# Open Source and Viral Marketing

*The viral marketing concept as a model for open source software to reach the critical mass for global brand awareness based on the example of TYPO3*

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*August 2005, Vienna, Austria*

*ABSTRACT*

Global competition on the Internet marketplace requires thorough planning and careful investment of capital. Start-up companies with a limited budget need to reduce cost wherever feasible. Eliminating license costs by using Open Source Software is a big saving for a company and viral marketing has become the number one option to dynamically create brand awareness. The power of online influence, namely, „word of mouse" plays a key role in the spreading of a message.

The aim of this paper is to present the many diverse facets of the viral marketing concept and to determine if the product TYPO3 fulfils the criteria for being viral. Then a marketing model will be created for TYPO3 on the basis of the viral marketing concept. The purpose of the developed marketing model is to generate the required critical mass so that the released message will independently multiply exponentially and in the long run help cross the gap described by Moore in the Revised Product Life Cycle.

## 1   INTRODUCTION

Internet marketing has evolved into a major marketing branch for many existing companies. Many new enterprises see the effectiveness and advantages of electronic business by not being limited by time and distance when engaging in business activity. The opportunities to do business world wide with the click of mouse are enormous and enticing. The skyrocketing success of Hotmail.com has shaken the Internet marketing world encouraging entrepreneur to develop marketing concepts and to convince capital venture companies to finance them. Despite promising innovative products, many start-ups disappeared as quickly as they had appeared. Something fundamentally had gone wrong.

**Viral marketing** has been the buzz word for businesses for the last ten years. Customers act as advertisers by promoting a product through word of mouse. It is synonymous with word of mouth where a high degree of trust is given to a personal recommendation. The communication networks of the customers are used to transmit promotional material thereby drastically lowering the costs of customer acquisition.[1] Hoffman and Novak believe that the high cost of getting new customers often exceeds the average long term value of a customer. In the long run, no company can survive such costs. This can mean the end of a company. Businesses that can bring down these costs will be the winners. [2] **Hotmail** expenditures of customer acquisition were practically nothing compared to other businesses. In 1999 Amazon.com spent $29 for each

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[1] Richardson/Domingos 2002

[2] Hoffman/Novak 2000

new customer and for DLJ Direct the customer was worth $185. The most dollars spent for each new customer was $257 by the brokerage company E*Trade. [3]

It is a grave misconception to think that viral marketing is the key to quick riches. Viral marketing looks easy but the contrary is true. There are always exceptions to the rule such as the free e-mail provider, but generally, careful planning is a prerequisite. Product analysis, market research and marketing strategies have to be considered before initiating a viral marketing campaign. These factors will be applied in the case study of TYPO3. [4]

Many articles have been written about the overwhelming mass of information available to customers in the Internet and the difficulty in getting and maintaining the attention of the Internet visitor. The switching to another site is only a mouse click away. It is the goal of every supplier to lure the Internet user to his Web site with attractive offers and arouse enough interest to warrant repeated visits to the company Web site. The challenge for every marketer is to acquire new customers, achieve customer satisfaction and loyalty as well as a degree of brand popularity. Several tools are at his disposal to fulfill set goals.

Financially strapped start-up companies, communities, such as TYPO3, apply the tools and reach an early market presence. In spite of high customer orders and sales increases, the momentum dwindles and eventually stagnates. The phenomenon is the gap between the early adopters and the next segment of the Revised Technology Life Cycle. The adoption of the product never reached the point of critical mass. Thus the goal is to reach the point of critical mass. The solution to this dilemma is viral marketing.

Therefore, the following questions arise:

1. *What is understood under the viral marketing concept?*

2. *Is the Open Source Content Management Software TYPO3 "viral" in reference to the viral marketing concept?*

3. *What constitutes an effective model for TYPO3 to reach the critical mass?*

## 2   THE TECHNOLOGY PRODUCT LIFE-CYCLE

Many high-tech companies with superb products often fail to reach expected market growth. Although early sales indicate a promising market presence, for no explainable reason, competitors with an inferior product capture the market.[5] Kotler describes the product life cycle in five stages from initial production to market introduction, market growth and market maturity, where a boost of marketing campaigns are required to stave off competitors. The last phase encompasses the end stage of a product. Not all products follow the same life-cycle. Some products never reach full maturity while others have a longer cycle.[6] The Technology Product Life-Cycle bell curve (see fig. 1-1) describes the typical timely reaction differences of customers' adoption of a product. It is divided into five categories indicating the mass of adopters at different stages of a product. They are the innovators, early adopters, early majority, late majority and laggards.[7]
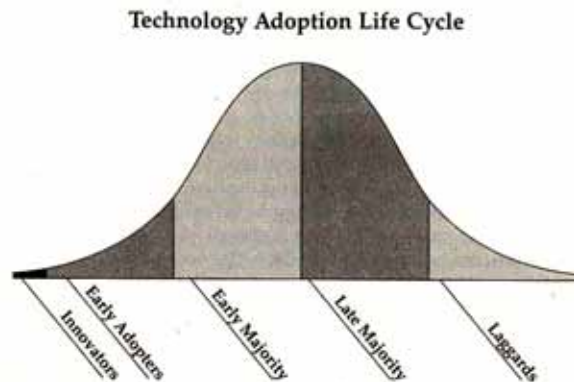
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[3] Zien 1999a

[4] Anyone interested in a more detailed examination about Open Source and Viral Marketing is welcomed to read my Magister thesis.

[5] Moore 2002: 4,5

[6] Kotler 2001: 506, 507

[7] Helm 2000c: 143

**Figure 2-1: The Technology Adoption Life Cycle (Moore 2002: 12)**

## 2.1 The Revised Technology Product Life Cycle

### 2.1.1 Definition of a Chasm

*"The chasm represents the gulf between two distinct marketplaces for technology products."(Moore 2002: XIV)*

The gap in the high-tech market is between the early market, made up of the visionary customer and the mainstream market, primarily made up of pragmatists.[8] The chasm is a phase when there is no continuity between the strong innovative group, the early adopters, and the early majority. The interest of the innovators fades and there are no customers on the other side of the chasm who have caught on to the spark. The reason can be either the technical underdevelopment of the product or that the popularity of the product has not been wide spread enough, by word of mouth, to reach the masses.[9]

### 2.1.2 Early Market (early adopters)

The first customers in the early market are the innovators who see the potential of a product and early adopters, the visionaries, who spark the interest of technologist enthusiasts. The early market can stagnate if not enough capital is available to get the best channel for distribution and lack of foresight on the side of management to hire the best sales and marketing people. Sales can evaporate if the product is put on the market before all development problems are cleared. The production is either shut down or sold as "scrap" to other companies. The software company Computer Associates remarketed such scrap very successfully.

### 2.1.3 Mainstream Markets (early majority)

To avoid risks, the pragmatist inquires first how others got along with the new product. Once a pragmatist is won over by a company's product he will remain a faithful customer. Pragmatists know that others will design products for the market leader. Mainstream customers dislike changes in the systems fearing operations problems. Should this happen, as was the case with Autodesk, a PC for industrial design, either the product is improved or the customers leave.[10]

The smooth transition between Early Adopters and The Early Majority is only possible if the innovative ideas of the first group can be developed, marketed and be accepted by the second group. Both groups are separated by a chasm.[11] Crossing this chasm between the early market and mainstream market requires total commitment by all company departments to achieve market leadership in a specific market niche. Corporate commitment to establish a channel into the mainstream market is necessary. If there is no channel all other efforts are futile. Pragmatist buyers are the key to mainstream markets, they compare and evaluate and must

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[8] Moore 2002: 5

[9] Wiefels 2002:15

[10] Moore 2002: 38-52

[11] Gladwell 2002: 198

be observed, they need to feel comfortable in the channel. Moore emphasizes that in the mainstream a demand for the product has to be created and then supply the demand with the product.[12]

The point of **critical mass** is necessary for a company in order for it to jump over the chasm. Moore calls it the **"Revised Technology Adoption Life Cycle"** where gaps appear between each group of adopters. Each space represents the danger of loosing momentum in marketing and not make the transmission from one segment to the next. The biggest and most crucial for any new company is the chasm between the Early Adopters and the Early Majority.[13] (see fig. 1-2)
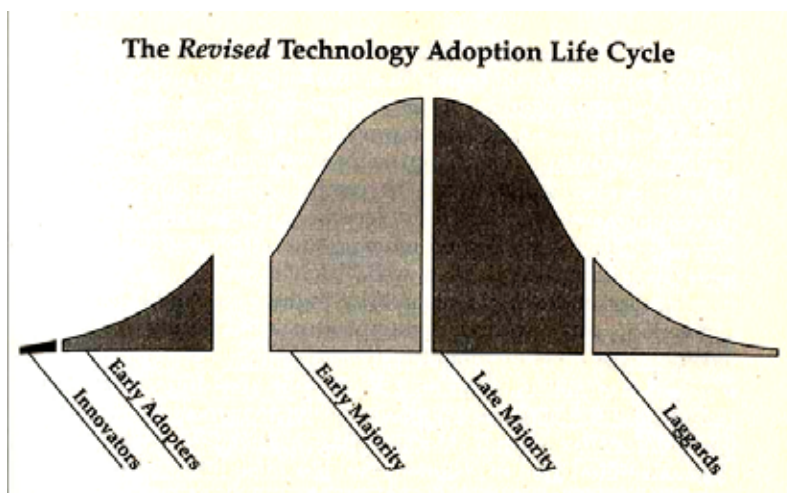


**Figure 2-2: The Revised Technology Adoption Life Cycle (Moore 2002: 17)**

The Market Analysis for the Austrian Market undertaken by the TYPO3 User Group Austria (TUGA) demonstrates that it already crossed this particular chasm in the Austrian market. It is also assumed that this has already taken place in major European nations and compared to the rest of the world TYPO3 still lags behind the chasm in the stage of early adopters.[14]

## 2.2    Critical Mass

> *"The smallest number of users that is necessary so that communication systems can develop for a long-term application for a user circle, is referred to as critical mass." (Kollmann 1998: 37)*

