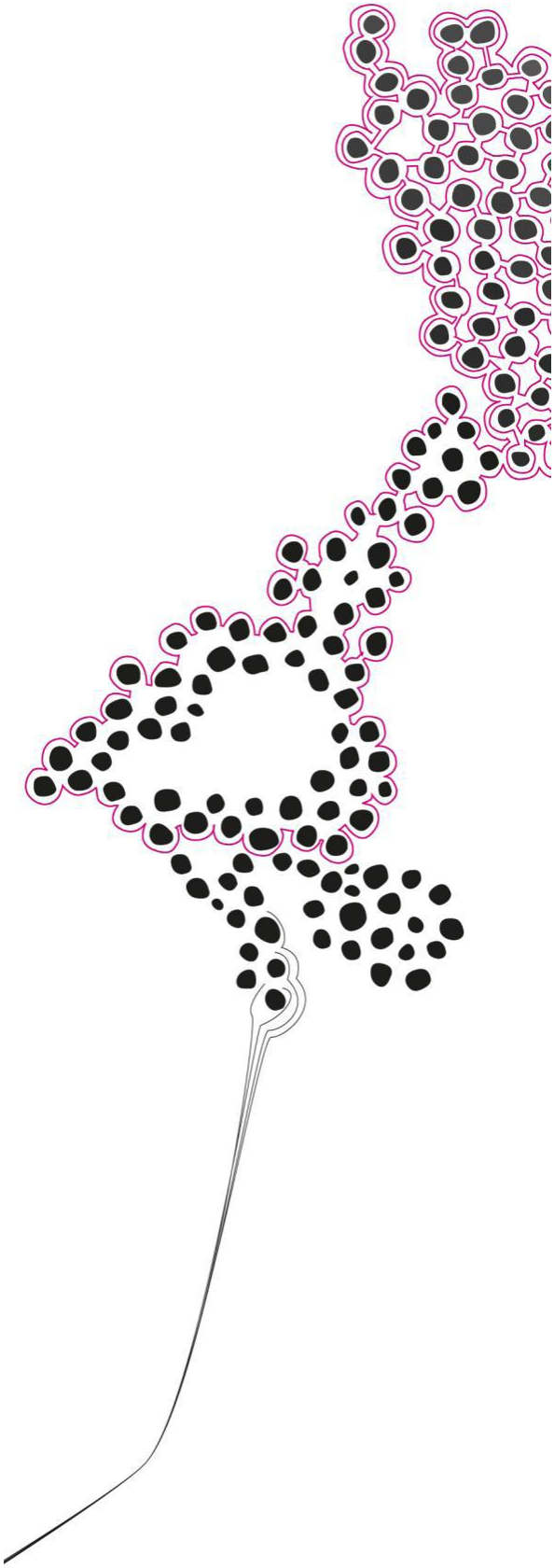

POTENTIAL OF THE SOCIAL MEDIA AS INSTRUMENTS OF HIGHER EDUCATION MARKETING

Guidelines for a Social Media marketing strategy for the University of Twente

Marc Christophe Zinck Stagno

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Bachelors thesis
Industrial Engineering & Management
University of Twente
Enschede, The Netherlands

Supervisors:
Dr. E. Constantinides
University of Twente
Faculty of Management & Governance
Enschede, The Netherlands

Dr. S. de Vries
University of Twente
Faculty of Behavioural Sciences
Enschede, The Netherlands

UNIVERSITY OF TWENTE.

CONTENTS

ABSTRACT

Social Media marketing is a relatively new terrain for marketers. Field experience is very limited, as is the academic attention and literature available. Despite the lack of experience and without concrete evidence about the effectiveness of Social Media marketing, growing numbers of commercial organizations are embracing the Social Media as part of their marketing strategy.

Higher education institutions competing for attracting students also seem to be interested in the potential of the Social Media as part of their communication and recruitment strategies. Understanding how future students use the Social Media as part of their daily life and as information sources forms the basis for the development of effective recruitment strategies based on these applications.

This study provides a clear picture of the online behaviour of the future higher education student in The Netherlands. Data are collected by means of a national survey among future university students. The study explores the main characteristics of the future university students and analyses the way they use the Social Media in their everyday life, and the effect it has on their decision-making process, particularly in the selection of higher education studies. According to the findings the Social Media play an important role in the life of the future university students, as part of their social environment, but also as communication platforms and information sources. Recommendations are made regarding the possibilities of integrating the Social Media in the university marketing strategy.

SAMENVATTING

Het gebruik van de Sociale Media als marketing instrument is een relatief nieuw vakgebied voor marketeers. Hierdoor is de ervaring in dit vakgebied beperkt, en zo ook de wetenschappelijke aandacht en literatuur. Ondanks het gebrek aan ervaring en bewijs van de effectiviteit van de Sociale Media als marketing instrument, zijn er steeds meer bedrijven die de Sociale Media aan hun marketing strategie hebben toegevoegd.

Instellingen voor wetenschappelijk onderwijs die moeten concurreren in het werfen van studenten lijken ook geïnteresseerd in het communicatie en marketing potentieel van de Sociale Media. Het in kaart brengen hoe de toekomstige studenten de Sociale Media gebruiken in het dagelijkse leven en als informatiebronnen vormt de basis voor het effectief aantrekken van toekomstige studenten via deze applicaties.

Dit onderzoek geeft een goed beeld van het online gedrag van de toekomstige student voor wetenschappelijk onderwijs in Nederland. Er zijn data verzameld middels een nationaal onderzoek onder de toekomstige studenten. De algemene eigenschappen van de toekomstige studenten worden onderzocht, alsmede de manier waarop de Sociale Media gebruikt worden en welke invloed de Sociale Media hebben op de besluitvorming, vooral in de keuze voor studie en universiteit. De resultaten tonen aan dat de Sociale Media een belangrijke rol spelen in het leven van de toekomstige studenten, als sociaal middel, maar ook als communicatiemiddel en informatiebron. Er zijn aanbevelingen gedaan over de mogelijkheden die een universiteit heeft om de Sociale Media te integreren in de marketing strategie.

1. INTRODUCTION

1.1 Research motivation

Research has identified how higher education institutions can use and are using marketing as an effective student recruitment tool (e.g. Gibbs, 2002; Helgesen, 2008). A key theme of research in this field is the marketing communication where gaps between the information that potential students want and the information provided by universities in their print or other types of communications have been identified (Hemsley-Brown & Oplatka, 2006). For all intents and purposes potential students try to fill this gap by using other sources. This fact indicates that there is room for improvement in the field of higher education marketing communications. Improving communications and the quality of information could attract more students and allow prospective students to make better informed decisions. Web 2.0 applications (also known as Social Media) offer interesting possibilities for higher education institutions as new communication tools. Several studies show that the Social Media can be engaged as marketing tools for the corporate world (e.g. Constantinides & Fountain, 2008; Barnes & Mattson, 2009b). In the blogosphere there have been calls for the use of Social Media as a recruitment tool for higher education institutions (e.g. Reuben, 2008; Redfern, 2009). These calls point to possibilities of a Social Media marketing strategy, usually summing up all the options and advantages higher education institutions would have by adopting a Social Media marketing program. However there is no academic research about the advantages and real potential of such strategies and there are no conceptual foundations of such strategies yet available. There is also little known about the way future university students are using these media as networking and communication platforms and specifically as source of information for their choice of a university study and institution. Such information could help universities develop or refine Social Media based communication strategies, effectively reaching future students and providing them with better information in order to help them make the right study choices.

1.2 Research objectives

This study aims at providing information to a Dutch higher education institution (i.e. the University of Twente) about the use of Social Media by future students as social networking platforms, information sources and communication tools. The study was conducted within the University's geographical core markets and outside them, but limited to the Dutch territory. The results will be used to identify marketing tactics where the Social Media could be effectively used to reach and attract potential future students. Furthermore the study will indicate behavioural differences between students in the core geographical markets and the rest of the country in choosing a study and university as well as using Social Media. If such differences exist potential new markets possibly have to be addressed in different ways through the Social Media. The main research objective of the study is to provide guidelines for a new strategy for the recruitment of students using the Social Media, based on market information and previous research.

1.3 Research questions

A set of research questions guide this study to meet its main research objective, which is providing guidelines for a Social Media marketing strategy for the University of Twente. The main research objective will be met by reviewing the findings of previous research and analyzing empirical data of the future student market. The research questions are formulated as follows:

(1) What are the findings of previous research in the fields of higher education marketing and Social Media marketing, and the combination of both (i.e. the Social Media as a tool for higher education marketing)?

(2) What are the factors and information sources that influence the choice of an institution by future university students in the core geographical markets of the University of Twente and outside them?

(3) How do future university students use the (Social) Media in the Netherlands?

- *(a) What are the frequency and the duration of use of the (Social) Media?*
- *(b) What Social Media sites are most used? (e.g. Hyves, Facebook, Twitter)*
- *(c) What kind of connections and how many of them do Social Media users maintain?*

(4) Is the market of future university students in The Netherlands a segmented market?

- *(a) Can the market for future university students be segmented based on Social Media usage?*
- *(b) Is there a difference in the use of Social Media between the core geographical markets of the university and students from other geographical areas?*

2. RESEARCH ISSUES

2.1 Introduction

This chapter aims at answering research question (1) by reviewing the findings of previous research that are interesting for this study. Section (2.2) reviews research efforts made in the field of higher education marketing. Section (2.3) reviews research efforts made regarding the Social Media as a marketing tool. Section (2.4) reviews research efforts made regarding the use of Social Media as a recruitment tool for higher education. Finally, section (2.5) summarizes the key points resulting from this review.

2.2 Higher education marketing

2.2.1 Introduction

According to Jongbloed (2003), there has been a trend of government deregulation in the higher education sector in The Netherlands. Many other countries provide signals of higher education deregulation as well (Hemsley-Brown & Oplatka, 2006). This shift has paved the road for the marketisation of higher education. Hayes (2006) states that the idea of marketing a higher education institution emerged in the mid-1980s. Since then research has been carried out on both the demand side (i.e. the institutions' markets) and the supply side (i.e. the institutions' marketing strategy and operations) of higher education marketing. The following sections summarize some findings regarding the demand and supply side of higher education marketing.

2.2.2 Demand-side marketing research

Demand side research sheds a light on, among other things, the drivers and influencers in the choice of higher education. Because of differences in cultural values and economic situation between geographic locations, generalization of demand side research does probably not give an accurate view of the market of a higher education institution. Therefore some results are presented here from a market analysis carried out for the faculty of Management & Governance of the University of Twente.

The research was done among university students who at some point had showed interest in the faculty and, at the time of questioning, studied either at the University of Twente or at another university. The study shows that information days, taster days, print communication and online information were the main sources used by the respondents to collect university information. Information days and taster days however, were the strongest influencers on the choice for a certain university. The image of the university, campus and the city was one of the most important drivers in the choice for a certain university. There was a market segmentation, mainly between male and female respondents, but also related to their home location. The study revealed that 73.9% of the interview sample made the choice for a certain university in their last two years of secondary education, and suggests performing a further market analysis among students from secondary education as the main focus group of the institution's marketing efforts. (B&M Business Development, 2009)

2.2.3 Supply-side marketing research

Higher education institutions have accepted the fact that they must formulate a marketing strategy and adopt a marketing program to successfully compete in the national and global markets. Research on this facet of higher education marketing is limited (Hemsley-Brown & Oplatka, 2006). Traditional marketing fundamentals from the business sector do not fully fit the needs of higher education as they are mostly based on consumptive models (Gibbs, 2002). Instead, Gibbs (2002) suggests that higher education marketing has to be viewed from a model of "collaborative relationships". In line with this view, there are studies that focus on higher education with a service model because of the intangibility of the product, and suggest that marketing should be carried out with a relationship marketing approach. Relationship marketing focuses on retention rather than acquisition (Helgesen, 2008). For higher education this means building and maintaining a relationship of value exchange between the institution and the three main customer groups: alumni, current students and potential future students. The quality of these relationships is positively related to the customers' long-term loyalty (McAlexander & Koenig, 2001). Also the relationships *between* customers about the brand experience are positively related to the customers' long-term loyalty (McAlexander, Koenig, & Schouten, 2005).

The term brand has been used extensively as a focus of different studies regarding higher education marketing. There are many definitions for the term brand, but in the context of higher education the following definition seems fitting: *"A university's brand is a manifestation of the institution's features that distinguish it from others, reflect its capacity to satisfy students' needs, engender trust in its ability to deliver a certain type and level of higher education, and help potential recruits to make wise enrolment decisions"* (Bennett & Ali-Choudhury, 2009, p. 85-86). A brand is based on emotional and rational factors that form an image of an institution; an image being an individuals' perception of a brand. The focus on branding higher education institutions has originated from the need to make an institution relevant and distinctive due to increased competition (Hayes, 2007; Stensaker, 2005). Building a brand deals with core issues like identity, culture and mission (Stensaker, 2005). Conveying a unified brand requires an institution to communicate and work together across all divisions (Hayes, 2007). This kind of interdivisional cooperation in the field of marketing is called integrated marketing communication (IMC). A study on IMC found that it strengthens branding, but needs institutional leadership to be successfully implemented (Edmiston-Strasser, 2009).

2.3 Social Media as a marketing tool

2.3.1 Introduction

Social Media is a new form of online media that promote participation, openness, conversation, community and connectedness (Mayfield, 2008). Users and user-generated content (UGC) are the foundations of the Social Media. Some well known examples are Facebook, YouTube and Twitter. Facebook currently has over 400 million active users (January 2010; Facebook, 2010a), up from 150 million in the same period one year before (Facebook, 2010b). Every minute 20 hours of video get uploaded to YouTube (YouTube, 2010), while Twitter processes 1.2 billion tweeds every

day, up from 75 million in the same period one year before (January 2010; Pingdom, 2010). The social media are used to great extent, and have therefore a lot of potential for reaching customers. The following sections summarize some findings of previous research regarding Social Media strategy, classification and measurement.

2.3.2 Strategic considerations

The Social Media bring new challenges and opportunities to marketers, allowing them to interact with their markets and learn about and from them (Constantinides & Fountain, 2008). Social Media marketing is a relatively new field, and therefore it is hard to find studies that have measured the effectiveness of a Social Media marketing program. There is evidence however that an increasing number of organizations is practising more Social Media marketing over time, including companies (Barnes & Mattson, 2009b), charities (Barnes & Mattson, 2009c) and universities (Barnes & Mattson, 2009a).

In order for an organization to integrate a Social Media program into its marketing strategy, it must recognize that the Social Media changes the purchasing behaviour of a customer by adding a largely uncontrollable online experience to the customer's decision-making process (Constantinides & Fountain, 2008). An organization's marketing department should accept giving up some control and instead facilitate customers in "driving the organization's value proposition" (Parise & Guinan, 2008, p. 1). One condition is that the Social Media marketing program is viewed as an aggregate to the traditional (e)marketing program. As figure (1) shows, Social Media marketing will only thrive if it has a solid foundation with an innovative and high quality product or service, a market oriented organization supporting (e)marketing activities and a well-designed website (Constantinides, n.d.).

An issue worth mentioning is the need for (organization-wide) guidelines. As some cases show, the use of social media bears also threats (Barros, 2009). The Coca-Cola Company recently published their "Online Social Media Principles", including guidelines for personal online activities and for online spokespeople, who need to follow a "Social Media Certification Program" (The Coca-Cola Company, n.d.). Guidelines should not only specify rules and permissions, but also responsibilities, tasks and timeframes: unattended Social Media loses audience (Barnes & Mattson, 2009).

Figure 1. The position of Web 2.0 within the (E-)Marketing program (Constantinides, n.d.)

2.3.3 Classification

A classification of the types of Social Media is important because it helps looking at differences in usage extent and marketing possibilities. Constantinides and Fountain (2008) proposed a grouping of the Social Media types into five main categories:

(1) *Web logs*: applications allowing online journals (e.g. http://www.blogger.com).
(2) *Social networks*: applications allowing users to build personal websites and to connect to each other (e.g. http://www.facebook.com).
(3) *Communities*: applications allowing the sharing of content (e.g. http://www.youtube.com).
(4) *Forums*: applications allowing the exchange and discussion of ideas and information (e.g. http://www.epinions.com).
(5) *Content aggregators*: applications allowing users to make fully customizable web content (e.g. http://www.google.com/ig).

Above mentioned application types also exist in combined forms. For example, a profile on a social networking site (social network application) could include a discussion section on a certain subject (forum application), include pictures or videos (community application) or publish a feed of announcements from external sources (content aggregator application). The latter usually uses a technology called “Really Simple Syndication” or “Rich Site Summary” (RSS) to automatically stream data (e.g. blog entries, news updates) from selected sources with syndicated content (Constantinides, n.d.). For marketing purposes RSS technology offers great potential, as it can instantly distribute selected information to a large number of recipients, or to many places where an organization has an online presence.

The users of the Social Media can be classified according to the kind of activities they perform, and this can prove useful to segment the market and formulate different strategies for communicating with the users. Social Media users could be roughly grouped into three classes

according to use intensity: no use, passive use and active use. Li and Bernoff (2008) propose a more refined classification in their Social Technographics Ladder. In figure (2) these two classifications are combined, showing the following categories:

- *Active use* (1) *Creators*: Writing, publishing and uploading content
  (2) *Critics*: Rating, commenting on and contributing to content
- *Passive use* (3) *Collectors*: Tagging, voting on and subscribing to content
  (4) *Joiners*: Maintaining social network profile and connecting to others
  (5) *Spectators*: Read, watch and listen to content
- *No use* (6) *Inactives*: None of the former activities

A user operating at a higher level of the ladder does not necessarily perform activities at a lower level, although he likely does. This classification does not include statements regarding the time a users spends doing a certain activity.

