Exploring Internet Marketing
A Whole New World of Opportunity

*An Interactive Qualifying Project Report
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of the requirements for the
Degree of Bachelor of Science*

by

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Abstract

Innovation has a great impact on the economic health of a society. The advances in communication and information technology in the recent years, which have made the Internet become a large part of many people's daily lives, have also provided entrepreneurs with a variety of opportunities to create business value. This is evident by a great number of success stories of online innovation in the past few decades. This project takes advantage of the opportunity to innovative via the network economy by developing a system surrounding Amazon's affiliate program, known as Amazon Associates.

Acknowledgements

This project would not have been possible without the help of many others. I would first like to thank Worcester Polytechnic Institute (WPI) for providing me with the opportunity to go out and propose my own Interactive Qualifying Project (IQP).

My project advisor Professor Soussan Djamasbi has played a critical role in the success of this project. In the beginning, I had so many different ideas for which direction to take the project in, and truthfully, I wanted to try all of them. However, Professor Djamasbi was able to convince me to stick with one particular direction and that has made a world of difference in terms of keeping me focused and getting things done (instead of trying everything and failing to accomplish anything). She has been extremely supportive and has always encouraged innovation in technology. Her unique perspective has allowed me to think in different ways and look at problems in a new light. For all of her continued help, I thank her wholeheartedly.

I would like to thank Professor Adrienne Hall Phillips for her time in reviewing the website created and for overall feedback from a user's perspective. Some other people I wish to thank include Joseph Libuszowski, Anthony Breen, Anish Dhesikan, and Tyler Murphy. Joe helped me immensely in learning the basics of Internet Marketing and also allowed me to work on him with several projects to understand the details. Tony helped tremendously in choosing an appropriate niche to target online, Anish created the primary graphics displayed on the website, and Tyler provided aid in some content creation. I also owe thanks to various bloggers and forum posters who helped me get started. I apologize to those I've missed or didn't name, but you certainly have my thanks as well.

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1 Introduction

"[I]t is innovation that drives the economy. Every economic cycle that we've had in this country has been driven by something like the Internet, or the cell phone, or the discovery of DNA. But it also influences the quality of our life, whether it is from healthcare, to being entertained. It's innovation that drives that quality." Judy Estrin, author of *Closing the Innovation Gap*, stresses the importance of an Innovation Ecosystem, in which innovation and technology development drive the commercial economy, which in turn fosters the research economy, contributing to the overall quality of life within a society.

In the past couple of decades, the Internet has become a very powerful medium for all sorts of innovative thinkers. It allows for the rapid spread of information, provides the ability to connect people all across the world, and lowers the barriers of entry for people with new ideas or modified ideas with better implementations.

However, with the new wave of innovative websites, we have also seen the rise of many "get rich quick" schemes. Many of them are scams, and most require much more work than is advertised. It certainly takes a good amount of time and knowledge to be able to make a reasonable income online. This report takes a look at one particular method of producing revenue online – using a program known as Amazon Associates, in which Amazon.com pays a small commission for every sale made by an Associate. It goes into the details of the steps taken, the data collected, the results seen, and the unique programming scripts created. The approach is rather distinctive and the whole system itself could certainly be considered innovative.

2 Background

Delving into the rest of this report without understanding some of the basics can make it a difficult read. Therefore, this background section attempts to bring the reader up to speed on the most important pieces of the project. The first subsection covers various definitions of innovation and some fitting examples. The other subsections cover some basics and terms used when talking about Internet marketing, a specific program known as Amazon Associates, and prior work done with this particular program.

2.1 Innovation

Harvey Samuel Firestone, founder of the successful Firestone Tire and Rubber Company[1], once said, "Capital isn't that important in business. Experience isn't that important. You can get both of these things. What is important is ideas." The term "innovation" can hold different meanings for different people. Merriam-Webster broadly defines it as either "the introduction of something new" or "a new idea, method, or device."[2] Christian Terwiesch and Karl T. Ulrich, authors of *Innovation Tournaments*, define innovation as a "new match between a need and a solution so that value is created. The novelty can be in the solution such as a new molecule. It can be in the need such as you did not know that you had a need to twitter every day. Or in the match – for example, match a disk drive and the need for portable digital music to get the iPod."[3]

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[1] http://www.firestone.com/
[2] http://www.merriam-webster.com/dictionary/innovation
[3] http://www.ideaconnection.com/open-innovation-articles/00218-Innovation-Opportunities.html

Judy Estrin believes there are three basic varieties of innovation: incremental innovation, breakthrough innovation, and orthogonal innovation. She defines incremental innovation as a "significant improvement on an existing tool (such as the shift into Web 2.0)."[4] Estrin's definition of breakthrough innovation seems to be in parallel with Terwiesch and Ulrich's idea of the novelty being in the solution, whereby there are "significant revolutions in tools and thinking." Orthogonal innovation is closely related to innovation being in the match between a need and a solution, in which an existing tool is repackaged in a "new fashion to create a new user experience."

Personally, I feel that the word "innovation" holds a significant amount of weight in terms of its true meaning. I agree with Estrin, Terwiesch, and Ulrich, in that it doesn't necessarily have to do with something that is entirely unique in origin; I believe innovation can stem from taking something that has already been done, but approaching it from a different viewpoint.

For example, Apple wasn't the first to produce the smartphone (this feat was actually accomplished by IBM's joint effort with BellSouth[5]), but it did it in a unique way that captured enormous audiences across the world. Not only did Apple make the device much easier to use, but with the release of its App Store, Apple provided a medium for users to get the applications they needed quickly and effortlessly. Many companies continue to innovate, producing better versions of previous products, or entirely new products; innovation in technology occurs at a rapid pace.

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[4] http://ecorner.stanford.edu/authorMaterialInfo.html?mid=2087
[5] http://www.business2community.com/mobile-apps/a-look-back-in-time-at-the-first-smartphone-ever-040906

The Internet has fueled many of the recent decade's very successful entrepreneurs. Twitter, which is a microblogging service that allows users to send out public updates that are no more than 140 characters in length, boasted 200 million registered users as of September 2011.[6] It has grown rapidly since its launch in 2006, as can be seen in Figure 1.

Figure 1: The growth of twitter over a period of roughly five years. (Source: Formatted slightly differently from the original version at http://mashable.com/2011/09/30/twitter-history-infographic/)

Facebook, a "social utility that connects people with friends and others,"[7] is another well-known success story online. In a little under eight years, Facebook has grown to over 800 million active users.[8] Figure 2 from ReadWriteWeb clearly demonstrates this growth over time.

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[6] http://mashable.com/2011/09/30/twitter-history-infographic/
[7] http://www.facebook.com/

Facebook's Amazing Growth Story: 2004-2011

ReadWriteWeb

Millions of Worldwide Monthly Active Users, end of year

Facebook's biggest year: 248 million new monthly active users in 2010, up 69%

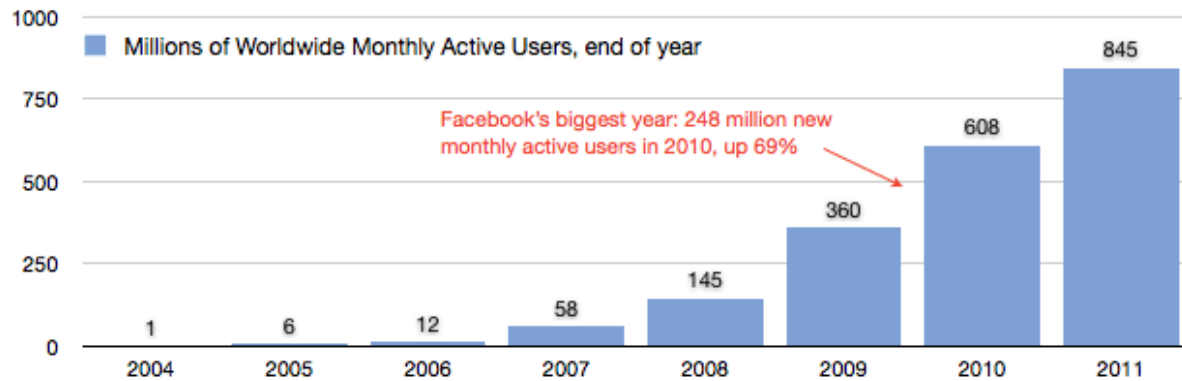| 2004	2005	2006	2007	2008	2009	2010	2011
1	6	12	58	145	360	608	845

Figure 2: Facebook's growth since its launch. The data for each year is taken at the end of the year (Source: http://www.readwriteweb.com/archives/facebook_ipo_filing_charts.php)

In terms of the money, Facebook's net income in 2011 was close to one billion dollars, as demonstrated by the info graphic in Figure 3.

FACEBOOK & MONEY

net income

where it comes from

1 billion

606 million

229 million

YEAR   2009   2010   2011

Advertising
Zynga
Other

Zynga games accounted for 12% of Facebook's total revenue in 2011.
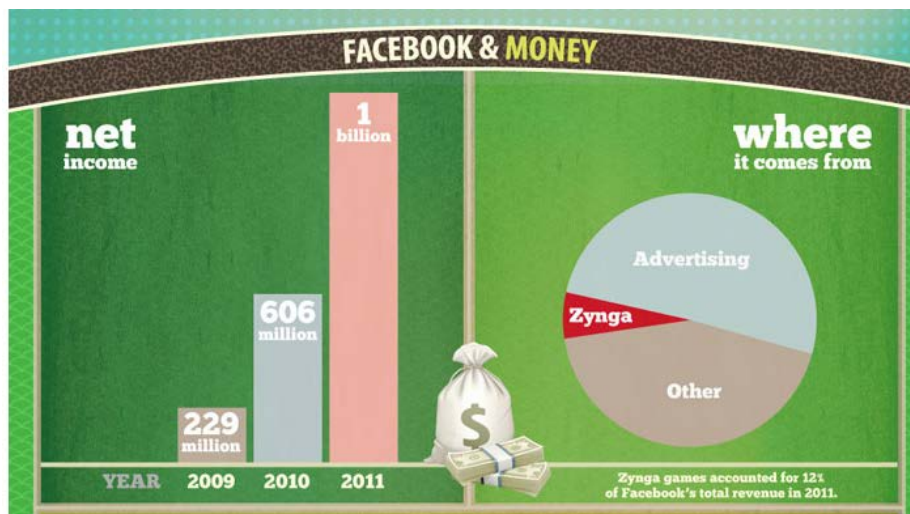
Figure 3: Facebook's net income over the period of 2009-2011. (Source: http://ansonalex.com/infographics/facebook-user-statistics-2012-infographic/)

A number of other companies have also had success online. Either by taking an idea and making it better, or by creating something brand new, people have been able to affect the lives of others in some way. However, innovation doesn't stop with those who have created new products or online tools; in fact, many ordinary people have found ways to make money online

[8] http://mashable.com/2011/09/22/facebook-800-million-users/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Mashable+%28Mashable%29

by exploring creative methods of marketing others' products online. Such methods form the basis of Internet marketing.