The supplier needs a minimum number of demanders to make the product attractive and attract others to secure a long term demand for the product.[15] Start-up companies in particular are confronted with this critical mass problem. There are not one but two critical masses that need to be observed. One is the critical mass of the supplier and the other that of the demander. The supplier needs a certain number of demanders who in turn attract other potential buyers to his market place. If the attractiveness of the supplier that is his viral marketing campaign doesn't arouse the interest of the customers because it is not catchy or sticky enough or doesn't offer something the target group absolutely has to have, then no new customers will come to this market place. The opposite is also true, if the number and the quality of the customers are too small, no new or attractive suppliers will enter the market. A company assumes that a large customer base using the communication channels will spread the desired messages. The number of customers will increase and will also return to the Web site at a later date. It is not enough to have a solid customer base, they also have to connect with the supplier guaranteeing a long-term application of the product or service.[16]

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[12] Moore 2002: 166

[13] Moore 2002: 17, 66-71, 111

[14] TUGA-Marketing Team 2005

[15] Helm 2000c: 382

[16] Kollmann 1998: 39

The pragmatist customer, who is on the other side of the chasm, will enter the market when the product has reached an industry standard and has got enough feedback from other qualified customers. If the product or service is good, he knows third parties will provide additional goods. He has nothing to do with the early adopters who will take their chance with the new product or service. Yet, both are necessary for a company.[17]

Pragmatists buy from the market leader. During the tornado phase when the viral spreading has reached epidemic proportions, the supplier has to be able to meet the demanders' orders. The whole product needs to be shipped out and distributed. Failure to meet the demand will collapse the tornado and market leadership is gone. Another company will fill this gap.[18]

## 3    VIRAL MARKETING

### 3.1    Definition of Viral Marketing

*"Viral marketing can be understood as a communication and distribution concept that relies on customers to transmit digital products via electronic mail to other potential customers in their social sphere and to animate these contacts to also transmit the products." (Helm 2000b)*

Jurvetson and Draper define viral marketing as **"network-enhanced word of mouth"**.[19] Viral marketing is the online counterpart of "word of mouth" and is often described as "word of mouse". Frey compares viral marketing to a pathogenic agent which, with the aid of a host cell, divides and multiplies.[20]

The customer is the central transmitter of the message. The receiver of the message is encouraged to pass it along to others. The strength of viral marketing lies in the **credibility of the carrier** of the virus and his willingness to share it with friends and relatives. This communication process escalates and reaches viral dimensions.[21]

### 3.2    History of Viral Marketing

The venture capitalist company, Draper Fisher Jurvetson (DFJ) financed the first free e-mail service Hotmail (www.hotmail.com). Sabeer Bhatia and Jack Smith of Java Soft Incorporation approached DFJ with the idea and Tim Draper suggested adding an advertising message at the bottom of each outgoing Hotmail. Each sent free Hotmail message spurred the receiver of such a message to also get the free e-mail provider and in turn passed it on to relatives and friends.[22] In 1997 Hotmail reached ten million users. Microsoft bought Hotmail for $400 million that same year.[23]

The advertising message "Get your free e-mail at Hotmail", at the bottom of every sent e-mail, was not constrained locally since the users connected with other Web users outside their hometown. Hotmail spread at first nation wide, then world wide making Hotmail the single most frequently used e-mail provider in Sweden and India.[24]

The advertising budget of Hotmail was a mere $50.000. Within 18 months 12 million users became subscribers, an unheard of record. The innovators of Hotmail were equally surprised with the rapid spread. The success can be linked to the free e-mail advertisement sent out and to the indirect personal endorsement of the sender. At the same time, Juno Online Services with a 20 million dollar advertising budget had far less success with their traditional marketing strategy than did Hotmail.[25]

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[17] Moore 2002: 59

[18] Moore 2004:67-70

[19] Jurvetson, Steve and Tim Draper (2000)

[20] Frey 2002: 234

[21] Riemer/Totz 2002: 430,431

[22] Jurvetson/Draper 1997

[23] Tschong 1998

[24] Jurvetson/Draper 1998

[25] Jurvetson/Draper 2000

## 3.3 Varieties of Viral Marketing

According to Zien the characteristics for viral marketing can be defined into two basic structures, the **active** and the **frictionless** viral marketing. Both reflect different forms of word of mouth viral marketing.[26]

### 3.3.1 Active Viral Marketing

Active viral marketing is closely associated with the traditional Word of mouth because the user is personally involved in the process of acquiring new customers.[27]

A foremost example is ICQ ("I seek you") (www.icq.com). This instant messaging service informs the user when a friend is online but it is only of use if this friend also has ICQ. The user actively encourages friends, relatives and acquaintances to acquire this product and directing them to the company Web site where this service is free and the software for it can be directly downloaded from the company.[28]

Another aspect of active viral marketing is **promotion marketing** (Associate Programs or Affiliate Programs.) Amazon (www.amazon.com) uses the concept of a Partner program for customer acquisition. Companies as well as individuals with a personal Web site are encouraged to install on their Web-Sites Links to Amazon Web site. When a member of the Amazon Affiliate Program actively participates in advertising on his Web site for Amazon and is able to recommend a new customer to Amazon, Amazon will pay him or provide other rewards. The main objective of the Associate Program is to provide a great variety of products to members of the program and offer the best possible service.[29]

A **permission marketing** strategy used by American Airlines sends e-mails to registered customers informing them of discount flights on a weekly basis. Customers first asked the airline for notification of low fares and receive them regularly.[30] Permission marketing means the supplier has the consent of the customer to mail him advertisements. It is a means of increasing the customer base, promotes customer loyalty and trust. Internet users get in return for this permission a credit entry or a free service such as e-mail service.

In the foreground of permission marketing is not the transaction of a purchase rather a long term interaction between customer and supplier. Important information is passed on to the consumer in return for the given attention.[31]

### 3.3.2 Frictionless Viral Marketing

Frictionless viral marketing, in contrast to active viral marketing, does not require active participation of the customer to advertise or spread information about a product. The product automatically transmits the promotion message to the recipient. The most well known example for this type of viral marketing is Hotmail. With every Hotmail message that is sent the advertising for Hotmail spreads automatically.[32] The idea is to reduce the amount of friction upon entering the market.[33] The initial push for a viral spreading is initiated by a company. To minimize friction as much as possible at the start of the viral campaign, the viral message is preformulated.[34]

## 3.4 Principles of "Word of Mouse"

*"Word of mouth tends to spread slower. With word of mouse (word of mouth augmented by the power of online communication), you can tell 100 friends, or a thousand friends." (Godin 2000: 39)*

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[26] Zien 2000

[27] Riemer/Totz 2002: 426

[28] Godin 2000: 196

[29] Frey 2002: 244-245; People who receive incentives to promote a product are less credible compared to people who recommend a product through conviction.

[30] Strauss/Frost 2001: 244

[31] Mocker/Ahlreep 2001:138

[32] Riemer/Totz 2002: 424

[33] Jurvetson/Draper 1998

[34] Riemer/Totz 2002: 429

There is a misconception that viral marketing is easy. The key to an effective viral spreading is motivation, however, the doses of motivation must be carefully calculated. Too much can create chaos and dishonesty while too little motivation will not impress anybody. The product itself must arouse the interest and stimulate the desire to pass it on.[35]

1. Extensive time and money is spent by the idea merchant on developing a product and the necessary environment for the virus to spread.

2. The multiplication of the virus can and should be influenced by the idea merchant through specific tactics.

3. A product offered via Internet word of mouse is registered.

4. The Internet user must be overwhelmed with the product or service so that he spreads the news.

5. The right decision has to be made when to charge the user instead of paying to spread the virus.[36]

Online surveys as well as observing target groups can help to determine what incentives motivate customers to spread a message. Without a doubt, offering something that helps the users in their daily life, as was the case with Hotmail, is a good start. The response to a Sony cash prize marketing campaign doubled when the offer was altered to a room filled with Sony electronics, although the dollar value was far less than the original prize.[37]

Once the person is motivated, the credibility given him stems from the independent personal experience and the perception that no company is pushing the product. The recommendation comes from a trusted friend, is unbiased and honest and is passed on to other friends. A viral spreading is guaranteed.[38]

Word of mouse is most effective and readily passed along if the promoted product does not immediately remind the user that a business is pushing its product. The brand name should not be prominently displayed and the message should be cleverly presented. Ideally, a combination of all three factors should make up the viral message. Ads that do not reach the target group will not be passed on.[39]

Viral marketing is for start-up companies in the Internet the ideal place to become the market share leader without immense advertising costs. Customers are the salespersons and with the word of mouse the message spreads like a virus. Rapid growth is the result, but just as quickly, rapid decline can lead to the collapse of the company. Rapid growth alone cannot maintain a company without customer retention. In viral marketing, barriers must be installed to prevent entry of competitors into that market and for customers to switch to the competitor. Customer retention is as important as customer acquisition.[40]

## 3.5    Viral Marketing Strategy

Start-up companies see viral marketing as the opportunity to get the most coverage with the least amount of capital. Initiating a viral marketing campaign requires insight into the mechanics of viral marketing and well planned strategies. In order for a marketing concept to be viral it must fulfill certain criteria. Foremost, it must be initiated by the customer on his own free will. The idea is not to have a customer do the advertising against payment and more than that, to do something which he would normally not do.[41]

Viral marketing was the Internet buzz word in the year 1998. It is the most frequently used marketing concept in the Internet. A mouse click sends a message world-wide, but there is also a negative side to it. It is

[35] Fattah H.M. .2000

[36] Godin 2000: 61-62

[37] Heyman 1999

[38] Silverman 2001 :25-27

[39] Nutley 2004

[40] Jurvetson/Draper 1997

[41] Siegel 1999: 124

practically uncontrollable and an unhappy customer will pass along negative propaganda more quickly than positive.[42]

In general, viral marketing strategies can be divided into two groups depending on the degree of involvement of the customer in the marketing process.

