

The problem of calculating ROI on social media

A Literature Review

Praven Govender

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<p>Abstract:</p> <p>The problem of calculating the ROI of one's social media activities has plagued marketers since the inception of social media. This literature review seeks to tackle the problem of why this is. This paper also tries to answer why there exists a massive gap in peer reviewed literature on the subject, while the amount of non-peer reviewed literature is voluminous. The conclusions drawn from looking at a number of sources, is that social media has a multitude of benefits that are hard to quantify and measure. The statistical methods by which this can be done are not yet popularized or easily accessible to the average marketer who would be carrying out the measurements. The lack for peer reviewed papers in this arena has led to a flourishing of non-peer reviewed marketing literature that have questionable methodologies as well as motives. The average marketer can be often misguided by these documents, while searching for literature that would help prove the case of ROI on social media to their superiors, in order to justify their budgets within their company's.</p>	
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FOREWORD

This literature review attempts to break down the problem of calculating social media ROI, in the hope that it will help to give the reader an overview of the current state of ROI measurement on social media, and perhaps aid in finding topics to further research in the field.

I would like to acknowledge the valuable experience I received from working at EzyInsights, a Finnish social media viral content discovery startup. My position there as a digital marketer and analyst for over 2 years allowed me the opportunity to glean insights into the workings of social media, as well as the needs of those working within the field, in Finland as well as globally. All views contained within this document are my own and do not reflect the views held by EzyInsights.

1 INTRODUCTION

1.1 Overview

Ever since the advent of language and the written word at the dawn of civilization, man has been passing messages between each other, over increasingly longer distances. One of technologies main roles throughout the ages has been to increase the speed, and ease the flow of this communication between individuals. “Pigeon Post” was one such method of communication, whereby people conveyed messages to each other through the use of homing pigeons. This practice was popular for millennia up until the 19th century (Reuters, 2008), when electrical telegraphy revolutionized the world, closely followed by modern telephony, which allowed instantaneous international communication. This still however had the limitation of two individuals participating in a conversation with no room for others to leave or join fluidly.

It was the advent of the internet that allowed people across the globe to become increasingly interconnected. This instantaneous, multi-threaded sharing of ideas and experiences between billions of individuals across continents had never been possible before. People can talk to each other and be heard, no matter how vapid or revolutionary their message is. This is the essence of social media.

Many businesses have trouble finding their footing on social media. Many feel that they should participate on social media, but have no idea what role social media should play in their day to day business activities. They have had decades of experience in advertising on other media platforms, and measuring their return on investment on these older platforms. ROI on social media has however proven harder for businesses to track. Businesses tend to try to apply existing ROI calculations that were developed for older advertising platforms in order to calculate the ROI and quantify or understand the effects that social media has. This can be useful but is often misguided and can lead to very inaccurate results.

There are a massive number of “whitepapers” put out by marketing companies or agencies that always tend to support the companies own viewpoints and product offerings. None of these white papers are peer reviewed for bias or inconsistencies but are still cir-

culated widely through social media, and reported on in the general media. This has led to massive amount of confusion in the industry.

This essay will try to delve into why businesses are having trouble measuring their return on investment from social media, as well as why there exists a noticeable lack of peer reviewed literature in the realm of social media ROI. This essay will also look into what thought leaders in the industry have to say about social media ROI.

This review will be approached from the author's point of view, who has held a position as a digital marketer and data analyst in a mature stage social media startup for several years, being involved in digital marketing for several years prior to that. Therefore the author is quite familiar with the problem of ROI on social media, in terms of the pressure faced by marketers to solve the problem, as well as the motivation behind the creation of many whitepapers that claim to have already solved the problem.

1.2 Limitations

This literature review is mainly concerned with the Earned Media side of Social Media, ie, everything in social media that does not fall under the use of paid advertising on a social platform. The review does touch on the advertising aspect as well, due to the fact that the lines between the two categories can be blurred in some cases.

When critiquing a whitepaper, much of it, such as the raw data used in its creation will not be available for review, assumedly due to the data being confidential. The author has done his best to take this into account and save criticism only for parts of the papers that avail themselves for criticism.

This review does not go into detail about different social media analytics tools that track ROI on social media. This has been done for the reason that the vast majority of these tools are limited to either using the method of direct attribution, (a topic covered under the heading Direct Attribution), or less often; calculating ROI using a more vague methodology of assigning a monetary value to a social action, that has been carried out on a piece of content shared by a company. This methodology is suspect for reasons

outlined in the critique of the Syncapse whitepaper below. Therefore this review is limited to the effect of earned social media on costs and sales, and seeks to examine the various variables that would need to be taken into account in order to achieve a true ROI figure.

This review mainly makes mention of the most popular social networks as noted in figure 1, but the author feels that the topic itself has been approached in a broad enough manner, whereby the learnings and reasoned outcomes can be applied to almost any social network in existence.

2 BACKGROUND

2.1 What is social media

Social media can be likened to many groups of people having a discussion in a single room. Some people might be in pairs, some alone, and some in larger groups, all discussing different topics. The key is that all these people are in earshot of one-another and so individuals can leave and join groups at will, according to which topics they find interesting, or may even choose to start a group with a topic of their own.

Social media started in the 1970's, when the first bulletin board system (BBS) was developed. A BBS, just as its real-life namesake, is simply an online page where items can be shared and community discussions can take place. The technology of the time limited the speed that sharing could take place, and limited all communication to strings of plain text. This limitation still did not stop bulletin boards from becoming wildly popular well into the early 90's. (Digital Trends, 2015)

In the 90's technology progressed and allowed richer media filled social sharing sites to come into being, where every user had their own page that could be customized to reflect their own personalities. Many sites sprang up such as the now defunct SixDegrees.com and ClassMates.com. In early 2000 however things really took off as

social media started to grow exponentially. Many put this down to the growing number of internet users around the world, though the progress of technology would have also played a significant role. As technology marched on in line with Moore's law (Webope-dia, 2015), more and more memory and processing power became available at lower prices, developers were able to offer more media rich experiences to their users with more features. Stiff competition between social sites would have also increased the in-centive to develop and evolve features and functionality along with user wants and needs.

Currently the social media sites with the largest number of users in the western world are Facebook, Twitter, LinkedIn, Instagram and Google+. Figure 1 below ranks social networks worldwide, according to their number of active users. Note that Qzone, a Chinese social network is ranked third. Qzone sees very limited use outside of China. There are several "Instant Messaging" platforms included in the list, namely Whatsapp, QQ and Wechat which are not strictly social Networks, as their main feature is instant messaging.

It would be good to point out the distinction between Social Networks and Instant Mes-saging platforms. Social Networks allow users far more flexibility in how participants share and consume content. It allows people to more easily broadcast thoughts and ideas or interesting pieces of content to various friends or general groups, where or it may or may not generate a response or action and may possibly be shared further. Social Net-works also act as portals of user curated content, where users can discover content that has been shared or endorsed by other users. This content discovery aspect of social net-works can be compared to the "portals" that existed in the early days of the internet, ex-cept with the added social aspect. Portals were simply directories that listed different websites and bits of information, and served as a starting point for users to find content on the internet. The obvious difference is that content that spreads on social networks is socially endorsed, and thus, curated by masses of users.

Instant Messaging however is a far more simplified version of this, as it allows users to simply communicate messages or other media with each other, within a closed group. In essence, social networks allow for a more transient, indirect and open form of commu-nication, where participants can choose to interact or not, whereas Instant messaging

platforms are a direct form of communication, where participation between users is more or less expected.