2.2 Internet Marketing Basics and Jargon

Internet marketing goes by many names (such as e-marketing or online marketing), but ultimately, the general idea is the same: use the Internet to promote products, goods, or services. It has grown into a very large industry and continues to grow; in 2011, the U.S. spent $32.03 billion in online advertising, falling short of the total print ad spending (primarily newspaper and magazine ad spending) by as little as 12%.[9] Online advertising spend is expected to pass print ad spending in 2012.

Internet marketing encompasses a wide variety of types, but this project in particular focuses on two areas: affiliate marketing and search engine optimization (SEO). Like many other fields, Internet marketing has its own specialized set of vocabulary and terminology. In order to understand key parts of the overall project, it is necessary to become vaguely familiar with some of these terms.

First, the two broad terms which are important include affiliate marketing and search engine optimization. **Affiliate marketing** is generally understood as the "refer someone and get paid if he/she buys" model. There are many different variations of affiliate marketing, and different sources may cite different meanings, but in the context of this project, it is the idea that person B can promote person A's product and get paid when someone buys through that promotion.

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[9] http://adage.com/article/mediaworks/emarketer-online-ad-spending-pass-print-time/232221/

For example, say that person A owns an e-book which normally sells for $20 about how to lead a successful life. He may have an affiliate program in which he offers **affiliates,** or people promoting his product, a **commission** of 50%. Imagine that a person B comes along, likes the product, and decides to sign up for the affiliate program. When he gets approved, he will receive a very special URL (link) that can track his promotions. This link is unique to person B, so any sales that result through that link can be attributed to person B's promotions. Person B happens to own a blog where he routinely posts self-help tips and advice. After joining person A's affiliate program, person B decides to write a review about the e-book and use his unique link throughout the review for people to go to the product. Within the next month, he has 50 visits to the page on his blog where he promoted the e-book. Out of those 50, 10 seem to be interested enough to click on the link and be taken to person A's site where the e-book is currently being sold. This means that person B had a **click-through rate (CTR)** of 20% (10 people clicked divided by 50 people visited) on his page. Out of those people that clicked through, only one person was willing to actually purchase the e-book. This puts the traceable **conversion rate** through the URL at 10% (one person bought divided by 10 people clicked). The overall conversion rate of his review is a much lower 2% (1 person bought out of 50 people). Since person B did make a sale, however, he will get paid $10 (which is the offered 50% commission on the $20 product).

Affiliate marketing is oftentimes considered a win-win situation. In the previous example, Person B, who did not have to spend the time to actually create a product, was able to simply promote something that he found interesting and get paid for any of the sales that were made as a result of his promotion. Person A may have gained customers he otherwise would not

have obtained and didn't have to spend the extra time in promoting his own product. The

person who purchased the e-book also may be happy (assuming that the product is actually

good) since the topic was of interest to him.

While using existing subscribers to blogs is one method of online promotion, there are

many others that can be utilized. As previously mentioned, the primary method of promotion

used in this project is **search engine optimization**, often abbreviated as **SEO**. It is essentially

the process of positioning a website page (or a set of website pages) to show up in the **search**

engine results pages (SERPs) when users who use search engines (such as Google, Yahoo, Bing,

or Ask) look for particular phrases, known as **keywords**.

Simply creating a website on the Internet about a topic (say, "laptop computers") does

not mean that people will find that website through search engines. There are many factors

that search engines use to determine which results to show for a particular search, or **query**.

These include items such as website speed, content on the website, words used to create the

content, words in the title or headings, etc. The topic is too complex to go into much detail

here, but one of the most important factors is getting **backlinks**. Backlinks are simply a link

from one website page to the target website page. For example, if person D owns a website

about laptop computers and a different unassociated news website writes an article providing a

link to person D's website for their visitors to click through, that would be considered a

backlink. Search engines tend to see backlinks as "votes" – the more people of influence voting

for a particular website, the higher it tends to **rank** in the SERPs. (NOTE: This is a huge

generalization and is not always the case, since there are over a hundred factors that play a role

in the rankings.) A "vote" from an authority website like CNN is worth more than a "vote" from

a brand new news website.

The way that a link is provided is very important as well. The **anchor text** used to link to a

particular website is the part that is actually hyperlinked. Imagine that a website called

ComputerCompanyABCXYZ with the URL http://myfavoritecomputercompanyabcxyz.com is

launched. If the link looks something like this:

Click here to visit ComputerCompanyABCXYZ!

The anchor text is "Click here" since that is the actual hyperlinked part. If instead, it looks

something like this:

Click here to visit **ComputerCompanyABCXYZ**!

The anchor text is now "ComputerCompanyABCXYZ" and the search engines can start

associating that anchor text with the previously mentioned URL.

When trying to rank well for particular search phrases, it is important to get backlinks

with the proper anchor text. As a simple example, if ComputerCompanyABCXYZ had a new

website page about laptop computers that they would like to see rank well in the search

engines for the phrase "laptop computers for office use", instead of getting a backlink where

the anchor text is "click here" or "ComputerCompanyABCXYZ", it would be much more

beneficial to get a backlink with the keyword phrase as the anchor text:

Check out ComputerCompanyABCXYZ, a company which sells **laptop computers for office use**!

There's a lot more to SEO, but this should be roughly enough knowledge to start to

understand the project.

2.3 Amazon.com

Amazon is the biggest online retailer and has acquired a huge number of customers over the years. It serves over 137 million customers a week and has annual revenues upwards of $34 billion.[10] Figure 4 shows a comparison between Amazon's annual revenue and certain countries' GDPs.