### 3.5.1 Low Integration Strategy

In this strategy the customer is involved only minimally. The e-mail is used to spread the mouth-to-mouth propaganda to a probable user with a mouse click. An example for this type of recommendation is the "send a friend button" on news articles. Hotmail uses a similar strategy. At the bottom of every sent e-mail is the invitation "Get your free e-mail at Hotmail". The user acts as advertiser every time he sends an e-mail. This strategy is also referred to as **frictionless viral marketing**.

### 3.5.2 High Integration Strategy

Here the difference lies in the direct involvement of the customer in targeting new users. This **active viral marketing** used by ICQ (I seek you) requires the user to convince another user of the quality of the software. Another example is the Amazon Affiliate Program where a participant actively recruits future members on his homepage.[43]

### 3.5.3 The Key Elements of a Viral Marketing Strategy

Viral marketing is not made, it happens, provided the virus carries the traits necessary to make it viral.[44] Successful viral marketing strategies are built around the following characteristics:

**Identification of a "viral" product:**

1. The product must have a **true value** to the sender as well as the receiver. Uninteresting information is not passed on.[45] The value of the product can be a service, a game, entertainment, greeting cards, monetary incentive, sweepstake etc.[46]

2. The **service** or **product is free**[47]

3. The product is easily **reproducible**[48]

4. The product or service is exclusively **distributed over the Internet**

**Additional Strategic Framework conditions:**

5. The target group is in the introduction phase of the product oblivious to competitors.

6. The primary focus of the user is directed to the site where the product or service is solely available.

7. The first carrier or carriers of the virus need to be carefully selected.

8. Care must be taken to concentrate on the target group and avoid being posted on undesirable Web sites.[49]

Not all of the above mentioned elements are necessary to make a viral marketing campaign successful. However, the probability of a successful campaign increases when more of the elements are fulfilled. Mouth-to-mouse propaganda is instrumental in bringing customers to the Web site. The spreading of information is positively influenced by several factors necessary to achieve the widest reach possible.

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[42] Recklies 2001

[43] Helm 2000b

[44] Fattah H.M. 2000

[45] Frey 2002: 236

[46] Helm 2000d

[47] Helm 2000d

[48] Frey 2002: 234

[49] Helm 2000d

Viral marketing is another form of mouth to mouth, namely word of mouse, advertising. It is an effective tool when people's desire to communicate can be used to pass on information in the Internet. They actively participate in the verbal (e-mail) exchange of experiences and impressions. The Web provides the perfect medium for such an exchange and can have an unprecedented snowball effect as can be seen with Hotmail.[50]

Having Internet customers spread information more or less free of charge, is the ultimate goal of viral marketing. The advertiser thus uses third parties to carry his message either through viral marketing, affiliate programs or marketing programs.[51]

Viral marketing has the opportunity to reach thousands of potential customers at minimal expenditure. The instruments or tools for spreading viral marketing campaigns in the Internet are the people who visit the Web. Their desire to communicate with others is an asset for marketers, the message spreads exponentially but only if the service or product contains certain qualities. Helm sees this uncontrolled spreading as a means for a company to be catapulted into the pole position in the desired market niche and quickly reach the **Critical Mass**[52]

## 3.6 Viral Marketing Communication

The goal for any new **start-up company** is to have the pole position in the desired niche. Viral marketing provides the tool to spread the product in the quickest possible time with the least amount of effort from the customer. To reach the target group, established communication channels are used. In order to develop a **communication strategy** certain criteria need to be defined. At first the **goals** of viral marketing need to be defined. Then the particular **target group** of viral marketing needs to be analyzed and the varieties of **communication channels** of how the **message is spread** have to be explained.

### 3.6.1 Goals of Viral Marketing

The marketing concept of every business is to first define the primary goals, for viral marketing it is to reach as many potential customers as quickly as possible and at the lowest possible cost. This goal can be reached by using the unique concept of word of mouse. The exponential spreading of the viral message is achieved with little or no cost to the marketer. This way, future customers can be reached locally, nationally and internationally. A key element responsible for the wide spread recognition of the product is the personal recommendation of the word of mouse contact. The conviction that the product has value increases the desire to communicate and to spread the viral message. The tipping point, when the virus becomes an epidemic, which is essential for viral marketing can be attained. The most important goal of viral marketing is to make contact with as many customers as possible with which businesses can connect.[53]

Fritz differentiates between two goals, the **economic goals** and **non-economic goals**, although the non-economic goals play a more dominant role at the beginning of a marketing campaign.[54]

Non-economic goals are:

1. **Customer acquisition**
2. **Customer satisfaction**
3. **Customer loyalty**
4. **Degree of popularity**

### 3.6.2 Target group of Viral Marketing

A marketing campaign will not bring the desired results if the attempt is made to reach every possible customer in the Internet. In the early stages it is important to clearly define who the most potential customers of the product to be marketed will be. Before a product or service is put on the market with the use of viral

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[50] Recklies 2001

[51] Büttgen/Lücke 2003: 106,107. Marketing Programs are geared to encourage website owners to place links or text content of your product on their site.

[52] Helm 2000b

[53] Helm 2000b

[54] Fritz 2004: 163; See more information about the economic goals on same page

marketing it is important to determine which segment of the population will profit the most from the marketing campaign. Bruhn defines target groups as people for whom the marketing message is planned.[55] Not only is the singular potential buyer of interest but also the **reference** group with whom the buyer identifies. Individuals who have great influence on the customer such as **opinion leaders** and **social contacts** are part of the target group. The target group should not be evaluated after only one criteria. Their **socioeconomic** and **demographic** traits must be considered.

The magic word for any customer is "**free**" and nothing can motivate a Web user more. With e-mails, Web sites, graphic and software download the spreading of the message is easy and cheap. For the message to spread quickly without falling into a hole, backup mail servers have to be provided for. The customer readily communicates with family, friends and people at his place of work when his basic behavior patterns such as greed and the desire to be cool are hooked into.[56]

In **Godin's** "Unleashing the Ideavirus" the author calls the target group which carries the idea virus a hive. If the target group, **hive**, is not overwhelmed with the marketing message the wrong group has been targeted.[57] Not every product is for everyone, therefore, careful analysis must establish who the users will be. In addition, Godin lists eight variables that influence the spreading of a virus. (see table 1)

| Godin's 8 variables | | | |
|---|---|---|---|
| **Sneezers** | **Hive** | **Velocity** | **Vector** |
| **Medium** | **Smoothness** | **Persistence** | **Amplification** |

**Table 1 Godin's eight variables (Table by author, data from Godin 2000: 101)**

**Rosen** refers to the spreading of a virus as buzz and mentions three reasons why the buzz has become an important tool for marketers. Mass marketing has lost its effectiveness. Consumers are not absorbing advertising on television nor the mass mailings. Customers mistrust information presented by companies. The Internet has made contacts between people quick and easy. Information is given and received with a mouse click. The Internet user decides when he goes online and what information he is seeking. Word of mouse carries the buzz and opinion leaders, the hubs, are effective spreaders of a buzz and the weak ties spread the buzz explosively.[58] Rosen sees **seeding** as a means to increase sales if inactive network channels are activated rather than to invest in already active networks. It is an active process of seeking contacts. He uses the gardener as a metaphor. If the seeds sprout and thrive then harvest will be plentiful.[59]

### 3.6.2.1    Opinion Leaders

For a virus to spread it needs to be carried from one host to the next where it can lie dormant until the spreading has reached epidemic proportions. A biological virus is either spread through direct contact of one carrier to the next or it is carried long distances in the atmosphere. Certain individuals influence a greater circle of people than others. These are opinion leaders whose reach can be world wide. They can be experts or people with great influence who enjoy communicating with others. Word of mouth spreading by opinion leaders increases the chance of reaching the critical mass.[60]

Opinion leaders are effective because they either confirm what is said about a product or verify the faults. Their direct personal experience assures them credibility among listeners.

### 3.6.2.2    E-fluentials

Individuals who have an enormous influence on people, the influencers, are referred to in the Internet as **E-fluentials**. They are opinions leaders who use the Internet word of mouth to form public opinion. One person has a profound influence on eight others. Research done by Roper Starch Worldwide for the company

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[55] Bruhn 2004: 207-208

[56] Wilson 2000

[57] Godin 2000: 107

[58] Rosen 2000: 14, 15, 43-45, 75

[59] Rosen 2000: 166

[60] Silverman 2001: 32, 92

**Burson-Marsteller** shows that approximately 8 percent of today's 109 million Internet users in the U.S.A are E-fluentials. That is 9 million opinion makers influencing the rest of the Internet users. Marketers need to target the E-fluentials for their products.[61] E-fluentials have a disproportionate reach in the Internet, spread negative experiences to 17 people and positive experiences to 11 and the selection of information passed along by a woman E-fluential differed from male E-fluential topics. They are meticulous in gathering varied sources and information about a product or service, access company Web sites for information and will only selectively respond to e-mails where the sender is known. Marketers need to gain the trust of E-fluentials. Their support is crucial for a brand.[62]

Tech-fluentials are a newly discovered group of opinion leaders who are the first to try technology products. The price of the product plays a secondary role in their purchasing decision. Important are quality and functionality. Their strong presence in the Internet can create a buzz about a new technology product and their recommendations accelerate wide product adoption. Marketers seek tech-fluentials' opinions about new product developments and respond to their company postings in the Internet.[63]

### 3.6.3    Communication Channels

**Non-personal** communication channels can be seen as information which is passed on without any personal contact between the sender and the receiver. The use of e-mails, participation in virtual communities, chatrooms and forums is the present day version of non-personal communication.

