PUMP AND DUMP: THE STOCK SPAM PHENOMENON

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This document explores the purposes, methods, and effects of stock market tip spam.

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Pump and Dump: The Stock Spam Phenomenon

Stock spam is spam that promotes a company's stock, passing itself off as a "hot" stock tip. It has appeared in force in the last two years. Prior to that it was insignificant.

Today stock spam covers a large part of the spam landscape. Marshal's figures indicate that in July 2006 it represented 15% of all spam. This made stock spam the second biggest category after health (products, pills and potions) at 40%.

Stock spam doesn't ask you to directly buy a product or service. Rather it usually takes the form of bogus "advice" on the prospects of a particular company, along with price quotes and share buying recommendations. These hot tips advertise genuine companies, listed on stock exchanges.

Examples of Stock Spam

Samples range from simple text with crude messages to messages contained in images. For example, see the text below.

```
We last promoted this stock ( FCYI.pk ) Last week of
may through first week of June
does 300% increase get your attention

FALCON ENERGY INC (fcyi . PK)
Current Price: $ 0.60

OverView
An independent resource exploration and production
company whose current projects range from the
production of natural gas and oil in Alberta to the
exploration for minerals such as copper and gold in
Mongolia.

Is fcyi . PK Ready To Go? If You Think So, You know
what to do, happy earnings :)
```

Stock spammers also convey their messages in images and make use of randomization techniques, which make the messages harder for simpler text or signature based anti-spam devices to detect.

> **Note:** For more information on image spam tricks, refer to Marshal's Whitepaper "Rise of Image Spam".

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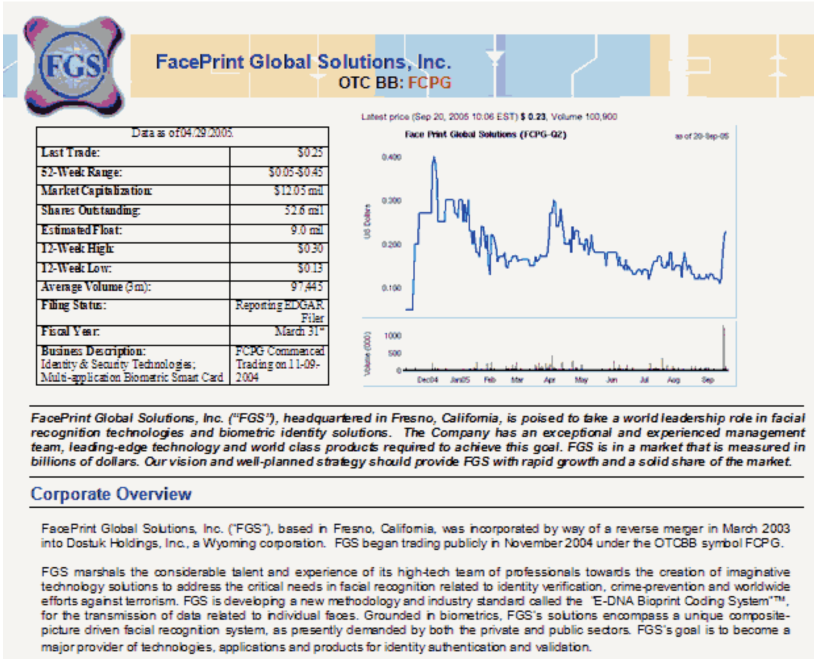
The examples below are professional looking notices using images:

This example displays detailed price information:



FacePrint Global Solutions, Inc.
OTC BB: FCPG

Data as of 04/29/2005	
Last Trade:	$0.25
52-Week Range:	$0.05-$0.45
Market Capitalization:	$12.05 mil
Shares Outstanding:	52.6 mil
Estimated Float:	9.0 mil
12-Week High:	$0.30
12-Week Low:	$0.13
Average Volume (3m):	97,445
Filing Status:	Reporting EDGAR Filer
Fiscal Year:	March 31st
Business Description: Identity & Security Technologies; Multi-application Biometric Smart Card	FCPG Commenced Trading on 11-09-2004

FacePrint Global Solutions, Inc. ("FGS"), headquartered in Fresno, California, is poised to take a world leadership role in facial recognition technologies and biometric identity solutions. The Company has an exceptional and experienced management team, leading-edge technology and world class products required to achieve this goal. FGS is in a market that is measured in billions of dollars. Our vision and well-planned strategy should provide FGS with rapid growth and a solid share of the market.