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[10] http://frugaldad.com/amazon/
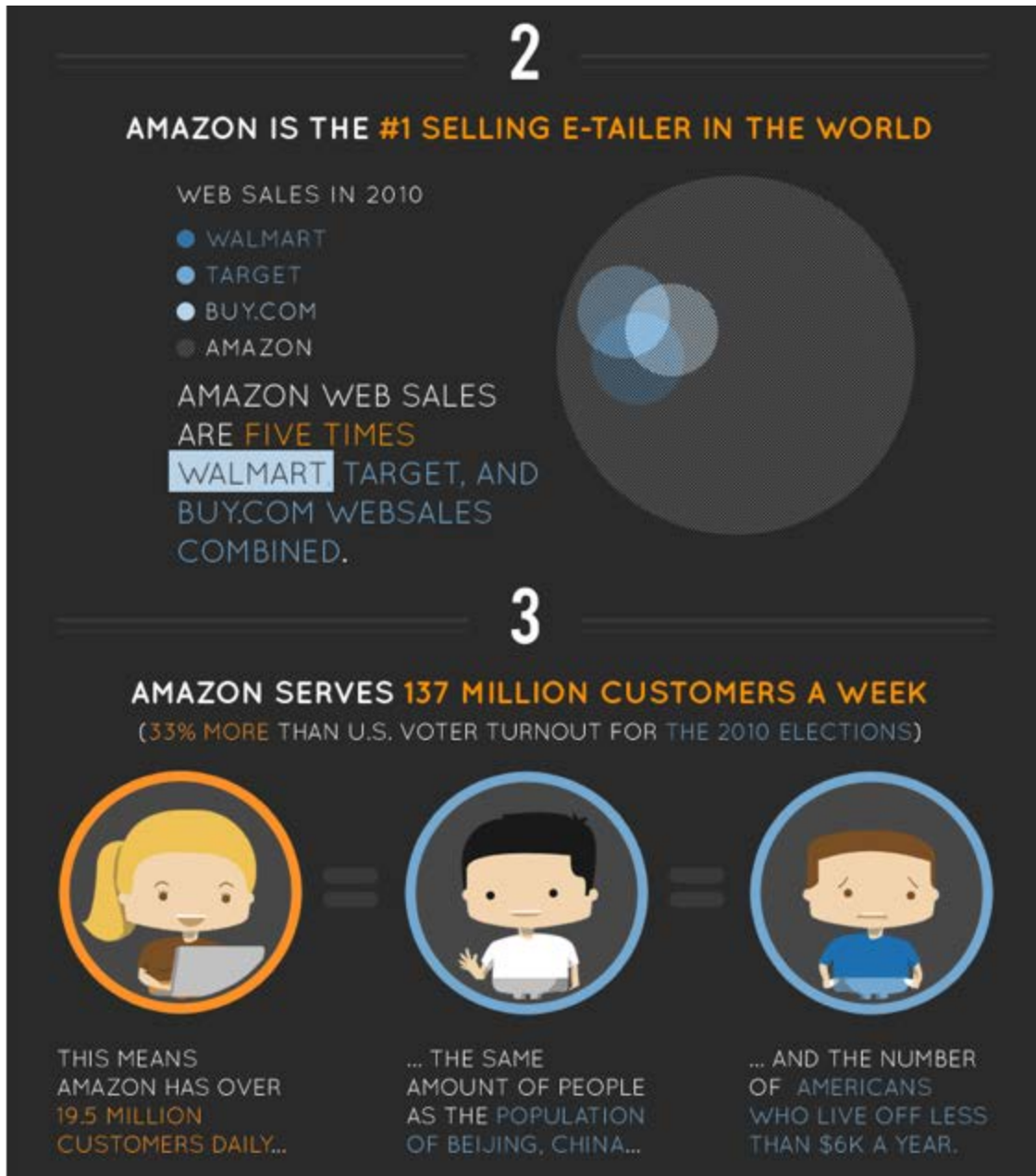
Figure 5 demonstrates the power of Amazon in online commerce. Outdoing Walmart, Target, and Buy.com combined by a factor of five in web sales is certainly a laudable achievement.
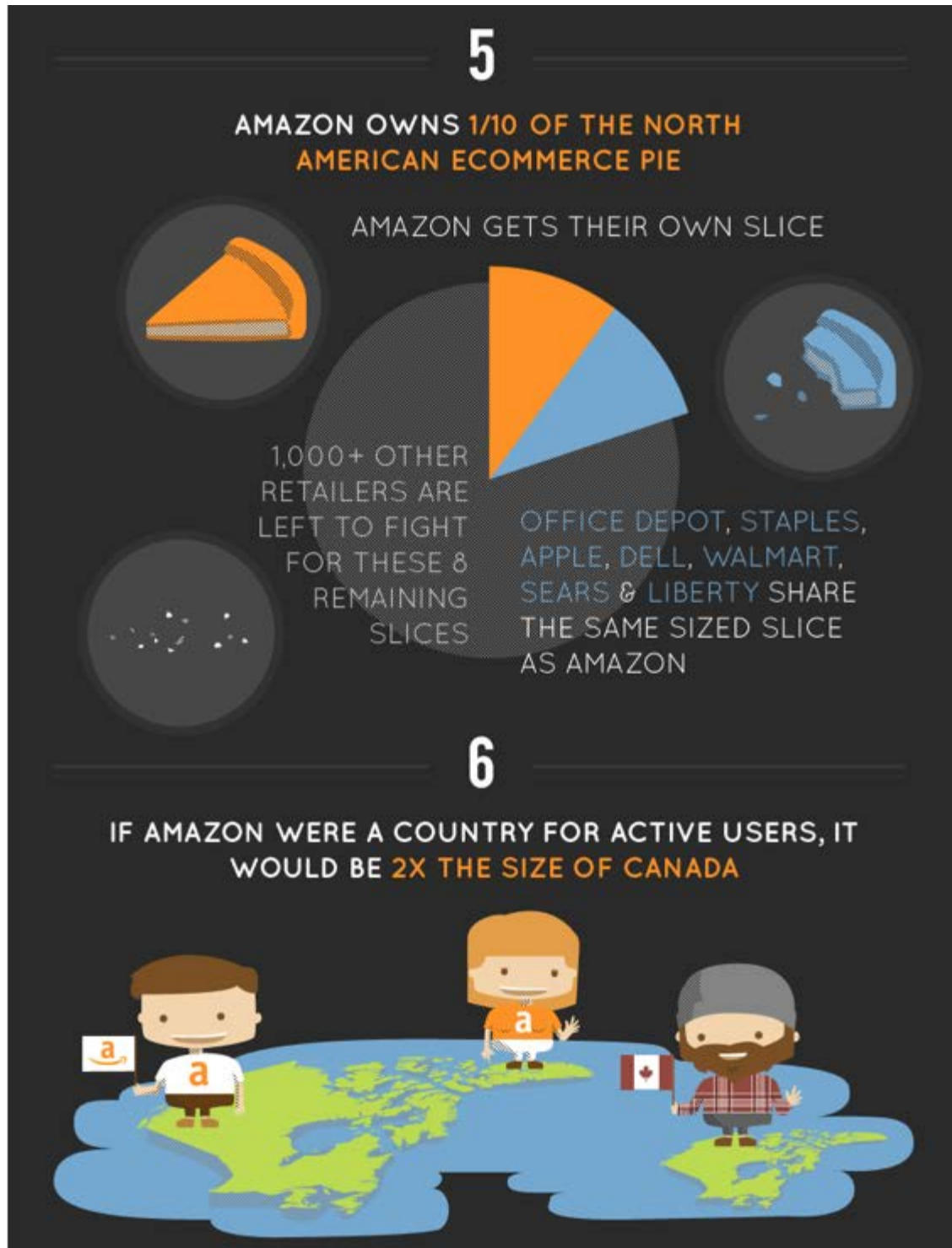
11

As can be seen in Figure 6, Amazon has a tremendous number of active users and holds

strong influence in American ecommerce.

2.4 Amazon Associates Program

Amazon's statistics are impressive, but what most people don't know is that there are a lot of **affiliates** (covered in section 2.2) who help Amazon make sales every year. While the exact number information is no longer available from Amazon, when it was available, the number of affiliates was said to be over 900,000.[11]

Amazon's affiliate program is known as Amazon Associates.[12] It is also commonly referred to as Amazon Affiliates. Figure 7 shows one landing page for the program.
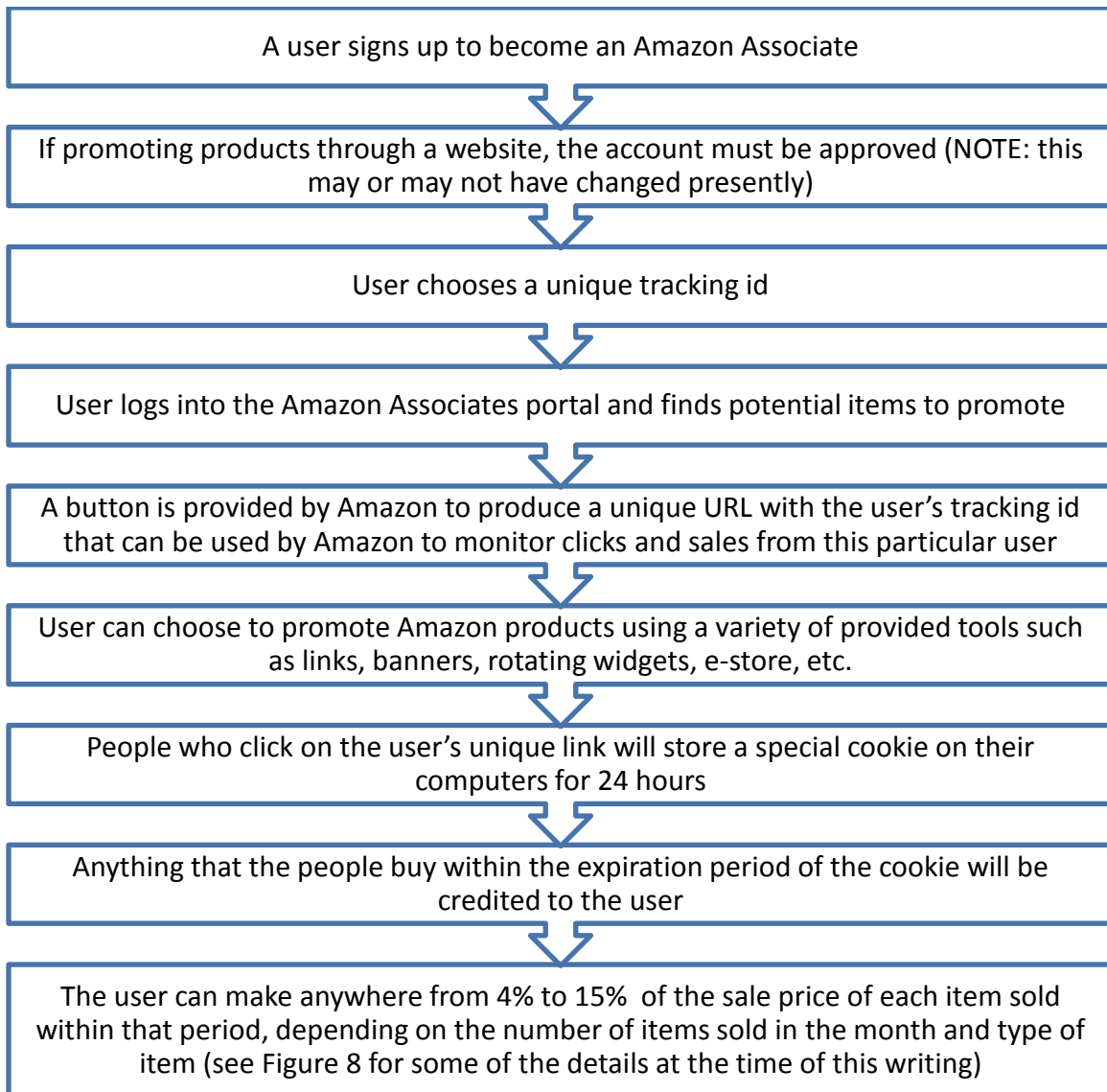

Figure 7: One sample landing page for the Amazon Associates program. (Source: **https://affiliate-program.amazon.com/**)

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[11] http://affiliate-program.amazon.co.uk/gp/associates/join/main.html
[12] https://affiliate-program.amazon.com/

The way it works is as follows:

A user signs up to become an Amazon Associate

If promoting products through a website, the account must be approved (NOTE: this may or may not have changed presently)

User chooses a unique tracking id

User logs into the Amazon Associates portal and finds potential items to promote

A button is provided by Amazon to produce a unique URL with the user's tracking id that can be used by Amazon to monitor clicks and sales from this particular user

User can choose to promote Amazon products using a variety of provided tools such as links, banners, rotating widgets, e-store, etc.

People who click on the user's unique link will store a special cookie on their computers for 24 hours

Anything that the people buy within the expiration period of the cookie will be credited to the user

The user can make anywhere from 4% to 15% of the sale price of each item sold within that period, depending on the number of items sold in the month and type of item (see Figure 8 for some of the details at the time of this writing)

A couple of notes about the program:

- Amazon advertises the number "15%" commission in several places, but that percentage only applies for select products

- Anything that someone who clicked on the user's unique link purchases within 24 hours is credited to the user, regardless of whether or not the user actually promoted it

How Is My Referral Rate Determined?