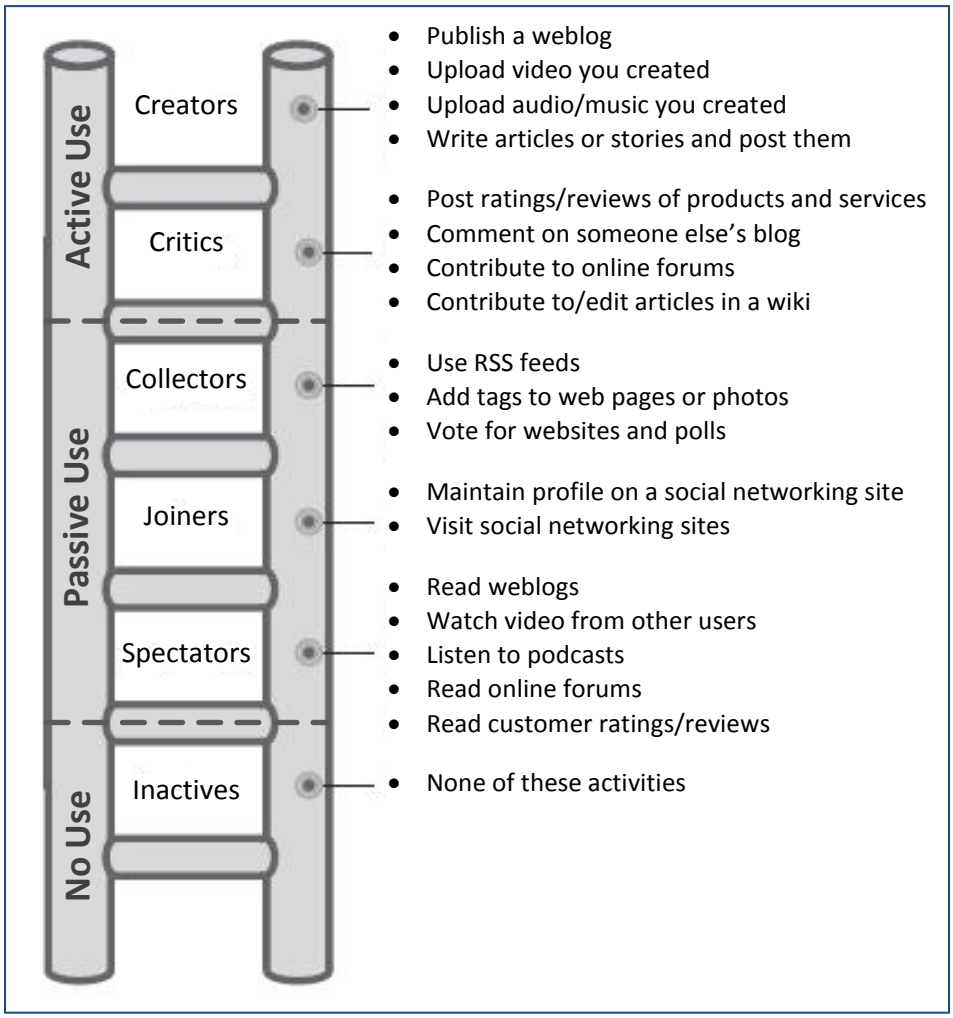

Figure 2. The Social Technographics Ladder, adapted from Li and Bernoff (2008), copyright 2008 Forrester Research, Inc.

2.3.4 Measurement

Measuring an assessing the results of a Social Media marketing program are critical to its success, while being a very challenging activity as well (Murdough, 2009). The blogosphere provides many suggestions on how to assess the performance of a Social Media marketing program (Brito, 2007; Golia, 2009; Koetsier, 2009). Most authors focus on the metrics easily available through various web-analytical applications, which are all quantitative measures, although some call for measuring also qualitative properties. Quantitative indicators include metrics like number of visitors, number of subscribers, time spent and frequency of visit of your different Social Media incentives. Qualitative indicators are more time consuming and less exact measures, but at least as important as the quantitative ones; they include tracking what users are saying about you online or tracking if they are engaging in relevant conversation with you online.

Recently, Murdough (2009) presented a Social Media measurement process with a classification of the Social Media metrics (figure 3). The three main classes of Social Media performance are:

(1) *Reach*: the above mentioned quantitative measures about users (e.g. number of subscribers) including a measure for the quality of the user (e.g. relevance, reliability).
(2) *Discussions*: the above mentioned qualitative measures (e.g. what users are saying about the product or organization) which can be categorized in topics discussed and sentiment of the discussions.
(3) *Outcomes*: indicators of intent, which could be defined in the marketing incentive's objectives (e.g. increase site traffic, produce a certain number of leads).

Furthermore Murdough (2009) advocates that the performance indicators should be set as a function of goals and objectives prior to designing and deploying a Social Media marketing incentive.

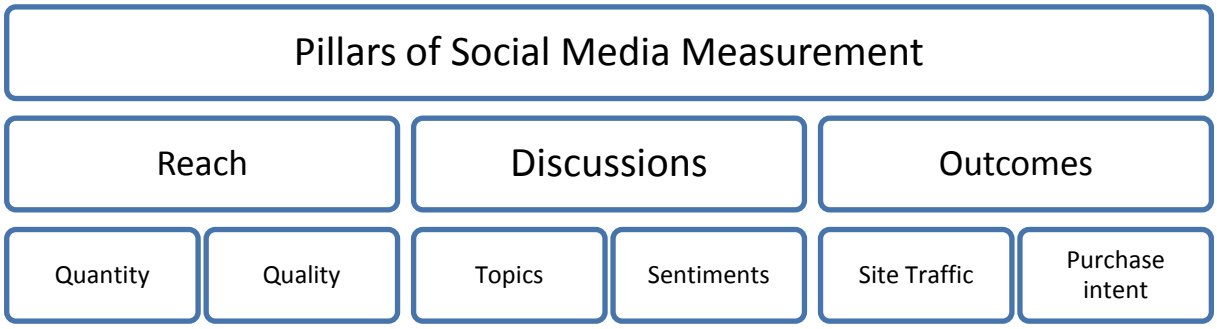

Figure 3. Pillars of Social Media Measurement (Murdough, 2009)

2.4 Using Social Media as a recruitment tool for higher education

This section reviews efforts made specifically in the domain of using Social Media as a marketing tool for higher education.

A longitudinal study of US colleges and universities shows a big rise in the use of Social Media by admission offices, up from 61% in 2007 to 85% in 2008 (Barnes & Mattson, 2009a). However, information on strategic issues, practical issues, case studies or best practices specific to Social Media use for higher education marketing is hard to find. One case study describes how a university

successfully adopted a customized social networking system as a marketing tool (Hayes, Ruschman, & Walker, 2009). There was a significant relationship between those who logged on to the social network and the likelihood of applying to the university. Furthermore, the study notes that the university was able to engage the users in conversation, and that the users were dialoguing among themselves. This resulted in a favourable situation that fits into the earlier described model of relationship marketing (section 2.1.3).

Some interesting strategic suggestions from the blogosphere for higher education institutions when moving into the Social Media marketing field are (Redfern, 2009; Reuben, 2008):

(1) *Integration*: a Social Media program should be integrated in the institutions' marketing strategy, defining goals and objectives that can be reached with the Social Media as a tool.
(2) *Institutional commitment*: staff inside the communications department should receive the opportunity to educate themselves on the subject of Social Media marketing. It should be justified to spend time creating and implementing a Social Media marketing program. Staff outside the communications department should envision and accept the value of Social Media marketing.
(3) *Interdivisional cooperation*: the institution should centralize strategic and operational decisions concerning the communication of value through the Social Media and collaborate as a whole to form a unified brand.

As noted before, Social Media marketing is an aggregate to traditional marketing including an organization's website (section 2.2.2). However, higher education institution websites "should not be seen solely as online brochures" but it "should create an engaging user environment" (Weiss, 2008 p.43). Klassen (2002) suggests that there is room for improvement when viewing higher education institution websites as relationship marketing tools. Therefore, it is useful to include an interaction between an institution website and its Social Media activities in both strategic and operational decisions.

2.5 Ethical considerations

2.5.1 Ethical higher education marketing

"Marketing had once been a term that could be spoken only in the most hushed tones in academia" (Edmiston-Strasser, 2009, p.146). According to (Anderson, 2008), the academic resistance to the concept of the managerial university was primarily related to issues regarding traditional academic core values (i.e. the capacity to assess, analyze and criticize). One important issue academics had against managerial practices was that it would be "compromising academic standards of quality and excellence" (Anderson, 2008 p.256). Because marketing is a managerial practice, and this practice is going against academics' core values and beliefs, it has become an ethical issue.

When approaching higher education marketing from an ethical point of view, Gibbs and Murphy (2009) propose a perspective of relationship marketing. In this perspective, marketing practices have to be aligned with the mission and goals of the academic institution, and have to be for the good of the academic community. Three guidelines were proposed in order for a higher education institution to practise ethical marketing:

(1) Marketing principles are not the drivers of an institution, calling on the "moral strength from institutional leaders to remain true to their values" (Gibbs & Murphy, 2009 p. 351).
(2) Relationship marketing can be an ethical approach to marketing for institutions.
(3) Applying holistic marketing, the institutions' marketing ideology supports and enhances academic values.

2.5.2 Ethical Social Media marketing

A Newsweek article (Lyons, 2009) recently reported that some Facebook users are being tricked into signing up for paid products or services through advertisements. Although this example is unarguably an unethical marketing practice, some important ethical considerations can be deducted from it.

(1) Because of one of the principles of the Social Media, i.e. that anyone can add content to them, it is hard for users to check the authenticity of the message. As the above example shows, also false content is trusted. Although false or faulty content, after being assessed, does not have a long life because the community warns each other (Papworth, 2010), an organization's reputation can suffer serious damage when publishing false or faulty content. Therefore, being authentic and transparent in an organization's communication through the Social Media, is the best option, both from an ethical and managerial point of view.
(2) Privacy issues arise, because Social Media users often share personal data online. Although users usually have to agree beforehand to have their information published, using this information may be ethically dubious. An organization should define standards of conduct regarding this issue (Hayes, Ruschman, & Walker, 2009).
(3) The above example shows that the Social Media can be addressed as an advertisement medium. Although such an advertisement can reach a large market, it goes against the principle of engagement in the Social Media. The marketing efforts should engage users into conversation, and the users should decide about the popularity of the content (Olthuis, 2007). Viewing the Social Media as the platform for which it is intended, instead of an advertising platform, is a much more ethically sound way of practising Social Media marketing.

2.6 Conclusion

This chapter reviewed existing (academic and non-academic) literature on the subject of higher education marketing, Social Media marketing and the combination of both (i.e. the Social Media as a tool for higher education marketing). Key points resulting from this review are:

- Higher education institutions need to market themselves in order to compete.
- Markets differ geographically, making it hard to generalize market properties. Analysis among students from secondary education is requested for the University of Twente.
- The marketing of a higher education institution is best viewed from a relationship marketing perspective, focusing on building and maintaining relationships of value exchange with and among the customers.
- To make a higher education institution relevant and distinctive in a competitive market, it should focus on the brand it conveys. Interdivisional cooperation is important in the branding process.

- The Social Media are used to great extent, and have therefore a lot of potential for reaching customers. A change in marketers' attitude however is needed to succeed in this field.
- Before formulating a Social Media strategy and implementing a program it is important to have a solid foundation in the product, the organization, the conventional marketing and the website. Formulating Social Media guidelines for employees is important as well.
- A classification of Social Media type and user activity has been proposed based on previous research.
- Measuring the return of a Social Media marketing program is hard, but both quantitative and qualitative measures are available.
- Higher education institutions are using the Social Media, but no apparent framework is available. Key issues for institutions are integration, institutional commitment, interdivisional cooperation and integration of website and Social Media activities.
- Three ethical guidelines for both higher education marketing and Social Media marketing have been discussed.

3. METHODOLOGY

3.1 Introduction

This chapter presents the methods used to answer research questions (2) through (4). The statistical techniques used are discussed in section (3.2), and include a cluster analysis and factor analysis. Furthermore, the following sections discuss the choice of the target population and the sample, issues regarding the survey design and data collection, and the limitations of the sample and methodology.

3.2 Research design

3.2.1 Overview

Research questions (2) through (4) were answered using empirical data collected by means of a national survey (N=403) among future university students in The Netherlands. Research questions (2) and (3) were treated using descriptive statistics. The data regarding the use of the Social Media were taken as criteria for a post hoc cluster analysis, to investigate possible market segmentation and attempt to answer research question (4a). Post hoc cluster analysis is commonly used in segmentation studies (Punj & Stewart, 1983; Hoek, Gendall, & Esslemont, 1996). A detailed description of the methodology for the cluster analysis is given in section (3.2.2). However, the cluster analysis did not yield a satisfactory segmentation, for reasons that are explained in Chapter (4) – Analysis and results. To try to overcome this shortcoming, a factor analysis was subsequently chosen to cluster the original data set based on the Social Media usage, as this is also a technique used for market segmentation (Hoek et al., 1996). A detailed description of the methodology for the factor analysis is given in section (3.2.3). The factor analysis did yield a better, albeit slightly, segmentation compared to the cluster analysis and these results were therefore used for answering research question (4a). After answering this question, the results were compared to the Social Technographics Ladder classification theory of Li and Bernoff (2008) discussed in section (2.3.3). For this purpose the sample was also clustered according to this classification. To examine the differences, if any, in Social Media usage between the existing and potential geographical market segments, the data were clustered into these two a priori segments. Research question (4b) was answered by analyzing the relevant differences of the usage information between these two segments. The significance of the differences was assessed using Pearson's chi-square test of independence, a test that is commonly used for this purpose (Slakter, 1965). The null hypothesis of the test (stating that the Social Media usage is independent of the segments) is rejected for test values ≤0.05, corresponding to the commonly accepted 95% confidence level. The data analysis was carried out with the statistical program PASW (formerly SPSS) version 18.0.0, and the syntax used for the analysis can be found in appendix (A).

3.2.2 Cluster analysis

A clustering method aims to find groups of cases by minimizing the distance between the cases within a group, and maximizing the distance between the groups. Many different clustering

methods are available for use in segmentation studies, divided into two main groups: hierarchical and non-hierarchical clustering methods. Both have their strengths and weaknesses and differ in the way the clusters are formed. Hierarchical clustering is an agglomerative method, starting with one case and combining the cases to form clusters until one large cluster is obtained. Non-hierarchical clustering partitions the sample, connects starting points to each partition and assigns cases to the partitions. These methods may produce different clusters, partly because during the process they require substantial input from the researcher (Hoek et al., 1996). The two-stage clustering approach proposed by Punj and Stewart (1983) formed the basis for the cluster analysis performed in this study. This approach was chosen because it uses both a hierarchical and a non-hierarchical clustering and therefore minimizes some of the disadvantages of each method. The first stage used hierarchical clustering to find the number of clusters and the starting points for the clusters (i.e. centroids). The second stage used the first stage outcomes as basis for the non-hierarchical clustering. The reason for adding this first stage to a non-hierarchical clustering method was because the latter is sensitive to the starting centroids, and because the number of clusters has to be determined prior to its use. The first stage provides the needed information. Ward's method was used as the hierarchical clustering technique for stage (1), and the non-hierarchical K-means clustering method was used for stage (2) because it is frequently used for market segmentation purposes (Krieger & Green, 1996). An overview of the method followed is given in figure (4). The method can be divided into the following steps:

(a) *Stage (1):* During this step the cases were clustered based on the Social Media usage data (question D5 – Appendix A) using Ward's method, producing a dendrogram and the initial cluster membership of the cases. The dendrogram is a multi-level tree diagram showing in the first level (the leafs) how the hierarchical clustering method groups the cases, in the second level (the branches) how the groups are linked to form a smaller number of larger groups, and so on until one group is left (the main stem). The length of the branch that connects two groups stands for the amount of differentiation between them. A number of clusters was inferred from the dendrogram. There are no precise guidelines for doing this, but the key is to choose a workable number of clusters resulting in groups with a significant number of cases belonging to them and the largest possible differentiation between them. The clustering was repeated for the chosen number of clusters to obtain the cluster memberships.

(b) *Preliminary solution:* To obtain the preliminary solution the centroids (i.e. cluster centre-points) were calculated for each variable using the cluster memberships resulting from the previous step. A centroid corresponds to the average score of a variable for each cluster.

(c) *Stage (2):* During this step of the two-stage method the K-means method was used to cluster the cases. The number of clusters and the formed centroids from the previous step were used as input for this part of the analysis, producing a new list of the cluster membership of the cases.

(d) V*alidation:* Validating the clusters was performed by splitting the sample in two random halves and repeating the clustering stages (1) and (2) on each half. The resulting cluster memberships were compared using Pearson's chi-square test of independence, to test if they differed

significantly (the same guidelines were used for the chi-square test as explained in 3.2.1). For the clusters to be accepted as valid, the two variables needed to be independent.

(e) *Final Solution:* The last step was to interpret the clusters by reviewing the centroids for each variable, for each cluster. The usefulness of the clusters was assessed by comparing the interpretation of the clusters. In order for the clusters to have marketing value they should reflect groups of cases with distinctive features. This step has to be taken into consideration because the method will find clusters, even if the data is not clustered.

