6	1.38	75	5
Science news	4.4	0.70	74	6
BioIT (bio informatics)	3.5	1.24	72	8
Ethics and patent	3.3	1.06	73	7
Trade, job and career	3.4	1.29	73	7
English news summary	2.1	1.20	72	8
Editorial, opinion and columns	2.9	0.96	74	6
Book reviews	2.6	1.20	73	7
Feature stories	3.8	0.98	75	5
Profiles	3.5	1.04	74	6



Grade the areas you would like to read more about from 1 (read less) to 5 (read more).

3. Areas I would like to read more about	Average	Standard deviation	Number of respondents	No answer
Pharmaceuticals	3.9	1.11	71	9
Material development	3.4	1.09	69	11
Forestry, food, crops	3.1	1.22	71	9
Environment	3.4	1.14	72	8
Research	4.4	0.88	74	6
Bio production	3.8	1.05	73	7
Management	2.9	1.35	73	7

The last question “management” shows greater spread than the other questions.

4.2.3 Survey Result Summary and Action Plan

In summary the readers gave the magazine good marks, above average. The reader survey also showed that the readers disliked the economy section. Therefore the economy section was redesigned in 2003 to include stock-exchange quotations with annotations and grades from analysts.

The economy section was also enlarged with more indicators. The section now includes monthly table of important large deals like takeovers, joint ventures, patent agreement, milestones payments and so forth. It also has monthly tables of important clinical trials with result: new, ongoing, failed, success, FDA approved.

In addition it has biotechnology stock indexes from the Stockholm Stock Exchange, Nasdaq and NYSE and general indexes.

4.3 Additional Products

4.3.1 The Swedish Biotech Industry Guide

Biotech Sweden enlarged its product family in 2003 with the Swedish Biotech Industry Guide. It is a yearly directory and reference guide on the Swedish biotechnology market. It includes relevant and up to date information about companies in Sweden that are working in and around the biotech industry, today more than 300, like research companies, contract companies, and drug companies equipment manufacturers. The categorization is based on the companies' own descriptions of their fields of activities.

The Swedish Biotech Industry Guide targets primarily investors outside Sweden, but also serves as a guide for the industry.

It was introduced at the BIO 2004 Annual International Convention arranged by the trade organization Bio[25], the world's largest biotechnology event.

The Swedish Biotech Industry Guide comes with an accompanying on-line database, available free for subscribers. It is only available to full-year subscribers in Sweden, but is outside Sweden available free from the partners Vinnova, Swedish Trade Council Exportrådet, and Invest in Sweden Agency, at Swedish embassies and Consulate-general.

It is published in cooperation with Vinnova, the Swedish Trade Council Exportrådet, Invest in Sweden Agency, and Connect Sweden.

4.3.2 The Scandinavian Biobusiness Report

The newsletter Scandinavian Biobusiness Report was officialy launched at the Bio 2004 conference in San Francisco, in June 2004. It is a pdf-based monthly newsletter covering the Scandinavian biotechnology industry. The newsletter consists of:

- A summary of the most important financial news from the Scandinavian Biotech Region.
- An in-depth analysis of one Scandinavian company, including products, therapies, trials and worldwide competitors.

[25] www.bio.org

- Listings of all important ongoing clinical trials in Scandinavia.
- One stock market analysis with buy/sell recommendation.
- Comments and punch-hard recommendations on all the public stocks traded in Scandinavia.
- All intelligence assembled by analysts and reporters working from within the region itself.


THE SCANDINAVIAN
BIOBUSINESS
REPORT
Winners and losers
The Swedish SX biotech index
Diamyd needs financial partner

The primary target group is venture capitalists and investors, but also the decision-makers in the industry.

4.3.3 Biotech Scandinavia

A pan-Scandinavian magazine is planned to be introduced during Spring 2005. It will cover the Scandinavian biotechnology market, with focus on innovation regions such as Stockholm-Uppsala Bioregion, Medicon Valley (Copenhagen, Malmö, Lund), and Medcoast (Gothenburg, Oslo).

4.4 Economic accomplishments

Biotech Sweden debuted in April 9, 2002, with an initial print run of 27,000 and a subsequent controlled circulation of 20,000. The first issue set an IDG Sweden record for the highest ad/edit ratio (more than 40 percent ads) of any of the company's launches.[26]

Biotech Sweden also increased the revenues of the first quarter of fiscal year 2004 (October – December) with 125.6 percent. The revenue growth was achieved in a otherwise slow advertisement market, driven by a strong increase in attention of new advertisers as result of a deep penetration of the market, combined with focused editorial and insights.[27]

The November 2003 issue of Biotech Sweden, published in cooperation with the trade shows Biotech Forum 2003, was the largest biotechnology magazine so far produced in Sweden. The November issue was divided in two parts: the main magazine of 48 pages and a separate editorial trade show supplement of an additional 48 pages. Biotech Forum is Scandinavia's largest biotech event. It covers the biotech, medical, and health care sectors. In 2003 it took place at Stockholm International Fairs in November 26th to 28th.

[26] "First Biotech Sweden receives high praise from biotech industry; staff educates new advertisers", Patricia Smith, IDG WorldUpdate, volume 32, no 14, 22 April 2002

[27] "Biotech Sweden sets revenue record", Patricia Smith, IDG WorldUpdate, volume 33, no 42, 22 April 2002

The ad rebate is not public. The ad/editorial ratio is usually around 35 to 43 percent.

5 Conclusions

The success of Biotech Sweden shows that Innovation Journalism is a valid and successful business concept. It is a better approach to news coverage in a modern high-tech market. It also in a better way supply the actors with more suitable information in an innovation system.

Innovation Journalism is a compelling and profitable way to serve the actors in the innovation system.

6 Acknowledgement

I wish to thank the Biotech Sweden project team, (in alphabetical order) Kristina Andersson, Subscriptions; Fredrik Bernsel, Editor-in-Chief; Lennart Ekner, Sales; Olov Kalderén, Layout Editor; Jonas Lindholm, Sales Manager; Maria Nilsson, Webmaster; Sven-Erik Remmare. Whithout their excellent collaboration and achievements Biotech Sweden would still have been merely an idea, and not the successful reality it is today.

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Name Index