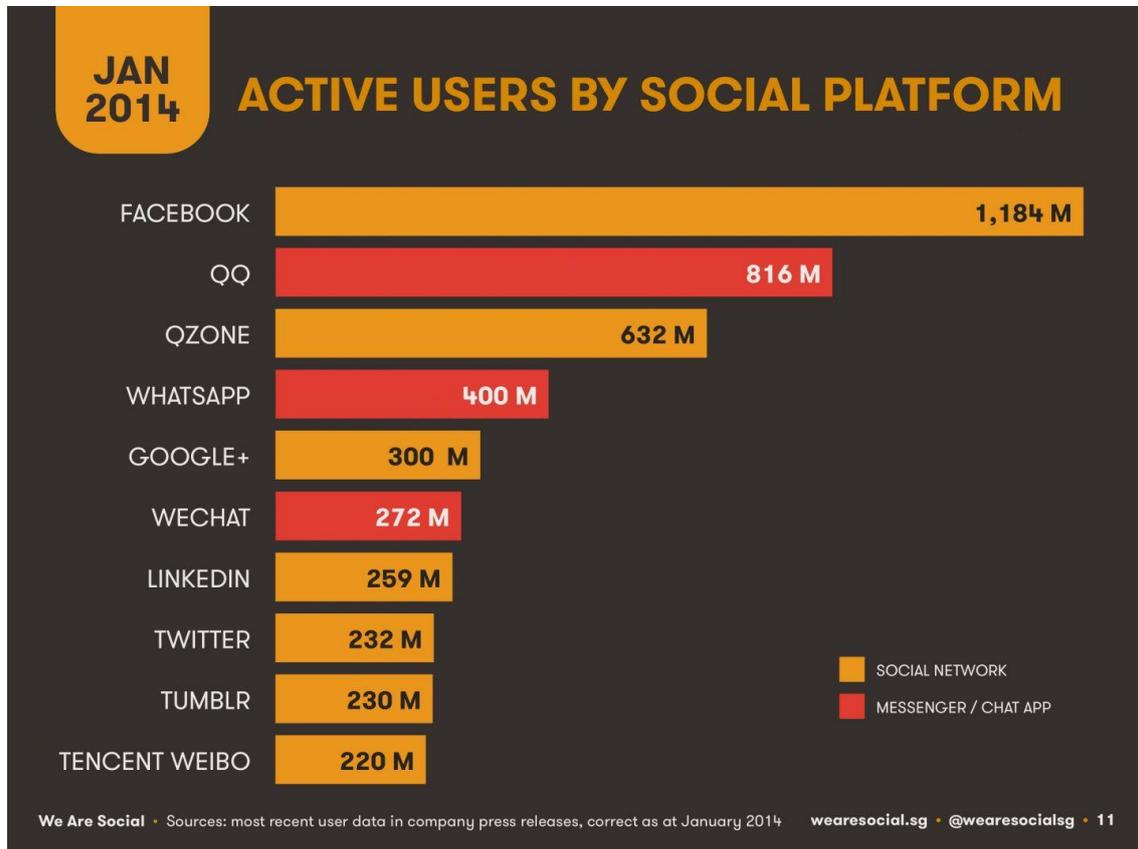


Figure 1. Active Users By Social Platform. (wearesocial.sg, 2014)

As technology companies continue to evolve their products, adding in new features, the lines will continue to be blurred as to what constitutes a social Network, and an Instant Messaging app. Facebook for example, which happens to be the largest social Network on the planet as of now (2015), has its own instant messaging application as part of its product offering. Whatsapp, one of the largest Instant Messaging applications in the world, which was acquired by Facebook in 2014, continues to add features to its platform and has added features such as voice calling, as well as website sharing controls (The Verge, 2015). These controls, if implemented by a website, allows visitors to share content directly from said website to Whatsapp.

2.2 How exactly does social media work?

All social networks have a main page that a user can log into and view a customized feed that is constantly updated with new content. Since social media hinges on the interconnectedness of users, all social networks rely on users opting to connect with other users, brands or other content creators. Once connected, users will receive notifications of actions taken by other users as well as the content itself in their feed. Platforms differ from one another in terms of how users interact, but core interactions remain very similar, although they may be named differently.

For example, Facebook allows users to “Like” different pieces of content that may take the form of media, or content that has been generated by other users. Once a user Likes something, other users who are connected to the user who performed the Like action, will be able to see that this user has taken this action. Twitter has an equivalent system called a “favourite”. Interestingly, the favourite on Twitter was initially intended by Twitter to be a bookmarking system where users could mark different pieces of content for later consumption. Therefore the only people that were aware of the favourite having occurred was the person who made the bookmark, as well as the content producer. However as time went on, users started using favourites as acknowledgement or endorsement of different content that they found interesting or agreed with. Twitter recently acknowledged this and made changes to their platform, that made favourites visible to people connected to the user as well. This is a testament to the evolving nature of social media, where even those who developed the network itself might not be able to predict how users would use certain features. LinkedIn opted for the same terminology for this action as Facebook, using the term “Likes”.

Other than likes and favourites, users have the ability to share content directly with each other. This could be content that is already on the network, or external media, such as pictures, or web pages. On Facebook and LinkedIn this is called “Shares” but on Twitter it is called a “Retweet”. Another action that is common to all social networks is the ability to comment on different actions and pieces of content visible on the network.

There are other actions that may be unique to a particular network. For example. Facebook allows users to “poke” other users. This is independent of any other available action, and is only visible between the two users involved.

2.3 How do people use social media?

Different people use social media in different ways. Some may choose to use it purely to follow their friend's lives, choosing to share something from themselves very seldom. Some people may choose to post their thoughts multiple times a day. According to a Pew Research poll (2014) half of all people who use Facebook in the United States use social media exclusively to get all their news, as opposed to reading a newspaper or visiting a news media website. This amounts to 30% of the entire US population.

One of the most important aspects of social media is the multitude of ways in which users can interact with each other. For example, a user may come across content shared by another that they disagree with on a social platform, and interact with it in order to show their disapproval by performing an action as previously discussed. Another person that the user is connected to will thus see this action made by the user and voice their own opinion, and so on. This cycle can continue until there are millions of people interacting with the same piece of content; people that have no direct connections in common, but are connected via several users who took action on the same piece of content. This is known as virality, and is the method by which popular content spreads through social media. This is essentially what makes social media tick.

2.4 What are companies doing on social media?

Companies who are present on social media have varying goals. Some are present just because their competitors are, and so they feel need to ensure that their competitors do not get ahead of them on the platform, even if they don't see the benefits of being on the platform. Others have more palpable goals, such as improved customer service, increased brand awareness, or making direct sales through social media. In a 2011 survey by the Altimeter Group, corporate companies were asked to choose what their current strategy was on social media.

As can be seen in Figure 2, the leading strategy that almost half of all participants agreed with was "Creating ROI measurements". This shows that calculating Return on

Investment is one of the most pertinent problems facing companies who are active on social media. (Altimeter Group, 2011)

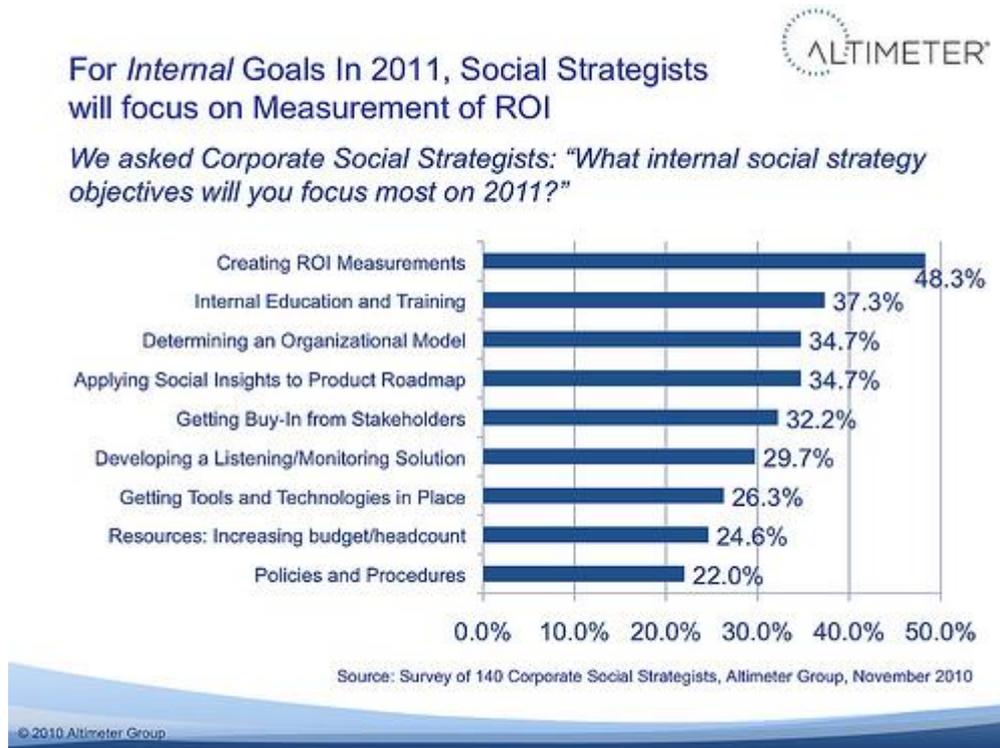


Figure 2. Emphasis placed on ROI by Corporate Social Strategists (Altimeter Group, 2011)