Communication in the Internet can be on a **One-to-One** or **Many to Many** basis. Previously marketing was a **One-to-Many** situation. A business spread information through the mass media such as television and newspapers to all customers. It was not a two way situation. (see fig.2-1)
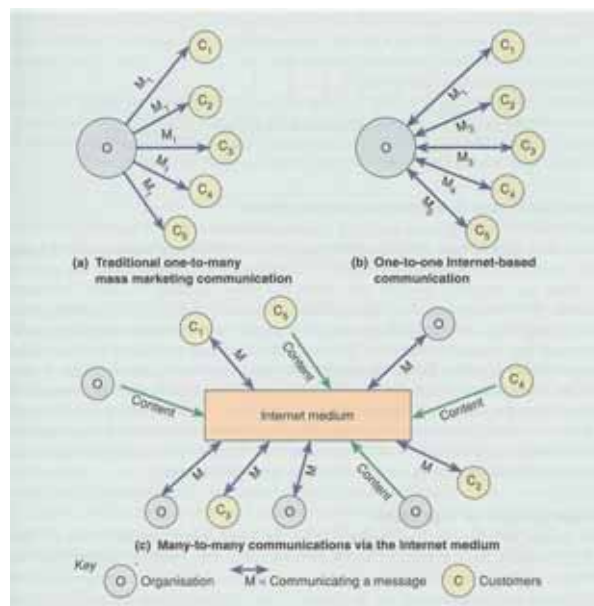


**Figure 3-1: The differences between one to many, one to one and many to many communication using the Internet (Chaffey 2003: 313)**

### 3.6.4    Communication Strategy

### 3.6.4.1    Pull Strategy

In general, the trend in advertising strategies in the Internet has changed from *push to a pull communication strategy*. It is up to the customer himself to decide if and when he decides to send a message. The customer pulls friends and acquaintances to a Web site and becomes an indirect salesperson. The Internet user needs to

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[61] Schemelia 2000

[62] Burson-Marsteller 2001

[63] Holmes Report 2005

be lured to the site with special incentives. This can be in the form of free services or products. Once the user has switched to the site, his attention and interest must be held upright with the special value of the incentive.[64] As the word pull (pure pull) indicates, the user searches, also called surfing, in the Internet for the desired information. He literally pulls it from the Internet supplier.

The active involvement of the user in pulling the desired information is basically not too different from the push principle depending on the amount of pull elements involved. To regularly receive updated information, the user registers with a channel of the supplier such as radio or television. However, the user pulls the information from the channel, although the impression is that the information is pushed to the user.[65]

The transition from a primarily push oriented marketing to **a pull marketing** in the Internet has drastically reduced the power of the supplier. There is stiff competition between companies offering their products in the Internet because the user needs to be aware of the offered products. Getting the attention of the Internet user is of primary concern for the supplier. A mouse click decides what the user wants to see and what not and if he is animated to act.[66] The future of Internet marketing will not evolve into a pure pull or a pure push situation. A combination of both will exist, where push advertising is done over qualitative selective channels.[67]

### 3.6.4.2    Push Strategy

In contrast to the pull principle, information is pushed to the customer, voluntarily or involuntarily. Push advertisement is used by radio and television networks and in the printed media such as newspapers, magazines and flyers. The customer has no influence on the pushed mass communication that he is inundated with.[68] There is a negative side to push advertisement. Unwanted advertisements are sent to channel customers which can lead to an overload. Because of the massive bombardment the customer has difficulty in filtering out useful information. Since the channels are mainly used for commercial purposes and are geared for the customer, it is not advisable for scientific purposes. Data traffic increases due to large multimedia files that are transmitted. The networks become overloaded. To reduce the expenditure of resources only headlines and short summaries are now being transmitted.[69]

### 3.7    Viral Marketing Instruments

Kollmann, Helm, Mocker and Wilson distinguish between the following instruments that stimulate word of mouse:[70]
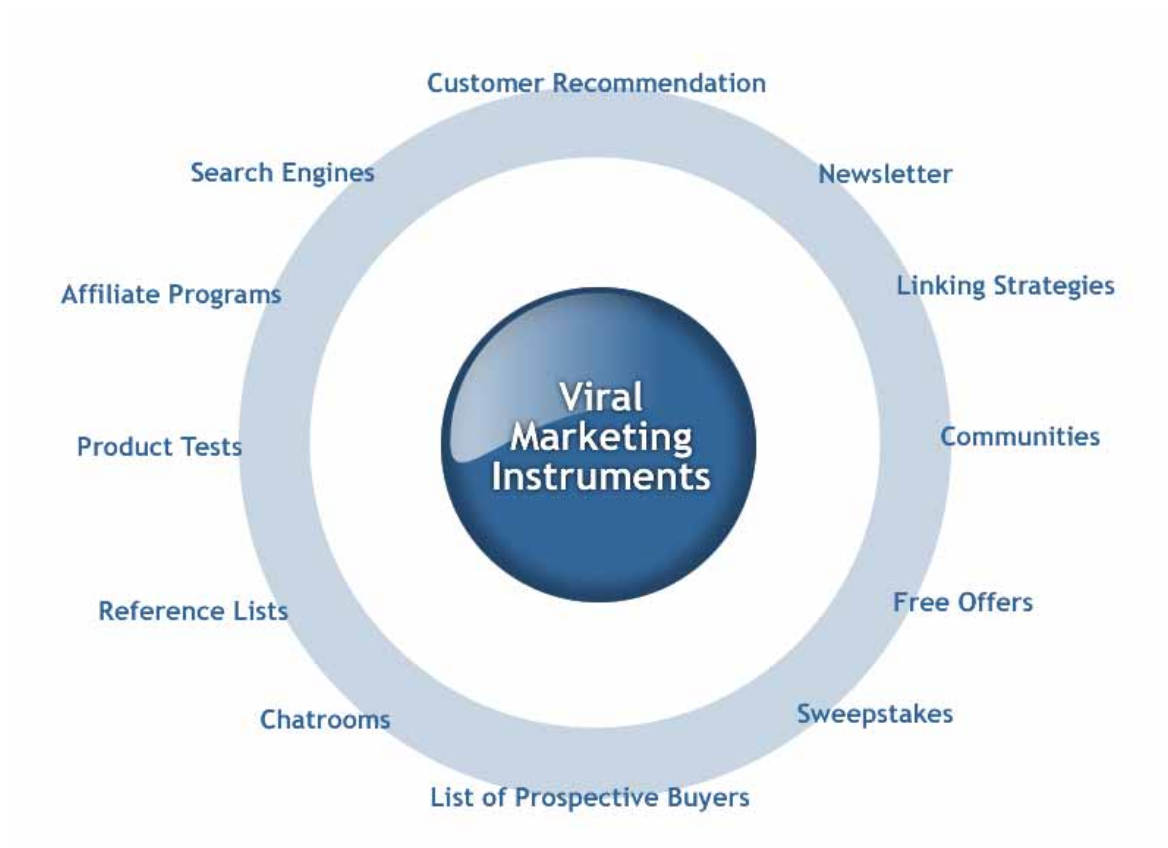
---

[64] Stolpmann 2000b: 38, 40

[65] Ahsen 1999

[66] Fritz 2004:138, 139

[67] Walter 2000: 61

[68] Ahsen 1999

[69] Ahsen 1999

[70] A more detailed description of each instrument can be found in my thesis

**Figure 3-2: Viral Marketing Instruments (Figure by author, data from Kollmann 2001b, Helm 2000c: 311-317, Wilson 2000, Mocker 2001: 142,143)**

## 3.8    The Viral Marketing Mix

### 3.8.1    Product

Products to be distributed over the Internet fall into specific categories. Goods not suitable for e-commerce are cars, houses, office machines and furniture which need to be personally inspected. Food is also not sold over the Internet. Certain products are better suited for viral marketing than others such as books, CDs, trips from travel agencies and computer products. Computer software is usually self-explanatory and can be easily downloaded.[71] The Internet has generated an assortment of new products whose main function is the receiving and transmitting of information in the Internet:

1. Hard and Software for Content Providers, Web-Server, Server Farms, software allowing users to create their own Web site.

2. Infrastructure products , Routers and Gateways

3. Hard and Software for the end user, Browser Software, Anti-Virus Program, PDA (personal digital assistant)

4. Support Systems, provided by Internet Service Providers, data banks, search machines[72]

Product development, as is the case with OSS, is made possible with the active participation of Internet users. The product is then available via Internet.[73] *TYPO3 is an OS CMS for web publishing.*

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[71] Fritz 2004:186

[72] Strauss/El-Ansary/Frost 2003: 286

[73] Fritz 2004:190

### 3.8.2 Price

To catch the attention of customers viral marketing programs give away products or services. Customers react positively if a product is less expensive or on an item is on sale, however, **"free attracts eyeballs"**.[74] The Internet marketers catch the eyeballs of possible customers by offering a product free of charge. This strategy of giving something away is described as **"Follow the Free-Pricing".** There are two steps involved.

In the first step free software can be downloaded which in turn encourages the customer to pass the news on to others. A broad customer basis can be quickly attained though this networking. Programs which give away free products or services catch the attention of potential customers. The free product such as software is efficient but it does not provide the full service. It does, however, create a certain **lock-in-effect** with the customer and a broad customer base can be built up.

The second step involves generating revenue with complementary service such as up dates or premium products.[75] The first interest stirred by the free product will entice the customer to return to the Web site to see what other products are available.[76]

The price of the offered product does not play an important role in the primary goal of viral marketing. The Focus is on reach and customer acquisition. *TYPO3 is following the "Free-Pricing" strategy and only charges for the service implementing the CMS if requested and not for downloading the free software.*

### 3.8.3 Place

Viral marketing takes place in the **Internet** and the place where contacts and trade take place is the **virtual marketplace**. The electronic marketplace is an open marketplace where anybody and everybody has access to it and can take part in it. Transaction costs are none or minimal which makes the virtual market place an attractive place for supplier and demander.[77] The virtual marketplace is made possible by computer technology. The limitations of location and opening hours do not apply to the Internet market. *TYPO3 CMS can be downloaded by anyone who access to an Internet connection.*

### 3.8.4 Promotion

In viral marketing the customer plays a leading role in promoting a product or service and at the same time winning new customers for the product or service. The promoting is done by offering something the user finds useful such as software for communication or an entertaining clip such as the John West ad at the US Web site aderitic.com showing a fight over a salmon between a fisherman and a Kodiak bear.[78]

In viral marketing the **customer** takes over the role of the **middle man** and is at the same time also the distributor of the product. The customer benefits if more people have the product, as was the case with ICQ. The software is useless if he is the only one who has it.[79] *Promotion done by TYPO3 is done to a certain degree through word of mouse. Mailing lists in the TYPO3 community serve as a communication medium where current information is posted. Members of the community take part of this exchange.*

## 3.9 Negative Effects of Viral Marketing

The highly connected net of consumers can have undesirable side effects if the product is not liked.[80] A network of unhappy customers can have a negative effect on word of mouth. The probability that satisfied customers pass on the message is equally as intense as the spreading of negative propaganda for dissatisfied customers.