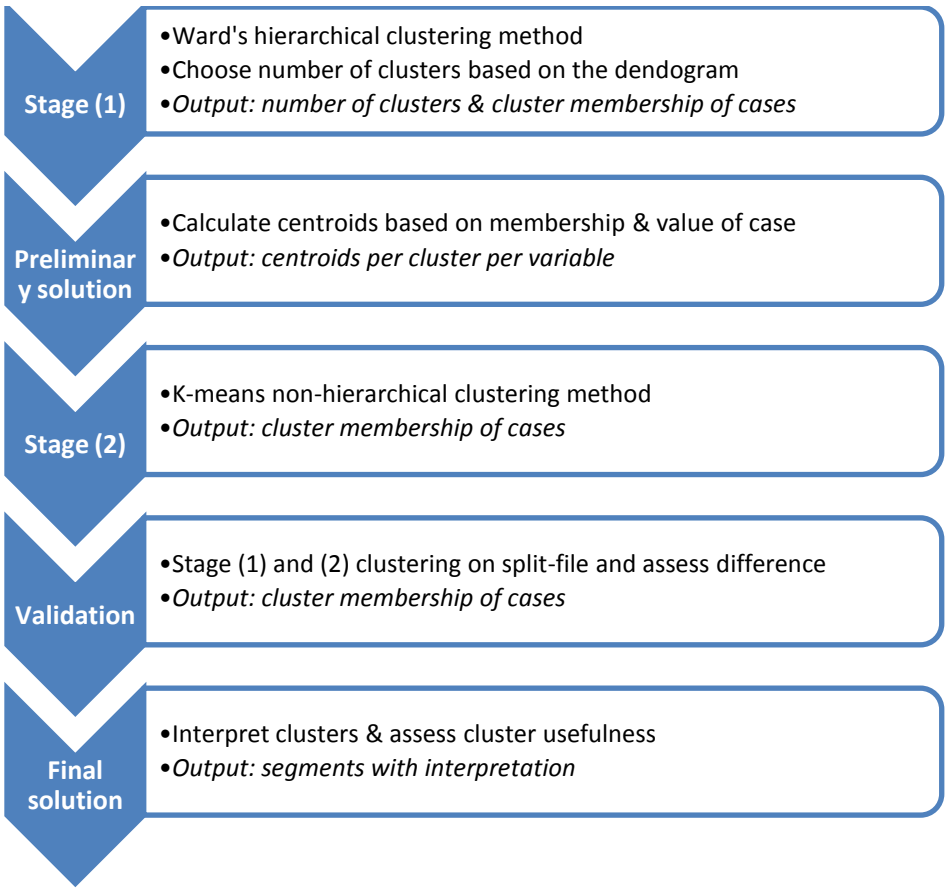

Figure 4. Overview of the cluster analysis methodology

3.2.3 Factor analysis

A factor analysis aims to find a set of factors that explains most of the variability in a larger set of variables, for the purpose of identifying structure or obtaining data reduction. When used for identifying structure, the resulting factors can be used to define market segments (Minhas & Jacobs, 1996), and subsequently to classify the cases according to these segments. The main difference with the cluster analysis is that the latter usually combines cases, whereas the factor analysis usually combines variables (although the two can be used in both ways on the transposed matrix). There are two main methods of factor analysis: Principal Components Analysis (PCA) and Principal Factors Analysis (PFA). PCA is usually used for data reduction while PFA is usually used for identifying structure (StatSoft, Inc., 2010). The reason for this is that factors found with PCA (i.e. components)

seek to reproduce the *total variance* of the variables (i.e. internal variance of variables plus covariance between variables), while PFA factors only account for the *covariance* (Garson, 2010). When identifying structure between variables the internal variance is less important and therefore PFA was used as method of analysis for this study. Varimax rotation was applied to the factors resulting from the PFA. This procedure simplifies the interpretation of the factors by increasing the difference between the low and high values of the factor loadings (Rennie, 1997), and is a common procedure in segmentation studies (e.g. Minhas & Jacobs, 1996). The rotated factor loadings were used as basis for the segmentation. An overview of the method followed is given in figure (5). The method can be divided into the following steps:

(a) *Factor extraction:* Principal Factors Analysis (in PASW identified as principal axis factoring) with the Social Media usage data (question D5 – Appendix A) as input and Varimax as rotation method were used for the factor extraction. Factors with eigenvalues ≤1 were not retained (i.e. the Kaiser criterion was used). Factor loadings <0.4 were not considered because these loadings correspond to less than 20% of the explained factor variance. This cut-off value is often used by researchers, as noted by Raubenheimer (2004).

(b) *Group & assign:* The variables belonging to each relevant factor were determined from the rotated factor matrix resulting from the previous step. The cases were assigned to none or more factors by calculating their mean score on the variables belonging to the factors. Cases with a mean >3.0 were assigned to the respective factor, thus forming groups with a frequency of use of "more than sometimes" (i.e. "often" and "always", see section 3.5 for the complete scaling).

(c) *Final solution:* The last step was to interpret the groups that were found and form clusters with them. The clusters were made by considering the sizes and traits specific to the groups, in order to form clusters that are useful for marketing purposes.

After the segments were formed, the dependence to the segments of the other variables in the data was analyzed using Pearson's chi-square test of independence (as described in 3.2.1).

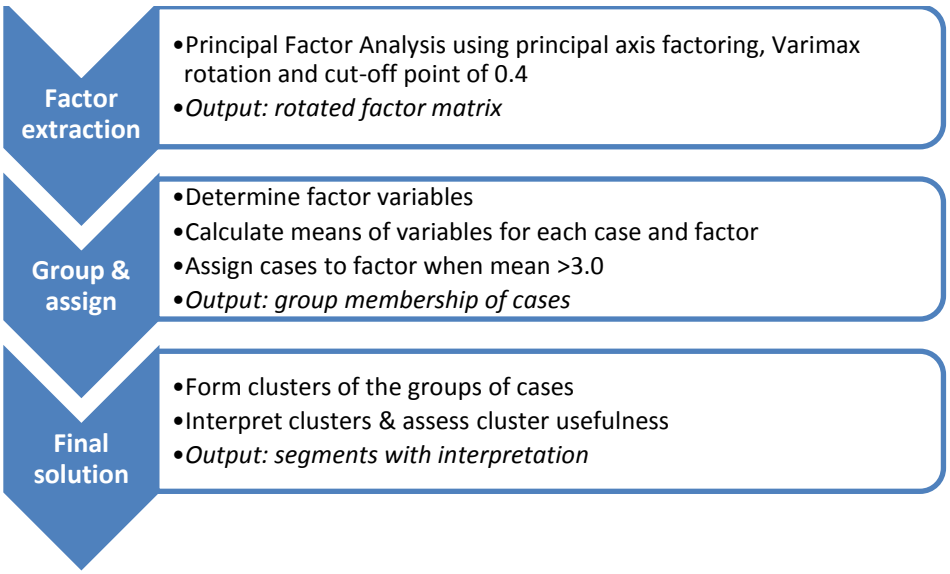

Figure 5. Overview of the factor analysis methodology

3.3 Target population

This study focuses on the national market of the University of Twente (i.e. The Netherlands). The population of future university students consists of students in the last two years of their secondary school, i.e. 5th and 6th years of the pre-university secondary education (Voorbereidend Wetenschappelijk Onderwijs or VWO). The 5th and 6th years were chosen as the target population because a marketing analysis carried out earlier by the University of Twente showed that the majority (73,9%) of students made a choice of university in these last two years. Past enrolment information showed that around 80% of new bachelor applications was regional (i.e. from the province of Overijssel where the University of Twente is located). Therefore the existing market of the University of Twente was geographically defined as the part of the population within the province of Overijssel, while the potential market was defined as the part of the population outside the province of Overijssel.

3.4 Population sample

A sample was selected from the population using the probability method of stratified sampling in order to ensure sufficient cases for answering research question (4b), where the sample was divided into the existing and potential market. The target sample was established at N=400 to perform a K-means cluster analysis, that needs large samples (a commonly used threshold value is >200, e.g. Garson, 2010). The strata targets dividing the sample into the two geographical clusters were established at N=100 for the existing market and N=300 for the potential market. The samples were selected through unweighted, random sampling resulting in two reliable subsamples of the future student population.

A sample size of N=403 was achieved, after excluding 563 cases that did not belong to the defined population, 126 cases that were incomplete or faulty and 108 cases because the quota was met. The sample size for the existing market (N_1=103) and for the potential market (N_2=300) closely met the established targets. Some descriptive variables about the sample are given in table (1). The table also shows the distribution of these variables for the defined population. Pearson's chi-square test of independence (as described in 3.1.1) was used to assess if the differences between the sample and the population are significant. Within the boundaries of the test, the variables age, school year and curriculum in the sample were accepted as representative for the population. The strata were weighted according to their relative proportion to make them representative for the population as a whole. This was needed for answering research questions (2), (3) and (4a). The weights of 0.242 for the existing market and 1.260 for the potential market were attached to the corresponding cases in PASW. The gender distribution in the sample is somewhat different from the population, although for a confidence level of 99% the null hypothesis stating independence is not rejected. Therefore, and for the reason of simplicity, the variable gender is accepted as representative. This makes the sample representative of the defined population, allowing generalization of the results.

*Table 1. Descriptive information about the sample (N=403) and comparison to the population**

		Sample (%)	Population (%)	χ^2	Significance	Weight
Gender	Male	35.4	46.2	4.736	**>0.01**	
	Female	64.6	53.7			
Stratum	Overijssel	25.6	6.2	64.622	**<0.001**	**0.242**
	Rest of The Netherlands	74.4	93.8			**1.260**
Age	16	24.6	32.3	6.314	>0.05	
	17	49.5	45.7			
	18	25.4	19.1			
	19	0.5	3.0			
School year	5 VWO	49.8	51.7	0.142	>0.05	
	6 VWO	50.2	48.3			
Curriculum	Natuur & Techniek	27.0	17.4	6.656	>0.05	
	Natuur & Gezondheid	29.4	30.8			
	Economie & Maatschappij	27.5	33.7			
	Cultuur & Maatschappij	16.2	18.1			

**population data obtained from CBS, 2010; population data and calculation of the χ^2-value and the weights can be found in table B1 of Appendix B*

3.5 Survey design

The survey was based on a combination of questions grouped into the following main categories:

(a) *Socio-demographics*, including multi choice and multiple choice questions regarding gender, age and curriculum. Information about the geographical location of the respondent was provided by the research agency that carried out the fieldwork.

(b) *Decision parameters in choosing higher education studies and university*, including multiple choice questions, a small number of open-ended questions and questions using a 5-point Likert scale (1=strongly disagree; 2=disagree; 3=undecided; 4=agree; 5=strongly agree).

(c) *The use of media in general*, including only multiple choice questions.

(d) *The use of the Social Media*, including multi choice, multiple choice and open-ended questions and questions using a 5-point Likert scale (1=never; 2=almost never; 3=sometimes; 4=often; 5=always). Some questions were not asked to respondents who did not have a profile on at least one Social Media site. These were activities that could not be carried out without a profile, and hence a "1" (never) was inputted afterwards for the fields.

The Likert scales were treated as interval scales because these were needed for the variables to serve as input for the cluster and factor analysis. This is a common practise, although there is controversy on the issue of the scale being either interval or merely ordinal (Knapp, 1990). The survey was fine-tuned with the aid of a marketing expert on the issues of clarity, completeness, redundancy and length. The survey was then tested on six students from the target population. The final version of the survey can be found in appendix C (in Dutch).

3.6 Data collection

The data collection was carried out by a market research agency in March of 2010. Invitation emails were sent out to 3226 people on their panel. The survey was presented online to 1200 respondents who accepted the invitation. An online survey was considered to yield more responses than a paper survey due to the relative ease of participation. Furthermore, the costs of an online survey were argued to be lower than those of a telephone survey due to the relatively large sample size, and lower than those of a paper survey due to the geographic dispersion of the sample.

3.7 Limitations

The sample population allows generalization of the results for The Netherlands. However, the sample might not be representative for other countries due to differences in cultural values and economic situation. On the other hand, clustering depends on the segmentation method used; thus, the implementation of other segmentation methods might generate variations in the clustering outcomes. Finally, results can be biased by the substantial amount of choices and assumptions that have to be made when using segmentation methods. However, in this study, all the choices made were justified and therefore the results could be used for answering the research questions.

4. MARKET OF THE UNIVERSITY OF TWENTE

4.1 Introduction

The study results will help the marketing department of the University of Twente to form a better picture of the behaviour of the future university student, in particular about the role the Social Media play in the daily life of students. The results include factors and information sources regarding the choice of a university study and institution (section 4.2), a general mapping of (Social) Media usage (section 4.3) and a segmentation of the market based on Social Media usage (section 4.4).

4.2 Factors and sources influencing choice

4.2.1 Introduction

For answering research question (2), the sample was asked which factors were important and which information sources were useful for making the decision of an institution. As stated in section (1.3) research question (2) is as follows:

What are the factors and information sources that influence the choice of an institution by future university students in the core geographical markets of the University of Twente and outside them?

The sample students were also asked if they had already made the choice of a study or institution, of which the results are presented in section (4.2.2). The factors and information sources influencing this choice are presented in section (4.2.3).

4.2.2 Choice of study and institution

Table (2) summarizes the stage the respondents were in regarding the decision-making process for the choice of a study and an institution. At the time of questioning, the majority of the respondents had not yet made a choice of a study (58.3%) or an institution (56.8%). When comparing the data of the fifth year students with the sixth year students it becomes clear that many of the latter made a choice somewhere within that year: only 13.0% of the fifth year students had chosen a study compared to 69% of the sixth year students, and only 19.1% of the fifth year students had chosen an institution compared to 67.2% of the sixth year students. A ranking of the universities chosen by the respondents that had made a decision and a ranking of the universities that are on the short-list of the respondents that have narrowed down their options are presented in table (3).

Table 2. Stage of choice of a university study and institution (N=403)

Proportion of respondents who:		5 VWO	6 VWO	Total
made the choice of a *study*		13.0%	69.0%	41.2%
did not make the choice of a *study*	but had narrowed down the options	69.0%	24.1%	46.4%
	because they did not know yet	17.5%	6.4%	11.9%
	because they were not going to study	0.5%	0.5%	0.5%
made the choice of an *institution*		19.1%	67.2%	43.3%
did not make the choice of an *institution*	but had narrowed down the options	49.7%	24.4%	37.0%
	because they did not know yet	31.2%	8.5%	19.8%

Table 3. Institutions that respondents chose and narrowed down to (N=403)

Respondents chose: (N=173)			Respondents narrowed down to: (N=148)		
1.	Rijksuniversiteit Groningen	11.8%	1.	Universiteit Utrecht	12.4%
2.	Erasmus Universiteit Rotterdam	7.6%	2.	Rijksuniversiteit Groningen	10.2%
3.	Universiteit Utrecht	7.6%	3.	Universiteit van Amsterdam	8.0%
4.	Radboud Universiteit Nijmegen	7.1%	4.	Universiteit Leiden	7.6%
5.	Technische Universiteit Delft	5.3%	5.	Radboud Universiteit Nijmegen	7.3%
	Universiteit Twente	5.3%	6.	Technische Universiteit Delft	6.4%
	Universiteit van Amsterdam	5.3%	7.	Vrije Universiteit Amsterdam	5.7%
8.	Universiteit van Tilburg	4.7%	8.	Erasmus Universiteit Rotterdam	4.1%
	Universiteit Wageningen	4.7%		**Universiteit Twente**	4.1%
10.	Universiteit Leiden	3.5%	10.	Universiteit van Maastricht	3.8%
	Technische Universiteit Eindhoven	3.5%		Other	*30.3%*
	Other	*33.5%*			

4.2.3 Factors and information sources

A ranking of the factors influencing the decision of an institution based on the mean value of the responses for the current market, potential market and in total is presented in table (4). The ranking of the factors should be considered with caution, because the differences of the mean values were not substantial, especially compared to the standard deviation (σ) of the means. The mean of the top eight factors were all $3<\mu<4$; a (3) meaning respondents were undecided regarding the importance of the factor and a (4) meaning respondents agreed on calling the factor important. The five most important factors were the institution's offer of social activities (μ=3.75), the city's social and cultural facilities (μ=3.72), a great variety of studies (μ=3.52), good ratings (μ=3.52) and good mouth to mouth on the internet, e.g. on blogs or social networking sites (μ=3.44). The friends' and family's choice for the institution ranked last (μ=2.45 and μ=2.03 respectively). The rankings of the current market were very similar to those of the potential market. One noticeable difference was that the potential market ranked good and affordable housing sixth (μ=3.38) while the current market found the issue to be more important and ranked it third (μ=3.60).

Table 4. Mean (μ), standard deviation (σ) and rank of factors assessed by their importance for the choice of a university study and institution

	Current market (N=103)			Potential market (N=298)			Total (N=400)*		
	μ	σ	Rank	μ	σ	Rank	μ	σ	Rank
The institution's offer of social activities	3.72	.990	1	3.75	.946	1	**3.75**	**.948**	**1**
The city's social and cultural facilities	3.72	1.030	2	3.72	.956	2	**3.72**	**.959**	**2**
Great variety of studies	3.52	.963	5	3.52	1.005	3	**3.52**	**1.002**	**3**
Good ratings	3.56	.961	4	3.52	.880	4	**3.52**	**.885**	**4**
Good mouth to mouth on the internet	3.52	.920	6	3.43	.878	5	**3.44**	**.880**	**5**
Good and affordable housing	3.60	1.039	3	3.38	1.005	6	**3.40**	**1.008**	**6**
The institution's offer of cultural activities	3.31	.877	7	3.26	.894	7	**3.26**	**.892**	**7**
The institution's offer of sporting activities	3.30	1.189	8	3.17	1.045	8	**3.18**	**1.053**	**8**
Proximity to parents	2.51	1.137	9	2.99	1.264	9	**2.96**	**1.261**	**9**
Friend's choice for the institution	2.51	1.034	10	2.45	.924	10	**2.45**	**.930**	**10**
Family's choice for the institution	1.91	1.007	11	2.04	1.019	11	**2.03**	**1.017**	**11**

**The total market closely follows the potential market because of the proportion of the potential market of 94%*

A ranking based on the mean value of the responses for the current market, potential market and in total is presented in table (5) for the most important information sources influencing the decision of an institution. The five most useful information sources were taster days and campus visits (μ=4.43), official university internet sites (μ=4.12), brochures (μ=4.02), friends, family and acquaintances (μ=3.70) and information received from high school (μ=3.54). The four Social Media information sources, i.e. weblogs, communities, forums and social networks, ranked last. On average respondents were undecided or disagreed with the notion of the Social Media being useful information sources (μ≤3.00). The rankings of the current market were very similar to those of the potential market.