If you select the Performance structure, your referral rate will be based on your total number of shipped items from both Amazon and third-party sellers. The same rate will apply equally to both Amazon and third-party items, and will apply to all referred items shipped during the month. Please refer to the Referral Rate Tier Chart below for additional detail.

Referral Rate Tier Chart   Glossary

Total Items Shipped	Referral Rates (All Categories except Consumer Electronics)
1 - 6	4.00%
7 - 30	6.00%
31 - 110	6.50%
111 - 320	7.00%
321 - 630	7.50%
631 - 1570	8.00%
1571 - 3130	8.25%
3131 +	8.50%

Figure 8: How Amazon calculates its referrral rates. (Source: https://affiliate-program.amazon.com/gp/associates/network/payments/main.html)

2.5 Prior Work in This Area

Of course, since Amazon is very large and has a wide network of affiliates, there have been others who have mixed promotion methods in Internet Marketing (such as SEO) with the Amazon Associates Program. There are several people online who are making revenue claims about their amazon product promotions. Much of this information is simply not reliable, since it is very easy in this day and age to fake screenshots and videos; however, for completeness, some prominent figures will be covered in this section.

Wanda and Paula are "two friends who decided that working online was the place to be."[13] They have become well-known in some Internet marketing forums when it comes to the Amazon Associates program; they operate a blog online providing tips for affiliates. They also have an e-book called the Amazonian Profit Plan, which is priced at $97 – this e-book supposedly provides a "step by step blueprint full of in-depth, highly detailed information on making money with the Amazon Associates Program."[14] Figure 9 is an image taken directly from the website where the e-book is being sold. It claims that they were able to obtain more than $150,000 in income from the Amazon Associates Program. On the website, it further states that they have around 10 to 20 pages that make over $10,000 per month combined.

Earnings Report Totals November 1, 2010 to November 1, 2011		Our income from 1 Nov 2010 to 1 Nov 2011	Glossary
	Items Shipped	Revenue	Advertising Fees
Total Amazon.com Items Shipped	14881	$1,499,327.55	$122,069.41
Total Third Party Items Shipped ⓘ	6992	$422,663.26	$34,012.31
Total Items Shipped	**21873**	**$1,921,990.81**	**$156,081.72**
Total Items Returned	**-247**	**-$24,423.00**	**-$1,436.06**
Total Refunds	**0**	**$0.00**	**$0.00**
TOTAL ADVERTISING FEES	**21626**	**$1,897,567.81**	**$154,645.66**

Figure 9: Wanda and Paula's claims of revenue from the Amazon Associates program. (Source: http://www.amazonianprofitplan.com/)

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[13] www.affiliateblogonline.com/about/
[14] http://www.affiliateblogonline.com/2009/12/02/how-much-did-we-make-on-amazon-this-month/

Figure 10 shows a screenshot of one of the sites run by Paula & Wanda. It is based in the cooking niche and has a variety of reviews for cookware such as ovens, rice cookers, pressure canners, and more. A sample page from the website (for a closer look) is provided in Figure 11.

Top 3 Stainless Steel Cookware Sets

#1. Cuisinart MultiClad Pro Stainless Steel 12pc Cookware Set

⭐⭐⭐⭐⭐ **Amazon**
⭐⭐⭐⭐☆ **Cooking.com**

This set consistently receives a phenomenal 5 star rating on Amazon. That's extremely rare for any product. With this set you get all the basics and more plus the clad design gives you all the benefits of the more expensive All Clad line but at a fraction of the price.

Read Review - View/Buy Product

#2. Kitchenaid Gourmet Essentials 10pc Brushed Stainless Cookware Set

⭐⭐⭐⭐☆ **Amazon**
⭐⭐⭐⭐☆ **Cooking.com**

This is a high quality cookware set at a bargain price. The Kitchenaid Gourmet Essentials range has been rated exceptionally well by consumers and is extremely popular. With an aluminum core foods cook evenly and each piece is oven safe to 400F.

View/Buy Product

Top 3 Non-Stick Cookware Sets

#1. Rachael Ray NonStick Cookware Set

⭐⭐⭐⭐☆ **Amazon**
⭐⭐⭐⭐⭐ **Cooking.com**

Available in **10pc** and **14pc** sets this non stick cookware is repeatedly the number 1 best selling cookware set on Amazon. This is not just another celebrity cookware set. It's extremely good value for money. It cooks food evenly and is easy to clean. This set receives an overwhelmingly positive response by reviewers on the net.

Read Review - View/Buy Product

#2. Kitchenaid Gourmet Essentials NonStick Hard Anodized 12pc Cookware Set

⭐⭐⭐⭐⭐ **Amazon**

This is another excellent value non-stick set. The quality is exceptional for the price and the set is made up of pieces that you will actually use unlike some sets we've reviewed. It receives excellent reviews from consumers and is a set we rate highly!

Read Review - View/Buy Product

Figure 11: Sample page from the website owned by Paula & Wanda.

A few of Paula and Wanda's other sites are in targeted niches such as bird baths and window covers. The site setup for all of these sites (those shown in Figure 10, Figure 12, and Figure 13) are all different. It's likely that they wanted to test conversion rates on different products and decided to see if the theme used for the website played a role.

Figure 12: Another site owned by Paula and Wanda. (Source: http://www.top-10-bird-baths.com/)

Figure 13: One more site owned by Paula and Wanda. (Source: http://www.coveryourwindow.com/)

Another person who is public about his work with the Amazon Associates program is Chris Guthrie. He also owns a blog providing tips to affiliates and trying to show people how to make money online.[15] His claims put his earnings at a little over $90,000 in a span of two years, as can be seen in Figure 14.

Figure 14: Image found on Chris Guthrie's website showing his earnings. (Source: http://www.makemoneyontheinternet.com/make-money-with-amazon/)

His websites seem to be more focused on electronic products such as digital cameras, 3d TVs, monitors, wireless HD cables, etc. This could be due to his interest in the area or his criteria for narrowing down the niche. One of these sites can be seen in Figure 15. He is using an Amazon banner ad at the top right, an Amazon widget in the middle center, and Amazon product links in text and pictures throughout. His websites are set up differently from those of Paula and Wanda.

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[15] http://www.makemoneyontheinternet.com/make-money-with-amazon/

After spending some time on each of their blogs, some commonalities were noticed. They all stress the importance of keyword and niche research, but don't really mention the criteria they use or how to go about doing so. It definitely looks they rely heavily on Google and other search engines for traffic. They tend to make specific product-related posts such as reviews.

3 Methodology

This section covers the general and specific approaches taken in the project. Information in the first subsection is intentionally kept very high-level to provide a broad overview. The detailed process subsection goes into the specifics of certain choices and set-up steps. The final subsection discusses some of my personal innovation within this project.

3.1 Overview of the Process

This section provides a high level overview of the system as displayed in Figure 16, which categorizes the entire system into six different stages. The process displayed in Figure 16 starts after being approved into the Amazon Associates program. The goal of this process is to create a helpful website which will rank well in the search engines for keywords related to a certain chosen niche.

| (Optional) Keyword Research | Product Selection | Market Research | Competition Analysis | Website Creation | Search Engine Optimization |
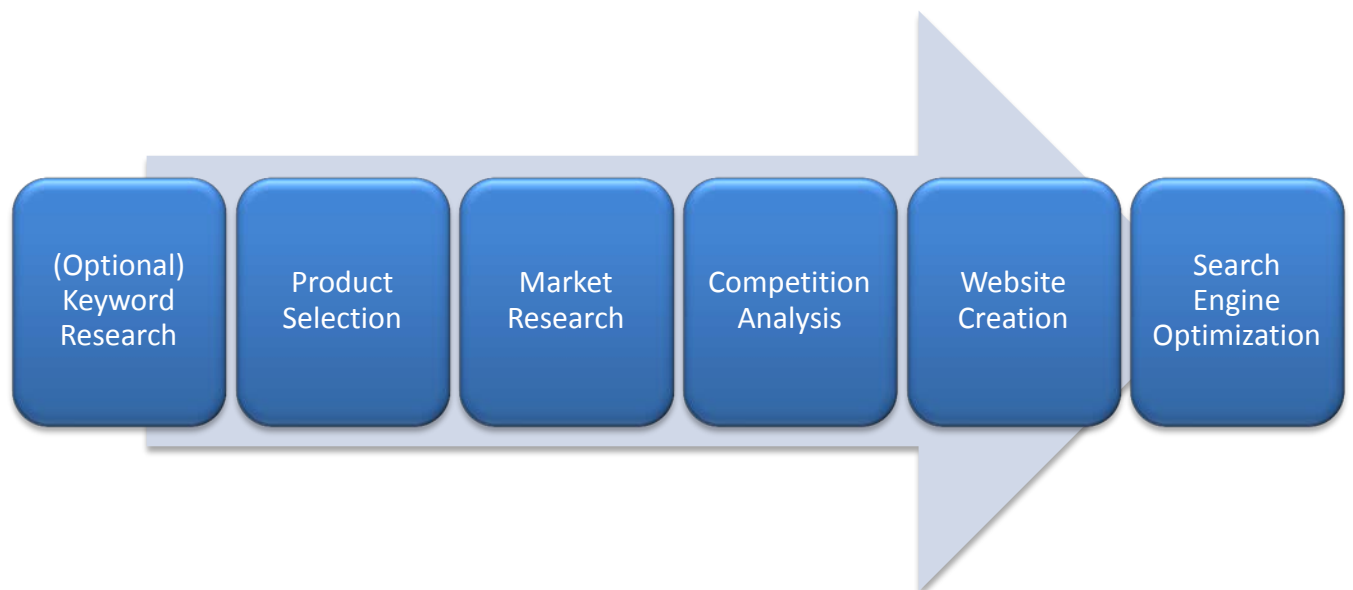
Figure 16: High-level overview of the process taken in this project.