A second study by the Altimeter group in 2013 (using data from 2012 Q4) reaffirms the previous studies outcomes. As can be seen in Figure 3, 61% of executives believed that the following statement aligns with their strategy on social media “social strategy is connected to business goals and outcomes”. (Li and Solis, 2013)

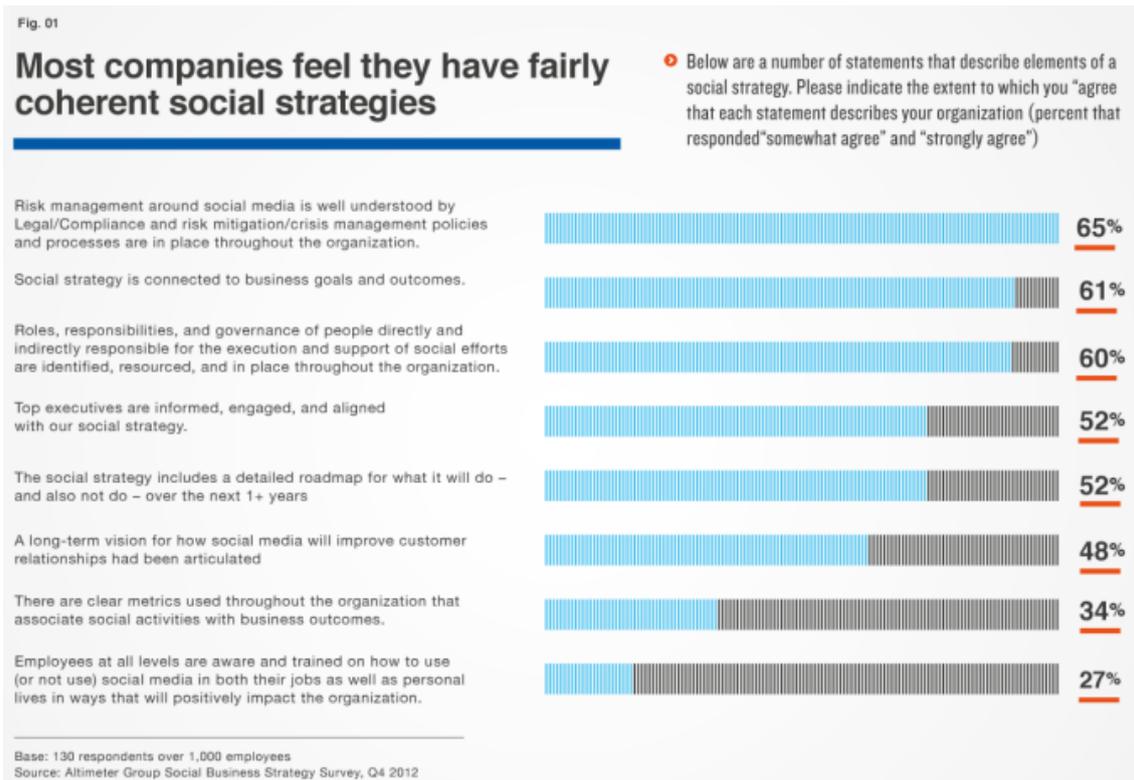


Figure 3. Social strategy is connected to business goals and outcomes (Altimeter Group, 2011)

3 SOCIAL MEDIA'S PLACE IN DIGITAL MARKETING.

There are two broad categories that advertising platforms fall into. Earned Media and Paid Media. Earned media is essentially any channel that provides a marketing benefit to the company, even though the company hasn't paid for it. For example, press coverage falls under earned media. Paid media refers to the traditional marketing platforms that require money to reach individuals within a target audience. Social media can fall into either category depending on how it is used. A social media presence can be managed with no costs other than those related to maintenance and content generation. A social media strategy such as this would fall under Earned Media. However many social media platforms now support paid advertising options. If a social media strategy were to involve paid advertisements on a social Network, then it would fall squarely under Paid Media. (Corcoran, 2013). This review will mainly be concerned with the ROI generated from an Earned social presence.

It is well known among marketers that using a single platform, such as television adverts only when rolling out a marketing campaign, will have a limited impact compared to a campaign that involves multiple media platforms. Television, radio adverts, print ads and online banner adverts are some of the other platforms that when combined, all work synergistically as part of the marketing mix when creating successful marketing campaigns.

Social Media is no exception and relies on the use of other media to reach its full potential. This is because social media is a place where people come together to discuss what goes on, *on and off* social media. Therefore content from print and television ads will only serve to supplement a social media campaign, and vice-versa.

Take this example: A soft drink has launched a new flavour and has created an advertising campaign that includes print ads, television ads and interesting social media content related to the new flavour. After seeing the ads in print and on television, a customer comes across a story that has been shared by the brand on social media. The user can't help but interact with the content on social media as it resonates with her. Later, in a store, the customer is confronted with the decision of choosing between a competing soft drink and the new flavoured soft drink. The new soft drink wins due to increased mindshare compared to the competing brand, as it established an emotional connection with the customer well before the purchase was actually made. This is the idea of multi-touch marketing (fig 4), and it is something that social media is an integral part of. (Vasudev, 2014)

Compared with more traditional methods of marketing, social media makes contact with more touch points than traditional marketing methods. This partly contributes to the difficulty of measuring its impact on the entire marketing mix. It can be viewed as an extension of the brand's presence more than anything else, akin to the role that a brand's website plays, except more interactive and personal. (Vasudev, 2014)

Multi-touch Marketing



Figure 4. Multi-Touch Marketing (Vasudev, 2014)

4 ROI

4.1 What is ROI?

Metrics can be grouped into two broad categories, Evaluative and Navigational. Their definitions are as follows:

Evaluational metrics: “Evaluative metrics can measure profitability; they can identify increased revenue or decreased costs that resulted from your program. That is to say, they can put a dollar value on your program.” Such metrics result in accurate figures that can be used across the business, and can be included in accounting systems. (Roy, 2015)

Navigational Metrics: “Navigational metrics cannot, by themselves, measure profitability. However, they can help you steer your program toward higher profitability. That is to say, they can help you adjust your program so as to more effectively gain the prospect's awareness, engagement, understanding, belief and favor, which generally will result in higher ROI (which you may or may not be measuring).” (Roy, 2015)

Return on Investment or ROI is an often misused term, and is loosely used to characterize more abstract inputs and outputs. Investopedia describes ROI as the following:

“A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.” (Investopedia, 2015)

The equation for ROI is given as:

$$\text{ROI} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

Therefore ROI is clearly an evaluative metric. Evaluative metrics allow you to assess the direct profitability of an investment. The result of ROI will thus be an actual monetary value that could be used in a company's accounting system if needed. Any metric that relies on rough estimates or abstract inputs, is called a Navigational Metric. An example of a Navigational Metric would be the number of customers that enter a business's premises per day, or the number of cars that pass a roadside advertising billboard. This cannot be tied directly to any profit figure, but it can never the less help the company make smarter decisions that can lead them to higher profits. (Roy, 2015)

4.2 Why measure ROI on social media

4.2.1 Survival

As discussed previously, social media usage is growing and shows no sign of waning. The repercussions of this, is that it is fundamentally changing the way in which people discover and consume content on the internet.

Let us take the example of an online Publisher, such a newspaper. Online newspapers monetize their websites by either displaying adverts on their website (this would include native advertising), selling paid subscriptions, or a combination of both. Just a few years ago, such a company could expect the vast majority of visitors to their website, ie traffic, to originate either organically from a search engine, or directly, where a user would type the URL of the website directly into the address bar of their internet browser. A small amount of traffic would originate from referrals from other websites. Fast forward to today, where media publisher websites can expect anywhere between 10% to 52% of all website traffic to originate from social networks. (Jacobson, 2014)

Previously, Publishers only needed to optimize their websites to rank well within search engines. Hence the field of Search Engine Optimization, or SEO gained significance in the 90's as publishers tried to drive as much traffic to their site as possible via search engines, through various optimizations. Optimizing one's presence on social media however is more complex as it includes far more variables than SEO. SEO is by no means, simple, but relies on a fixed number of variables that search engines use to evaluate a website, and determine where it should be ranked for a particular search term. In contrast, social media's phantasmagorical nature means that it is in a constant state of flux, influenced by the random behaviour of social groups as well as changes that social networks may make to their platforms.