Table 5. Mean (μ), standard deviation (σ) and rank of information sources assessed by their usefulness for the choice of a university study and institution

	Current market (N=103)			Potential market (N=298)			Total (N=400)*		
	μ	σ	Rank	μ	σ	Rank	μ	σ	Rank
Taster days/campus visit	4.25	.982	1	4.44	.670	1	**4.43**	**.694**	**1**
Official university internet site	3.92	.929	2	4.14	.649	2	**4.12**	**.671**	**2**
Brochures	3.83	.955	3	4.03	.695	3	**4.02**	**.714**	**3**
Family/friends/acquaintances	3.52	.952	4	3.71	.863	4	**3.70**	**.869**	**4**
High school	3.42	1.050	5	3.54	.946	5	**3.54**	**.952**	**5**
Weblogs	3.02	.995	6	3.00	.921	6	**3.00**	**.924**	**6**
Online communities	2.65	.940	9	2.73	.972	7	**2.73**	**.969**	**7**
Forums	2.81	.965	7	2.69	.913	8	**2.70**	**.916**	**8**
Social networks	2.68	.924	8	2.67	.920	9	**2.67**	**.919**	**9**

**The total market closely follows the potential market because of the proportion of the potential market of 94%*

4.3 Use of (Social) Media

4.3.1 Introduction

For mapping the use of the media in general and the Social Media in particular, the problem was divided into three parts, as stated in research question (3):

How do future university students use the (Social) Media in the Netherlands?

(a) What are the frequency and the duration of use of the (Social) Media?
(b) What Social Media sites are most used? (e.g. Hyves, Facebook, Twitter)
(c) What kind of connections and how many of them do Social Media users maintain?

The results for each part of the question are summarized in the following three sections.

4.3.2 Frequency and duration

The sample students were asked about the duration of their daily use of the radio, television and internet. The results of this question are presented in figure (6). The mean values of the scores indicate that the internet was most used (μ=3.61), followed by the television (μ=2.81) and the radio (μ=2.04). More than half of the sample (54.6%) spent two hours or more per day online. The rate was 25.0% for watching television and 14.0% for listening to the radio.

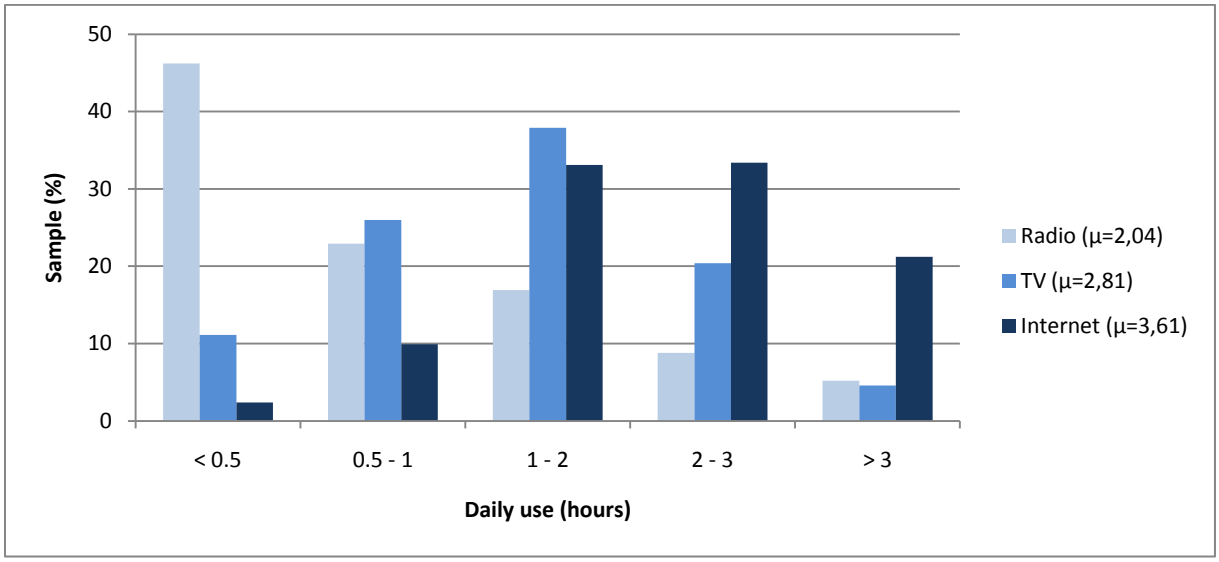

Figure 6. Percentage of the sample students that daily use radio, television and internet a certain amount of time (N=403; source data: table B2)

The sample students were also asked some questions specifically about their use of the Social Media, results of which are summarized in table (6). Respondents that had at least one profile were asked the frequency they logged into their profile and the duration they were active every session. A majority of the sample students logged in at least once per day (77.5%). The duration of activity of "between 10 and 30 minutes" was the most common among respondents (37.0%).

Table 6. Frequency and duration of the use of the Social Media (N=403)

Number of SM site profiles		Log on frequency		Duration of activity	
None	4.9%	Never	4.9%	None	4.9%
One or more	95.1%	Less than once a week	8.7%	Less than 5 minutes	11.4%
		Once a week	8.9%	5 - 10 minutes	27.4%
		Once a day	31.3%	10 - 30 minutes	37.0%
		More than once a day	37.0%	30 - 60 minutes	15.3%
		Constantly	9.2%	More than 60 minutes	4.1%

4.3.3 Sites

From table (6) can be seen that 95.1% of the sample had at least one Social Media profile. Figure (7) shows on which site(s) the respondents indicated having a profile. The Social Networking Site (SNS) *Hyves* was used most (88.4%), followed by the video content community *YouTube* (60.1%) and the SNS *Facebook* (40.3%).

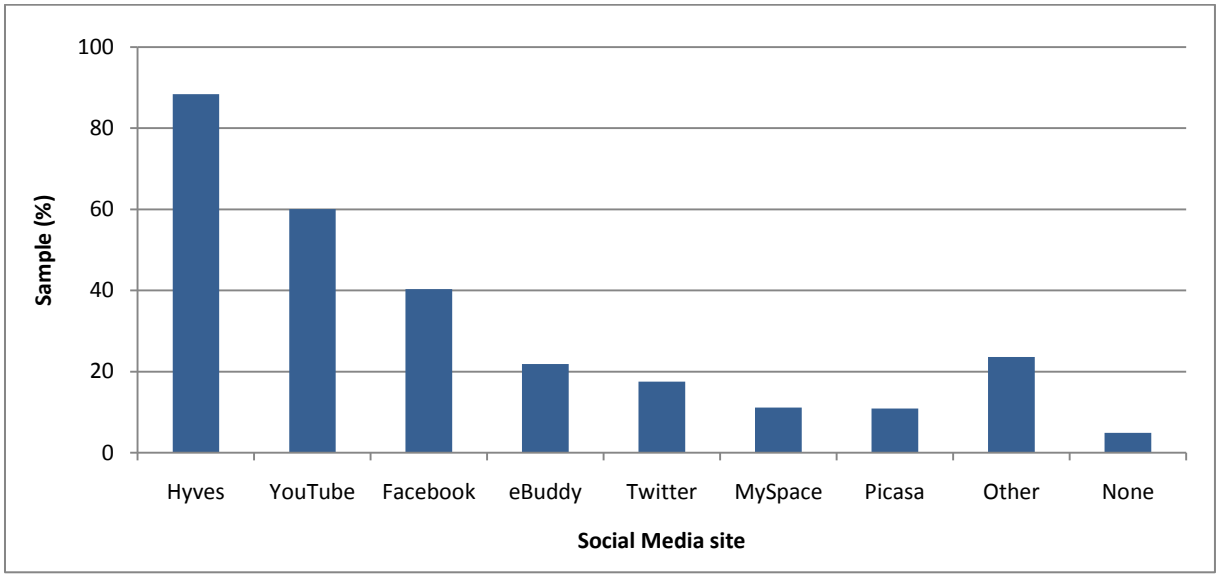

Figure 7. Percentage of sample maintaining a profile on a certain Social Media site (N=403; source data: table B3)

4.3.4 Connections

A part of the survey was designed to explore how many and what kind of connections Social Media users maintained. The results presented in table (7) focus on the part of the sample students that had indicated having at least one Social Media profile (N=383, i.e. 95.1% of the sample). Almost all Social Media users (97.7%) were connected to other users on SNSs; 83.8% were connected to some sort of special interest group or community (e.g. related to sport or music), 70.5% to their own school, 47.8% to companies or brands and 43.1% to educational institutions other than their own. Furthermore 37.1% of the Social Media users were followers of YouTube video channels and 14.3% were followers of users on Twitter. The mean (μ) of the number of connections in table (8) should be

considered with caution, as the standard deviation (σ) indicates a large variance among the answers. The average number of connections on a SNS was 209.4, ranging from 1 to 710.

Table 7. Percentage of Social Media users per type of connection, mean (μ), standard deviation (σ) and range (N=383)

Friends with/fan of/follower of	**Proportion**	**μ**	**σ**	**Range**
Other users in general on favorite SNS*	97.7%	209.4	144.653	1 - 710
Groups or communities on a SNS	83.8%	12.9	15.800	1 - 100
Own school on a SNS	70.5%	-	-	-
Companies or brands on a SNS	47.8%	5.1	8.015	1 - 50
Other educational institutions on a SNS	43.1%	1.9	1.914	1 - 15
Channels on YouTube	37.1%	3.8	4.869	1 - 40
People or organizations on Twitter	14.3%	30.1	37.556	1 - 198

** SNS stands for Social Networking Sites*

4.4 Market segmentation

4.4.1 Introduction

The analysis of research question (4) as formulated below involves a segmentation of the future student market and a comparison between the current and potential markets:

Is the market of future university students in The Netherlands a segmented market?

(a) Can the market for future university students be segmented based on Social Media usage?

(b) Is there a difference in the use of Social Media between the core geographical markets of the university and students from other geographical areas?

As stated in section (3.2.1) the segmentation was done with two different methods because the cluster analysis method did not yield satisfactory results. These results and an explanation of the previous statement are presented in section (4.4.2). In search for improving the segmentation a factor analysis was performed. The results from the factor analysis are presented in section (4.4.3). The results of the segmentation based on the theory of the Social Technographics Ladder are presented and compared to the segmentation based on the factor analysis in section (4.4.4). Finally, in section (4.4.5), the current and potential markets are compared on the basis of the segmentation obtained with the factor analysis method.

4.4.2 Cluster analysis segmentation

Stage (1) of the cluster analysis resulted in the dendrogram showed in figure (8). Three clusters (i.e., a1, a3 and a3) were identified to best describe the data based on the Social Media usage as criteria. This choice ensures a maximum differentiation between the clusters because of the fairly long branches connecting them. An option of four clusters (.e., b1 to b4) was also considered, but the differences between clusters (b3) and (b4) would be small because the branches connecting them are short. Table (8) shows the number of cluster memberships per cluster for the preliminary solution. The sizes of the preliminary clusters differed substantially from each other. Furthermore, the calculated preliminary cluster centroids (see table B4 for the complete list of cluster centroids per

input variable) did not indicate a presence of excluding activities. The centroids showed a low level of use for cluster (1), an intermediate level of use for cluster (3) and a high level of use for cluster (2) on all variables.

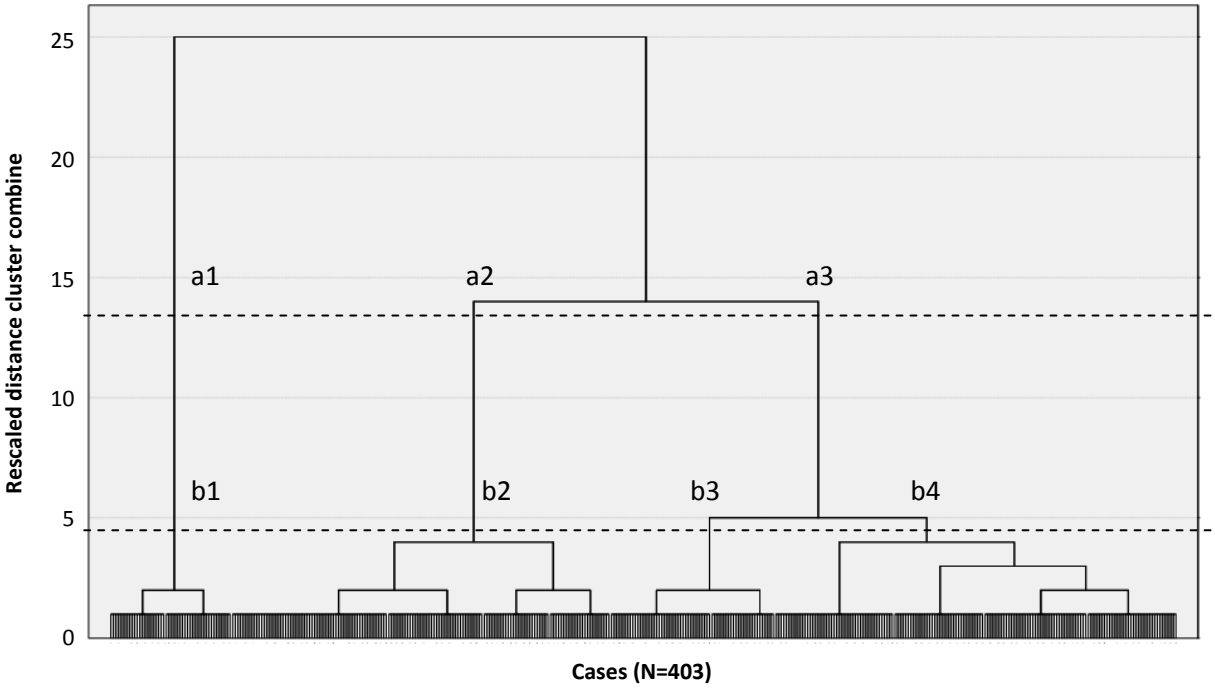

Figure 8. Dendrogram obtained from Ward's clustering method and the Social Media usage as criteria

Table 8. Cluster memberships per cluster of the preliminary solution (N=403)

	Initial cluster		
	1	**2**	**3**
Memberships (N)	52	131	220
Memberships (%)	12.9%	32.6%	54.5%

Stage (2) of the cluster analysis used the calculated initial cluster centroids based on the choice of three clusters as input. The dendrograms, cluster centres and cluster memberships resulting from this stage can be found in figures B1, B2 and tables B6, B7 in appendix B. The chi-square test of independence performed on the stage (2) outcome for the validation resulted in a value of χ^2=0.173≥0.05 and therefore the stage (2) solution was accepted as valid. Table (9) shows the number of cluster memberships per cluster for the final solution. The sizes of the preliminary clusters have been brought somewhat closer together compared to the preliminary cluster solution. The final cluster centroids (see table B5 for the complete list of cluster centroids per input variable) still did not indicate a presence of excluding activities. The centroids showed a low level of use for cluster (1), an intermediate level of use for cluster (3) and a high level of use for cluster (2) on all variables. Therefore, three segments were identified as "beginner", "average" and "expert" Social Media users. The typology of the segments can be inferred from the levels of activities that were carried out *at least sometimes* by the clusters, as showed in figure (9).

(1) *Beginner user*: This segment made up 13.9% of the sample, and is characterized by relatively low levels of use of the Social Media. Seeking entertainment and viewing pictures and videos were the activities carried out the most by this segment, although relative levels of use were low.
(2) *Average user*: This segment made up 41.4% of the sample, and is characterized by relatively medium levels of used of the Social Media. Entertaining and social activities were the main foci of this segment, characterizing them as passive users. Next to these foci one information adding activity was also carried out at least sometimes by a majority of the segment, namely the sharing of pictures and videos.
(3) *Expert user*: This segment made up 44.7% of the sample, and is characterized by relatively high levels of use of the Social Media. Expert users performed the same entertaining and social activities as the average users, but carried out also information seeking activities. Although this segment also engaged in information adding activities like sharing pictures and videos and some others at relatively low levels, the main focus was passive use.