The process can start at either the product selection stage or the keyword research stage. If a general niche is already in mind (such as printers), keyword research can be done to identify some products or phrases with a high monthly search count. Using this data, a matching product from Amazon can be chosen to promote. Then, market research should be conducted on the product and related products to see if there is a general need for the product online. If there isn't, a new product should be selected to research. If there is, after the target keywords have been identified, competition in the SERPs should be analyzed to determine whether or not a new site could rank well for the chosen keywords within a reasonable amount of time. The next step in the process is to create a website around this product niche (choosing a more general category or a specific category). Finally, search engine optimization should be performed to move the pages higher in the SERPs.

If all is successful, there could be a steady stream of residual traffic coming into the site every month and hopefully making some purchases through the Amazon affiliate links.

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3.3 Innovation in Implementation

While the process overview makes things seem simple, it is relatively clear from the detailed process subsection that each part of the process is very involved. Innovation plays a role not only in the criteria I chose to evaluate each step of the process, but also in my implementation of each piece. By using my programming experience, I was able to create unique scripts that solved the problems I faced.

Detailed descriptions of the produced programs, along with the source code, sample outputs, and discussions can be found starting on page **Error! Bookmark not defined.**.   While I certainly don't take credit for everything provided, I did have several innovative ideas that I was able to implement successfully. The primary achievements involve making keyword research (or niche selection) easier, quickly obtaining large amounts of content to use as research for almost any topic, and automating the tedious tasks of individual, manual website updates.

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4 Financial Predictions & Analysis

Of course, for any venture of this nature, it is important to look at the associated costs and expected revenue. Since the revenue cannot be predicted to an exact amount, various approaches will be taken to cover several possible paths. The overall cost for the project over the course of the first three years, however, can be predicted relatively accurately.

To better understand the exact spend discussed, it is convenient to split up the cost into three categories: fixed costs, recurring fees, and miscellaneous purchases. The items that belong under fixed costs include the initial purchase of the domain name, content creation (article writing), website design, templates, plugins, and software for keyword research, competition analysis and other related tasks. Although the renewal of the domain name each year is technically a recurring cost, for the sake of demonstration the initial purchase and renewal have been lumped together into the fixed cost calculation. Content creation is paid on-demand and may be more or less depending on how many articles are needed for a particular niche. For this IQP, labor provided by me has not been included as an expense.

Under the recurring fees fall the monthly web hosting cost, monthly SEO services, and optionally some monthly service-based software. The service based software may be used for monitoring user activity on the website, using a distributing tool for content, monitoring rankings, or other such feats.

Finally, in order to stay relatively conservative in the estimations, additional costs for extra miscellaneous items have been added in. This may be used for new software releases, services that work more efficiently than the previously used services, and other such material. Table 1 and Table 2 show the breakdown of these costs for the first three years.

Table 1: Breakdown of costs for the first month and the first year.

Item	Unit Cost ($)	Quantity (1 Month)	1 Month Cost	Quantity (1 Year)	1 Year Cost
One-Time Costs					
Domain Name	$12.00	1	$12.00	2	$24.00
Articles	$7.50	10	$75.00	75	$562.50
Templates/Plugins	$250.00	1	$250.00	1	$250.00
Software for keyword research	$197.00	1	$197.00	1	$197.00
Recurring Fees					
Web Hosting	$7.16	1	$7.16	12	$85.92
SEO Services	$150.00	0	$0.00	6	$900.00
Service-Based Software	$77.00	0	$0.00	1	$77.00
Miscellaneous					
Services	$15.00	0	$0.00	5	$75.00
Software	$20.00	0	$0.00	5	$100.00
Other	$10.00	0	$0.00	0	$0.00
Total			**$541.16**		**$2,271.42**

Table 2: Breakdown of costs for the second year and the third year.

Item	Unit Cost ($)	Quantity (2 Years)	2 Year Cost	Quantity (3 Years)	3 Year Cost
One-Time Costs					
Domain Name	$12.00	3	$36.00	3	$36.00
Articles	$7.50	100	$750.00	124	$930.00
Templates/Plugins	$250.00	1	$250.00	1	$250.00
Software for keyword research	$197.00	1	$197.00	1	$197.00
Recurring Fees					
Web Hosting	$7.16	24	$171.84	36	$257.76
SEO Services	$150.00	15	$2,250.00	17	$2,550.00
Service-Based Software	$77.00	2	$154.00	2	$154.00
Miscellaneous					
Services	$15.00	10	$150.00	10	$150.00
Software	$20.00	10	$200.00	10	$200.00
Other	$10.00	10	$100.00	10	$100.00
Total			**$4,258.84**		**$4,824.76**

As can be seen in Table 2, the total cost of running a project like this over the course of three years should be close to $5,000. A more visual spread of the data can be seen in Figure 18.

The important points to note here are:

- There is a relatively big jump in total costs from the first month to the first year (end of)

- There is another jump in total costs from the first year into the second year

- The difference in costs from the second year to the third year is minimal compared to that of the first two differences

- The SEO services make the majority of the cost at any one time starting at the end of the first year

- The domain name costs are almost negligible compared to the rest of the costs
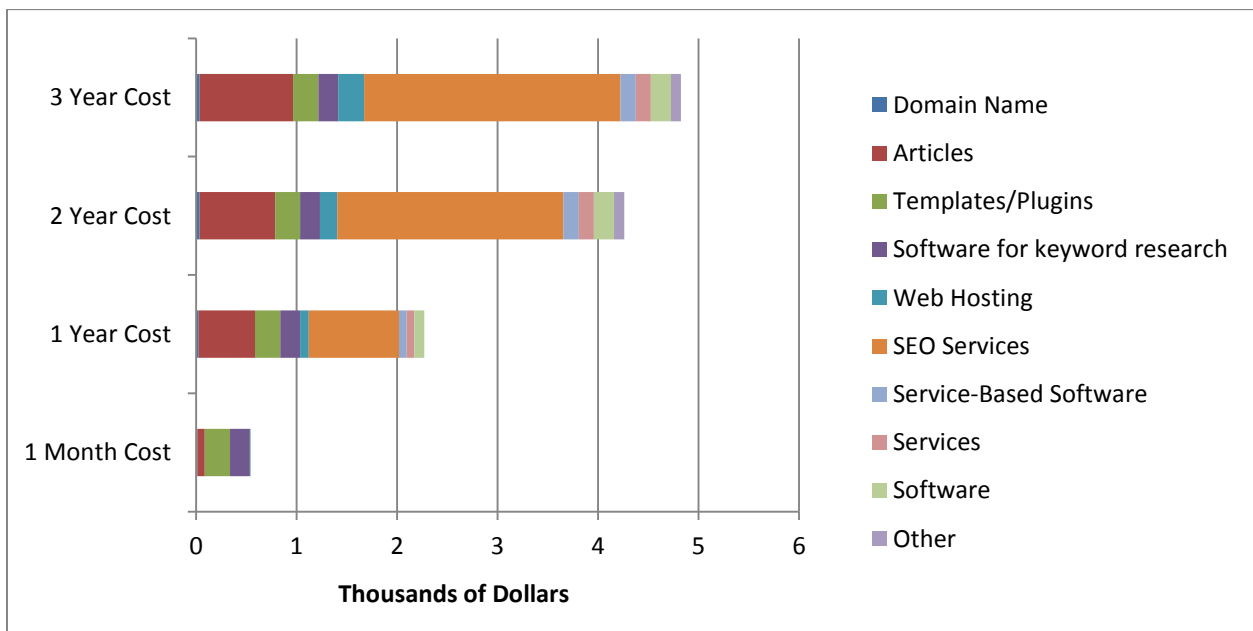
Figure 18: Visual representation of break of project costs over three years.

The expected revenue produced really depends on a number of factors – namely the broad monthly search count (BMSC), the traffic rate (TR), the conversion rate (CR), and the average commission per sale (AC). Different keywords will have different monthly search counts. The traffic rate, conversion rate, and commission can be held constant to vary predictions based on different search volumes. For this initial analysis, the average commission is assumed to be $4.00, based on the idea of promoting a product which sells on Amazon for $100 and receiving a 4% commission. This is a conservative estimate since the proposed system suggests targeting products which cost at least $150. However, it is possible that potential visitors also buy related items which are priced at much lower rates and therefore decrease the overall average commission. It is important to note that 4% is the starting commission for the first seven items sold. After that, the commission rate increases to 6%. Therefore, for this system, a conservative estimate of $4.00 per sale is reasonable.

The conversion rate is set to 2.5%, which is reasonable for the first two years and then increased to 3.5% because it is likely that some testing will be done by then to obtain better conversions. This estimation for the conversion rate is based on the average suggested by Andrew King's book *Website Optimization Secrets*. He cites Fireclick 2008 and Shop.org 2007 to provide data proposing that the average conversion rate is between 2.5 and 3.1%.[16] Other sources put the average at around 2.3%, with some verticals (such as electronics) having a conversion rate as low as 1.1% while others (such as catalog) have a rate as high as 6.1%.[17] Using these as a basis, starting at a conversion rate of 2.5% is reasonable.

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[16] http://www.websiteoptimization.com/secrets/conversion/
[17] http://www.clickz.com/clickz/column/1691779/benchmarking-average-conversion-rate

At the same time, since the SEO services are likely to start bringing in more traffic, we can expect to see a climb in the traffic rate. At the end of the first year, the estimate is a low 0.05% (not 5%) of the monthly search count. This is due to the fact that the monthly search count is based on the sum of many different phrases; although it is likely the website will rank for a few of the terms, it will not be able to sustain rankings so early for the keywords which get the majority of the searches. For example, even if the website ranks #100 for 75 keywords within the first year, this is unlikely to get it much traffic because the vast majority of people click results within the first two ranking pages of the SERPs. In fact, one study showed that just the top three organic spots receive 58.4% of all clicks from users.[18] Therefore, if a particular term receives 100,000 searches (under a broad match), the site may rank on the first or second page for five or so long-tail keyword terms which receive less than a thousand searches each month. Using the data from SearchEngineWatch and assuming that the website ranks in the #14 spot for keywords that obtain a combined search count of roughly 5,000 searches per month, the total amount of received traffic would be 5,000 * 0.011 = 55 visits. This is roughly 0.05% of the original targeted 100,000.