Corporate Overview

FacePrint Global Solutions, Inc. ("FGS"), based in Fresno, California, was incorporated by way of a reverse merger in March 2003 into Dostuk Holdings, Inc., a Wyoming corporation. FGS began trading publicly in November 2004 under the OTCBB symbol FCPG.

FGS marshals the considerable talent and experience of its high-tech team of professionals towards the creation of imaginative technology solutions to address the critical needs in facial recognition related to identity verification, crime-prevention and worldwide efforts against terrorism. FGS is developing a new methodology and industry standard called the "E-DNA Bioprint Coding System"™, for the transmission of data related to individual faces. Grounded in biometrics, FGS's solutions encompass a unique composite-picture driven facial recognition system, as presently demanded by both the private and public sectors. FGS's goal is to become a major provider of technologies, applications and products for identity authentication and validation.

Why Spam Stocks?

All Spam is sent to make money. Given the rise in stock spam lately, we might assume that spammers have been successful in making some.

Spammers hope that the extra exposure and subsequent buying activity will affect the price of the stock. The spammers then profit by quickly selling their pre-bought shares. The target is usually small companies with thinly traded stocks. So called "penny" stocks offer more bang for your spam it seems.

Effect of Spam on Stock Prices

Can stock spam actually increase stock prices? Researchers Rainer Böhme and Thorsten Holz, from Germany, recently looked into the question and found the answer was yes – at least in the short term.

> The persistence of such spam, as well as the results presented below, led us to conclude that this pump-and-dump strategy actually works.
>
> *Böhme and Holz, "The Effect of Stock Spam on Financial Markets", Workshop on the Economics of Information Security (WEIS) University of Cambridge UK, June 2006.*

The researchers found that the arrival of stock spam resulted in a positive cumulative increase in stock price that fades over time and finally turns negative after day 4, as in the following table.

Day	Cumulative Return
0	+1.7%
1	+0.9%
2	+1.2%
3	+0.2%
4	-0.7%

The team also found that new firms are constantly becoming victims of stock spam and that the large majority of it arrives on weekdays. They postulated that three groups of people are involved in the trading:

- Spammers, who benefit by quickly selling pre-bought stocks
- Naive traders who actually believe the investment advice in the spam
- Smart traders, who recognize that a scam is being attempted and jump on the bandwagon before also quickly disposing of the stock.

Other researchers have reinforced these findings. Frieder and Zittrain, in their paper "Spam Works: Evidence from Stock Touts and Corresponding Market Activity", found that stocks experienced a significantly positive return on days when were heavily touted via spam, and on the day preceding such touting. Volume of trading also responded positively and significantly to heavy touting. However returns in the days following touting were significantly negative.

While the evidence suggests a spammer might benefit from stock spam in the short term, in the longer term, betting on spam stocks seems a sure-fire way to lose money.

In 2005, a fictional portfolio of spam stocks was created. An initial outlay of $53,163.00 turned into a loss of $39,346.50. More details can be found at http://www.spamstocktracker.com

Another source on the web for people interested in daily price movements of spam stocks is The Stock Spam Effectiveness Monitor (http://www.crummy.com/features/StockSpam).

Other Features of Stock Spam

Stock spam is rather unique in the spam world. It doesn't ask you to directly buy a product of service. It also differs in that it doesn't have a URL to click on to buy anything – rendering useless the traditional anti-spam techniques of URL filtering and blacklists.

Conclusion

Stock spam has emerged in the past two years to become the second largest category of spam behind health products. This rise, coupled with the fact that it appears to influence stock prices, makes us presume that spammers are making good money from stock spam.

But the pump and dump stock spam phenomenon goes beyond IT security.

Some people are obviously acting on the "advice" in stock spam. The possibility that spammers can influence financial markets in this way is of wider concern and there is little evidence to suggest that this phenomenon is waning. Bigger scams involving bigger companies and more credible information might just be around the corner.

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