So what are the consequences of traffic shifting to social? Visitors from social tend to behave differently, compared to visitors from other sources. Since users tend to use social media as a portal, they always tend to go back to the social media network, after consuming a piece of content on another site that they found via a social network. This means that on average, users referred to a website via social media tend to view fewer

pages on the website compared to other traffic sources (Ryan, 2010). This is of huge consequence to publishers, or any website for that matter, that relies on advertising for generating revenue. This is because advert revenue is generally generated on a pageview basis. Fewer monthly pageviews means less advert impressions, which in-turn equals less revenue.

All the points listed above will affect all websites to some degree or another, not just publishers. Some websites might benefit, while new websites that exploit social media using entirely new revenue models might spring up over time.

This may sound like doom and gloom for media publishers, but it's important to remember that this is a natural part of the evolution of the internet, and those who adapt will survive, while those who cling to older paradigms will be pushed out of the internet ecosystem.

4.2.2 Internal Pressures

All companies that exist in a free-market system (with the exception of non-profits and government owned services) are all structured around the pursuit of maximizing revenue and minimizing costs where possible. Whenever a company invests in a campaign, program, or system, there is always a cost benefit analysis that is applied either consciously or subconsciously, where the cost of taking an action is weighed against the short and long term profits of taking the action. If the action is profitable, it is usually taken, except in circumstances where the action may breach legal or ethical boundaries (though this has proven to be less of a problem for certain multinational corporations).

The result of this is that someone who works in social media, and is in charge of a social media presence of a company may feel pressured to prove the worth of his or her activities, since the ROI of social media is not so easily apparent as it is on other areas. This is part of the reason why there exists a massive demand for literature regarding the efficacy of social media in generating positive ROI for a company.

5 MEASURING ROI

5.1 The direct attribution model.

This model describes the process of directly linking sales or other revenue generating actions directly to one's social media presence. Blanchard (2011) mentions this model as a way of determining how "useful" one's social media presence is, but also goes on to note that the value of the overall effect (including indirect effects) of one's social media presence will far out way the value produced via direct attribution.

5.1.1 Methods of measuring direct attribution:

If one were to own a web store selling products or services, there are a number of methods that allow sales on social media to be measured. Blanchard mentions creating a unique coupon code that is only shared across social media. Once entered into the website, the coupon code would allow web store admin to see the number of sales that used the coupon during a purchase. Another method would be to create a unique private link shared on social media, which would lead to a hidden discount on the web store. Only users on social media would know of the links existence, and so again admin would be able to track the number of sales through the web store coming from social media.

There are other network specific tools that allow admin to track sales on web stores. For example, the now defunct Wildfire Company which was a social media analytics provider, focused on the direct attribution model. They offered a Facebook "App" as part of their service platform that could be installed onto Facebook pages, and allowed admin to track sales between Facebook and web stores. There are many such companies that provide a similar sales tracking platform on social networks. (Adage, 2012). Almost all major networks have their own native analytics tools that are usually available for free, and allow one to make "ROI measurements". It's important to note that all these tools fall squarely under the direct attribution model for Paid Media, and do not take anything other than direct sales from paid campaigns into account.

Media Companies, like web stores, generate their income directly from visitors who come to their websites. Unlike web stores that rely on making sales, Media Companies generally rely on sales from display advertising for income. This means that they get paid for every visitor that they show adverts to. Therefore it's not hard to see that every click through from social media to a Media Companies website, can be tracked and given a hard monetary value according to the income generated. This is another form of the direct attribution Model.

EzyInsights, a social media Analytics company based in Helsinki, Finland is pioneering a specialized form of the direct attribution model, which will take a share of revenue according to how many visitors were driven from social media. They call this the Cost per Visitor (CPV) model. In short, the CPV model takes an average of the company's performance over a certain period such as 6 months. This historical data is analysed and an average baseline, as well as an average monthly growth rate are established. The growth rate tries to take into account any natural growth in monthly referrals from social media that a company may be experiencing. EzyInsights then charges a company based on the amount of improvement in referrals from social media that they have made above the average baseline and natural growth rate. Therefore a company only pays for improvement made in a period, due to consultation and help from EzyInsights.

Note that many Media Companies also use other means of gaining income, such as gating content behind "paywalls" and "native advertising". Paywalls are used by media companies, and especially premium online newspapers, such as the New York Times (Gigaom.com, 2014). This involves putting premium content out of view from regular website visitors, limiting what they can see. After buying an online subscription to the paper, users will then be able to access the premium content behind the pay wall. These models more closely resemble web stores as they are in a sense selling a service, in the form of a subscription. Native advertising is another means of gaining income that more media companies tend to be using. A Native Ad is simply an advert that looks like just another a piece of content that has been produced by the Media Company, but is actually sponsored. BuzzFeed is the most popular native advertising platform on the internet, earning 100% of their income from native advertising. Their average price per native ad is \$92,300 USD (Boxer, 2013). This model could benefit from the so called CPV model, but relies on many factors, the main one being the reputation of the Media Company.

Native Ads are expensive, and advertisers would not invest such significant sums of money if the Media Company did not have a good reputation and readership numbers.

Companies such as brands, that do not generate any revenue directly from their online activities cannot use any form of the direct attribution model to link revenue to social Media. Direct attribution always requires direct tangible outcomes for measurement.

5.2 The problem of indirect attribution

The indirect effect that social media can have on the revenue of a company far out ways what can be measured via direct attribution detailed above (Blanchard, 2011). In order to calculate the total value that a social media presence generates for a company, one would need to quantify the various benefits of social media that were outlined in previous sections. Some benefits, such as improved customer care can actually be measured with a little effort. For example one could measure the reduction in length and frequency of customer care calls to a customer service centre, due to customer questions being answered directly on social media. The reduced strain on the customer care system would result in fewer working hours, or a freeing up of resources, resulting in a quantifiably lower cost to the company. “Brand health” although harder to measure, could possibly be measured with a little more effort, through the use of surveys, customer panels and online sentiment analysis tools.

Linking increased in-store (brick and mortar) sales to an improved presence on social media is however another problem. One of the main issues is separating the effects that advertising campaigns in different forms of media have, in order to isolate the effect of social media. Brands very rarely advertise through a single platform at a time. Campaigns usually involve, print, radio television, billboard and online advertisements all going on simultaneously. Therefore isolating the effect that a social media campaign has had on sales can be very hard if not impossible in some circumstances.

5.3 Direct sales are not so direct

The previous section discussed how direct attribution can be relatively trivial when it comes to a web store selling a product or service. Through the use of coupon codes or tracking links which are old hat within the digital marketing industry, direct sales from social media can be easily tracked. So where's the problem? The problem lies with the nature of social media itself. Social media provides a platform for brand building, and brand awareness as mentioned previously. Therefore, how can direct attribution of sales from social media possibly encompass a user who goes directly to a website to buy a product, but who would never have done so, if it were not for an article that he had read, written by the brand that he had seen on social media weeks prior. This aspect of increased mindshare and indirect influence that social media allows brands to wield cannot be measured by simple methods of direct attribution.

Therefore, even in the simplest case of a web store that measures direct sales from social media, the resultant figure is inaccurate, as it does not take into account sales that have resulted from increased mindshare or brand loyalty, due to a presence on social media.

Kaushik discusses a method of direct attribution far more suited to the way in which social media works to drive sales, in his blog post about multi-channel attribution modelling (2013). Firstly we need to discuss how direct attribution works. The form of direct attribution mentioned previously is that of "Last click" attribution. This is where the last place that a person has clicked through is credited for a sale. For example, if a person comes from a paid campaign, the campaign is then credited with being responsible for the sale. If a person comes from a search engine organically, then the organic search is credited for the sale. Kaushik points out the obvious flaw in using this system for measuring the impact of social activity on sales, in that most of social media's impact will be on activity carried out before the last action that led to the actual sale.

He describes several models including the "Time Decay" model, which credits previous touch points, such as an interaction on social media, with varying degrees of attribution, depending on a number of factors, such as how long before the sale the action occurred, and how many other actions are present in the sales funnel. Such models go a long way

in getting a much better picture of the impact of one's social media presence, and allow for a far more accurate ROI calculation than simple last click direct attribution, which is still the most popular method in the marketing industry. (Kaushik, 2013)

5.4 Indirect Attribution in other media.

Interestingly, the other media platforms also suffer exactly the same problem as social media does when it comes to the attribution problem. Billboards and print ads have been around for many decades, but their direct effect on sales campaigns are rarely calculated with any real accuracy.