Once the SEO starts to take effect, at the end of the second year, we may expect to see roughly a 1% traffic rate. This is because the site should be holding first or second page rankings for some of the major keywords at this point. With average click-through rates for these keywords being 1.1%-9.5% (assuming rankings between #20 and #3, inclusive), when averaged with all of the terms that the site is not ranking for (i.e. 0% CTR), 1% traffic rate seems

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[18] http://searchenginewatch.com/article/2049695/Top-Google-Result-Gets-36.4-of-Clicks-Study

to be a reasonable estimate. These increases in conversion and traffic will lead to a higher

average commission from Amazon based on their tiered affiliate system.

The equation used to calculate overall revenue is as follows:

$$Revenue = (BMSC) * (TR) * (CR) * (AC) * (Months\ of\ Sales) + Previous\ Revenue$$

Table 3: Estimated expenses and revenue for monthly search count of 50,000.

Months Passed	Estimated Expenses	Estimated Revenue	Estimated Traffic Rate	Estimated Conversion Rate	Average Commission	Months of Sales
1	$541.00	$0.00	0.00000	0.025	$4.00	0
12	$2,271.42	$10.00	0.00050	0.025	$4.00	4
24	$4,258.84	$610.00	0.01000	0.025	$4.00	12
36	$4,824.76	$5,860.00	0.05000	0.035	$5.00	12
48	$5,390.68	$16,360.00	0.10000	0.035	$5.00	12
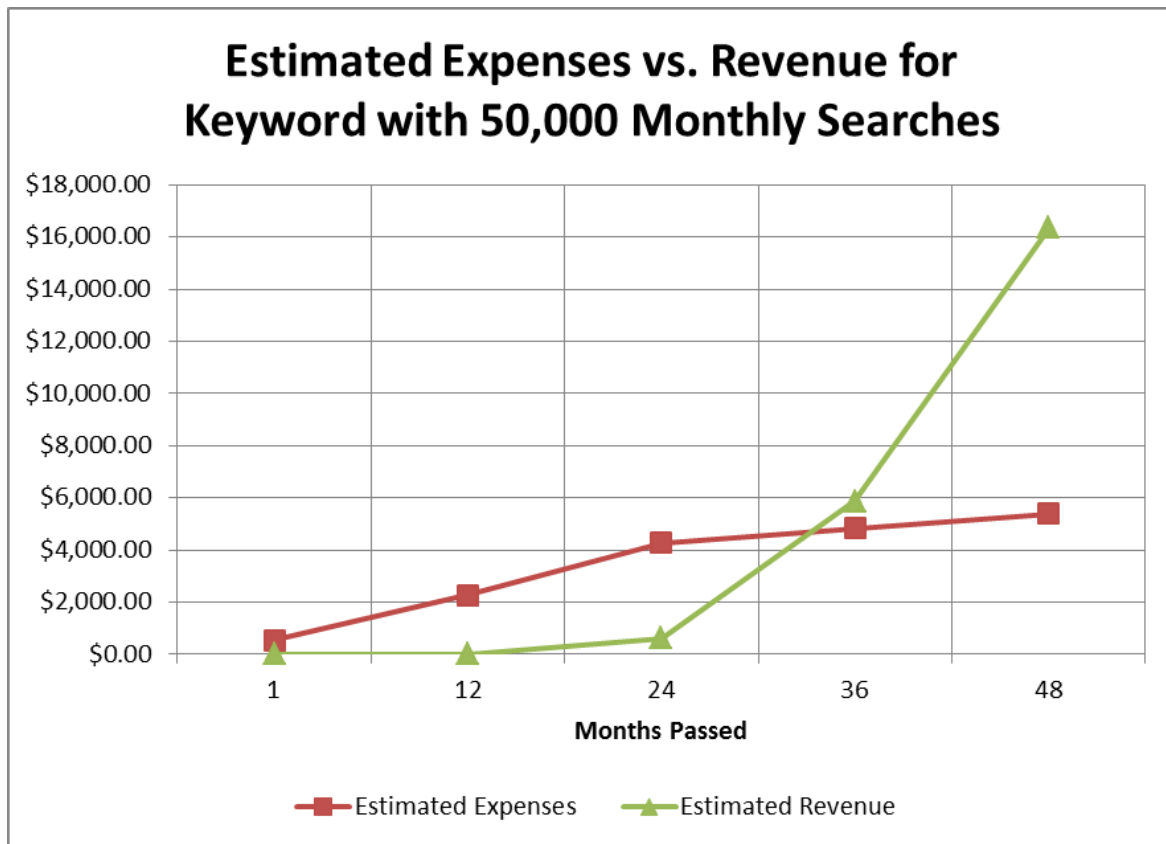
Figure 19: Estimated expenses vs. revenue for keyword with 50,000 monthly searches.

Months Passed	Estimated Expenses	Estimated Revenue	Estimated Traffic Rate	Estimated Conversion Rate	Average Commission	Months of Sales
1	$541.00	$0.00	0.00000	0.025	$4.00	0
12	$2,271.42	$20.00	0.00050	0.025	$4.00	4
24	$4,258.84	$1,220.00	0.01000	0.025	$4.00	12
36	$4,824.76	$11,720.00	0.05000	0.035	$5.00	12
48	$5,390.68	$32,720.00	0.10000	0.035	$5.00	12
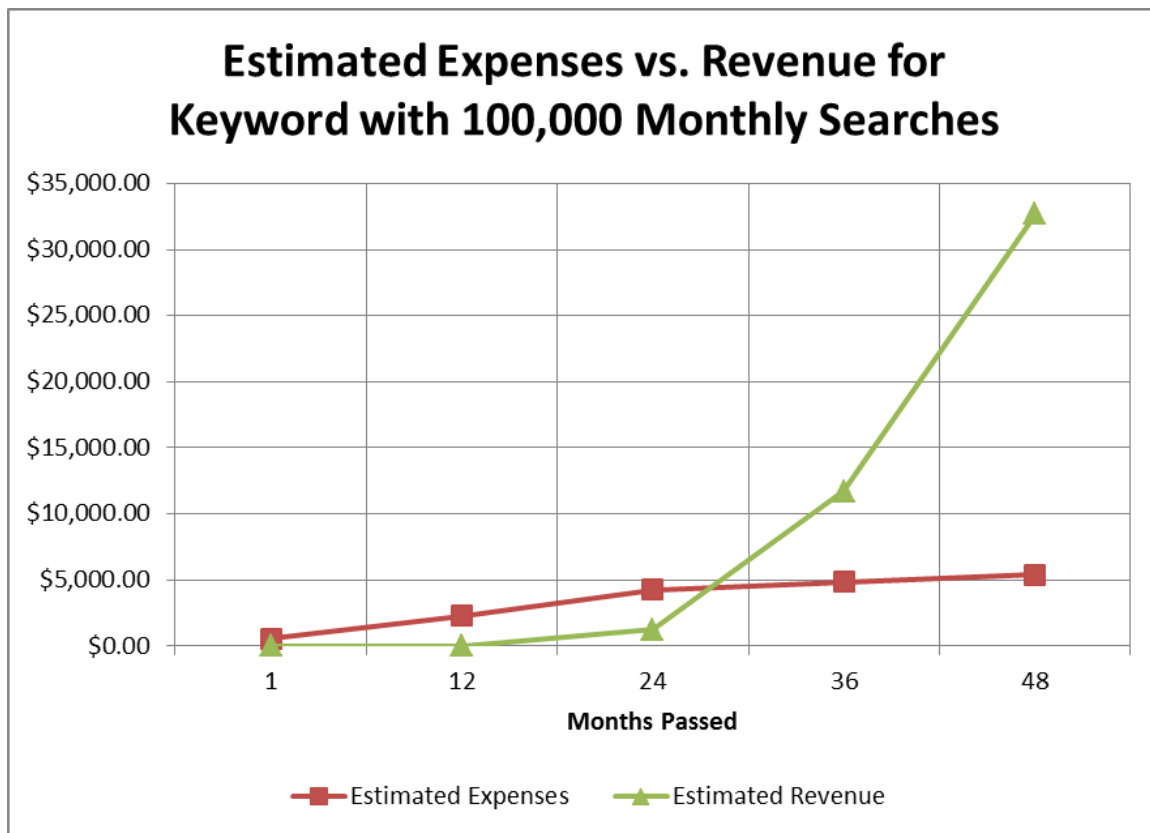
Figure 20: Estimated expenses vs. revenue for keyword with 100,000 monthly searches.