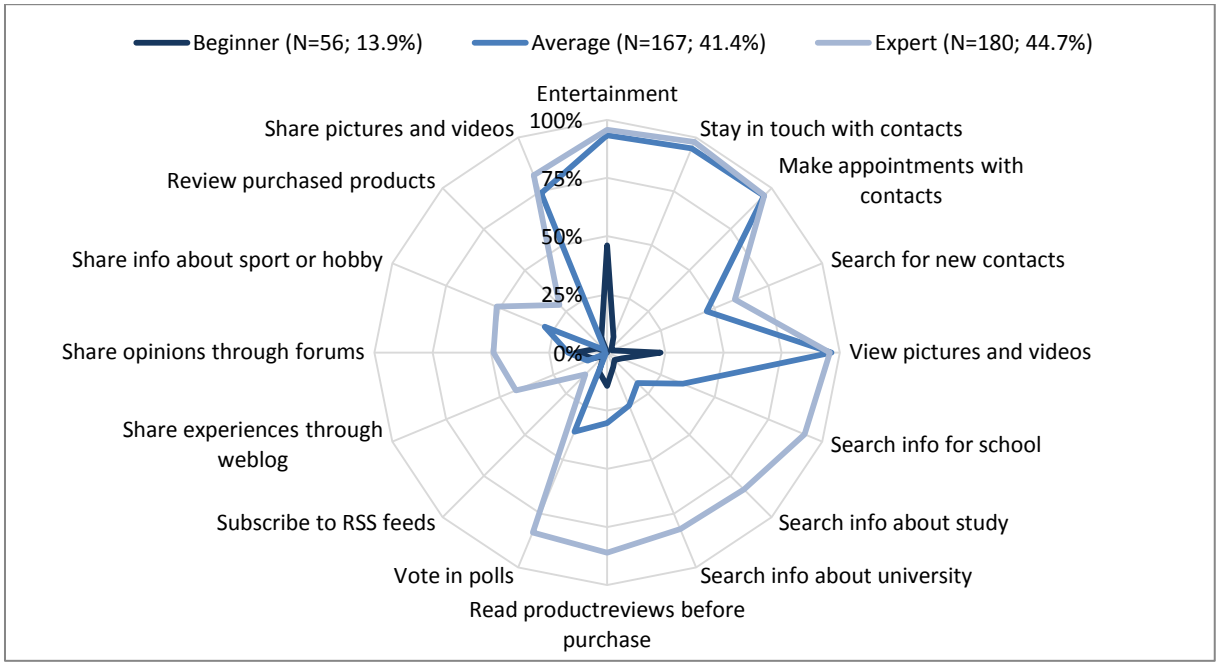

Figure 9. Percentage of cluster carrying out certain activities at least sometimes on the Social Media (N=403; source data: table B8)

These results, although insightful, have two shortcomings when the goal is to use them for marketing purposes. The first one is that segments cannot be described by any excluding activities, such as for instance an activity cluster (a) performs and cluster (b) does not, and vice versa. Such activities do not necessarily need to be present among the users, but searching for them is useful when attempting to define more differentiated segments. The second shortcoming is related to the size of the segments found. The average and expert segments accounted for 86.1% of the total sample. The use of the Social Media might be blown out of proportion by this number resulting in faulty marketing conclusions. That the Social Media usage of these two segments is actually relatively low can be seen in figure (10), where the activities carried out *often* or *always* are shown. The search

for maybe smaller segments that differentiate more in the level of use improves the meaning of the size of the segments.

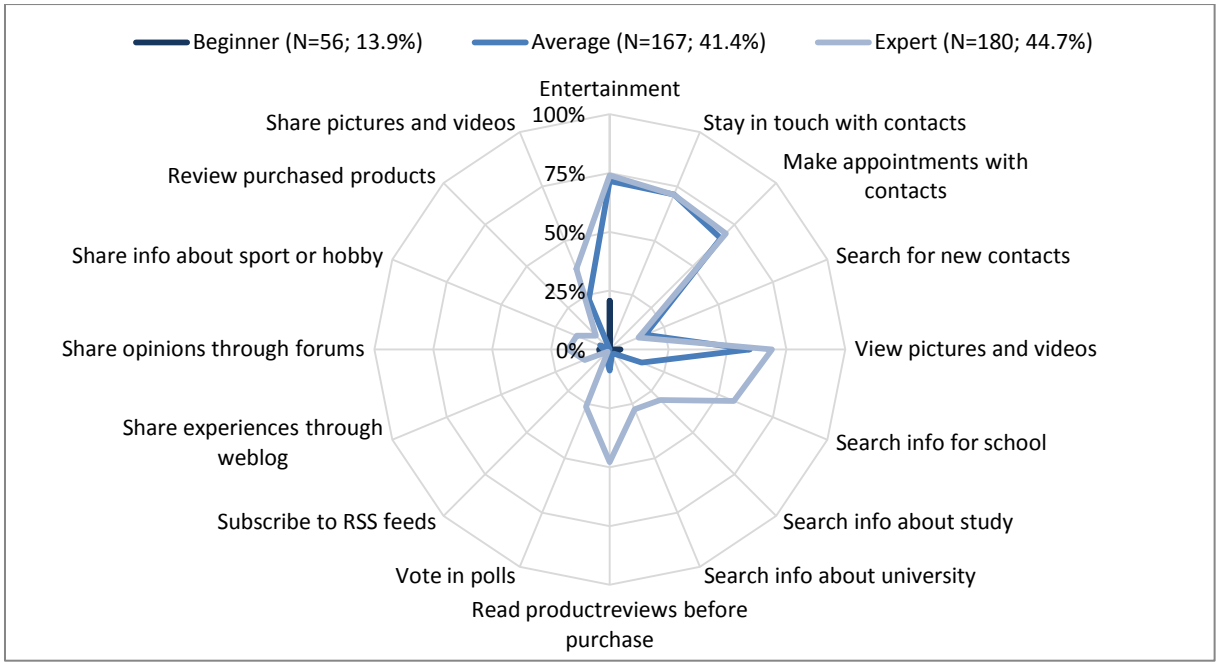

Figure 10. Percentage of cluster carrying out certain activities often or always on the Social Media (N=403; source data: table B9)

4.4.3 Factor analysis segmentation

The rotated factor matrix of table (9) presents the factor loadings (≥0.4) found by the Principal Factor Analysis. Three factors were found using the Kaiser criterion that is explained in section (3.2.1). The matrix was rearranged to group the variables according to the factor they loaded on. None of the variables loaded on more than one factor. The variance of the variables regarding the use of the Social Media was clearly grouped in the following way:

- entertaining and social activities in factor (1),
- information seeking activities in factor (2),
- information adding activities in factor (3).

The variable *share pictures and videos* loaded on the factor explaining the entertaining and social activities, although it is an information adding activity. However, the variable does also hold some entertaining and social value, and apparently there is where the correlation lies.

Table 9. Rotated factor matrix

	Factor		
	1	**2**	**3**
Stay in touch with contacts	0.871		
View pictures and videos	0.817		
Make appointments with contacts	0.805		
Share pictures and videos	0.726		
Entertainment	0.613		
Search for new contacts	0.501		
Search info about study		0.882	
Search info about university		0.849	
Search info for school		0.790	
Read productreviews before purchase		0.500	
Share opinions through forums			0.652
Review purchased products			0.652
Share experiences through weblog			0.613
Subscribe to RSS feeds			0.577
Vote in polls			0.544
Share info about sport or hobby			0.533

The three groups of variables formed the basis for assigning the cases, resulting in the group memberships of the cases presented in table (10). Three main groupings were identified from the table:

(1) Cases that were not assigned to any of the groups (29.5%). These cases were not active enough to be assigned to one of the groups, although not necessarily completely inactive in the Social Media.
(2) Cases assigned to *entertaining & social* but not to the other two groups (39.7%). These cases engaged in entertaining and social activities on the Social Media, but not in information seeking or information adding activities.
(3) Cases assigned to *entertaining & social* and to *information seeking* (21.8%). These cases engaged in entertaining, social and information seeking activities on the Social Media, but not in information adding activities.

Table 10. Group memberships resulting from the factor analysis

		Entertaining & social (Factor1)			
		NO		*YES*	
		Information seeking (Factor2)		**Information seeking (Factor2)**	
		NO	*YES*	*NO*	*YES*
Information adding (Factor3)	*NO*	29.5%	5.2%	39.7%	21.8%
	YES	0.0%	0.0%	1.0%	2.7%

The three described main groupings were selected as basis for the formation of the segments. The smaller groups that were present in the sample were discarded as segments in order to keep the segments sizes high enough to be useful. Instead they were clustered together with the three main groupings described before to form three clusters identified as "beginner", "social" and "informational" Social Media users. The typology of the segments can be inferred from the levels of activities that were carried out *at least sometimes* by the clusters, as showed in figure (11).

(1) *Beginner user*: This segment was composed of the cases not belonging to either *entertaining & social* or *information seeking*, and made up 29.5% of the users. It is characterized by low levels of mainly entertaining and social activities.

(2) *Social user*: This segment was composed of the cases belonging to *entertaining & social* but not to *information seeking*, and made up 40.7% of the users. Entertaining and social activities were the main foci of this segment, characterizing them as passive users. Next to these foci one information adding activity was also carried out at least sometimes by a majority of the segment, namely the sharing of pictures and videos.

(3) *Informational user*: This segment was composed of the cases belonging to *information seeking*, and made up 29.7% of the users. Informational users performed the same entertaining and social activities as the social users, but carried out also information seeking activities. Although this segment also engaged in information adding activities like sharing pictures and videos and some others at relatively low levels, the main focus was passive use.

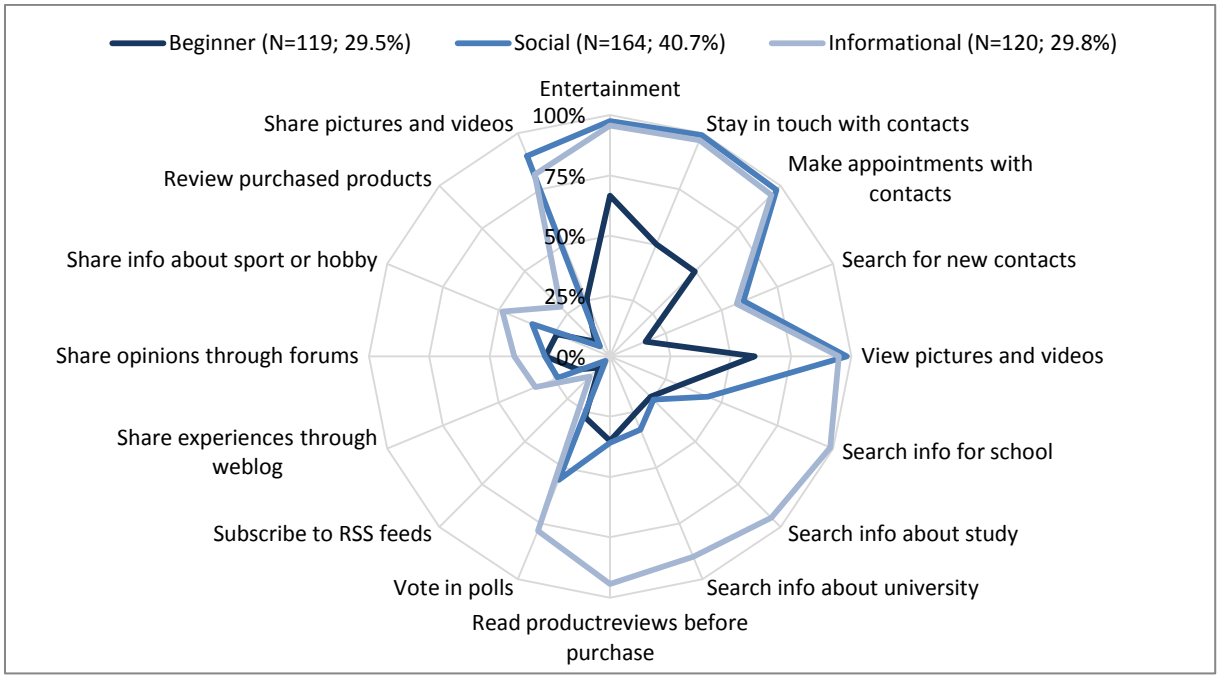

Figure 11. Percentage of segment carrying out certain activities at least sometimes on the Social Media (N=403; source data: table B10)

The segments found with the factor analysis strongly resemble the segments found with the cluster analysis of section (4.4.2). However, two differences arise when comparing figure (10) to figure (12), showing the percentage of the segment performing an activity *often* or *always* in the cluster segmentation and the factor analysis segmentation, respectively. The first difference is the

presence, to some extent, of excluding activities: the *informational* segment has less engagement in social activities than the *social* segment, and the *social* segment has close to no engagement in informational activities. Nevertheless there is still a strong ladder effect, because the *informational* segment includes the activities of the *social* segment. The second difference is that there are more cases assigned to the *beginner* segment. For the *social* and *informational* segments this results in a higher percentage of the segment engaging in that segment's characterizing activities. Therefore the segments' meaning of the factor analysis segmentation outperforms that of the cluster analysis segmentation.

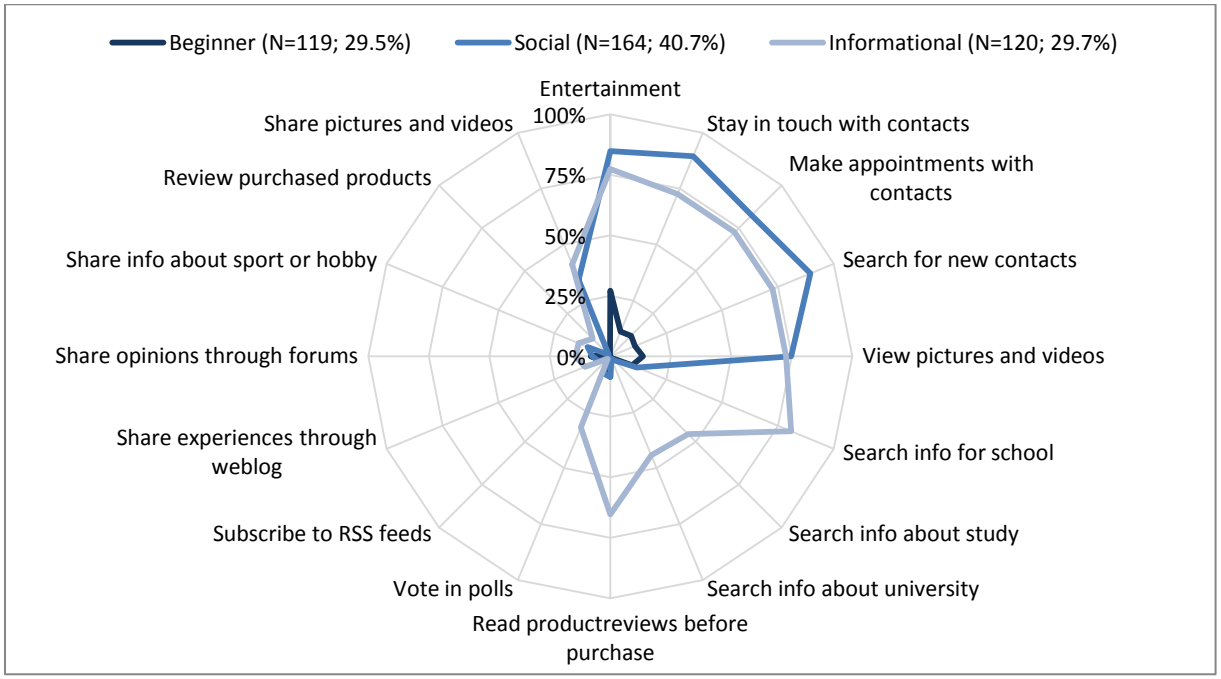

Figure 12. Percentage of segment carrying out certain activities often or always on the Social Media (N=403; source data: table B11)

The most relevant relationships between the found segmentation based on the Social Media use and other variables in the data are discussed hereafter (the complete results can be found in table B12). The descriptive information that differed significantly between the segments is shown in figure (13), i.e. gender and curriculum. Most of the males in the sample were beginner users, while most of the females were social users. Furthermore a larger proportion of females was informational users, characterizing the females as heavier users than the males. The curriculum *natuur & techniek* had the highest portion of beginner users compared to the other curricula, while students with the *cultuur & maatschappij* curriculum were mostly social users.

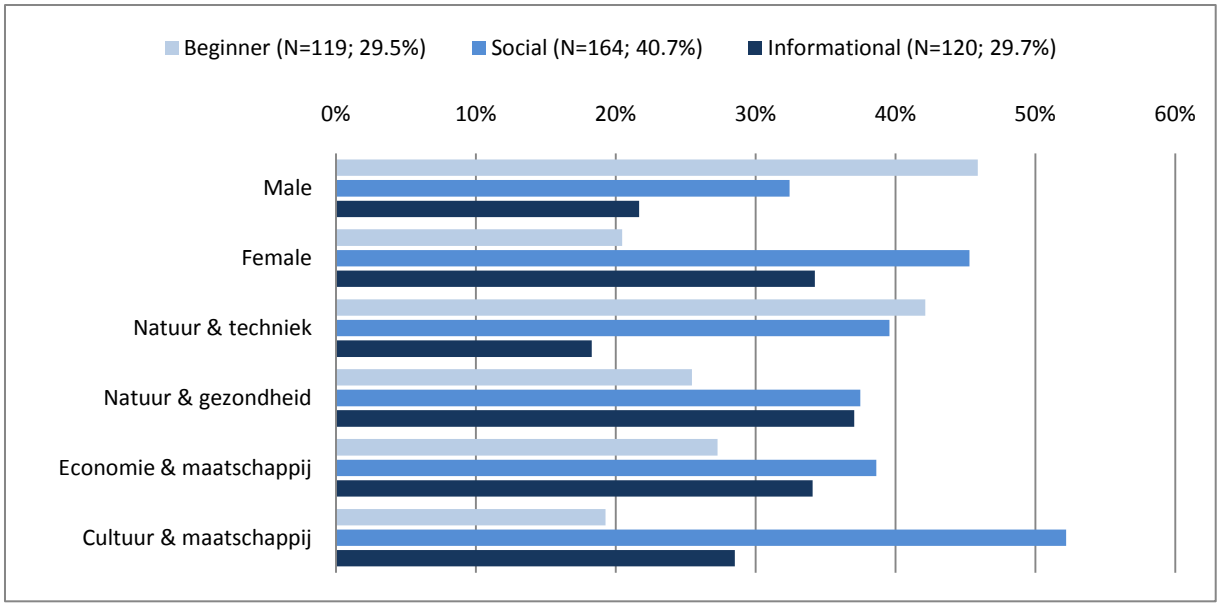

Figure 13. Percentage of gender and curriculum that belong to a certain segment (N=403; source data: table B12)

The factors and sources regarding the sample's choice of study and institution that differed significantly between the segments are shown in figure (14). The percentages show the portion of the segment that found certain factors important or very important and certain sources useful or very useful. For most social users, compared to beginner users, the availability of social activities was an important choice factor, and more informational users found the availability of both social and cultural activities an important choice factor. More informational users than beginner users and slightly more beginner users than social users perceived the Social Media as useful sources.

