

Case Study: Information Dissemination, Disintermediation, and Incorporation in Stock Prices

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Summary

This is a micro-level trace of how information disseminated and incorporated in financial markets in a era of great flux in news and digital “news-like” information. The case involves Accentia Biopharmaceuticals, which was the largest percentage gainer in US stock markets on the morning of Oct 19, 2006.

Several interesting issues raised here.

- How should investors and traders, and their information providers, should deal with disintermediated information?
- There is more news than people can handle, and far more distintermediated news. Some means beyond basic keyword search is needed
- Are examples like this one, which has language that would be of interest any time, useful as the basis for “more like this” persistent search?
- How to obtain the “meta-knowledge” (e.g. in this case, the relationship between the vaccine name and the company that makes it) needed to interpret news in a trading and investing context. What combination of automation and human contributions are appropriate?

Information Dissemination Lab 1

Google Finance recently started a beta service that provides a remarkable window on how news affects markets. Here is a view at 4pm on Oct 19. The price volume chart (with full historical selection) is on the left, and news from the GoogleNews universe on

the right, identified by capital letters. The news stories are tagged on the price chart at the time they were collected.



This example is particularly interesting. First, notice that actual story is spectacularly good news for a small pharmaceutical company, a successful trial of a human cancer vaccine, described in glowing terms.

The next salient feature is that all of the news known to Google, stories A, B and C, are shown near the close, for a stock that was up 70% within an hour of the open. This suggests the question: How did the market know? The information has clearly been incorporated in the price. There is no news on the stock at any of the major news websites. I found the culprit on Yahoo Finance, an automatically reposted press release from Business Wire, with very good news for the company and the patients: “can induce complete long-lasting remissions”, “80% of patients achieved an immune response”, “complete tumor remission”. Phrases like these are potentially useful if we want to move beyond simple keywords, using examples and higher language models, to keep an eye out for more like this one.

New Landmark Study Shows the Use of a BiovaxID Formulation Improves Disease Free survival in 80% of Patients Whose Cancer has Relapsed after Chemotherapy Administered With or Without Rituxan

Thursday October 19, 9:00 am ET

TAMPA, Fla.--(BUSINESS WIRE)--Accentia Biopharmaceuticals Inc. (NASDAQ:[ABPI](#) - [News](#)) reports that a new study by Dr. Susana Inoges and colleagues at the University of Navarra (Journal of the National Cancer Institute, 98:1292-1301, Sept 20, 2006) has shown that the administration of a BiovaxID(TM) formulation given to patients with relapsed Follicular Non-Hodgkins Lymphoma following chemotherapy, with or without concomitant Rituxan(TM)(1), can induce complete long-lasting remissions. Moreover, these second remissions are uniquely characterized by a duration that exceeds the duration of the first remission (P less than .0001). In the study, 80% of patients achieved an immune response to the Biovaxid formulation, and among these responders, the median time of complete tumor remission has not been reached after 33 months of mean follow-up.

The WSJ Story, intermediated by a writer, appeared at 2:24

 THE WALL STREET JOURNAL <small>ONLINE</small>		Article Search <input type="text"/> <small>Advanced Search</small>	Quotes & Re <input type="text"/> <small>Symbol(s)</small>
Free Dow Jones Sites As of 2:24 p.m. EDT Thursday, October 19, 2006			
<ul style="list-style-type: none"> Home News ▶ Technology ▶ Markets ▶ Personal Journal ▶ Weekend & Leisure ▶ Opinion ▶ TODAY'S NEWSPAPER MY ONLINE JOURNAL MULTIMEDIA & EXTRAS RESEARCH & TOOLS FIND A JOB FIND A HOME Site Highlights New - WSJ.com Video Watch the latest interviews featuring your favorite WSJ's editors and reporters. Catch video covering breaking news, analysis. 	<h3 style="text-align: center;">Accentia Reports Positive BiovaxID Results >ABPI</h3> <p>DOW JONES NEWSWIRE <i>October 19, 2006 2:24 p.m.</i></p> <p>DOW JONES NEWSWIRE</p> <p>Accentia Biopharmaceuticals Inc. (ABPI) said a new study showed that its BiovaxID drug, when given to patients with relapsed follicular non-Hodgkins lymphoma following chemotherapy, with or without Rituxan, can induce complete long-lasting remissions.</p> <p>In the study, the company said 80% of the patients achieved an immune response to the BiovaxID formulation.</p> <p>Accentia shares were recently up 56.6%, or \$1.63, at \$4.51.</p> <p>-Gabriel Madway, 415-439-6400; AskNewswires@dowjones.com</p>		

