

# CASE STUDY: USING SOCIAL MEDIA TO PROMOTE ACADEMIC RESEARCH

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**Abstract** — The increasing role of social media in creating/consuming information has been recognized as a marketing tool to promote a specific need. The Biometric Standards, Performance and Assurance (BSPA) Laboratory at Purdue University implemented social networking sites as a way to promote their research activities and attract prospective students and biometric industry professionals. With that in mind, they have created accounts on and started using Twitter, LinkedIn and SlideShare. Data about site referrals to the BSPA Laboratory homepage, gathered using Google Analytics, will be used to analyze the effects (if any) social networking sites have in promotional activities and increase interaction with the BSPA Laboratory home page (<http://www.bspalabs.org/>). Gathered data will show the differences in unique visitors before and after becoming active in social networks and will show data linking specific social networks with an effect.

**Index Terms** — Social Media, Viral Marketing, Engagement Strategy, Biometrics

## INTRODUCTION

This case study will attempt to determine the effectiveness of social media by analyzing the amount of new web traffic to the Biometrics Standards, Performance, and Assurance (BSPA) Laboratory website before and after social media has been utilized. The world has become digital, with information being delivered at a near instantaneous speed. With the growth of different types of social media, virtually every industry and market has begun to adapt and change their strategies to utilize this technology. BSPA Lab at Purdue University is conducting a study to determine the effects on web traffic of utilizing social media sites to inform, promote, and engage the lab and its research activities.

The BSPA Laboratory's focus has four functional areas:

- Biometric research
- Teaching
- Industries standards

- Testing and collaboration, both of new hardware and software products

Each of the social tools/social networks described in this paper is geared to impact one or more of Laboratory's functional areas.

## What is Social Media?

Social media are defined as “any interactive media, especially electronic mass media combined with computers; also, this combination as a profession” [1]. Outlets such as blogs, YouTube™, LinkedIn™, and Twitter™ have altered the way individuals interact with one another, sharing opinions and perspectives on almost every issue. “This groundswell of people using technologies to get the things they need from one another, rather than from companies, is now tilting the balance of power from company to customer” [2]. The move to digital information and in power is too important for companies not to include in a corporate marketing and communications strategy [3].

## Why is Social Media Important?

Institutions, whether they be companies, academic institutions, government agencies, are all paying attention to the needs of the consumer. Their intent is to have consumers “use their websites not only when explicitly seeking product-specific information, but on a regular basis, for a variety of purposes” [4]. Ochinero believes that “research validates with certainty that social media is something businesses can no longer ignore. Not only do consumers' opinions about their online experiences influence other people's perceptions about the business/product, they truly impact purchase intent” [5].

Figure 1 shows how companies have adopted different types of social media [5]. This research is important to show how companies are directly responding the shift to technology due to consumer demand and online presence.

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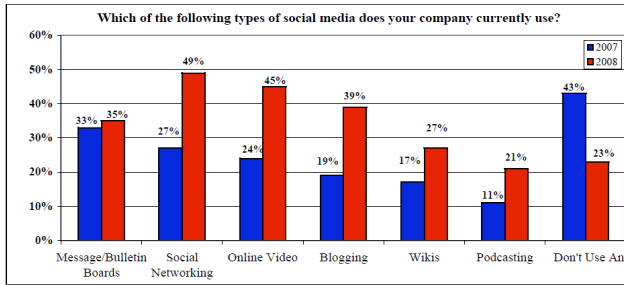


FIGURE. 1  
TYPES OF SOCIAL MEDIA USAGE IN 2007 VS 2008.

This figure indicates that companies are moving to include more of an online presence in their strategies with the most common types being social networking, online videos, and blogging. Of the types listed in Figure 1, the BSPA Lab used social networking and online presentations.

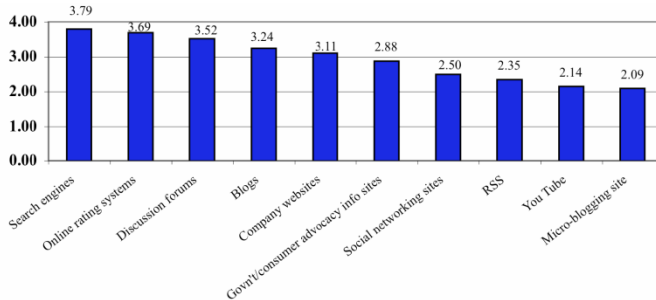


FIGURE. 2  
INFORMATION SOURCES FOR CONSUMER PURCHASE DECISION MAKING.

Figure 2 illustrates that consumer's surveyed gave a value rating to each of these types of data sources for when they are making purchase decisions. The most valuable sources were search engines and online rating systems. Although this 2008 study noted that social networking was lower in the ranking, a more up to date result may show an increase in the rating.