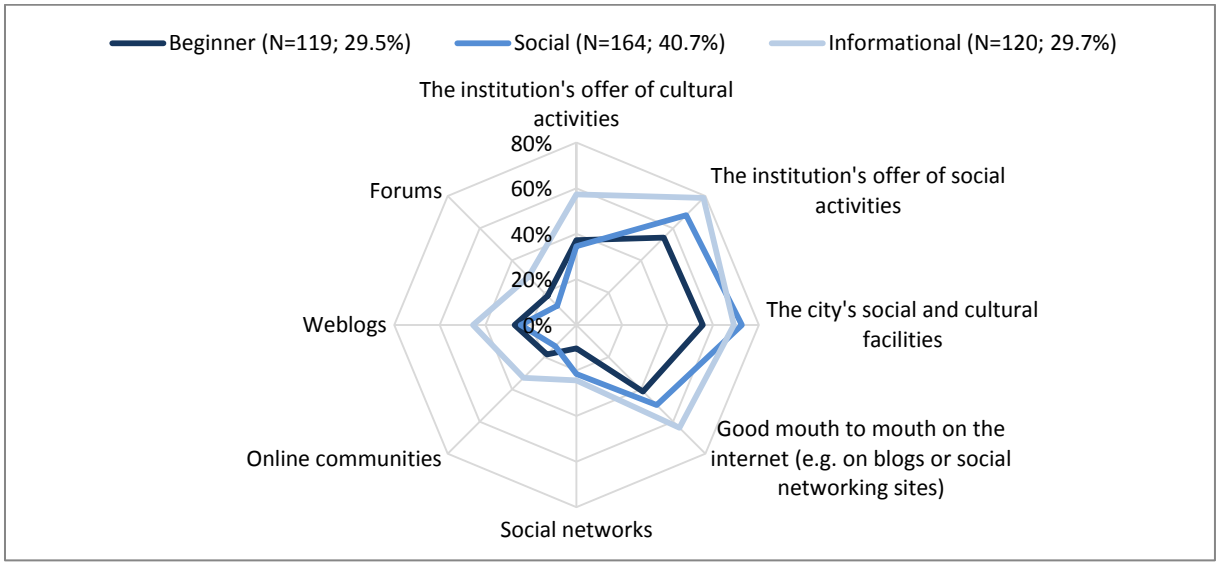

Figure 14. Percentage of segments that found certain factors (very) important and certain sources (very) useful (N=403; source data: table B12)

The Social Media activity and connections that differed significantly between the segments are shown in figure (15). The differences are mainly between the beginner users and the other two segments. The social and informational users are very much alike on these aspects, except that the informational segment includes slightly more weblog and YouTube followers.

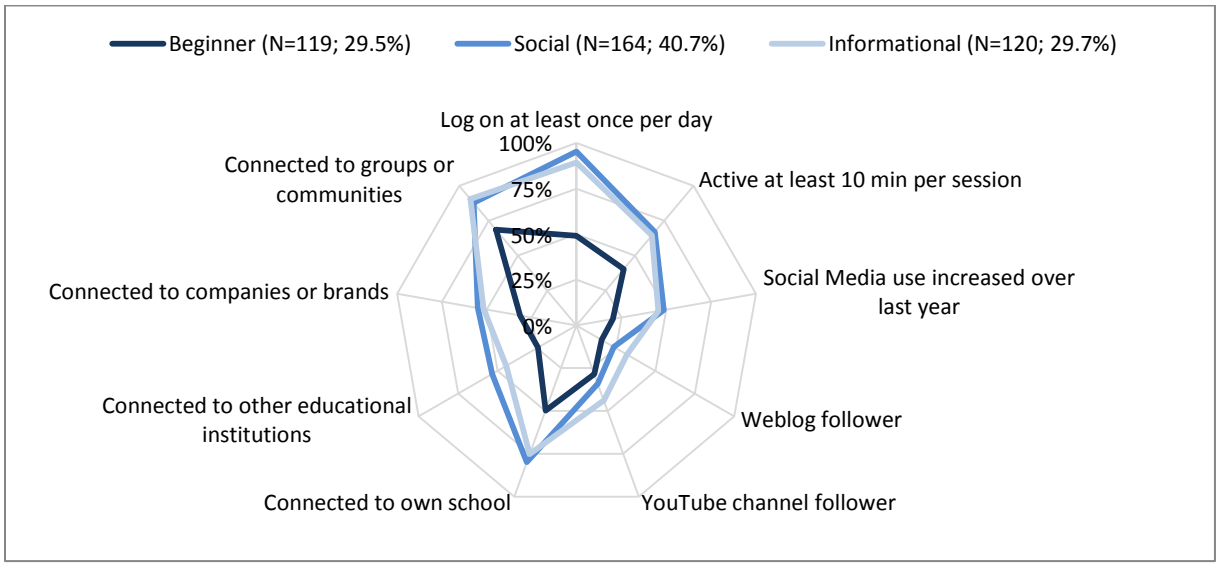

Figure 15. Percentage of segments according to their activity and connections on the Social Media (N=403; source data: table B12)

4.4.4 Social Technographics Ladder

The segmentation based on the Social Technographics is presented in figure (16) for the sample students and the Dutch population age 18-24, respectively. The results lead to the following comments:

- The data suggested a large presence of *spectators* (81.9%) and *joiners* (69.6%) in the sample, which was about the same as in the Dutch population. The two datasets showed a striking resemblance except for the number of critics. About one third of the sample (33.1%) engaged in creating activities on the Social Media.
- The assignment of the cases to the segments was observed to be unstable. A case is assigned if it performs at least one activity connected to the segment at a regular basis. There is no need for the case to perform any other activity connected to the segment, and therefore the segments could portray an inflated usage of Social Media. Furthermore, this form of classification is very sensitive to the questions posed in the survey, because a given case could be assigned or not on the basis of one question alone. This could be a reason for the difference in the number of critics between this study and the Dutch population. In the case of this study 33.1% of the student sample were creators, but 77.3% of them were classified as creator for uploading pictures or videos, without engaging in any other creating activity.
- The definition of the ladder segmentation implies that segments of a higher level in the ladder also perform to some extent activities of lower level segments. This holds for the *joiners* in the sample, because 94.6% of the users included in this segment were *spectators* as well. However, it did not hold higher up in the ladder because there were more *creators* than *critics* or *collectors*. A solution would be to combine *creators*, *critics* and *collectors* into one segment. For the sample

this means that 47.4% of the cases would be assigned to this new segment, and 85.4% of this new segment would be also *joiners* and *spectators*. Therefore, this change would improve the ladder function of this segmentation.

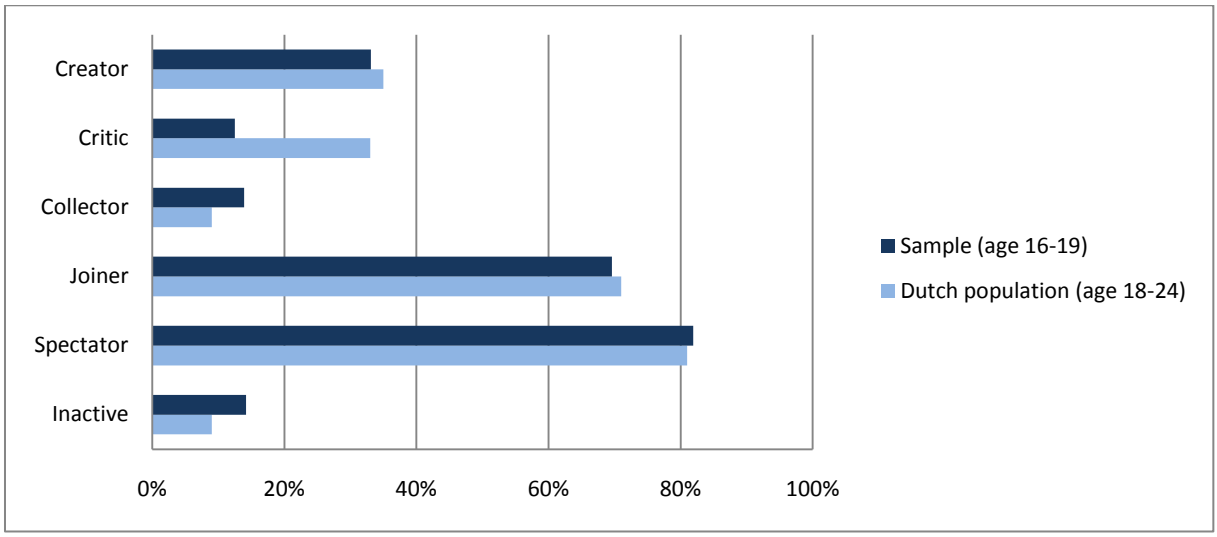

Figure 16. Social Technographics Ladder segmentation for the sample (N=403) and for the Dutch population (age 18-24; obtained from Forrester Research (2009); source data: table B13)

4.4.5 Current and potential market differences

To analyze if there is a difference in the use of the Social Media between the current and the potential market, the distribution of the segmentation found with the factor analysis was tested. The result was a value of χ^2=0.512 with a significance of 0.774, meaning that the distribution of the segments was not proven to be dependent on the two markets. The current and the potential markets can therefore be treated in the same manner when formulating guidelines for a Social Media marketing strategy.

4.5 Conclusion

This chapter analyzed the empirical data gathered for this study and discussed the results hereof. The results provide a better understanding about the use of Social Media by future students of the University of Twente as social networking platforms, information sources and communication tools. Strong behavioural differences between students in the core geographical markets and the rest of the country in choosing a study and university as well as using the Social Media were not found. Chapter (5) uses the market information presented in this chapter to meet the main research objective of the study, namely to provide guidelines for a new strategy for the recruitment of students using the Social Media.

5. GUIDELINES FOR MARKETING STRATEGY

5.1 Introduction

This chapter aims to meet the main research objective, formulated below, by discussing important elements from the literature review and the results from the empirical analysis, to form guidelines that are helpful for the formation of a marketing strategy.

What are the guidelines for a Social Media marketing strategy for the University of Twente?

Future students ranked the Social Media last in a list of information sources assessed by their usefulness for choosing a study and university (table 5). Nevertheless table (6) shows that a majority (77.5%) of the future students logged in at least once a day on a Social Media site. This indicates that the Social Media are not, or not optimally used by the universities' communications departments, or that the Social Media may not hold the same marketing potential as the conventional media. In any of these cases it is important for communications departments to approach the Social Media as a medium, not an end. Therefore, the mere presence of an institution in the Social Media is not enough for successful marketing. The guidelines this study proposes for strengthening a Social Media marketing strategy can be divided into three steps: (1) defining *strategic goals*, (2) defining *operational goals* and (3) making decisions for *campaign design*; each will be discussed in the following three sections. An overview of the guidelines can be found in figure (17).

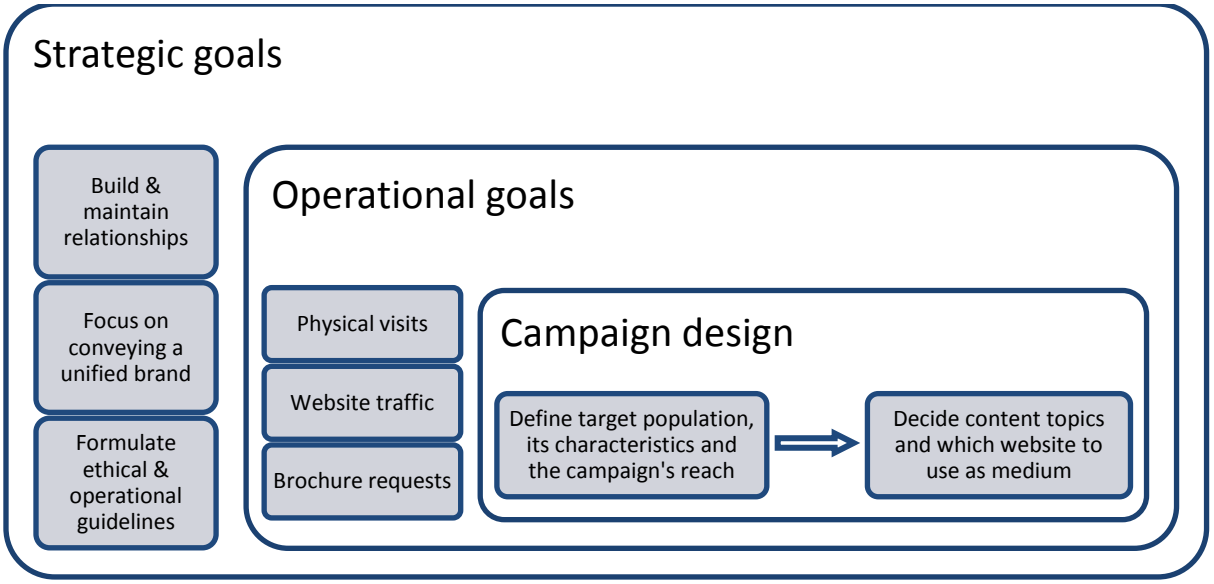

Figure 17. Guidelines for a Social Media marketing strategy

5.2 Strategic goals

Defining institution-wide strategic goals for using the Social Media as marketing tool is the first step for strengthening a Social Media marketing strategy. This step requires the integration of higher level strategic decisions into the Social Media strategy. Gibbs (2002) argued that relationship marketing was the best practise for higher education institutions. A Social Media marketing strategy

should embrace this view to be successful. The Social Media offer a platform for this form of marketing because of the interactive properties it has for connecting with the future students. Future students are usually willing to connect to educational institutions other than their own (43.1% are connected to at least one; table 7), and to special interest groups or communities (83.8% are connected to at least one; table 7) on social networking sites. Getting the future students to connect can form the basis for the university to build and maintain relationships with the future students through marketing campaigns. Branding was also argued to be important for higher education marketing (Hayes, 2007; Stensaker, 2005). The image to be conveyed through a Social Media presence should therefore be considered in the strategy. Operational guidelines could be included at this step, e.g. defining rules, permissions and responsibilities. Ethical guidelines should also be included, e.g. regarding privacy.

5.3 Operational goals

Defining operational goals is the second step for strengthening a Social Media marketing strategy. This is important because conceptualizing an operational goal eases the process of designing a marketing program. Furthermore, formulating operational goals makes it possible to measure the effectiveness of a marketing program. The latter can be assessed according to the three pillars of Social Media measurement (Murdough, 2009): reach (e.g. number of followers), discussions (e.g. what followers are saying) and outcomes (e.g. number of applications). The outcomes are actually the most important, but because it is difficult to measure the number of applications resulting from a Social Media marketing campaign, alternative measures can be used. The future students indicated that visits to the institution were the most useful source of information regarding their choice of study and university (table 5). A measurable goal could be for institutions to get a certain number of their followers to physically visit them through a Social Media marketing campaign. The official university internet site and university brochures were the second and third most important sources regarding their choice of study and university, respectively. Measurable goals can be formulated for these aspects also, as a function of site traffic coming from the Social Media and number of brochures requested from the Social Media, respectively.

5.4 Campaign design

Designing the campaigns is the third step for strengthening a Social Media marketing strategy. The first part of forming a campaign is to define the target population within the population of the fifth and sixth years of the VWO (figure 17). This is necessary to decide the manner a campaign can best be designed and to assess the reach of a campaign. The population could be targeted as a whole, or in segments. The segmentation made in section (4.4.3) showed the presence of three segments in the total population, namely *beginner*, *social* and *informational* users. The *beginner* users have low levels of activity, and are therefore assumed to be unreachable through a Social Media marketing campaign. To reach the *social* users the campaign should be designed in a socially engaging and entertaining manner. The same holds to reach the *informational* users, but in addition the campaigns can also be of an informational nature. Campaigns should not require much information adding activities from the targets, as this type of activity is not carried out on a regular

basis by relevant portions of any of the segments. An exception however, can be requesting photo or video uploads, as this is an information adding activity carried out by limited portions of both *social* (34.2%) and *informational* (41.2%) users. Targeting only the *informational* users with informational campaigns reduces the total reach compared to implementing an entertaining campaign, but it could be more effective within the smaller target. The reason for this is that *informational* users perceived the Social Media as more useful sources for the choice of study and university compared to the social users. Thus the type of campaign to carry out strongly depends on the target population. Hereafter are given some characteristics of possible targets that are relevant to be considered for decision making on campaign strategy:

- A portion of 70.4% of the total Dutch market is reachable, namely 40.7% as *social* users and 29.7% as *informational* users.
- The segmentation did not show differences between the current and the potential markets. Both of the markets can be reached with similar, or the same campaigns.
- A portion of 54.1% of the males is reachable, namely 32.4% as *social* users and 21.7% as *informational* users. For the females a portion of 79.5% is reachable, namely 45.3% as *social* users and 34.2% as *informational* users.
- When targeting future students with a specific curriculum, the reachable portions are as follows: 57.9% of *natuur & techniek* (39.6% as social users and 18.3% as informational users), 74.6% of *natuur & gezondheid* (37.5% as social users and 37.1% as informational users), 72.7% of *economie & maatschappij* (38.6% as social users and 34.1% as informational users) and 80.7% of *cultuur & maatschappij* (52.2% as social users and 28.5% as informational users).