Researchers and marketers have spent decades trying to quantify the net effect that these older forms of display advertising have had on sales and other areas. This has led to the creation of a variety of measurements and metrics that have tried to measure this net effect. A popular metric used across all of these media platforms is Gross Rating Points or GRP. The definition is as follows.

- GRP: Total of all rating points for an advertising schedule stated usually on a weekly basis. (Businessdictionary.com, 2015)

GRP is points based, and is calculated by multiplying the percentage of a target population that has been exposed to a piece of media, by the frequency and duration that they have been exposed. This creates a score that can be compared against other media buying opportunities. Therefore GRP is purely a navigational metric.

Those involved in the PR industry have also been trying for decades to quantify the value of a press release. One of the most popular metrics that was created to evaluate the value of a press release that is still in use today to some extent is AVE or Advertising Value Equivalency. The definition is as follows.

- AVE: Advertising Value Equivalency (AVE) is what your editorial coverage would cost if it were advertising space (or time) (Roy, 2015)

AVE tries derive the value of a free press release by comparing it to the cost of an advertisement on the same media platform. This is done by measuring the dimensions of the press release and multiplying its area by the average cost of the area of an advertisement. This puts a dollar value figure on the value of a press release, which would otherwise be hard to quantify. AVE has however been discredited in recent times due to several limitations. AVE does not take into account the nature of the press release, and to what extent the brand was mentioned. The sentiment of the article is also ignored which could significantly impact what effect it would have on readers. Having one's brand appear in editorial content of a newspaper has very different effects on readers compared to an advert. Therefore many criticize the AVE metric as greatly understating the value of a press release. To combat this, it is popular to add on a correcting factor into the AVE calculation that takes the form of a multiplier. For example, if a piece of editorial content was found to be equivalent to an advert that is worth 2000 Euro, the result would be multiplied by a factor of say, 3 in order to take into account the greater value of editorial content, resulting in an AVE figure of 6000E. The factor varies depending on what methodology is chosen and is for the most part, a judgement call on the part of the person doing the calculation. (Roy, 2015)

Another reason why AVE has been discredited is because unlike GRP, which is also a navigational metric, AVE outputs a dollar value figure. This means that it can easily be abused and confused with an Evaluational metric, whose output would actually be an accurate dollar figure. For example, just because the AVE of an article may be 6000 euro, it doesn't mean that this 6000 euro could be considered anywhere in the accounting system of a business. What it does provide is a benchmark to compare against different advertising sources that can also be measured in AVE, aiding in data driven decision making. In effect the problem with AVE isn't with AVE itself but with the way in which AVE can be misinterpreted by people using it. This misinterpretation and misuse of the calculated figures is what has given AVE a bad name within the industry. Despite the large amount of criticism leveled against it, AVE still remains a popular method of evaluating the value of PR campaigns.

So why do companies spend large sums of money towards traditional marketing campaigns if there isn't an accurate way to track ROI? Because it works! These platforms have been around for so long, that they have developed a sense of credibility within the

marketing world. Various independent studies have been carried out that confirm the efficiency of these platforms of driving sales through the use of statistical and data gathering methods that are either not accessible to average marketer, or would not be cost effective to use in most scenarios on a continual basis (Williams, 2009). For this reason, calculating their exact impact on particular campaigns is not so easily done. What these studies have done however is establish a general consensus that these marketing methods do in fact work to generate a positive ROI.

Why don't companies trust social media the same way as traditional marketing methods? Social media is a very new platform and has not yet built up the credibility that other methods have. This causes marketers to allocate less of their budget towards the medium compared with other media types. This trend has been changing however as companies are slowly recognizing the fact social media use shows no signs of waning, and that the opposite is true; consumers around the globe are spending more and more time on social networks.

6 LITERATURE REGARDING ROI MEASUREMENT ON SOCIAL MEDIA.

The author has found that there exists a vast amount of literature on the internet that attempts to measure the monetary value of social media. These take the form of blog posts, infographics, and most popular of all, “white papers”.

White papers are a form of “grey literature”, in that they are reports that have been put out by either governmental organizations, or companies for the sake of business to business marketing. White papers are produced by companies as a form of *content marketing*. Content marketing, is defined by the Content Marketing Institute as:

“.. the marketing and business process for creating and distributing relevant and valuable content to attract, acquire, and engage a clearly defined and understood target audience – with the objective of driving profitable customer action.”

As internet usage grows worldwide, there is an ever increasing demand for content. It is for this reason that content generation and distribution has become a segment all on its own within the digital marketing industry, as it has become a means by which a brand can become discovered, and build authority within their industry. It is for this reason that companies create and publish white papers, in the hopes of establishing themselves as thought leaders in a field in the eyes of potential customers. (Hoffman, 2014)

It is widely acknowledged that white papers put out by companies can very often be biased in terms of what conclusions are reached; while tending to support products or services that are put out by the company in question. With the increasing popularity of social media, and so with it content marketing, the number of whitepapers being produced and shared across media has increased exponentially. Whitepapers that try to discuss ROI, or peg a value to social media interactions are quite common and extremely popular on the internet. One of the most popular white papers was put out by a now defunct,

American social media analytics company named Syncapse. The white paper was named “The Value of a Facebook Fan”.

6.1 WhitePaper: The Value of a Facebook Fan.

6.1.1 Overview

In 2010 Syncapse released the first version of their whitepaper, which placed a value on how much a Facebook Fan was worth to a Brand. A Fan being any person who has clicked the “Like” button on a brand’s Facebook page, an act which is in essence, opting in to receive updates about the brand regularly on the Facebook social network. Syncapse itself was a company that worked closely with several multinational brands, and so had access to data that other companies would not have been able to access.

They laid out their methodology that showed what metrics they took into account when they calculated how much a fan is worth to a particular brand. These metrics included the following:



Figure 5. Syncapse Methodology (2010)

They surveyed 2000 U.S panelists and collected data in order to measure the aforementioned metrics. This included what brands the panelists had liked on Facebook, as well as their spending habits as consumers. Using this data Syncapse concluded that a Like was worth \$174.17 to the average consumer brand in their 2013 study. They had been conducting similar studies since 2010, with one of their key findings being:

“Average Fan value in consumer brands category increased 28% to \$174.17 in 2013 versus 2010, while Fan counts have doubled or even tripled in 2013.”

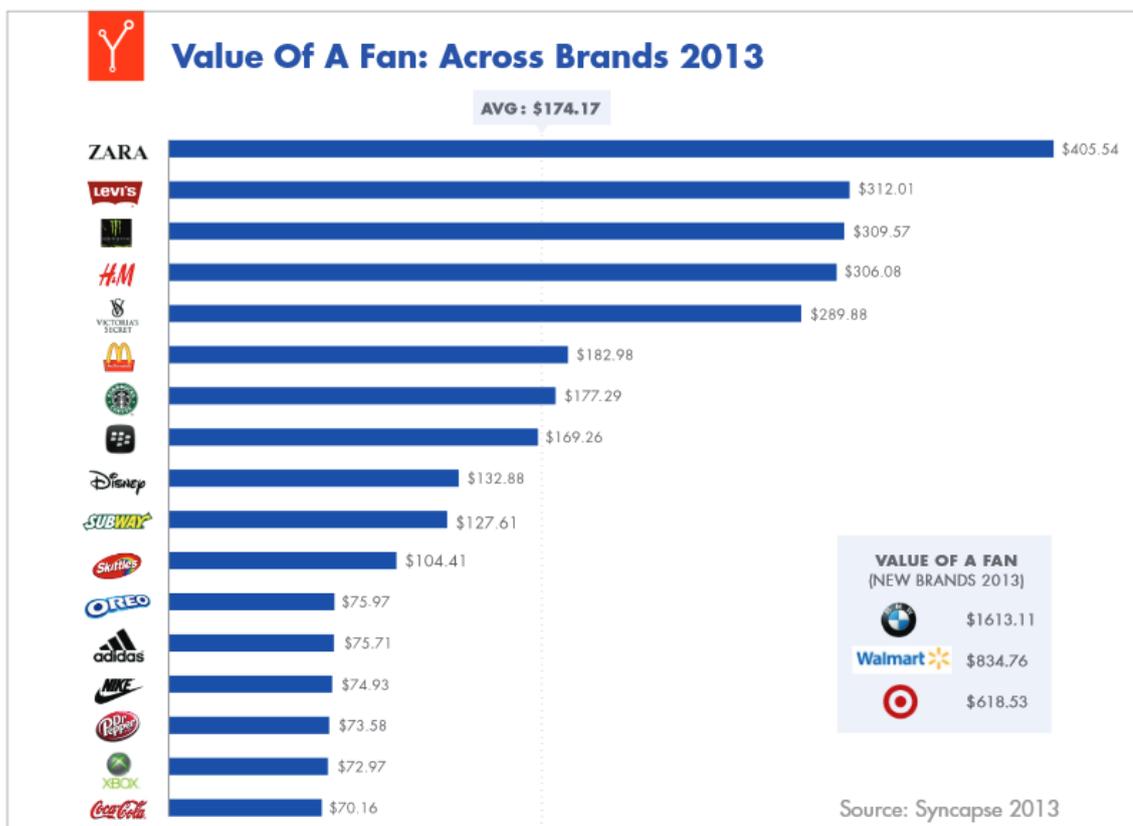


Figure 6. Syncapse Results (2013)

This study has been widely shared across social media, and has been mentioned in many websites, blogs, as well as mainstream media outlets.