Reuters had no story at all, as of 4pm

Thu 19 Oct 2006 4:09pm ET

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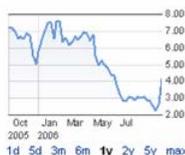
Stock Quote

Accentia Biopharmaceuticals Inc ABPI.O (NASDAQ)

Sector: [Healthcare](#) Industry: [Biotechnology & Drugs](#)
 As of 3:54 PM EST Price Change **▲1.27** Percent Change **▲44.10%** [See Risk Alerts for ABPI.O.](#)

[Independent Research](#) [Profile Report](#)

Previous Close	\$2.88	Volume	5.0M
Open	\$3.01	Avg Volume	68.0K
Day High	\$5.59	Market Cap	130.0M
Day Low	\$2.91	Shares Out	31.3M
52-Week High	\$8.86	EPS (TTM)	-\$3.17
52-Week Low	\$1.96	Div & Yield	0.00 (0.00%)
Beta	0.62	Ex Div Date	--



NEWS

There are no recent News Headlines for Accentia Biopharmaceuticals Inc.
 Please select [Key Developments](#) or [Press Releases](#) for informative highlights on ABPI.O.

Here, the high price spreads, which use humans to screen automated Press Release sources, introduce an economically significant delay. The customers of the free news (at Yahoo, and other Business Wire disseminators) were in a position to profit from the information. Customers at Google (which didn't include the press release) and the paid subscription sources could only read about it after it happened.

Perhaps a lesson is that there is a place for a faster filter on content of the Business Wire and PR Newswire sort than one that involves a person reading and rephrasing it. The editorial process absolutely keeps away a lot of chaff, but it also can delay the shipping for wheat.

Looking a bit closer, we see that the Oct 19 9am press release refers to a September 20 article posted on the website for the Journal of the National Cancer Institute.¹

¹ <http://jncicancerspectrum.oxfordjournals.org/cgi/content/abstract/jnci;98/18/1292>

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Go To: [Home](#) > [Archive](#) > [Vol. 98, No. 18](#) > Inogès et al., pp. 1292-1301.

JNCI

*Journal of the
National
Cancer
Institute*

Journal of the National Cancer Institute, Vol. 98, No. 18, 1292-1301, September 20, 2006
DOI: 10.1093/jnci/djj358
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ARTICLE

Clinical Benefit Associated With Idiotypic Vaccination in Patients With Follicular Lymphoma

Susana Inogès, Mercedes Rodríguez-Calvillo, Natalia Zabalegui, Ascensión López-Díaz de Cerio, Helena Villanueva, Elena Soria, Lilia Suárez, Arancha Rodríguez-Caballero, Fernando Pastor, Ricardo García-Muñoz, Carlos Panizo, Javier Pérez-Calvo, Ignacio Melero, Eduardo Rocha, Alberto Orfao, Maurizio Bendandi

Affiliations of authors: Lab of Immunotherapy, Oncology Division, Center for Applied Medical Research, University of Navarra, Pamplona, Spain (SI, MRC, NZ, ALD, HV, ES, MB); General Flow Cytometry Service, Center for Cancer Investigation, University of Salamanca, Salamanca, Spain (LS, ARC, AO); Department of Immunology (FP), Department of Hematology (RGM, CP, JPC, ER), Cell Therapy Area (IM), University Clinic, University of Navarra, Pamplona, Spain

This article, which predates the press release by a month, was in turn predated by the announcement of the researchers' results on their own site, at the University of Navarra.²

News © Institutional Communication, 08/11/2005  University of Navarra

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Researchers at the University of Navarra demonstrate the clinical effectiveness and benefits of an anti-cancer vaccine

- A four-year study of 25 patients with follicular lymphoma, performed by specialists from the University Hospital and the CIMA, was presented at the Spanish national congress of hematology and hemotherapy



From left to right, first line: Susana Inogès, Mercedes Rodríguez Calvillo and Ascensión López Díaz de Cerio. Second line: Margarita Legarrea, Silvia Gallego, Elena Soria and Natalia Zabalegui. Third line: Helena Villanueva, Maurizio Bendandi and Fernando Pastor.

A team of researchers has demonstrated the effectiveness and clinical benefits of a vaccine against follicular lymphoma, a type of blood cancer, in patients suffering a first relapse. The study has been ongoing since 2001, and has involved researchers from the

² <http://www.unav.es/english/news/40.html>

This was available on Aug 11, 2005, fourteen months before the press release reporting the same story. The early stories, significantly to investors, did not link the compound under test to the company Accentia Biopharmaceuticals (ABPI).