The second part of forming the campaign is to decide the content of the campaign, and where the campaign should be carried out (figure 17). The content partly depends on the target characteristics (*social* or *informational*), and on the topics the target is interested in. The institution's offer of social activities and the city's offer of social and cultural activities were the two most important factors influencing the choice of an institution by the future students (table 4). Focusing a Social Media marketing campaign on topics regarding social and cultural student activities can therefore be effective. The choice of the specific website as medium for the campaign depends on the type of information to be used and the use of the different sites by the future students. Campaigns involving mostly text and/or pictures can best be carried out on *Hyves* or *Facebook*, while video-campaigns can be best carried out on *YouTube* (with 88.4%, 40.3% and 60.1% of the whole population maintaining a profile on the sites, respectively; figure 7). Regular gathering of market intelligence is useful for effectively carrying out this step.

6. CONCLUSION

Social Media marketing is a relatively new field, and therefore it is hard to find studies that have measured the effectiveness of a Social Media marketing program. There is evidence however that an increasing number of organizations is practising more Social Media marketing over time, including companies (Barnes & Mattson, 2009b), charities (Barnes & Mattson, 2009c) and universities (Barnes & Mattson, 2009a). Understanding the market forms a basis for the development of an effective marketing strategy. This study aimed at providing information to a Dutch higher education institution (i.e. the University of Twente) about the use of Social Media by future students as social networking platforms, information sources and communication tools. A market analysis including market segmentation was carried out to provide a basis for a new strategy for the recruitment of students using the Social Media. Recommendations were made by extracting guidelines for a Social Media marketing strategy from existing literature and our empirical data. The guidelines this study proposes were divided into three steps: defining *strategic goals*, defining *operational goals* and making decisions for *campaign design*.

The sample population allows generalization of the results for The Netherlands. However, the sample might not be representative for other countries due to differences in cultural values and economic situation. Limitations regarding the segmentation method used in this study were discussed and included the possible variations in the clustering outcomes when using a different segmentation method and the biasing of the results by the substantial amount of choices and assumptions that have to be made when using segmentation methods.

Further research could focus on identifying conceptual foundations of Social Media marketing strategies in general, and for the higher education market in particular. Also, analyzing the international market of the University of Twente regarding the Social Media use could add value to its Social Media recruitment strategy.

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APPENDIX A: PASW Syntax

(1) Assigning weights

→ *attachment of weight to cases based on the market region (1=Overijssel; 2=Rest)*

```
RECODE Q_PROV (1=0.242142248) (2=1.260197828) INTO weight.
WEIGHT BY weight.
```

(2) Descriptive information about the sample

→ *proportion of sample by gender, age, school year and curriculum*

```
FREQUENCIES VARIABLES=Geslacht Leeftijd S1 A2
  /ORDER=ANALYSIS.
```

(3) Choice for a university study and institution

→ *proportion of sample by choice of study for each school year*

```
CROSSTABS
  /TABLES=B1_1 B2_1 BY S1
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT COLUMN
  /COUNT ROUND CELL.
```

(4) Influencers of the choice of a university study and institution

→ *mean and standard deviation of influencers as a whole and for each market region*

```
DESCRIPTIVES VARIABLES=B3_1 B3_2 B3_3 B3_4 B3_5 B3_6 B3_7 B3_8 B3_9 B3_10 B3_11
  /STATISTICS=MEAN STDDEV.
DESCRIPTIVES VARIABLES=B4_1 B4_2 B4_3 B4_4 B4_5 B4_6 B4_7 B4_8 B4_9
  /STATISTICS=MEAN STDDEV.
WEIGHT OFF.
SORT CASES  BY Q_PROV.
SPLIT FILE SEPARATE BY Q_PROV.
DESCRIPTIVES VARIABLES=B3_1 B3_2 B3_3 B3_4 B3_5 B3_6 B3_7 B3_8 B3_9 B3_10 B3_11
  /STATISTICS=MEAN STDDEV.
DESCRIPTIVES VARIABLES=B4_1 B4_2 B4_3 B4_4 B4_5 B4_6 B4_7 B4_8 B4_9
  /STATISTICS=MEAN STDDEV.
SPLIT FILE OFF.
WEIGHT BY weight.
```

(5) Use of (Social) Media

→ *duration of media use*

```
FREQUENCIES VARIABLES=C1 C4 C5
  /ORDER=ANALYSIS.
DESCRIPTIVES VARIABLES=C1 C4 C5
  /STATISTICS=MEAN.
```

→ *duration and frequency of Social Media use*

```
RECODE D2 (1=5) (2=4) (3=3) (4=2) (5=1) (SYSMIS=SYSMIS).
EXECUTE.
FREQUENCIES VARIABLES=D2 D3
  /ORDER=ANALYSIS.
```

→ *site use calculation*

```
FREQUENCIES VARIABLES=D1C01 D1C02 D1C03 D1C04 D1C05 D1C06 D1C07 D1C08 D1C09 D1C10 D1C11 D1C12
D1C13 D1C14 D1C30 D1C31
  /ORDER=ANALYSIS.
```

→ *connections of Social Media users*

```
FREQUENCIES VARIABLES=D6 D7 D8 D9 D10 D13 D14A D14B
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /ORDER=ANALYSIS.
```

(6) Cluster analysis

→ *stage (1) of the two-step cluster analysis: Ward's method to determine number of clusters from dendrogram*

```
CLUSTER   D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /METHOD WARD
  /MEASURE=SEUCLID
  /PRINT SCHEDULE
  /PLOT DENDROGRAM.
```

→ *stage (1) of the two-step cluster analysis: Ward's method to calculate cluster memberships with three clusters*

```
CLUSTER   D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /METHOD WARD
  /MEASURE=SEUCLID
  /PRINT SCHEDULE CLUSTER(3)
  /SAVE CLUSTER(3).
```

→ *stage (2) of the two-step cluster analysis: K-means method with Ward's method's centroids as input*

```
QUICK CLUSTER D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /MISSING=LISTWISE
  /CRITERIA=CLUSTER(3) MXITER(14) CONVERGE(0)
  /METHOD=KMEANS(NOUPDATE)
  /SAVE CLUSTER DISTANCE
  /PRINT INITIAL ANOVA CLUSTER DISTAN
  /FILE='C:\Users\Marc\Documents\UTwente\3e Jaar\BA Assignment\SPSS\centroids_ward.sav'
```

→ *validation: split file based on a random variable (0 or 1)*

```
COMPUTE RND=RV.BERNOULLI(0.5).
EXECUTE.
SORT CASES  BY RND.
SPLIT FILE SEPARATE BY RND.
```

→ *validation: calculate new centroids of split file with Ward's method*

```
CLUSTER   D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /METHOD WARD
  /MEASURE=SEUCLID
  /PRINT SCHEDULE CLUSTER(3)
  /PLOT DENDROGRAM
  /SAVE CLUSTER(3).

SPLIT FILE OFF.
```

→ *validation: make the clusters numbers matching for the split-file*

```
DO IF (RND = 1).
RECODE CLU3_2 (2=3) (3=2).
END IF.
EXECUTE.
```

→ *validation: K-means method with Ward's method's first half centroids as input*

```
USE ALL.
COMPUTE filter_$=(RND = 0).
VARIABLE LABEL filter_$ 'RND = 0 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
```

```
FILTER BY filter_$.
EXECUTE.

QUICK CLUSTER D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /MISSING=LISTWISE
  /CRITERIA=CLUSTER(3) MXITER(14) CONVERGE(0)
  /METHOD=KMEANS(NOUPDATE)
  /SAVE CLUSTER DISTANCE
  /PRINT INITIAL ANOVA CLUSTER DISTAN
  /FILE='C:\Users\Marc\Documents\UTwente\3e Jaar\BA Assignment\SPSS\centroids_ward1.sav'

FILTER OFF.
USE ALL.
EXECUTE.
```

→ *validation: K-means method with Ward's method's centroids second half as input*

```
USE ALL.
COMPUTE filter_$=(RND = 1).
VARIABLE LABEL filter_$ 'RND = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

QUICK CLUSTER D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15 D5_16
  /MISSING=LISTWISE
  /CRITERIA=CLUSTER(3) MXITER(14) CONVERGE(0)
  /METHOD=KMEANS(NOUPDATE)
  /SAVE CLUSTER DISTANCE
  /PRINT INITIAL ANOVA CLUSTER DISTAN
  /FILE='C:\Users\Marc\Documents\UTwente\3e Jaar\BA Assignment\SPSS\centroids_ward2.sav'

FILTER OFF.
USE ALL.
EXECUTE.
```

→ *validation: compute new variable with centroids of all cases resulting from the split file analysis*

```
RECODE QCL_3 QCL_5 (MISSING=0).
COMPUTE VAR=QCL_3 + QCL_5.
EXECUTE.
```

→ *validation: compare the two halves of the split file analysis to each other using chi-square test*

```
CROSSTABS
  /TABLES=RND BY VAR
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

→ *obtain activity levels of the clusters in a table, including levels "more than sometimes" and "often or always"*

```
CTABLES
  /VLABELS VARIABLES=D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14
    D5_15 D5_16 QCL_1
    DISPLAY=DEFAULT
  /PCOMPUTE &cat1 = EXPR([3] + [4] + [5])
  /PPROPERTIES &cat1 LABEL = "minstens soms" FORMAT=COUNT F40.0, COLPCT.COUNT F40.1
    HIDESOURCECATS=NO
  /PCOMPUTE &cat2 = EXPR([4] + [5])
```

```
 /PPROPERTIES &cat2 LABEL = "vaak of altijd" FORMAT=COUNT F40.0, COLPCT.COUNT F40.1
  HIDESOURCECATS=NO
 /TABLE D5_1 [C][COLPCT.COUNT PCT40.1] + D5_2 [C][COLPCT.COUNT PCT40.1] + D5_3 [C][COLPCT.COUNT
  PCT40.1] + D5_4 [C][COLPCT.COUNT PCT40.1] + D5_5 [C][COLPCT.COUNT PCT40.1] + D5_6 [C][COLPCT.COUNT
  PCT40.1] + D5_7 [C][COLPCT.COUNT PCT40.1] + D5_8 [C][COLPCT.COUNT PCT40.1] + D5_9 [C][COLPCT.COUNT
  PCT40.1] + D5_10 [C][COLPCT.COUNT PCT40.1] + D5_11 [C][COLPCT.COUNT PCT40.1] + D5_12
  [C][COLPCT.COUNT PCT40.1] + D5_13 [C][COLPCT.COUNT PCT40.1] + D5_14 [C][COLPCT.COUNT PCT40.1] +
  D5_15 [C][COLPCT.COUNT PCT40.1] + D5_16 [C][COLPCT.COUNT PCT40.1] BY QCL_1 [C]
 /CATEGORIES VARIABLES=D5_1 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_2 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_3 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_4 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_5 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_6 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_7 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_8 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_9 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_10 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_11 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_12 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_13 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_14 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_15 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_16 [1, 2, 3, 4, 5, &cat1, &cat2, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=QCL_1 ORDER=A KEY=VALUE EMPTY=INCLUDE.
```

(7) Factor analysis

→ *factor extraction: Principal axis factor analysis using varimax rotation and cut-off point 0.4*

```
FACTOR
 /VARIABLES D5_1B D5_2B D5_3B D5_4B D5_5B D5_6B D5_7B D5_8B D5_9B D5_10B D5_11B D5_12B D5_13B
  D5_14B D5_15B D5_16B
 /MISSING LISTWISE
 /ANALYSIS D5_1B D5_2B D5_3B D5_4B D5_5B D5_6B D5_7B D5_8B D5_9B D5_10B D5_11B D5_12B D5_13B
  D5_14B D5_15B D5_16B
 /PRINT EXTRACTION ROTATION
 /FORMAT BLANK(.4)
 /CRITERIA MINEIGEN(1) ITERATE(25)
 /EXTRACTION PAF
 /CRITERIA ITERATE(25)
 /ROTATION VARIMAX
 /SAVE REG(ALL)
 /METHOD=CORRELATION.
```

→ *clustering: calculate means of variables for each case and factor*

```
COMPUTE FAC1 = MEAN.3 (D5_1, D5_2, D5_3, D5_15).
COMPUTE FAC2 = MEAN.3 (D5_4, D5_5, D5_11, D5_12, D5_13, D5_14).
COMPUTE FAC3 = MEAN.3 (D5_6, D5_7, D5_8, D5_9, D5_10, D5_11, D5_16).
```

→ *clustering: assign case to factor when mean >3.0*

```
RECODE FAC1 (lo thru 3=0)(else = 1) INTO FAC1B.
RECODE FAC2 (lo thru 3=0)(else = 1) INTO FAC2B.
RECODE FAC3 (lo thru 3=0)(else = 1) INTO FAC3B.
```

→ *obtain assigned number of cases per factor*

```
CROSSTABS
 /TABLES=FAC3B BY FAC1B BY FAC2B
 /FORMAT=AVALUE TABLES
```

```
 /CELLS=COUNT
 /COUNT ROUND CELL.
```

→ *compute segments based on the factors (three binary variables and one containing the three)*

```
RECODE FAC2B (1=1)(else = 0) INTO INFO.
DO IF ((FAC1B=1) AND (FAC2B=0)).
COMPUTE ENSO= 1.
ELSE.
COMPUTE ENSO= 0.
END IF.
DO IF ((FAC1B=0) AND (FAC2B=0)).
COMPUTE INAC2= 1.
ELSE.
COMPUTE INAC2= 0.
END IF.
DO IF (INAC2=1).
COMPUTE FCL_1= 1.
ELSE IF (ENSO=1).
COMPUTE FCL_1= 2.
ELSE IF (INFO=1).
COMPUTE FCL_1= 3.
END IF.
EXECUTE.
```

→ *obtain activity levels of the clusters in a table, including levels "more than sometimes" and "often or always"*

```
CTABLES
 /VLABELS VARIABLES=D5_1 D5_2 D5_3 D5_4 D5_5 D5_6 D5_7 D5_8 D5_9 D5_10 D5_11 D5_12 D5_13 D5_14 D5_15
D5_16 FCL_1
   DISPLAY=DEFAULT
 /PCOMPUTE &cat1 = EXPR([4] + [5] + [3])
 /PPROPERTIES &cat1 LABEL = "minstens soms" FORMAT=COUNT F40.0 HIDESOURCECATS=NO
 /TABLE D5_1 [C] + D5_2 [C] + D5_3 [C] + D5_4 [C] + D5_5 [C] + D5_6 [C] + D5_7 [C] + D5_8 [C] +
   D5_9 [C] + D5_10 [C] + D5_11 [C] + D5_12 [C] + D5_13 [C] + D5_14 [C] + D5_15 [C] + D5_16 [C] BY
   fCL_1 [C][COUNT F40.0, COLPCT.COUNT PCT40.1]
 /CATEGORIES VARIABLES=D5_1 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_2 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_3 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_4 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_5 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_6 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_7 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_8 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_9 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_10 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_11 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_12 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_13 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_14 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_15 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=D5_16 [1, 2, 3, 4, 5, &cat1, OTHERNM] EMPTY=INCLUDE
 /CATEGORIES VARIABLES=FCL_1 ORDER=A KEY=VALUE EMPTY=INCLUDE.
```

→ *obtain dependencies between segments and other variables*

```
RECODE D7 (1=1) (2=0) (3=0) INTO D7YN.
RECODE D8 D9 D10 D13 (0=0) (1 thru Highest=1) INTO D8YN D9YN D10YN D13YN.
RECODE D1C03 (0=0) INTO D13YN.
RECODE D1C31 (1=SYSMIS) INTO D13YN.
EXECUTE.
```