6.1.2 Criticism

Syncapse never fully explained its' methodology, or the exact calculations it used to arrive at its conclusions, leaving no place for peer review to take place. This is to be expected to some extent as it does not pretend to be a proper academic study. It is common practice to leave out calculations in white papers as the raw data may contain confidential information. None-the-less there exist flaws the methodology that have not been addressed and put pressure on the claims made in the paper.

There seems to have been a general assumption that once a person becomes a fan of a brand on Facebook, they automatically become a more active consumer and advocate of the brand. This might be a bit misleading, as one could argue that; if someone is already passionate about a brand, then this person would have sought out the brand's Facebook page and "Liked" it. This does not necessarily mean that clicking the Like button transforms users into more active consumers and brand advocates. This highlights one of the biggest issues in the entire white paper. The authors make no mention of the limitations of the study, with regard to correlation not necessarily meaning causation. The authors may have found some correlation in their calculations, but they to jump to seemingly presupposed conclusions rather quickly. The fact that Liking a brand might correlate with being a more active brand consumer, does not automatically mean that the act of becoming fan changes a consumers behaviour significantly, creating value for the company being Liked. Yet this is exactly what the authors assumed.

Many would argue that assigning a hard monetary value to something as transient as an action taken on social media is an exercise in futility, as there are too many variables to be taken into account, as well as the fact that the value of an action on social media would vary wildly depending on context.

The 2013 study stated that it "improved" on the 2010 study by adding in more variables, in so doing altering the way in which values themselves were calculated. Therefore it's possible that comparing the results of the two studies, as they did in the 2013 study, will hold little meaning as the methodology and data that were used to calculate the final values were inherently different, and therefore cannot be compared to each other.

Syncapse itself is a social media analytics and marketing company that have put together a study that, on the surface, looks rather polished and has garnered them significant press, helping to establish themselves as experts or “thought leaders” in the field at the time of publication. The actual usefulness and accuracy of the information presented within the study is however questionable, and has been questioned by a number of experts in the field of digital marketing. The criticism’s outlined above should not be viewed as an outright attack on the study put out by Syncapse itself, but rather as a general criticism of the state of whitepaper based, and other literature on the topic that exists at large, as the methodological flaws outlined above are not unique. (Syncapse, 2013)

6.2 What do thought leaders within the industry have to say about ROI on social media?

There are several thought leaders in digital marketing that voice their opinion on the topic of social media ROI. These authors all offer a great amount of insight into the problem summarized below.

6.2.1 Olivier Blanchard

In his book, social media ROI, Blanchard tries to lay out exactly how businesses should approach social media, and how they should measure their success. Blanchard believes that social media should be approached as any other “tool” in a marketer’s arsenal, and likens social media to email marketing or online banner advertising.

He strongly believes that ROI should always be worked out to determine the usefulness and viability of a company having a social media presence. He goes onto describe what factors should be measured and also what should be considered as a “return” for a company.

Firstly he describes direct sale attribution, where links to products are marketed directly to followers on social media. For example, creating a special campaign especially for your social media audience, that makes use of an exclusive coupon code that can easily be tracked in an online sales system. Therefore any sales made using this coupon can be

directly attributed to one's social media presence and activity. It's extremely easy to track direct sales through such a channel. A variety of metrics can be captured in this process, for example the sales volume, and who exactly from your social network reacts to such campaigns. Other more advanced metrics include rates of changes of response rates at different times during the day.

Blanchard notes that this is only a small part of the picture saying that "direct promotion most likely won't constitute the bulk of your conversion funnel", "The rest requires a little more analysis and reasoning and deeper insights into what makes your customers tick."

"the rest" that Blanchard is referring to has to do with the other indirect impact that social media can have on the overall income of a company. Blanchard describes this process as "tying the nonfinancial outcome to social media performance". The basis for this is the various touch points that a consumer can go through before making a purchase, as explained in a previous section. In order to measure the overall increase Blanchard recommends constructing a "baseline" from where improvement can be measured. Then looking for correlation between increased sales in the same time period and increased social media activity.

Blanchard is very clear that one needs to be very careful about wrongly attributing sales to social media that might have been due to another campaign. It would be extremely difficult, as Blanchard recognizes, to completely eliminate all other outside factors that might have played a role in influencing sales. For example, a close competitor spending less on ads in a particular time period than usual, indirectly increasing your own sales. Therefore it would take a large amount of work to calculate this accurately. One area where Blanchard is a bit vague is when it comes to the actual calculations involved. Most of the calculations needed to arrive at these figures would require the researcher or marketer to have a good knowledge of mid to advanced level statistical analysis. He does not include any practical calculations in his examples, but rather gives a rough overview of what "should" be carried out. (Blanchard, 2011)

6.2.2 Avinash Kaushik

Kaushik is a renowned web analytics thought leader. In 2012 he made a popular blog post that outlined what he thought should be taken into account when calculating the benefits of a social media campaign. This included the following:

- The reduction in customer service call center costs, as customers or potential customers can have their questions answered directly on social media.
- The reduction in paid ads on other media platforms, such as TV and print, due to the fact that people are already being reached via social media.
- The total referred visitors, from social media to the company's website, that can each be ascribed an Economic Value.

The last point includes a term that Kaushik uses to quantify the value of website visitors that have been referred from social media, using the label Economic Value. Investopedia describes Economic Value as being:

“The worth of a good or service as determined by people’s preferences and the tradeoffs they choose to make given their scarce resources” (Investopedia, 2015)

So in this case, Economic Value would be the value of the website visitors to the company. The only problem with this is that Economic Value is a Navigational Metric. Although in some cases it can be calculated quite accurately, in most cases it is still extremely inaccurate. Calculating the average worth of a visitor to a simple web store that sells products can be a simpler exercise, but in other cases, such as consultants, brands and brick and mortar store fronts, this can be almost impossible. Therefore Economic Value cannot be used to calculate ROI, which is an inherently evaluative metric. One cannot mix quantitative and qualitative metrics and expect a useful or accurate resultant figure. It’s important to note here that Kaushik never mentions using EV to calculate ROI. The author is simply making the observation that the two are incompatible by their nature.

Kaushik notes that one of the biggest problems with measuring true total ROI, is inability to measure the indirect effect of how a social media presence can influence sales in the longer term. For example, a brand that manufactures soft drinks may have a very notable presence on social media, but may have a hard time measuring the exact number of soft drink sales that are attributable to this presence.

Kaushik goes on to suggest that this long term indirect benefit should be ignored and that only the benefits that can be accurately measured should be taken into account when calculating ROI. (Kaushik, 2012) The issue with this is that calculating direct ROI, though simple in some cases, can also be extremely difficult, if not impossible for other businesses models, including brands and consultants whose returns from social media might be less tangible. Leaving out direct attribution in the ROI calculation would also lead to a figure that is inaccurate and much lower than what it would be if it had taken into account direct attribution. This would give social media the appearance that it has an extremely low ROI, when the opposite might be true in reality.

Kaushik's methodology is none the less sound when it comes to using Economic Value to quantify and provide an *estimation* of one's social media presence.

6.2.3 Katie Delahaye Paine

Paine is an analytics expert who that has worked with big brands for over two decades. In her book "measure what matters" Paine gives very detailed and practical guide as to what should be measured on social media. In the first chapter of the book, she outlines seven "Myths" as she calls it that reflect popular fallacies about social media measurement. Interestingly one of these are as follows:

"You can't measure ROI, so Why Bother?"

Paine goes on to explain that ROI is an accounting term and strictly means actual return on investment. She acknowledges that in some cases ROI might be hard to calculate, but should none the less be doable, even though it may take significant effort. Her opinion on the subject can be summed up in the following quote.