Estimated Expenses vs. Revenue for Keyword with 250,000 Monthly Searches
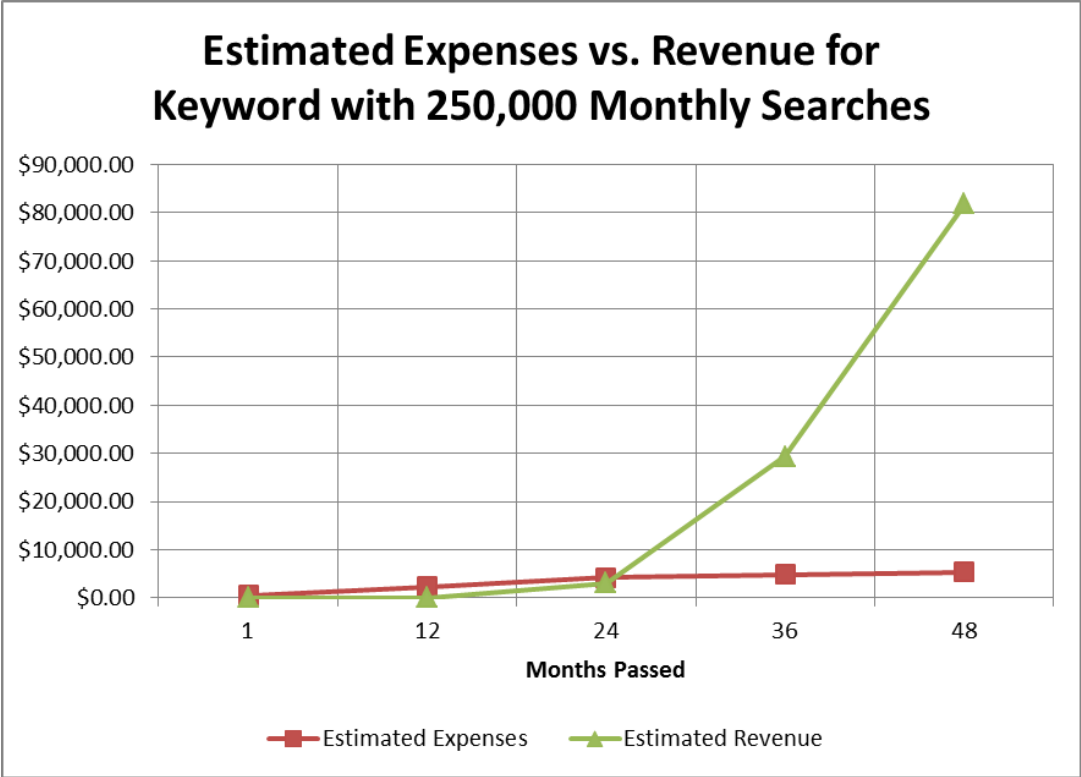
Figure 23: Estimated expenses vs. revenue for keyword with 250,000 monthly searches.

The equation, tables, and figures above give a rough idea of how the revenue may increase as monthly search count increases. Due to the low percentage of expected traffic in the first two years, targeting niches with higher search counts does not significantly alter the profits during that time period.

For this particular project, the search count is roughly around 200,000. Therefore, an additional analysis was conducted based on three different prediction types: conservative, mild, and aggressive. In the first analysis, the varied factor was average commission. In the conservative model, average commission was set at $2.40 for the first two years and then increased to $3.40. In the mild model, commission started at $4.00 and increased to $5.00. In

the aggressive model, commission started at $6.00 and increased to $7.00. The result graphs are shown in Figure 24.
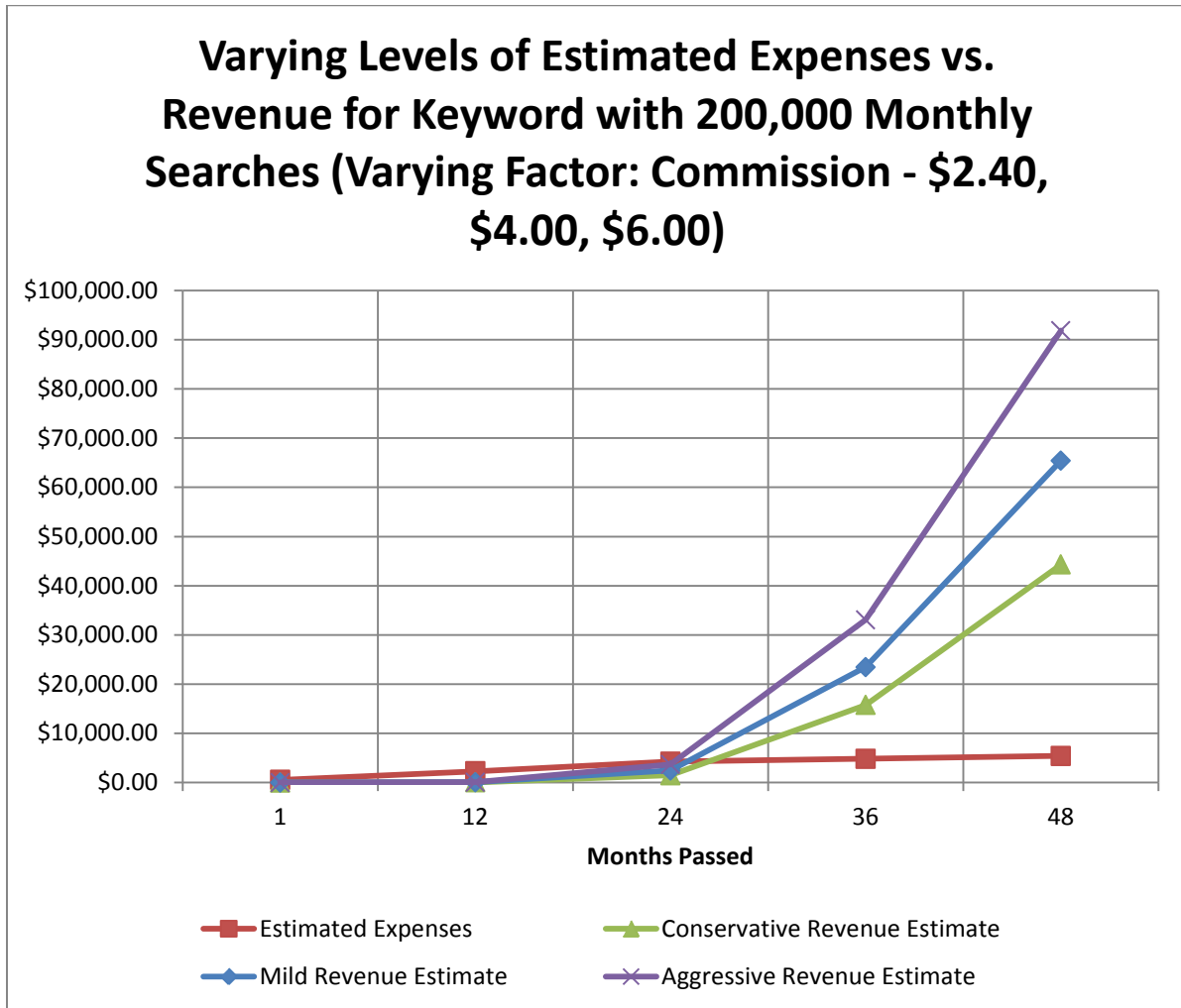
Varying Levels of Estimated Expenses vs. Revenue for Keyword with 200,000 Monthly Searches (Varying Factor: Commission - $2.40, $4.00, $6.00)

Figure 24: Varying Levels of Estimated Expenses vs. Revenue for Keyword with 200,000 Monthly Searches (Varying Factor: Commission - $2.40, $4.00, $6.00)

Varying traffic levels while holding other factors constant is a more difficult task. Traffic is extremely difficult to predict, even with existing data. For the conservative model, the traffic rate followed this progression from year to year: 0.05%, 1%, 5%, 10%. For the mild model, there were slight increases from the conservative model: 0.1%, 1.5%, 6%, 12.5%. The

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aggressive model used traffic rates that were almost double the conservative model: 0.2%, 2.5%, 7.5%, and 20%. The visual comparison can be seen in Figure 25.
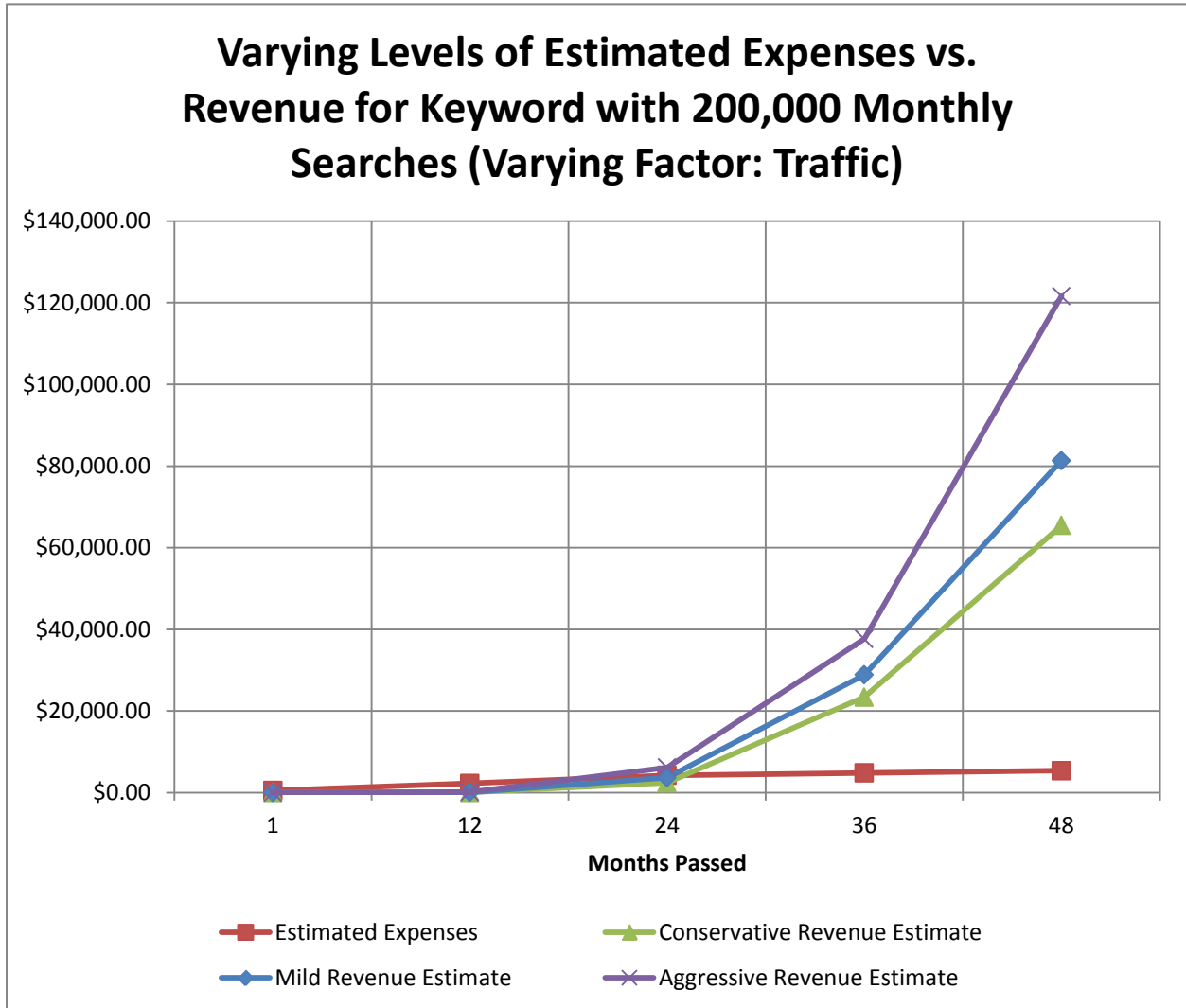
Figure 25: Varying Levels of Estimated Expenses vs. Revenue for Keyword with 200,000 Monthly Searches (Varying Factor: Traffic)

Overall, in the analyses for a search term with roughly 200,000 broad searches per month, the break-even point is close to the end of the second year. If the traffic rate does actually follow one of the predicted patterns, the ROI is significant in the long term.