The BSPA Lab is attempting to utilize free social media to promote lab activities while keeping costs to a minimum. For this study, the following social media platforms were used, including Twitter™, LinkedIn™, and SlideShare™. All have free plans, although the lab subscribes to the premium SlideShare™ offerings. According to [6], "75% of internet surfers used social media in the second quarter of 2008 by joining social networks, reading blogs, or contributing reviews to shopping sites; this represents a significant rise from 56% in 2007". It should also be noted that the growth of social media not limited to teenagers, with Generation X using these services. These statistics indicate that social media can be successfully used as promotional tools.

## BSPA LABORATORY SOCIAL MEDIA OBJECTIVES AND INNOVATIVE USAGE

The BSPA Lab has taken the first steps in incorporating these technologies to attract prospective students and businesses that are interested in the field of biometrics, both on an educational and research/collaboration level. For that purpose, the BSPA Laboratory has opened accounts on the social networking sites Twitter™, SlideShare™ and LinkedIn™ and Mendeley.

According to [7], three quarters of adult Internet users under 25, have a social network profile. Other demographic groups are also increasing participation in social networks. The same report states that a quarter of social network users check their profile at least once a day, which classifies them active users. With that in mind the BSPA Lab started being actively involved with the social media as a promotional tool with four goals in mind:

- *Increasing visibility on online domain*
- *Broaden network and foster research collaboration*
- *Identify and focus on demographic target groups*
- *Engage industry in BSPA Laboratory's research efforts*

The BSPA Lab is looking to promote their research activities to other researchers in the field, its testing services to the biometrics industry, and its educational services to college students as well as working professionals looking to continue their education in the field of biometrics. One of the reasons for including social media to BSPA Lab's promotional activities is their ability to enable "companies to talk to their customers, and second, it enables customers to talk to one another" [8].

## DESCRIPTION OF SOCIAL MEDIA USED

The following sections provide a description about each social media site/tool used, the user population, and how it is used by the lab.

### LinkedIn™

LinkedIn™ is a social networking site aimed at working professionals. According to [9], it "exists to help you make better use of your professional network and help the people you trust in return". The site is designed to give the user community access to "insight and resources you can trust" [9]. When the user registers and creates their profile they are able to input information regarding their academic and professional background. Users can connect with friends and colleagues. There are other aspects of the site that help keep people connected, including: collaborative projects, finding potential clients or service providers, interacting with other like-minded professionals using the discussion feature in private groups, and discovering connections to help with recruitment or sponsored research [9]. The user community

of LinkedIn™ is for working professionals, retired professionals, and students looking to enter the workforce. There are currently over 80 million users in over 200 countries, making LinkedIn™ a global network that can benefit individuals as well as companies. The diversity of the user population ranges from college students all the way up to Fortune 500 executives.

The purpose and user population of this site makes it particularly intriguing for use by the BSPA Lab as a promotional tool. It can be used by the lab to connect with colleagues in industry, government, and other academic institutions. The lab can also connect with alumni and current students of the lab and Purdue University. By connecting with these types of individuals, the lab members can promote current research activities, find potential collaboration with other academic institutions or industry, and connect with alumni and other industry contacts to seek employment opportunities for current students.

### **Twitter™**

Twitter™ “is a real-time information network that connects you to the latest information about what you find interesting” [10]. The user is able to connect to streams of information they find interesting. Subscribers can then follow and get updates on if they so choose. Twitter™ allows users to post small messages of 140 characters in length, called Tweets. To better understand the context or provide additional details of the tweets, the user can upload information, links, photos, videos, or other media content in the details pane. For businesses, Twitter™ allows for connection to customers in real-time. It can be used by businesses to “quickly share information with people interested in their products and services, gather real-time market intelligence and feedback, and build relationships with customers, partners, and influential people” [10]. At the last update (September 14, 2010), Twitter™ had 160 million registered users writing approximately 90 million tweets per day. The real-time interaction with users is a critical reason the BSPA Lab decided to incorporate this site as a part of the promotional strategy. Users can see the information posted when they login or if they subscribe and get an e-mail alert the information can be viewed almost instantly. The lab has made connections with colleagues, alumni, current students, and industry partners to share information regarding lab activities.

### **SlideShare.net**

SlideShare “is a business media site for sharing presentations, documents, and PDFs” [11]. Individuals and organizations can upload documents to SlideShare to share ideas, connect with others, and generate leads for their businesses. Anyone is able to view presentations and documents. Individuals can comment, discuss, follow, and present ideas to a mass audience. The site does not yet have the traffic level of LinkedIn™ or Twitter™, but is growing

rapidly with over 25 million monthly visitors. While LinkedIn™ and Twitter™ are designed to connect with specific users, SlideShare provides a unique platform to provide information to a broad audience. The lab has used SlideShare to connect to a wider audience, and their premium subscriber feature allows for lead management. In our experience, there is normally five or six request per month for additional information.