Customers articulate their dissatisfaction over a product or service with the Internet, influencing their immediate social contacts as well as the loose associations. The personal experience is authentic and there is

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[74] Wilson 2000

[75] Fritz 2004: 204

[76] Wilson 2000

[77] Bliemel 1999: 194

[78] Howell 2003: 31

[79] Helm 2000c

[80] Domingos 2005

no personal gain involved which makes the voiced discontent credible. This **negative word of mouse** propaganda reaches thousands of potential customers in a very short time, endangering corporate image and the success of a marketing campaign.[81]

Studies by WARLAND, HERMANN and WILLITS show that 8% of the people questioned if they would pass on negative recommendation of toothpaste, said no. The DAY research group showed 22% to 50% for the same questions asked. However, when dissatisfied customers of automobile manufacturers were questioned by SWAN and OLLIVER, the willingness to pass on negative word of mouth propaganda rose to 96%. The rule of thumb says that negative propaganda is passed on to more people than positive propaganda. In the TARP (Technical Assistance Research Programs) study satisfied consumers passed on their experience with 5 to 8 persons while unhappy consumers contacted 10 to 16 persons. The studies of ANDERSON come to the opposite conclusion that positive messages spread quicker.[82]

Regardless of what the percentage is, marketers should be informed over negative propaganda and listen to what the dissatisfied customers are saying about their product. Dissatisfied customers can spread the word in Internet hate sites. The positive side is that companies can participate in the discussion forum and gain valuable information about customer needs.[83]

### 3.9.1    Hate-Sites

Hate-Sites on the Web should not be ignored and chatrooms should be listened to. The brand name Coca Cola and Wal-Mart (www.walmartsucks.com) had to deal with such a massive problem. Over one million Internet users clicked onto the hate site within one year. Big companies can steer against this tide of negative news and still survive. Smaller companies can get ruined.[84] The Internet customers use various methods to voice their complaint. An open letter to the company, as was the case with the negative e-mail about DoubleTree-Hotel formulated by executives, had a world-wide response. A form of escalation is when the personal Web site is used primarily for posting criticism. These "hate-sites" often take part in "link-exchange-programs" to get the necessary attention for their Web site. They can be effectively used to get enough unhappy customers to file a class action suit when necessary.[85]

### 3.9.2    Loss of Control

The concept of viral marketing is to have customers transmit a message to others. Company influence is reduced to the formulation of the message and that is only in the very beginning of a viral campaign. Once the pre formulated promotional message, the virus, is released it cannot be controlled nor its direction influenced. The loss of control is compensated by the savings in advertising expenses.

### 3.9.3    Manipulation, Modification and Spamming

There is no control as to whom the viral message is sent. Communicators can modify the message during the process of transmission. This manipulation influences the perception of company brand identity by the receivers of the sent message. This is counterproductive to the intended company brand identity. Customer recommendation is the key to viral spreading and usually reflects the degree of customer satisfaction. The same communication channels that are used to transmit the positive message can be used by dissatisfied customers to voice their complaints. Negative word of mouse can destroy a viral campaign.[86] The danger of being inundated with messages is also a negative side effect of viral marketing. Sending Persistent Annoying E-Mail (SPAM) is referred to mass mailings to e-mail addresses without the explicit permission of the costumer. Communicators who receive bonuses from companies clog customer mail boxes with such mailings.[87] There are dangers lurking in this **uncontrolled spreading** since customer recommendation is the key to viral spreading and usually reflects the degree of customer satisfaction.

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[81] Stauss/Seidl 2002: 569

[82] Helm 2000c: 92-95

[83] Helm 2000c: 380

[84] Helm 2000d

[85] Stauss/Seidl 2002: 574

[86] Riemer/Totz 2002: 437-439

[87] Chaffey 2003: 93

## 4 INTERNET MARKETING CONTROLLING

The massive use of the Internet produces massive volumes of data which is of great importance for any business. This activity, data, contains valuable information for any Internet business and strategic information to help pinpoint areas that need improvement or how to drive quality customers to the Web site. **Urchin log file software** is being used by **TYPO3** to analyze marketing performance. TYPO3 stores specific data from Internet users, who do not shy away from revealing personal information in a separate **MySQL database**.

It is important for marketers to know if a marketing campaign fulfils the set goals and has reached the critical mass or if the campaign went in a different, unexpected direction. To determine what factors brought a given result, certain marketing controlling mechanics are used to trace, collect and analyze the patterns.

The purpose of marketing controlling is, on the one hand, to see if the Internet users were attracted to the marketing campaign and if not what needs to be improved on the Web site to turn a visitor to a customer and on the other hand how many visitors actually reached the Web site. The strategic purpose of marketing research is to recognize trends, detect problems, observe market, growth rate and turnover. Long term marketing decisions are based on statistic research. Operative marketing research deals with acquiring information in a given time frame to assist marketing decisions and provide information about present advertising campaigns and its effectiveness regarding set goals.[88]

### 4.1 Definition Data Mining

To find the desired information in the existing voluminous data in the Internet is difficult for a company. A search and analyzing process is activated which locates relevant information and filters out hidden connections or patterns in the data. Web log mining is an important tool for online market research.[89]

Web log mining cannot function without some kind of guidance. The flood of information would overwhelm the reader and the discovered patterns not understandable. It is not important to retrieve all possible patterns in a database. Specifications as to time frame, utilization purpose, graphical display etc. need to be programmed in order to facilitate optimal analysis.[90] The marketer must define the goal and then the appropriate measurement to get the necessary statistic for his marketing objective.[91]

There are three different types of field applications:

1. **Web Content Mining**

2. **Web Structure Mining**

3. **Web Usage Mining**

### 4.2 Log File[92]

The Log file is the heart and foundation for data analysis. Relevant information pertaining to movement on a Web site is registered there. It is a simple text file but it is the largest file on the Web server and can be accessed with a browser or with every editor. Data in the form of symbols is registered in the log file when the Web server receives an enquiry. This is a line of a hundred symbols. The volume in a log file can reach Gigabyte (GB) dimension for a frequently visited Web site.

#### 4.2.1 Elements of a Log File

Every file retrieval is registered by the Web server. How much information is recorded depends on the configuration of the Web server. Since most log files are set up according to **NCSA standard elements** (National Center for Supercomputing Applications), a log file always consists of a collection of the following mentioned CLF (Common Logfile Format):

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[88] Decker/Wagner 2002: 18,19

[89] Fritz 2004: 158

[90] Han/Kamber 2001: 145

[91] Strauss/Frost 2001: 254

[92] Heindl 2003: 101, 37, 51-57, 62-65, 69-75,103, 105

| Common Log-file-Format (CLF) | |
|---|---|
| Field name | Meaning of the Field content |
| Host | IP-Address of the client |
| Ident | Identification of the client |
| Authuser | Identification of the User |
| Date | Time and Date |
| Time-zone | Difference from the Greenwich Mean Time (GMT) in hours |
| Request | HTTP Client Inquiry (GET,HEAD,POST and PUT-Command) |
| Status | Status of the server response |
| Bytes | Total Number of Bytes transferred |
| **Expanded Common Log-File-Format (ECLF)** | |
| Referrer | The last document of the browser of the visitor |
| Domain | The page where it originated |
| Agent | Name and version number of the Browser |
| Operating System | Type of Operating System of the user |

**Table 2 CLF and ECLF (Modified after Heindl 2003: 102 and Hippner 2002: 92)**

Not all of the above mentioned elements of the log file are used for every data analysis. It depends on what specific part of the Web performance should be analyzed.

Table 3 illustrates a summary of possible log file reports which a marketer can apply. The following chapter will give a detailed insight into this matter.

| Log File Reports | |
|---|---|
| **Pages and Files Reports** | Requested Pages, Downloads, Requested documents, Transmitted documents |
| **Navigation Reports** | Entrance Pages, Exit Pages, Click Paths, CTR, Length of page view, Depth of session, Length of session |
| **Referral Reports** | Referrals, Referral Drilldown, Search terms, Referral Errors |
| **Domain and User Reports** | Domain, Countries, IP-Addresses |
| **Browser and Platform Reports** | Browser by session drilldown, Platform by session drilldown |

**Table 3 Overview of Log File Reports (Table by author, data from Heindl 2003, Han/Kamber 2001 and Urchin Software www.urchin.com)**

## 5    CASE STUDY TYPO3

### 5.1    Objectives of the Case Study

The theoretical part of the work dealt with the basic concept of viral marketing. The work will serve as a reference to establish as to what extent the OSS TYPO3 fulfils the criteria for being "viral". In order to reach the critical mass a model will be developed which should facilitate the crossing of the chasm. In addition, it

will be pointed out how the controlling mechanics assist the marketer in determining the effectiveness of the initiated campaign.

## 5.2 Product Examination

This product analysis should answer the posed scientific question, **"Is the Open Source Content Management Software TYPO3 'viral' in reference to the viral marketing concept?"**

A questionnaire about the TYPO3 community designed by a research team at the University of Copenhagen was sent out to **4,858 e-mail addresses**.[93] A total of **1,449** were returned by March 2nd 2005. This comprises a **29,8%** return. The research project dealt with the Open Source System TYPO3 and its degree of acceptance and application. 43 questions were asked of which a few will be used to check the value of TYPO3. Also a market analysis for TYPO3 in the Austrian market, which was carried out by the company TUGA, will be drawn upon to establish the value of the product TYPO3.[94]

### 5.2.1 Classification of TYPO3

**TYPO3** falls into the category of an **active viral marketing product** because the promotion of the software does not take place through its use, therefore, it requires further examination as to the amount of friction it produces and if it is at all possible for the product to spread independently without extra amplification. The product will be evaluated as to its viral aspects:

- **True value of the product**

- **The product or service is free**

- **The product is reproducible**

- **The product is distributed over the Internet**

### 5.2.2 Viral characteristics of the product

The **value of a product** can be seen as the satisfaction a customer perceives with the performance of the product. If the expectations were higher than the performance of the product then the customer is dissatisfied. A positive feeling towards the product is achieved if the performance equals expectations. Does the performance exceed expectations then the customer is elated and the value of the product is perceived as high.[95] The strategic elements will serve as reference guide in determining the viral traits of the product TYPO3.