5 Results and Discussion

Throughout the project, I monitored the website's rank in Google for 8 target keywords.

Figure 26: Google rankings on 11/14/11.

Figure 27: Google rankings on 12/02/11.

Figure 28: Google rankings on 12/04/11.

Figure 29: Google rankings on 12/30/11.

Figure 30: Google rankings on 01/20/12.

As can be seen by the progression of data from Figure 26, Figure 27, Figure 28, Figure 29, and Figure 30, my SEO efforts were initially going very well. The website was moving up in the Google SERPs for the targeted keywords at a wonderful pace. However, to get the most traffic, the website would have needed to move to the first or second page of the results for the keywords. I started aggressively building backlinks to try to get on one of the front two pages. Unfortunately, it seems that Google thought I was linking far too quickly or unnaturally, so my website completely dropped out of the top 500 listings for most of the target keywords.

I do not know how long this penalty will last, but the site does not appear to be making a comeback within the close of this project.

However, the Google Analytics data shows that the website traffic was steadily increasing over time. A closer inspection revealed that the majority of the traffic was from Yahoo and Bing, as shown in Figure 31. Unfortunately, I had not monitored rankings in Yahoo or Bing.

Custom Report   Dec 20, 2011 - Jan 19, 2012 ▾

Unique Pageviews ▾   Graph by:

This custom dimension resulted in 346 Unique Pageviews via 22 sources

	Source	None ▾	Unique Pageviews ↓
1.	yahoo		130
2.	bing		110
3.	(direct)		28
4.	google		17
5.	answers.yahoo.com		16
6.	live		9
7.	forex-ninjas.com		7
8.	vimeo.com		7
9.	www.forex-ninjas.com		4
10.	aol		3

Unique Pageviews
346
% of Site Total: 100.00%
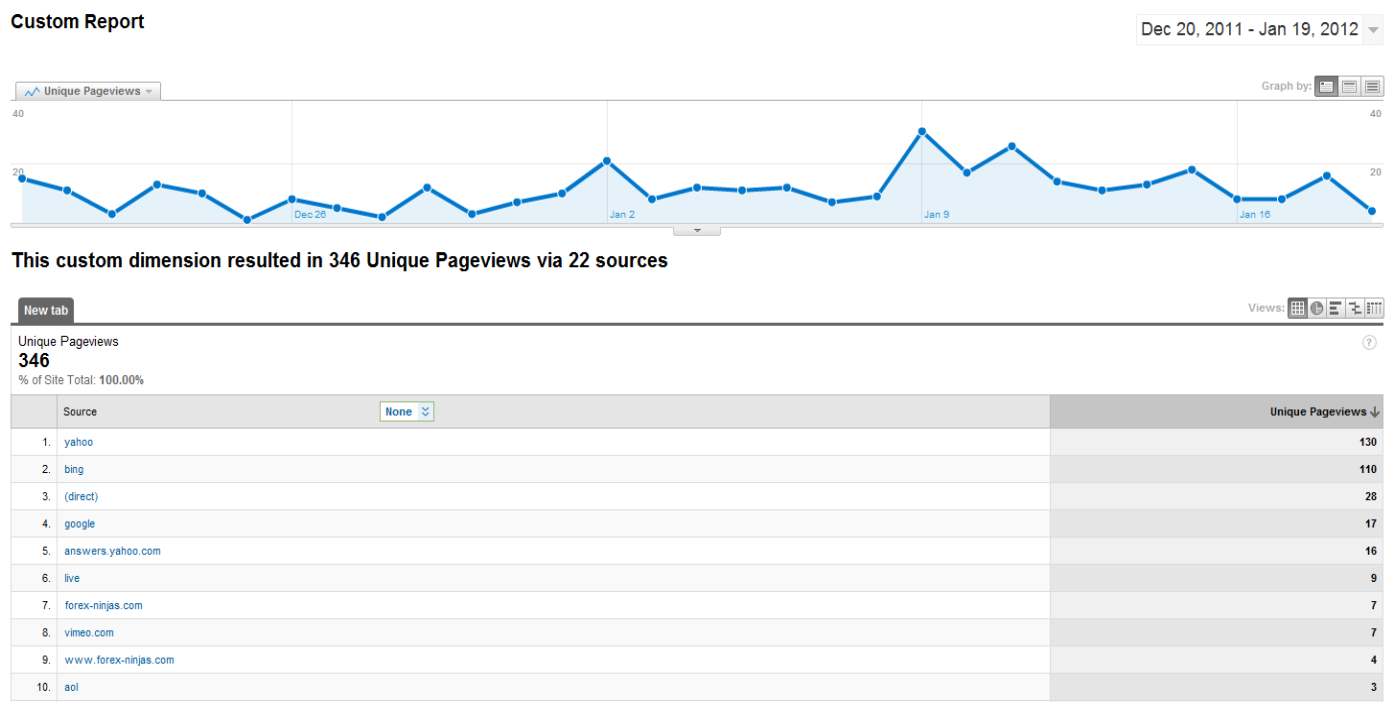
Figure 31: Google Analytics traffic data for the period from 12/20/11 - 01/19/12. Yahoo sent the most unqiue pageviews (130). Bing sent the next most amount (110). Google only accounted for 17 unique pageviews in this time period.

Thankfully, Google Analytics can provide data on the keyword which was used as the referral. Looking at the data, it would seem that the highly competitive terms *[intentionally removed]* and *[intentionally removed]* sent the most visits! This is definitely a sign of success. The data can be seen in Figure 32.

Since the site was getting traffic from these highly competitive keywords, I checked the rankings in Yahoo and Bing for those two terms. The site was found on the first page (position #8) for both of the keywords! It also seemed to alternate to higher up in the results on some days, pulling in more traffic from the searches.

During this period, although traffic was increasing, there were no sales. Roughly a week later, the website had its first sale! This took place on January 27, 2012. The buyer not only bought a product being advertised on the website (for $67.99), but he/she also bought another item for which the site was credited (a $19.99 item). The commissions from Amazon for these

sales were a low 4%, or $3.52.   However, given the time frame, making a single sale is still considered a success.   The Amazon overview is shown in Figure 33.   Cross-referencing data from Amazon and Google Analytics, it was determined that the buyer of these products landed on the website through Yahoo looking for the term *[intentionally removed]* and spent more than 44 minutes on the site browsing 26 pages, looking at the details of the products listed before making a purchase.
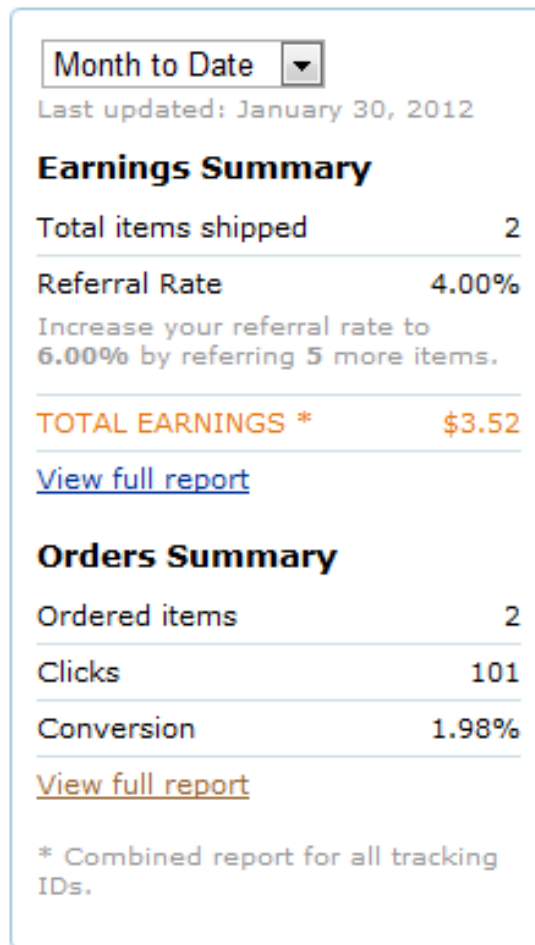
Figure 33: Amazon Associate snippet for the month of January 2012.

6 Conclusion

Overall, I would certainly consider this project a success. I was able to come up with a system, implement the system using innovative ideas and scripts, solve issues that arose, monitor rankings, build links, track data, and ultimately make a sale. As a proof of concept for this model, it is definitely a step in the correct direction. In order to fully test out the system and find flaws with it, much more time and effort would be needed. However, the project shows that it is possible to use my proposed SEO model to innovate on the Internet and make great progress.

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