### **Mendeley™**

Mendeley™ is a combination of a file-sharing platform and a social network primarily used in the area of research and academia. Based on the music service Last.fm, [12] it is described as “a free reference manager and academic social network that can help you organize your research, collaborate with others online, and discover the latest research”. The application itself is made of the offline (Mendeley™ Desktop) and online module (Mendeley™ Web) and requires a registration in order to be used. Based on [13] Mendeley™ Desktop offers “automatic extraction of document details”, “super-efficient management of your papers”, “sharing and synchronization”. Mendeley™ Web adds to those features by providing “an online backup of your library”, “detailed statistics off all things interesting”, “a research network”, “a recommendation engine” and other features.

As of November 1<sup>st</sup> 2010, Mendeley™ has 603,604 users divided in 14,329 research institution sharing 46,862,169 documents in libraries shared on the network. Mendeley™ gives the lab another platform to collaborate and share with colleagues [12]. This tool is designed for the academic community but is not limited to this population. The lab is using Mendeley to gain followers on particular research projects. In the Portfolio section of our webpage, we have linked to Mendeley™ stored bibliography, and have started to get followers on these research topics.

### **Blogging**

The blog on bspalabs.org has been used to provide more in-depth information on labs activities that what can be displayed on Twitter™. The lab has put information regarding our attendance at conferences, online education opportunities, and the activities of the student enrolled for fall 2010 in the graduate level course on biometrics (IT 54500). The purpose is to provide information on current activity and allow viewers of bspalabs.org another tool to communicate and collaborate on research and other lab activities.

## **RESULTS AND ANALYSIS**

To determine the effects of using these tools, data were gathered from Google Analytics®. The data collection span

for pre-social media use was January 1, 2009 to December 1, 2009. The post social media tools time span was from December 1, 2009 to November 1, 2010. Table I show the pre- and post-social media usage statistics for bspalabs.org. These statistics do not include traffic to BSPA Lab related content on Mendeley<sup>TM</sup> or SlideShare.net since our content is hosted directly on those websites.

Table I.

WEB TRAFFIC DATA BEFORE AND AFTER SOCIAL MEDIA USE

Metric	Pre SM Use	Post SM Use
Total Visits	5,663	5,822
Unique Visitors	3,668	4,187
Average Time on Site	00:01:39	00:02:05
Average Pages/Visit	2.7	2.54

During the 11-month time periods the website had similar total visits with the post social media use having only 159 more visits. Post social media use the website logged 519 more unique visitors and had the average time on site jump up to 2 minutes and 5 seconds. Further analysis of the data examined the effect each tool had on the traffic to BSPA Labs related content. The blog on bspalabs.org had only 93 pageviews during the 11-month time period or ~8.45 per month. Of these 93 pageview, 47 were unique users and the average time on the blog was 00:01:33. Looking closer at the social networking sites used LinkedIn<sup>TM</sup> recorded 105 total referrals over the time period or ~9.55 per month, while Twitter<sup>TM</sup> had 76 total referrals or ~6.91 per month. While these numbers are not large, it appears to be traffic that is more interested in our activities - since the average time on site for LinkedIn<sup>TM</sup> referrals was 00:02:21 and 00:07:04 for Twitter<sup>TM</sup> referrals.

Table II.

SLIDESHARE.NET CONTENT TRAFFIC STATISTICS

Media Type	Total # Media	Total Views
Presentations	14	3,584
Documents	41	8,518

Table II shows the number of views on SlideShare<sup>TM</sup> of the BSPA Lab content. The presentations uploaded by BSPA Lab include an overview of the lab and the courses taught in the lab, other are some of the conference and workshop presentations members of the lab have given. The 41 documents include the conference papers, journal articles, and conference posters members of the lab have had published. This content had a total of 12,102 views during the 11-month time period which indicates a large interest in the publications from the lab. If we combine these views with the total number of views of the website we find that BSPA Lab related online content received a total of 17,924 views. Comparing that number to the 5,663 total views prior to using any of these tools the benefit of utilizing these tools becomes apparent.

## CONCLUSIONS

The data show that the best tool for promoting the BSPA Labs content and activity online is through SlideShare.net. Through the use of this tool a total of 12,102 views of BSPA Lab presentations or articles occurred. Since the other tools used are free and they still add to the traffic of the BSPA Labs website, and also engage colleagues, alumni, and current students they should not be abandoned.

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