This link could have been made by prior knowledge of which researchers were associated with which pharmaceutical firms.

Local press in St. Louis, where Accentia has a plant, reported on the same testing on Oct 11, 2006.³

The screenshot shows the St. Louis Business Journal website. At the top, the logo reads "ST. LOUIS BUSINESS JOURNAL". To the right, there are links for "Members: Log in" and "Not Registered? Register for free extra services." Below the logo is a navigation bar with links for "HOME", "ONLINE EDITION", "PRINT EDITION", "SUBSCRIBE", "MARKETPLACE", and "BUSINESS RESC". A search bar is present with the text "Search Keywords" and a "GO" button, along with a link to "Search Archive". The main content area features a "LATEST NEWS" section with a breadcrumb trail: "St. Louis > News > Industries > Health Care - Pharmaceuticals". Below this is a "BUSINESS PULSE SURVEY" link: "Do you support the proposed public subsidy for Ballpark Village?". The main headline is "Accentia unit's lymphoma treatment closer to EU approval". Below the headline, it says "St. Louis Business Journal - October 11, 2006" and provides links for "Print this Article", "Email this Article", "Reprints", "RSS Feeds", "Most Viewed", and "Most Emailed". The article text begins: "Accentia Biopharmaceuticals Inc.'s majority-owned subsidiary Biovest International Inc. said Wednesday that its BiovaxID therapy for follicular lymphoma was registered as a rare disease treatment by a European Union (EU) commission. The move brings Biovest closer to final approval to market BiovaxID in the EU."

A blogger discussed it on a site for patients on Oct 17, though not connecting the story to the company.⁴

³ <http://stlouis.bizjournals.com/stlouis/stories/2006/10/09/daily33.html?surround=1fn>

⁴ <http://blog.healthtalk.com/lymphoma/?p=95>

Life with Lymphoma

by Diane Fallon

A personal take on lymphoma



October 17, 2006

A few more tidbits about cancer trials, treatment and side effects

On September 29th, Reuters reported that idiotypic vaccination benefits patients with follicular lymphoma following their first relapse.

“This is the first time a human cancer vaccine has proved beneficial to patients,” Dr. Maurizio Bendandi from University of Navarra, Pamplona, Spain told Reuters Health. At the time of his report, 20 of the 25 patients had gone 33 months and not relapsed.

Note that she mentions a Reuters story, which was not indexed by Google finance (which includes Reuters), or shown by Reuters as relating to ABPI.

Topix.net, a local news search tool allows us to backtrack the trail of news preceding the widely circulated story. Note the interesting “news volume” chart to access stories by date at the top.⁵

⁵ <http://www.topix.net/search/?q=Accentia+>

News Search: Accentia

Did you mean: [Accent](#) [Akcent](#)

Show [Blogs](#) or [News](#) results only | [Show Duplicates](#)

Interactive graph of **Accentia** in the news.



Results 1 - 20 of about 130

Accentia unit's lymphoma treatment closer to EU approval

Wednesday Oct 11 | Bizjournals.com

St. Louis Business Journal - 2:42 PM CDT Wednesday **Accentia** Biopharmaceuticals Inc.

Accentia Biopharmaceuticals Majority-Owned Subsidiary Receives Rare...

Wednesday Oct 11 | BusinessWire

A majority-owned subsidiary of **Accentia** Biopharmaceuticals, Inc. , Biovest International, Inc.

Biovest International Therapy for Follicular Non-Hodgkin's Lymphoma...

Wednesday Oct 11 | BusinessWire

... immunotherapies for life-threatening cancers of the blood system. Biovest is a majority-owned subsidiary of **Accentia** Biopharmaceuticals, Inc. (NASDAQ: ABPI), with its remaining shares publicly traded. Biovest has a foundation in the manufacture of ...

Wednesday's Health Winners & Losers

Tuesday Oct 10 | TheStreet.com

... immune system reaction. No treatments are approved for the condition. Osiris was up 4.5% to \$12.85. **Accentia** Biopharmaceuticals (ABPI - news - Complete Take) rose over up 6.5% to \$3.60 after the company said its subsidiary Biovest International

So we have started with an interesting market event, a 57% news driven price move that preceded the traditional channels, reached some investors through disintermediated “new media channels”

Issues and comments

Several interesting issues raised here.

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