“Just because something isn’t easy to measure, it’s no reason not to measure it. Too often the people who are screaming the loudest about not being able to demonstrate the ROI of their programs simply don’t want to try anything new. They are just using ROI as an excuse to say no.”

In her critique of other measurement methods, Paine discredits the use of navigational metrics, as discussed earlier, in social media. The navigational metric that she criticises in particular is AVE, or Advertising Value Equivalency. This metric was once very popular in other media such as publishing, but fell out of favour due to the fact that it generated highly inaccurate, and misleading figures.

Paine believes that the following should be measured as benefits or “returns” when trying to calculate ROI (Paine, 2011):

Sales or Revenue: This refers to the direct attribution of sales, as a result of trying to sell directly to followers and fans on social media.

Cost Savings: Savings that are to be had in the areas of marketing, recruitment and customer service due to integrating parts of these processes into social media. Paine cites an example of a Food service company named Sodexo that was able to save an estimated \$300,000 USD by using Twitter in their recruitment process, aiding them in finding good recruits.

Paid Vs Earned: Google Adwords, is a service provided by the search engine giant Google, that allows advertisers to place Ads alongside particular search results. Companies therefore invest large amounts of money on Google Adwords, to ensure that their ads appear alongside relevant searches, so that their company is easy for customers and potential customers to find. Each time an ad is clicked, the advertiser pays Google a certain amount of money. Having a strong social media presence has been proven to benefit the natural ranking of sites within Google's listings, eliminating the need to pay for advertising, as the company would appear in the top search results “organically”. This can be seen as a cost saving on the marketing side.

Cost Avoidance: Social media can be used to respond directly to negative press, as well as pacify customers who might be having a bad experience with the company, in effect

reducing possible lawsuits. This is part of reputation management. Social media monitoring tools allow companies to have a bird's eye view of their brand health on social media.

Social Capital: Paine cites work done by Robert Putnam on the value of "Social Capital". Social Capital is defined by the number of people that form your network, that you regularly interact with. For companies, Social Capital "means that information flows more easily, innovation and efficiency increase, and legal fees go down." (Paine, 2011)

6.2.4 The Altimeter Group: The costs and benefits of social media

The altimeter group is a research and advisory firm that specializes in disruptive technologies, with social media being one of them. They have garnered a good reputation within the industry for staying ahead of the curve on this topic, and creating annual reports based on surveys as well as their work with experts in the industry. The following is a summary of their thoughts on the topic.

Measuring the total cost of managing a social media program for a company is much easier than measuring its return.

The costs would include the following:

- New staff that would be tasked with managing the social media accounts.
- New staff that would be tasked with creating content for the social media accounts.
- Time taken from existing staff that would be used towards social media, and or related activities.
- Third party social media management or monitoring tools, that would support the social media Community Manager.

- Consultants that may be brought in to advise the company on what strategy to take on social media
- Any advertising costs, if the strategy of the company includes placing paid advertisements on the social media platforms.

As can be seen from the above list, having a social media presence requires a significant investment, especially in worker hours, as it is an extremely labor intensive activity. The cost of a social media presence can be worked out quite easily once all the cost factors are taken into consideration. Trying to take into account all the areas that a company may benefit and profit however is not so trivial.

Assigning a hard monetary value to each of these benefits poses a serious problem, especially for the more abstract benefits such as consumer loyalty. This is where it becomes a problem to measure the true ROI of one's social media presence. To calculate ROI, one has to take into account all the possible ways that social media can benefit a company. A report by the Altimeter group (Etlinger, 2014) tries to group these various benefits under 6 broad categories outlined below.



Source: Altimeter Group

Figure 7. 6 benefits of social media (Etlinger, 2014)

- Innovation

Social media is the perfect platform for businesses to test ideas, and also ask users for own input in terms of generating ideas for new products, services or even campaigns, in real-time. This can be done for a fraction of the cost and time that it would take to setup test user group to perform a similar action.

- Brand Health

Companies spend a large amount of money trying to measure what consumers think about their brands. Social media allows brands to track the sentiment and behaviour of people mentioning their brand, at a minor cost compared to alternatives.

- Marketing Optimization

Social media gives deep insights into what customers and potential customers are talking about and are interested in. This allows marketing campaigns to be targeted and customized for the particular demographic and interests of the audience. The holy grail of marketing is to send the right message to the right consumer at the right time. Social media helps facilitate this and create extremely efficient marketing campaigns, by giving deep insights into who is interested in what product or service.

- Revenue Generation

This particular benefit is quite troublesome, as most people believe that it refers only to the direct attribution of online sales, from Social media activities. While direct attribution can be useful to an extent and should always be measured, many companies tend to put too much emphasis on this metric and seek to only drive direct sales through social media, which is only part of the story when it comes to revenue generation, ignoring indirect sales.

- Operational Efficiency

Having a system in place that makes it effortless to communicate with customers between social media and conventional CRM systems can significantly boost efficiency across the board while improving the customer experience of the brand. This refers in particular to embedding social media into the framework of the company, this includes sales, customer service, customer care, performance measurement and brand strategy.

Social media is a vital part of managing the customer experience when making contact with a brand. As mentioned in the operational efficiency section above, the ability of customers to communicate with a brand on multiple platforms fluidly makes for a far better experience for the customer, removing a lot of effort on their part by giving them more options for points of contact, reducing the overall friction in their experience. This also touches on the mindshare aspect social media. If a customer or potential customer follows a brand they like on social media, this allows the brand to stay in the mind of the customer. Increased mindshare is one of the overarching goals of marketing. Being able to make a positive impression on a potential customer, and stay in their minds when they might make a decision to buy your product has obvious benefits for any brand.

7 CASE STUDIES:

7.1 Mini Case Study: Coca-cola

7.1.1 Overview

The Coca-Cola Company were one of the first brands to adopt social media and establish a presence. As of April 2015 they have garnered an audience of 89,912,328 Likes worldwide on their Facebook Page. This is higher than almost any other brand, save for Facebook themselves. In 2014, The Coca-Cola Company claimed that their social media campaign in France, resulted in an ROI that was 3.6 times higher than the ROI that can be attributed to their TV advertisements (Neff, 2013). This meant that for every eu-

ro spent on Facebook, 2.74 Euro was reaped in sales that would not have otherwise occurred, if not for their social media Campaign.

Note that this study refers purely to paid Ads on social media, and therefore falls firmly in the category of Paid Media, unlike other “organic” social campaigns, that do not rely on paid Ads within a social media platform to reach people. The study was conducted by Kantar World panel, which is a consumer polling company that provide market monitoring and analytics services. The details of the methodology of the study were not released, but the following details were provided:

7.1.2 Results

“In all, 27% of incremental sales Kantar attributed to the campaign came from Facebook, but only 2% of the cost, said Tony Evans, head of vertical measurement for Facebook's Europe Middle East and Africa region. Kantar measured the impact via a 10,000-person subset of its 20,000 panelists in France, who report their CPG purchases weekly, according to Anais Abbou, project manager-media. Of those 10,000, 8,000 were web users.“

The study itself was done in France. It is unclear how the study could have isolated the influence of social media, from the influence of other paid media such as TV Ads when it comes to attributing sales. It is possible that they could have conducted the different media campaigns at different times (weeks apart), and measured the weekly changes in consumer purchasing behaviour. However this quote from a Marketing Director and Coca-Cola, Manuel Berquet said that 35% of total sales attributable to the entire campaign, were a result of the social media presence combined with the TV adverts. He went on to say the following:

“TV is not over, as it remains a key awareness and sales driver. Now we know that beyond just encouraging conversations, Facebook's targeting capabilities and engaging ad units also make it an effective sales channel, This can only work when there is a unique and strong creative content driven by smart strategy and excellence of execution at point of sale.” (Neff, 2013)

The effort that went into the study would make sense considering the fact that Coca-Cola like to consider themselves pioneers in the use of social media, and so could have used France, as a closed test bed to measure the ROI of social media, before moving over to larger markets.

The use of a large consumer panel has great advantages as it allows researchers to gain insights into consumer behaviour that would otherwise be impossible. If the results ring true, then they bode well for the use of social media as a marketing tool.