The returned 1449 questionnaires gave insight into the degree of perceived value of TYPO3. **70%** stated TYPO3 is their choice of product for Web publishing while 29,2% answered with no. 0,6% gave no reply. **54%** confirmed that the company is making money with the product and 45,3% denied this. 0,7% gave no answer.

The question pertaining to the use of TYPO3 at the workplace was answered with **72,7%** yes and 25,5 with a no. 2,3% did not reply at all. How much experience and what type of experience the persons questioned had with TYPO3 were answered in the following questions. **44,2 %** spend up to eight hours a week on TYPO3 and 24,3% nine to sixteen hours. The highest number of hours spent on the product is 41 hours a week. 5,2% confirmed this while 26,3% work 17-40 hours a week on TYPO3. The questioned persons answered with a total of **80,13%** (strongly agreed and agreed) that they benefited personally from working on TYPO3. 0,2% disagreed and 2,3% disagreed strongly. 7,3% gave no answer.

A total of **53,12%** (strongly agreed and agreed) see it as an incentive to explore personal programming capabilities and get gratification in bug fixing while 26,2% disagree and 7,7% disagree strongly. The answered questions are as diversified as the persons' experience with TYPO3.

Along with TYPO3 other CMS are used by **27,9%** and 32,2% denied this. The main reasons given by those who agreed were existing knowledge of other systems, existing platforms and the lack of functionality. On

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[93] Gundelach/Brincker 2005

[94] TUGA-Marketing Team 2005

[95] Kotler 2003: 61-63

the other hand a total of **77,13%** (strongly agreed and agreed) chose TYPO3 because it is the most advanced CMS and 9,1% disagreed and 1,15 strongly disagreed. **76,2 %** (strongly agreed and agreed) said it is a useful software while 9,6% disagreed and 1,8% disagreed strongly. Choosing TYPO3 because it is an OS program was responded to with **98,4%**. Only 1% disagreed and 0,3% disagreed strongly. Those who have had experience with other CMS-software were asked to compare TYPO3 to these programs. **Flexibility** and **feature-richness** received a positive rating of over **80%**, (very high and high) while the same percentage was given to the **complexity** of the program indicating that it is **difficult to learn**, takes considerable more time to understand and that it requires more work to get the program running compared to other CMS programs. Software architecture received a total of **65,8%** (very high and high) The usability was rated as very low by only 18,2% and high by 39,7%. On the other hand, a total of **59,2%** find TYPO3 technically superior compared to commercially licensed CMS software. 12,4% disagreed and 2,3% disagreed strongly.

To get a more precise picture of customer usage and satisfaction of TYPO3, a more detailed analysis should be undertaken. A market analysis made for TYPO3 regarding its place in the Austrian market found out that approximately four years ago TYPO3 was un-installable. Ever since the development of the **Windows Installer**, TYPO3 became a serious competitor to other CMS company products. It now has entered the phase of replacing other products. The TUGA did a S.W.O.T (strength, weakness, opportunities, threats) analysis with the set goal to create a marketing strategy with the gathered information regarding the TYPO3 product. Events, mail postings and input from brainstorming sessions are the basis for this analysis. No license fees for the TYPO3 software and that it is an OS product rated very high. The value of the product has been established in the above examination. The following table will illustrate the positive and negative experience TYPO3 users made:

| Positiv (Value for the User) | Negative (No Value for the User) |
|---|---|
| **Open Source Product** | **Complexity** |
| **Flexibility** | **Usability** |
| **Technically superior** | |
| **Most advanced CMS** | |
| **Feature-richness** | |
| **Windows Installer** | |

**Table 4 Overview of the positive and negative experience TYPO3 users made (Table by author, data from TUGA-Marketing Team 2005 and Gundelach/Brincker 2005)**

For a product to fulfill the criteria that it is **free**, requires an understanding of what is meant by the term "free". It should not be seen in the context of an addition or a gift with a purchase but rather that there is no cost in the acquisition of the TYPO3 CMS as is the case with commercial software. The product TYPO3 is OSS and operates under the GPL. Anybody can use it provided the strict rules of the GPL are adhered to. The product must remain free and accessible to all. It is possible to download this CMS software from anywhere on the globe where there is Internet access. There is no difficulty in forwarding the product to others through e-mail systems because it is **reproducible.** TYPO3 cannot be purchased in a store. The product is solely **available** only to those who have **Internet** access.

Therefore, the second scientific question can be answered as follows:

**Yes, it is established that TYPO3 has strong viral aspects, however, to facilitate world wide spreading of the product, additional steps need to be taken to reduce "friction": Increasing usability and reducing the complexity of the product.**

## 5.3　Theoretical derivation of a Viral Marketing Model for TYPO3

The information in the chapters dealing with the analytical concepts of viral marketing as well as the technical chapter on viral marketing are drawn upon to establish a model to generate the necessary critical mass. The goal is to present a researched recommendation which would help catapult TYPO3 over the "chasm" between early adopters and early majority and at the same time increase world wide brand awareness.

### 5.3.1 Viral Marketing Model

In the previous chapter the viral aspects of TYPO3 were examined. Now it is necessary to examine the product in order to determine the present position of TYPO3. Once it has been established that the product falls under the category of **active viral marketing** and is **classified as viral,** then the next step can be undertaken to evaluate which viral marketing tools aid the spreading of the product through the Internet. Has the product not been clearly defined as viral then additional measures need to be undertaken to reduce friction.

It is necessary to determine the **actual versus target comparison**. Which of the tools are being used and which instruments have not been applied yet. It is important to have a plan worked out as to which instruments provide the best possible spreading, only then can a campaign be initiated in the TYPO3 community.
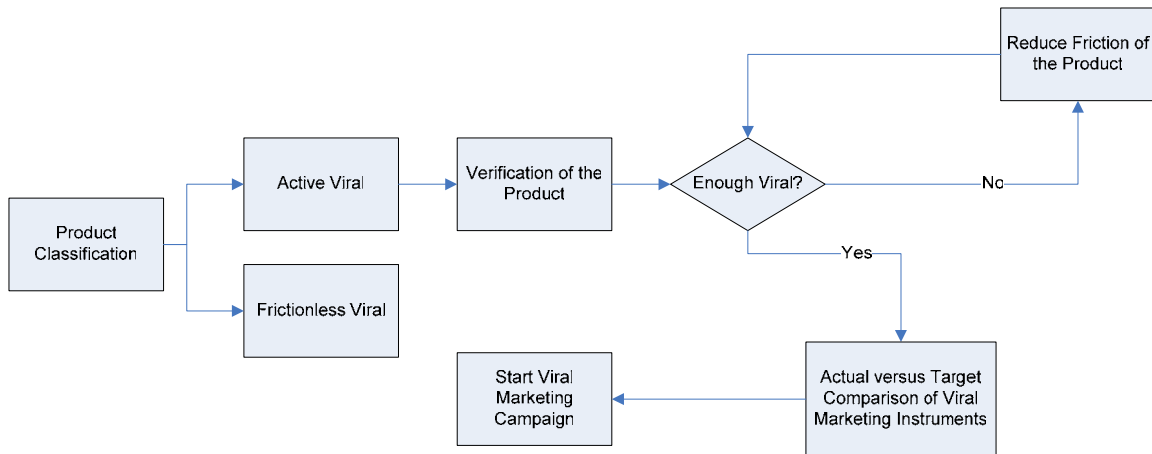


**Figure 5-1: The Viral Marketing Model (Figure by author)**

#### 5.3.1.1 Actual versus Target Comparison of Viral Marketing Instruments

*5.3.1.1.1 Actual State of Viral Marketing Instruments*

The instruments analyzed in chapter 3.8 will be looked at more closely and analyzed as to which instruments TYPO3 has applied so far and what other tools would optimize the spreading. The presently used instruments will be described below:

**Mailing lists** are the basis for contact among the national and international TYPO3 users. (http://typo3.org/documentation/mailing-lists/) The purpose of the **community** is to provide a **free service** for everyone who uses TYPO3 software. (http://typo3.org/community/our-community) Quick and practical help is given to everyone who needs it. TYPO3 is difficult to learn, therefore, a beginner's guide, which can be found in the TYPO3 archive, gives valuable information about the most frequently asked questions.

More technically complicated problems and training material can be got from service providers found under the Consultancies. (http://www.typo3.com/Consultancies.1248.0.html)

The listed companies are selected according to their competence in projects. Anyone with some kind of TYPO3 experience can participate in projects. There are lists of current projects and work areas for interested programmers.

In 2004 the non-profit organization **TYPO3 Association** (http://association.typo3.org) was founded by Kasper Skårhøj, and some community members. The main purpose of the association is to support core development on a regular basis and ensure transparency of TYPO3 projects. Anyone who is interested in TYPO3 can **test** the **product** by downloading demo software. (http://www.typo3.com/Demo.1245.0.html) If the content of the demo version meets the expectations of the potential customer, the complete CMS TYPO3 version can be downloaded as a **free product**. (http://typo3.org/download) Satisfied customers who distinctly allow the use of their name for advertising purposes are listed in **reference lists**. Potential customers can click to any of the referred Web sites to get an overall impression and additional information. The following list is an overview of national and international companies that have worked with TYPO3. (http://www.typo3.com/References.1249.0.html)

TYPO3 has the number one ranking in the Google **search engine**. Internet users who have entered the keyword CMS in the Google search engine will therefore see TYPO3 on the very top of the shown page. Any questions pertaining to the implementing of a CMS product and why such a product is useful to a company can be professionally answered by a company member.

In TYPO3 **Newsgroups** questions are answered on various topics and the posted letters are then sent world wide. (http://groups.google.at/groups)

The analysis shows that half of the viral marketing instruments are already applied by TYPO3.

*5.3.1.1.2    Target State of Viral Marketing Instruments*

The following instruments which have not yet been incorporated in the marketing strategy of TYPO3 would aid in spreading brand awareness.

**Customer recommendation** is the key to Internet advertising. Implementing **recommend-it- Buttons** on the Website is one way to ease the transfer of information to others. In addition, a link in the **e-mail signature** should be integrated with which the origin of the marketing communication channel can be shown. (see fig. 5-2)
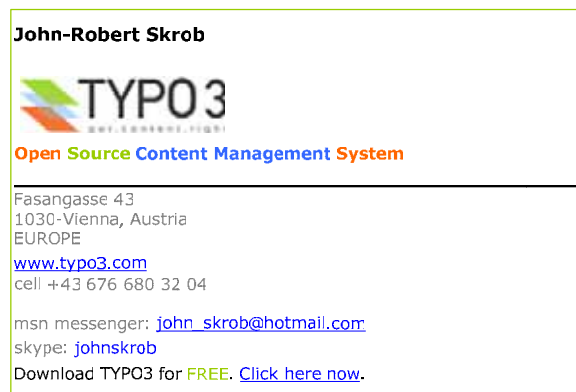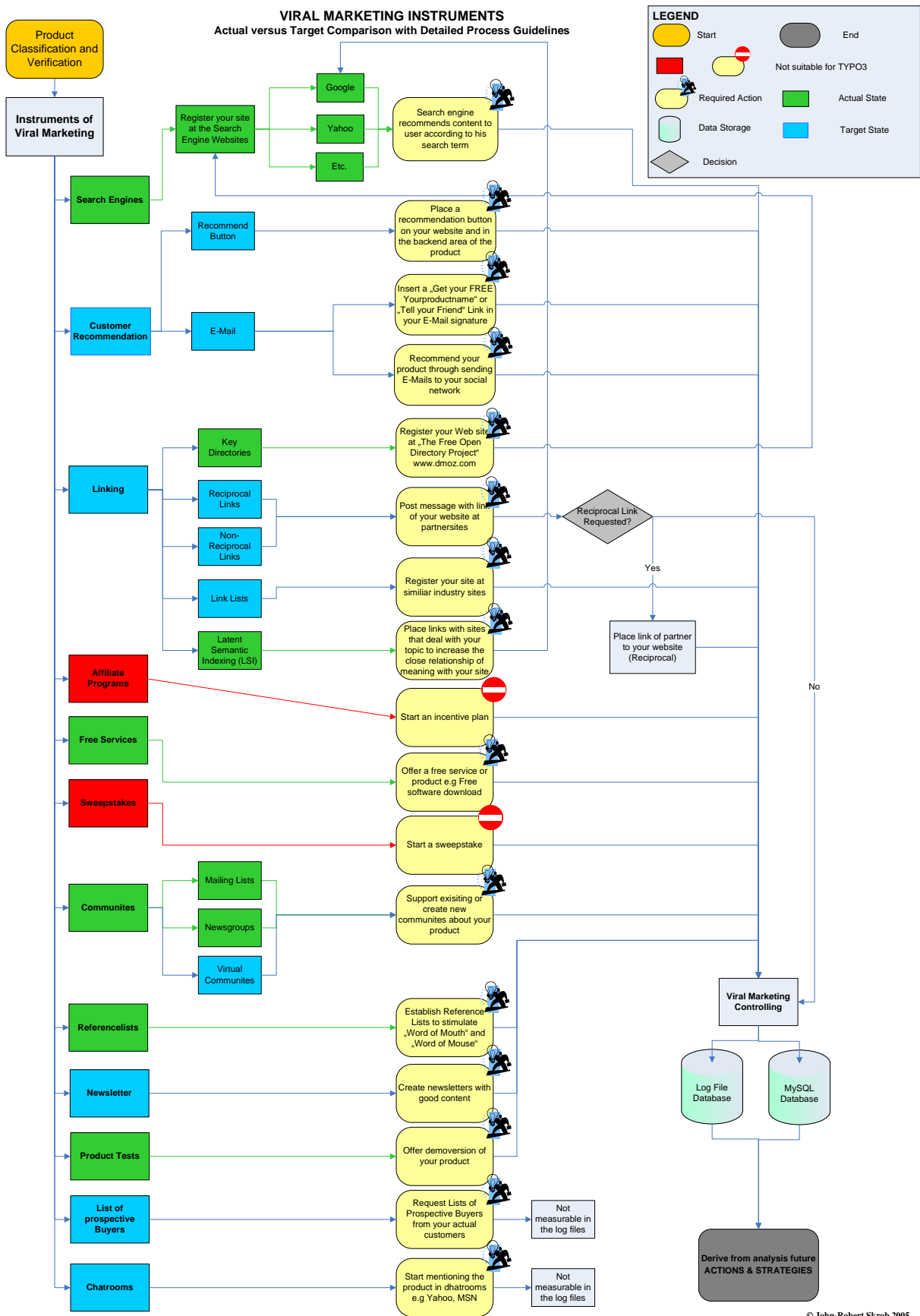


**Figure 5-2: Example of an e-mail signature with integrated link promoting the TYPO3 OS product (Figure by author)**

To attract more traffic to the company homepage a **linking strategy** needs to be developed. **Reciprocal links** with carefully targeted complementary sites are free and draw potential customers. A **list of prospective buyers** enables the company to make contact with the individuals and explain the value of the product to them. Members of specific trade groups are interested in the latest innovations and can receive such information through **newsletters.** Businesses such as TYPO3 are interested in registering with newsletters so that product developments and subsequent releases are received at the earliest date. Setting up a moderated **virtual community** including **chatrooms** allows the TYPO3 user group to gather and exchange vital information pertaining to TYPO3 software in real time. Observing and participating in **chatrooms** dealing with company themes can be used to spread information about the product TYPO3. A company member can give founded advice as to the application and purpose of the software and what advantages derived from implementing TYPO3.

*Sweepstake* and *affiliate systems* are not applicable for TYPO3, for it is contradictory to pay for promotion when the product is offered for free.

The following figure reflects a detailed model of how to use viral marketing instruments and in addition the actual and target state of TYPO3 is shown:

# VIRAL MARKETING INSTRUMENTS
## Actual versus Target Comparison with Detailed Process Guidelines

**LEGEND**

| | | |
|---|---|---|
| Start | | End |
| | Not suitable for TYPO3 | |
| Required Action | | Actual State |
| Data Storage | | Target State |
| Decision | | |

Product Classification and Verification

Instruments of Viral Marketing

**Search Engines**

Register your site at the Search Engine Websites

- Google
- Yahoo
- Etc.

Search engine recommends content to user according to his search term

**Customer Recommendation**

Recommend Button — Place a recommendation button on your website and in the backend area of the product

E-Mail — Insert a „Get your FREE Yourproductname" or „Tell your Friend" Link in your E-Mail signature

Recommend your product through sending E-Mails to your social network

**Linking**

Key Directories — Register your Web site at „The Free Open Directory Project" www.dmoz.com

Reciprocal Links

Non-Reciprocal Links — Post message with link of your website at partnersites

Link Lists — Register your site at similiar industry sites

Latent Semantic Indexing (LSI) — Place links with sites that deal with your topic to increase the close relationship of meaning with your site

**Reciprocal Link Requested?**

Yes — Place link of partner to your website (Reciprocal)

No

**Affiliate Programs** — Start an incentive plan

**Free Services** — Offer a free service or product e.g Free software download

**Sweepstakes** — Start a sweepstake

**Communites**

Mailing Lists

Newsgroups — Support exisiting or create new communites about your product

Virtual Communites

**Referencelists** — Establish Reference Lists to stimulate „Word of Mouth" and „Word of Mouse"

**Newsletter** — Create newsletters with good content

**Product Tests** — Offer demoversion of your product

**List of prospective Buyers** — Request Lists of Prospective Buyers from your actual customers — Not measurable in the log files

**Chatrooms** — Start mentioning the product in chatrooms e.g Yahoo, MSN — Not measurable in the log files

**Viral Marketing Controlling**

Log File Database

MySQL Database

Derive from analysis future ACTIONS & STRATEGIES

© John-Robert Skrob 2005

**Figure 5-3: Viral Marketing Instruments and Actual versus Target Comparison (Figure by author)**

## 5.4 Controlling

### 5.4.1 Log File Primary Data Observation

Controlling is of importance in the starting phase of a campaign where it provides valuable information for the marketer. The direction the campaign is taking cannot be influenced, but information about its effectiveness can be derived through controlling.

Primary research encompasses **questioning** and **observing** whereas questioning is not an option for the TYPO3. **Observation,** as will be used in the case study, represents the basic survey and analysis of collected data. Market competitors can be analyzed as to their price and product presence in the Internet. This is useful information for any business. Equally useful is the observation of Internet users. Every time a user accesses the TYPO3 Web site a protocol data is registered in the log file making a clear analysis possible.[96]

### 5.4.2 Controlling Key Numbers for TYPO3

All in the theoretical part mentioned log file controlling measures are relevant for the success of a viral marketing campaign, however, in this work the referral report and the country report will be used since it is the most important report giving accurate information about how the user reached the TYPO3 Web site and from where the comes from. This is pertinent information for paying further attention to such Web sites. The log file reports will be used to determine the effectiveness of the campaign in the early phase.