7.2 Case Study: THE EFFECTS OF TRADITIONAL AND SOCIAL EARNED MEDIA ON SALES: A STUDY OF A MICROLENDING MARKETPLACE

7.2.1 Overview

It has been discussed previously that there exists a distinct lack of peer reviewed studies that tackle the problem of indirect social media attribution. Most whitepapers that tackle the problem never state the exact methodology that they use to ascertain an ROI figure. The thought leaders previously discussed, namely Blanchard (2011) tend to describe in broad terms how attribution should be measured, but leave out the exact statistical tools methods and methodology that they apply.

A case study published in 2012 by Stephen and Galak at the University of Pittsburgh is one of the few in-depth peer reviewed studies of the indirect impact that social media had on the sales of a company. The paper itself was selected as one of four finalists of the Paul E. Green Award in 2012. The award “recognizes the best article in the Journal of Marketing Research that demonstrates the greatest potential to contribute significantly to the practice of marketing research.” The fact that this paper was nominated for an award showcases the rarity of in depth academic studies about social media in general. Stephen and Galak used sophisticated statistical techniques that the author has not found in any other similar study. The authors themselves noted in the study that, “The effects of paid media on sales have been extensively covered in marketing literature. The ef-

fects of earned media, however, have received limited attention.” Earned media is a term that encompasses social media as well as Public Relations such as media coverage. PR shares social media’s problem of producing results that are not easy to measure.

The study itself is of a company named Kiva, which is a non-profit that provides micro-loans via its website, to help fund small businesses, startups and other enterprising individuals in developing countries. Loans are made out by lenders to individuals without collateral by lenders. Loans are paid back on good faith, and have a very high 98.54% repayment rate.

For practical purposes, the study treated every loan recipient as a customer and every loan made out by a lender as a sale.

Kiva did not do any paid promotion in the period of the study, and so relied only on earned media to generate sales. This allows the researchers to isolate the effects of paid media from earned media. The study aimed to track both public relations as well as social media in order to evaluate the impact of each separately. Earned media was broken down and tracked as follows:

Traditional Earned Media tracked mention of Kiva in:

- Newspapers
- Magazines
- Television
- Radio

Social Earned Media tracked activity in:

- Blogs
- Forums

Blogs and forums were further broken down and tracked separately as Stephen and Galak noted that large blogs that are written by industry professionals are akin to tradition-

al media and do not fulfill the interactivity aspect that makes social media what it is. Therefore the large blogs were counted as traditional earned media and the smaller blogs that were run by customers were counted under social media.

7.2.2 Statistical Methodology

The data set calls for a statistical model that can process multivariate time series data. Essentially a number of variables that follow a time series. Stephen and Galak note that “Vector Autoregression” is a commonly applied statistical method in this area of study due to its simplicity. They found that this model could not be applied in this situation as the data set that they had collected for their study was incompatible with the model mentioned. This begs the question, as to how often Vector Autoregression has been misapplied in other non-peer reviewed studies on this topic.

What’s even more interesting is that after further research, the authors state that they could not find suitable statistical models that were currently being used by researchers in the same field, which could accommodate the unique characteristics of the data set in question. This further illustrates how limited research has been in this field. The model needed to be compatible with the following characteristics of the data:

- The data is in the form of a time series (non-negative integers)
- There are a number of zero’s in the data.
- There may exist a contemporaneous relationship between variables. (Variables may be interrelated, influencing each other)

In order to satisfy the above conditions, Stephen and Galak had to turn to models that have recently been developed in the finance world. “We build on recent work in finance on modelling multiple stocks’ trading volumes that led to a flexible multivariate autoregressive model for time series count data.” The model that the authors used was developed by Heinen and Rengifo (2007) called the Zero-Inflated Multivariate Autoregressive Double Poisson Model.

7.2.3 Results

Traditional media events were found to have a much larger reach compared with social media events. However when it was taken into account that social media events occur far more frequently than traditional media events, the role of social media was shown to be very significant in its correlation with sales. The author's note, "since traditional earned media events are usually rare and difficult to instigate, marketers hoping to generate sales through earned media would likely be well served by focusing on trying to generate social media activity and WOM." WOM stands for Word of Mouth and is part and parcel of social media marketing, where friends recommend content, or in this case, a service, to other friends and acquaintances. A limitation that was pointed out in the study, is that the results may be interpreted in two possible ways; social media could be either a good predictor of sales, or play a causal role in that it is responsible for sales. This is an important limitation and the authors made it very clear in their study that more investigation needs to be done on this issue.

It should be clear that this peer reviewed academic study is a far cry from the whitepapers mentioned previously. It is important to take into account that this study only deals with the relation of sales to social media, and ignores the other benefits of social media that have been previously stated, including reduced customer service costs and its supplementary role in boosting the efficacy of traditional marketing platforms.

Suffice to say that the model used in this study is well out of reach of the average marketer who does not hold a degree in statistics, and seeks to measure the indirect benefits that social media has on sales. The level of complexity involved does help to illustrate the difficulty of the problem.

8 SUMMARY

In researching this paper, the author found there is a minimal amount of peer reviewed studies present on the topic of ROI on social media in a business context. Given the massive amount of interest in the topic from businesses, one would think that such studies would be better funded and far more common. There are however a plentiful supply of white papers and blog posts, that appear on the surface to provide solutions, but upon further inspection appear to contain methodological flaws.

There are several possible reasons. One reason is the difficulty and scale of the problem itself. In order to measure ROI on social media, the number of variables that need to be taken into account are massive. From increased efficiencies in customer care, to better reputation management, all the way to increased brand loyalty as outlined by the Altimeter group. If one is able to measure and quantify all possible outcomes of one's social media presence, one is still tasked with the issue of making sense of this data using the proper statistical techniques. As discussed above in the Kiva case study, this is not a trivial thing to do, in that the study required two PHD academic researchers to apply non-standardized statistical techniques in order to process the data and extract insights. This indicates that the statistical techniques needed to measure ROI on social media are not yet mature. Therefore the average marketer cannot hope to apply this level of depth in calculating their social media ROI. Once these statistical methods have been fully developed, simplified and popularized, then the situation may start to change.

Another reason why there hasn't been many peer reviewed studies in this area is that the question itself may not be practical, in the sense that the question may be poorly formulated. This may be a controversial thing to say, but using the definition of ROI as defined in this paper as an evaluative metric, any input that is not an accurate monetary value would be incorrect. For instance, in the future it may be proven that it is simply too cumbersome to measure and take into account each and every cost and benefit that can be realized in social media. For example, how does one put a monetary value on increased Mindshare and brand loyalty that comes from interacting with of a piece of content on Social Media? Increased Mindshare unquestionably does have value, but the

exact value is dependent on a myriad of factors. Calculating the exact net benefit of one's social media presence is extremely important to companies. But it just may be that the best that can be achieved is the calculation of a fairly accurate estimate. Therefore one can see that it would be impossible to calculate true ROI as defined in this essay without leaving out at least part of the indirect effects that social has on sales.

This leads into another reason as to why whitepapers are so popular. The newness of social media, not only in its age but, in the way in which it works, may be confusing to many, causing people to try to apply older methods of advertising, and measurement to a platform which is intrinsically different compared with anything that has existed before it. Whitepapers provide an "easy out" for those looking to justify their marketing budgets to their superiors within the company, as they have no easily available or practical way of calculating this for themselves.

It's easy to imagine that there are millions of marketers and other social media managers who are in this very predicament. One can only sympathize with these people, as their problem is a real one as documented in this paper. The fact that whitepapers remain so wildly popular, communicates the presence of this massive demand for such material in the public sphere at large.

However all is not lost. As the previously quoted myth by Payne (2011) says:

"You can't measure ROI, so Why Bother?"

Just because you cannot measure all the benefits of a social media presence without great difficulty, does not mean that you shouldn't try measuring at least some. For example, measuring the direct attribution of sales via social media only tells a small part of the story as to how many sales were made that were really attributable to social media, but it still tells part of the story, and this part should be recorded as accurately as possible.

The author puts forward that when most individuals ask for ROI figures, they are really using the term ROI in a colloquial manner, and not the strict sense defined in this essay. Therefore giving a fairly accurate *estimation* of the net benefit provided by one's social media presence would suffice in these cases. For example the Economic Value metric described by Kaushik.

Therefore the author suggests that one that is tasked with measuring social media ROI at a company, should do his or her best to measure what they can, report on these figures, but also try to make it as clear as possible to upper management that there is in fact a much larger picture that is not being seen, that is attributable to social media. This can be communicated through navigational metrics such as Economic Value. Even though a navigational metric provides estimates and not exact monetary values, it will still go a long way toward providing a simpler structure whereby the benefits of social media can be quantified and taken into account in the decision making process.

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