The following key numbers have been chosen because they give feedback as to how a viral marketing campaign is developing. Relevant data are:

1. **User registrations (MySQL)**
2. **Download rate (MySQL)**
3. **Referral-drilldown-report (Log File)**
4. **Country report (Log File)**

**User profile** data which are stored in a separate MySQL data base give evidence of how many users are interested in the TYPO3 project. Registered users give away personal information because it's their own wish to do so. The users in exchange receive free support from the TYPO3 community. A steadily growing community indicates that users are satisfied with the product. Around **23 755** users are registered and **1 653** have been considered extremely active within the last two months. (http://typo3.org/frontpage-menu-links/statistics/) The TYPO3 software **download** cannot be measured in the log file of the www.typo3.com Web site because the file is located at **Sourceforge** (http://sourceforge.net/) and is automatically compared with other international OSP. In the time span of seven months between January and July 2005 a total of **305 275** downloads were registered. Marketers can use the download rate as a measurement to see if the marketing campaign is a success or a failure. (see fig.4-4)

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[96] Fritz 2004: 140-145, 149-152
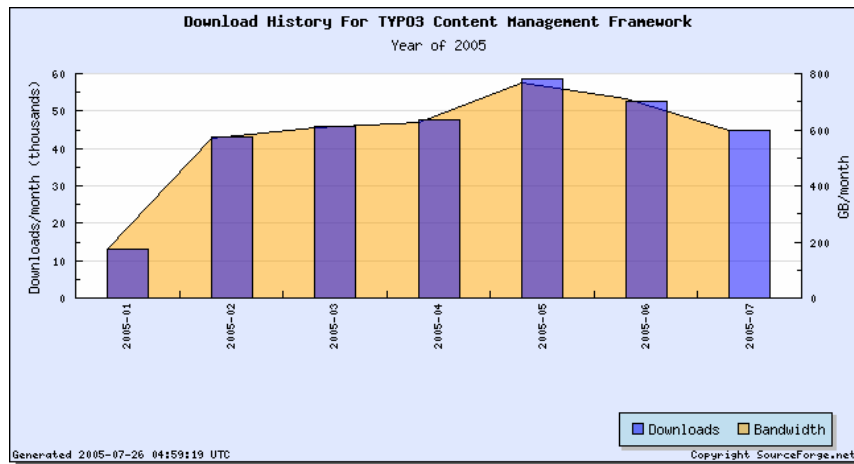
**Figure 5-4: Download History for TYPO3 Content Management Framework (http://sourceforge.net/project/stats/index.php?group_id=20391&ugn=typo3)**

In the **referral drilldown report**, it can be seen that **60,45%** resulting in **615470** visits in the time span between 01.01.2005 and 25.07.2005, reached the Web site without being lured to it from another Web site or search engine. (see fig. 4-5) This means that the Internet user accessed the Web site by entering www.typo3.com directly into the Internet browser. **6,65%** and **2,46%** reached the Web site through search engine recommendations. The section named "all others" in the graph with **23,69%** resulting in **241218** visits represent the sum of all other Web sites and search engines.

The importance of referral-drilldown reports for a viral marketing campaign is that it gives a feedback of how successful the use of the viral marketing instruments was. It demonstrates which instruments were successes and which ones failed and need to be attended to.
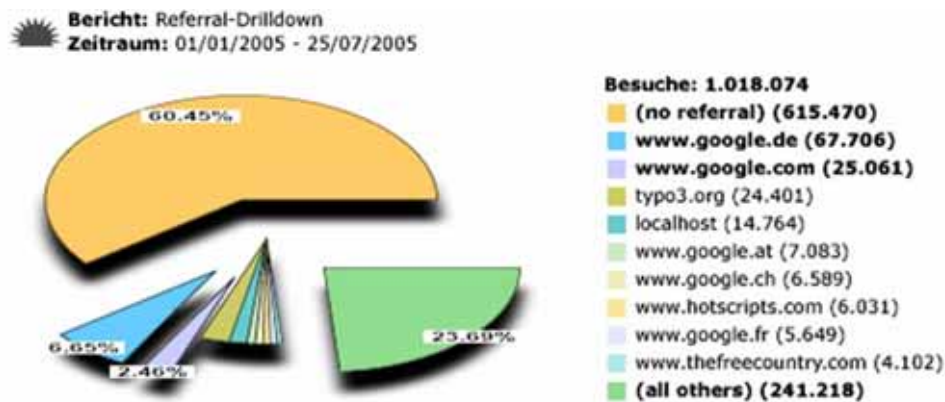


**Figure 5-5: TYPO3.com Log File Referral-Drilldown Report (http://statistik.ve.netfielders.de/)**

The **country report,** tells the marketer from which country the most users came from. A large part of Web traffic is generated through the domain endings with .net .com and .org and are mostly resident in the U.S.A, but it is not a reliable source to state that also the user are from the U.S.A, because most of the providers sell these domains to everyone. It can be seen that **41,16%** resulting in **418981** visits in the time span between 01.01.2005-23.07.2005 came mostly from .net and .com domains. All the other domains are sorted by their country code and indicate a very high probability that the user also is coming from that specific country. (see fig.4-6)
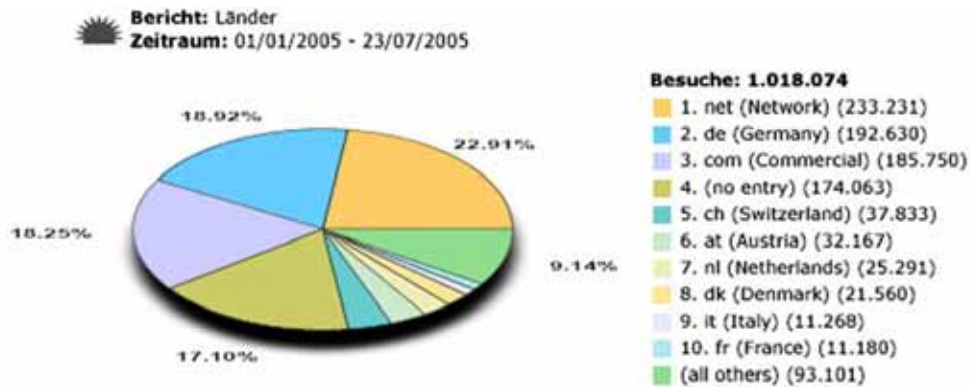
**Figure 5-6: TYPO3.com Log File Country Report (http://statistik.ve.netfielders.de/)**

TYPO3 marketers can use this data to trace down the countries from where the highest draw to the TYPO3 Web site was coming from. This helps marketers to focus on a specific market in order to create a new preformulated message for the target group or to reinforce existing messages.

# 6    CONCLUSION AND FUTURE OUTLOOK

## 6.1    Conclusion

The viral marketing concept has repeatedly proven itself as the key to many successful businesses. The opportunities for e-commerce are enormous and very appealing to companies starting up in business. Businesses soon recognized the value and advantages of Open Source Systems and the low cost, speed and efficiency of e-commerce transaction via the Internet.

Viral marketing is a specific Internet tool used to integrate third parties in the promoting process. Not all viral marketing strategies are applicable to every viral marketing campaign. The type of product to be marketed influences the manner in which the tools are implemented, it does not, however, change the ultimate goal, namely to reach the critical mass in order to cross the chasm. Appropriately, the answer to the formulated scientific question in the beginning of this work has to read:

> **"The product TYPO3 meets the requirements to be considered viral and world wide brand awareness may be achieved with the recommended application of the developed model for generating the required critical mass, but at the present time TYPO3 is not ready to adopt the viral marketing concept".**

Before TYPO3 can launch a viral campaign it has to make some drastic improvements on the usability of the product. **70%** of the persons who had returned the questionnaire are **unhappy with the usability**. Until this problem has been eliminated, the majority of the Internet users will see no value in the product. This fact alone makes it impossible to go ahead with a viral campaign at the present date. Such a campaign is a one-way shot and can just as quickly go in the other direction. Once the usability problematic has been resolved a viral          campaign          can          be          started          within          the          TYPO3          community.

This viral marketing campaign can only be successful when all members of the TYPO3 community participate in spreading the preformulated message to the target group.

There is a difference in marketing a high-technology product requires a slightly different approach to viral marketing, it requires a lot more time and effort to successfully cross the chasm than was necessary for the e-mail provider Hotmail. Market penetration of a new technology product is dependent upon the endorsement of two unrelated customer segments of the bell curve. The difficulty lies in finding cross referencing possibilities between the groups and to maintain the momentum in order to stay ahead of emerging technology and competitors. To spread an idea virally does not require delivery of a whole product with the necessary back up products and services of other companies. It is insofar a different approach to viral marketing as it requires a thorough and careful analysis of the market. High-technology products can reach the critical mass and cross the chasm by closely adhering to the guidelines discussed in the paper. Many chasm victims failed to see the gap

ahead. Blinded by high sales and visions of an ever expanding market inspired more sales activity instead of focusing on a **market niche**.

Viral marketing begins with a **good idea** or an **innovative product**, a **good distribution net**, **marketing strategies** and **Internet users interested** in the idea, product or service.

## 6.2    Future Outlook

### 6.2.1    Viral Marketing

The question businesses must pose is not whether to engage in e-commerce, but how best to use the digital technology for marketing purposes. There is a future in e-commerce. Internet marketing has not nearly been exploited to its fullest potential and competition to gain consumers' attention will become more difficult and challenging.

The balance of power in marketing has shifted to the consumer who can access the Internet at any time of day or night and all year round. The customer is no longer the passive receiver of advertisements. Push mediums such as banner ads, pop-up messages and SPAM are not consciously registered by the consumer. Internet security software allows the user to block unsolicited messages. Businesses will have to adjust their marketing strategies to the new environment. It is up to business to use viral marketing strategies to raise brand awareness and develop customer relationships. Many marketers fail to see the importance of controlling. These data mining tools provide valuable information about consumer movement in the Internet and show where improvement is needed. It is an excellent tool to stay in tune with the target group.

### 6.2.2    Open Source

The present situation has some negative effects. The future of OSS is presently highly debatable. On the one hand, OSS is spreading at a fast pace and on the other hand, the concept "free" is interpreted differently in countries with other legal systems. Many mayor software companies are releasing the source code of some of their proprietary software with the effect that it is not an altruistic move but rather a way of having the OSC develop that particular software.[97]

TYPO3 is being massively downloaded from the Internet, yet there is no control over how the product is being used and if it remains under the GPL. There is an enormous amount of users downloading the software giving no feedback as to what modifications are undertaken with the source code. The viral spread of the TYPO3 product in the Internet can result in an even higher rate of user downloading the source code not giving feedback. Measures to hinder or control this activity have to be undertaken in the future.

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