```
CTABLES
  /VLABELS VARIABLES=Geslacht Leeftijd Q_PROV S1 A2 B1_1 B2_1 B3_1 B3_2 B3_3 B3_4 B3_5 B3_6 B3_7
    B3_8 B3_9 B3_10 B3_11 B4_1 B4_2 B4_3 B4_4 B4_5 B4_6 B4_7 B4_8 B4_9 C1 C2 C3 C4 C5 C6 D2 D3 D4 D12A
D14A D7YN D8YN D9YN D10YN D13YN FCL_1
    DISPLAY=DEFAULT
  /TABLE Geslacht [COUNT NEQUAL40.0, COLPCT.COUNT PCT40.1] + Leeftijd [COUNT NEQUAL40.0,     COLPCT.COUNT
PCT40.1] + Q_PROV [COUNT F40.0, COLPCT.COUNT PCT40.1] + S1 [COUNT F40.0, COLPCT.COUNT PCT40.1] + A2
[COUNT F40.0, COLPCT.COUNT PCT40.1] + B1_1 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B2_1 [COUNT F40.0,
COLPCT.COUNT PCT40.1] + B3_1 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_2 [COUNT F40.0, COLPCT.COUNT
PCT40.1] + B3_3 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_4 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_5
[COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_6 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_7 [COUNT F40.0,
COLPCT.COUNT PCT40.1] + B3_8 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_9 [COUNT F40.0, COLPCT.COUNT
PCT40.1] + B3_10 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B3_11 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_1
[COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_2 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_3 [COUNT F40.0,
COLPCT.COUNT PCT40.1] + B4_4 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_5 [COUNT F40.0, COLPCT.COUNT
PCT40.1] + B4_6 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_7 [COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_8
[COUNT F40.0, COLPCT.COUNT PCT40.1] + B4_9 [COUNT F40.0,     COLPCT.COUNT PCT40.1] + C1 [COUNT F40.0,
COLPCT.COUNT PCT40.1] + C2 [COUNT F40.0, COLPCT.COUNT     PCT40.1] + C3 [COUNT F40.0, COLPCT.COUNT
PCT40.1] + C4 [COUNT F40.0, COLPCT.COUNT PCT40.1] + C5     [COUNT F40.0, COLPCT.COUNT PCT40.1] + C6 [COUNT
F40.0, COLPCT.COUNT PCT40.1] + D2 [COUNT F40.0,     COLPCT.COUNT PCT40.1] + D3 [COUNT F40.0, COLPCT.COUNT
PCT40.1] + D4 [COUNT F40.0, COLPCT.COUNT     PCT40.1] + D12A [COUNT F40.0, COLPCT.COUNT PCT40.1] + D14A
[COUNT F40.0, COLPCT.COUNT PCT40.1] +     D7YN [COUNT F40.0, COLPCT.COUNT PCT40.1] + D8YN [COUNT F40.0,
COLPCT.COUNT PCT40.1] + D9YN COUNT     F40.0, COLPCT.COUNT PCT40.1] + D10YN [COUNT F40.0, COLPCT.COUNT
PCT40.1] + D13YN [COUNT F40.0,     COLPCT.COUNT PCT40.1] BY FCL_1 [C]
  /CATEGORIES VARIABLES=Q_PROV S1 A2 B1_1 B2_1 B3_1 B3_2 B3_3 B3_4 B3_5 B3_6 B3_7 B3_8 B3_9 B3_10
    B3_11 B4_1 B4_2 B4_3 B4_4 B4_5 B4_6 B4_7 B4_8 B4_9 C1 C2 C3 C4 C5 C6 D2 D3 D4 D12A D14A ORDER=A
    KEY=VALUE EMPTY=INCLUDE
  /CATEGORIES VARIABLES=D7YN D8YN D9YN D10YN D13YN FCL_1 ORDER=A KEY=VALUE EMPTY=EXCLUDE
  /SIGTEST TYPE=CHISQUARE ALPHA=0.05 INCLUDEMRSETS=YES CATEGORIES=ALLVISIBLE.
```

(8) Social Technographics Ladder

→ *clustering of cases using Social Media data*

```
DO IF ((D5_5 >= 4) OR (D5_6 >= 4) OR (D5_16 >= 4)).
COMPUTE CREA= 1.
ELSE.
COMPUTE CREA= 0.
END IF.
DO IF ((D5_7 >= 4) OR (D5_8 >= 4)).
COMPUTE CRIT= 1.
ELSE.
COMPUTE CRIT= 0.
END IF.
DO IF ((D5_9 >= 4) OR (D5_10 >= 4)).
COMPUTE COLL= 1.
ELSE.
COMPUTE COLL= 0.
END IF.
DO IF ((D5_11 >= 4) OR (D5_12 >= 4) OR (D5_13 >= 4)).
COMPUTE JOIN= 1.
ELSE.
COMPUTE JOIN= 0.
END IF.
DO IF ((D5_1 >= 4) OR (D5_2 >= 4) OR (D5_3 >= 4) OR (D5_4 >= 4) OR (D5_14 >= 4) OR (D5_15 >= 4)).
COMPUTE SPEC= 1.
ELSE.
COMPUTE SPEC= 0.
```

```
END IF.
DO IF ((CREA = 1) OR (CRIT = 1) OR (COLL = 1) OR (JOIN = 1) OR (SPEC = 1)).
COMPUTE INAC= 0.
ELSE IF (D1C31 = 1).
COMPUTE INAC= 1.
ELSE.
COMPUTE INAC= 1.
END IF.
DO IF (CREA = 1).
COMPUTE LADD= 6.
ELSE IF (CRIT = 1).
COMPUTE LADD= 5.
ELSE IF (COLL = 1).
COMPUTE LADD= 4.
ELSE IF (JOIN = 1).
COMPUTE LADD= 3.
ELSE IF (SPEC = 1).
COMPUTE LADD= 2.
ELSE IF (INAC = 1).
COMPUTE LADD= 1.
ELSE.
COMPUTE LADD= 0.
END IF.
EXECUTE.

FREQUENCIES VARIABLES=CREA CRIT COLL JOIN SPEC INAC
  /ORDER=ANALYSIS.
```

(9) Current and potential market differences

```
CROSSTABS
  /TABLES=Q_PROV BY FCL_1
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

APPENDIX B: Supporting tables and figures

Table B1. Descriptive information about the sample (N=403) and comparison to the population (population data obtained from CBS, 2010)

		Sample (%)	Population	Population (%)	χ^2 [1]	sig.	weight [2]
Gender	Male	35.4	36534	46.2	4.736	>0.01	
	Female	64.6	42458	53.7			
Region	Overijssel	25.6	4875	6.2	64.622	<0.001	0.242
	Rest of The Netherlands	74.4	[3] 73897	93.8			1.260
Age	16	24.6	25084	32.3	6.314	>0.05	
	17	49.5	35504	45.7			
	18	25.4	14846	19.1			
	19	0.5	2336	3.0			
Schoolyear	5 VWO	49.8	40827	51.7	0.142	>0.05	
	6 VWO	50.2	38168	48.3			
Curriculum	Natuur & Techniek	27.0	12047	17.4	6.656	>0.05	
	Natuur & Gezondheid	29.4	21277	30.8			
	Economie & Maatschappij	27.5	23305	33.7			
	Cultuur & Maatschappij	16.2	12487	18.1			

[1] *SUM ((Sample % - Population %) / Population %)*

[2] *Population % / Sample %*

[3]

Friesland	*2743*
Drenthe	*1983*
Groningen	*2419*
Flevoland	*1804*
Gelderland	*9824*
Utrecht	*6480*
Noord-Holland	*12484*
Zuid-Holland	*16963*
Zeeland	*1547*
Noord-Brabant	*12289*
Limburg	*5361*
Total	*73897*

Table B2. Proportion and mean (μ) of the daily duration of radio, television and internet use (N=403)

	Radio (μ=2.04)	Television (μ=2.81)	Internet (μ=3.61)
< 1/2 hr	46.2%	11.1%	2.4%
1/2 hr - 1 hr	22.9%	26.0%	9.9%
1 hr - 2 hrs	16.9%	37.9%	33.1%
2 hrs - 3 hrs	8.8%	20.4%	33.4%
> 3 hrs	5.2%	4.6%	21.2%

Table B3. Percentage of sample maintaining a profile on a certain Social Media site (N=403)

Social Media site	Users
Hyves	88.4%
YouTube	60.1%
Facebook	40.3%
eBuddy	21.9%
Twitter	17.5%
MySpace	11.1%
Picasa	10.9%
Other	23.6%
None	4.9%

Table B4. Initial cluster memberships and centroids

	Initial cluster		
	1	**2**	**3**
Memberships (N)	52	131	220
Memberships (%)	12.9%	32.6%	54.5%
Initial Cluster Centers			
Entertainment	2.152	3.937	3.715
Stay in touch with contacts	1.304	3.888	3.748
Make appointments with contacts	1.130	3.860	3.645
Search for new contacts	1.109	2.706	2.430
View pictures and videos	1.630	3.790	3.612
Search info for school	1.087	3.692	2.407
Search info about study	1.087	3.259	2.047
Search info about university	1.152	3.217	2.084
Read productreviews before purchase	1.391	3.538	2.248
Vote in polls	1.304	3.168	2.276
Subscribe to RSS feeds	1.065	1.678	1.173
Share experiences through weblog	1.130	2.294	1.617
Share opinions through forums	1.391	2.524	1.836
Share info about sport or hobby	1.152	2.657	1.963
Review purchased products	1.087	2.189	1.327
Share pictures and videos	1.196	3.406	2.846

Table B5. Final cluster memberships and centroids

	Final cluster		
	1	**2**	**3**
Memberships (N)	56	180	167
Memberships (%)	13.9%	44.7%	41.4%
Final Cluster Centers			
Entertainment	2.172	3.851	3.823
Stay in touch with contacts	1.374	3.844	3.797
Make appointments with contacts	1.198	3.761	3.694
Search for new contacts	1.158	2.633	2.429
View pictures and videos	1.676	3.712	3.675
Search info for school	1.248	3.540	2.177
Search info about study	1.180	3.131	1.806
Search info about university	1.230	3.100	1.896
Read productreviews before purchase	1.436	3.386	2.012
Vote in polls	1.343	3.091	2.160
Subscribe to RSS feeds	1.090	1.539	1.118
Share experiences through weblog	1.203	2.241	1.464
Share opinions through forums	1.396	2.478	1.673
Share info about sport or hobby	1.203	2.549	1.938
Review purchased products	1.095	2.016	1.250
Share pictures and videos	1.230	3.197	2.954

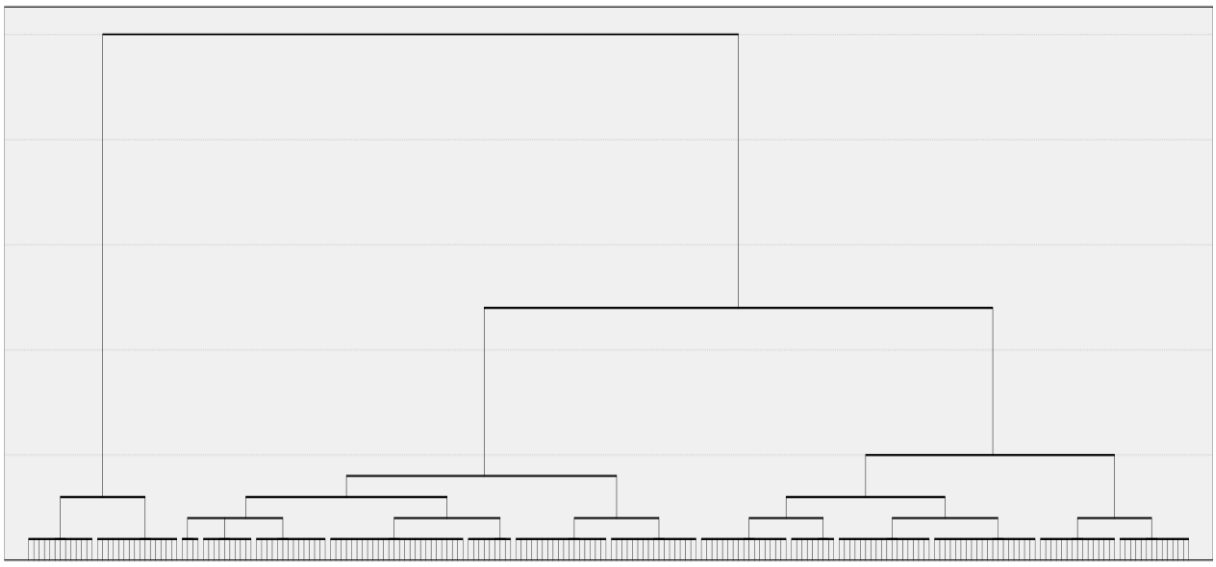

Figure B1. Dendrogram obtained from Ward's clustering method and the Social Media usage as criteria on random half (1) for validation purposes

Table B6. Cluster memberships and centroids of random half (1) for validation purposes

	Cluster		
	1	**2**	**3**
Memberships (N)	33	84	102
Memberships (%)	15.1%	38.4%	46.6%
Final Cluster Centers			
Entertainment	2.030	3.877	3.862
Stay in touch with contacts	1.323	3.944	3.676
Make appointments with contacts	1.097	3.911	3.534
Search for new contacts	1.151	2.797	2.398
View pictures and videos	1.706	3.821	3.619
Search info for school	1.113	3.603	2.284
Search info about study	1.075	3.298	1.955
Search info about university	1.158	3.104	2.097
Read productreviews before purchase	1.307	3.528	2.170
Vote in polls	1.301	3.161	2.352
Subscribe to RSS feeds	1.075	1.676	1.178
Share experiences through weblog	1.113	2.316	1.555
Share opinions through forums	1.315	2.414	1.800
Share info about sport or hobby	1.188	2.531	2.053
Review purchased products	1.045	2.128	1.272
Share pictures and videos	1.195	3.406	2.879

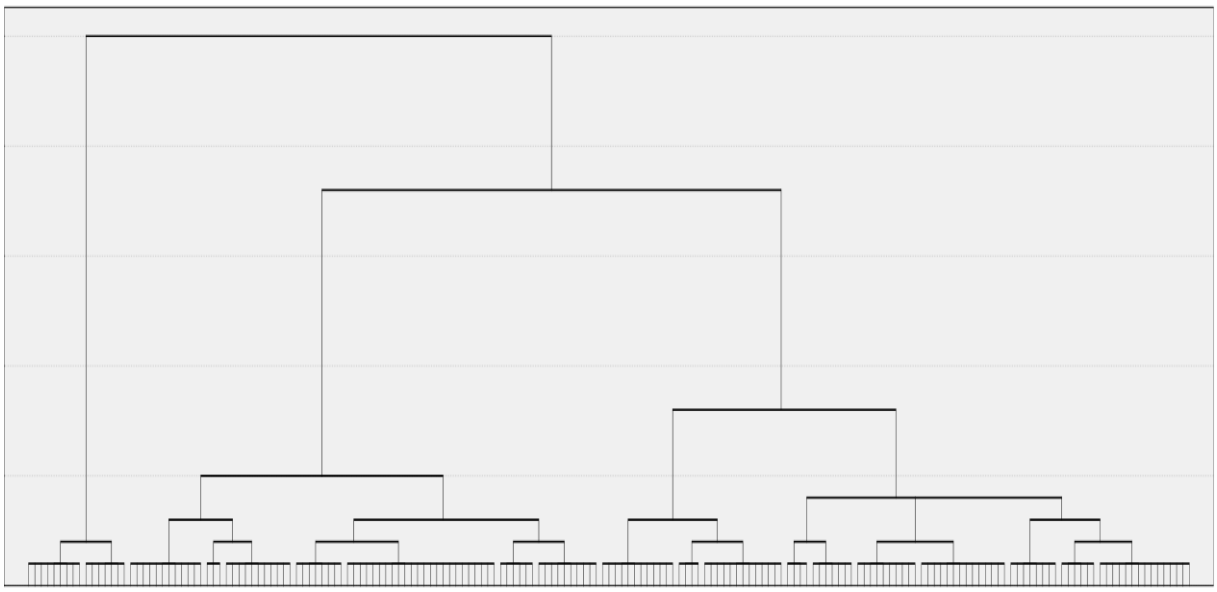

Figure B2. Dendrogram obtained from Ward's clustering method and the Social Media usage as criteria on random half (2) for validation purposes

Table B7. Cluster memberships and centroids of random half (2) for validation purposes

	Cluster		
	1	**2**	**3**
Memberships (N)	21	87	76
Memberships (%)	11.4%	47.3%	41.3%
Final Cluster Centers			
Entertainment	2.466	3.841	3.707
Stay in touch with contacts	1.417	3.763	3.917
Make appointments with contacts	1.310	3.682	3.814
Search for new contacts	1.179	2.537	2.399
View pictures and videos	1.608	3.595	3.741
Search info for school	1.239	3.549	2.163
Search info about study	1.179	3.069	1.684
Search info about university	1.179	3.168	1.725
Read productreviews before purchase	1.548	3.344	1.870
Vote in polls	1.429	2.934	2.096
Subscribe to RSS feeds	1.119	1.390	1.103
Share experiences through weblog	1.358	2.103	1.502
Share opinions through forums	1.548	2.521	1.611
Share info about sport or hobby	1.179	2.610	1.808
Review purchased products	1.179	1.986	1.219
Share pictures and videos	1.298	3.066	2.971

Table B8. Percentage of segment (cluster analysis) carrying out certain activities at least sometimes on the Social Media (N=403)

	Beginner (N=56; 13.9%)	**Average (N=167; 41.4%)**	**Expert (N=180; 44.7%)**
Entertainment	46.0%	93.4%	95.7%
Stay in touch with contacts	7.2%	94.9%	97.9%
Make appointments with contacts	2.7%	95.3%	95.5%
Search for new contacts	2.3%	46.2%	59.4%
View pictures and videos	23.0%	96.4%	95.7%
Search info for school	6.8%	35.2%	91.8%
Search info about study	4.5%	18.5%	83.2%
Search info about university	6.8%	24.7%	82.1%
Read productreviews before purchase	14.4%	30.4%	86.0%
Vote in polls	9.0%	36.9%	83.7%
Subscribe to RSS feeds	2.3%	0.8%	13.3%
Share experiences through weblog	6.8%	9.2%	42.5%
Share opinions through forums	13.5%	16.8%	48.9%
Share info about sport or hobby	4.5%	29.1%	51.4%
Review purchased products	0.0%	1.5%	29.0%
Share pictures and videos	6.8%	74.1%	82.4%

Table B9. Percentage of segment (cluster analysis) carrying out certain activities often or always on the Social Media (N=403)

	Beginner (N=56; 13.9%)	**Average (N=167; 41.4%)**	**Expert (N=180; 44.7%)**
Entertainment	20.7%	71.6%	74.1%
Stay in touch with contacts	0.0%	71.2%	71.1%
Make appointments with contacts	0.0%	66.7%	69.7%
Search for new contacts	0.0%	16.3%	13.2%
View pictures and videos	4.5%	59.5%	68.9%
Search info for school	2.3%	14.6%	57.0%
Search info about study	2.3%	2.4%	30.3%
Search info about university	2.3%	2.4%	27.5%
Read productreviews before purchase	2.7%	8.9%	47.9%
Vote in polls	0.0%	4.1%	26.4%
Subscribe to RSS feeds	0.0%	0.8%	1.2%
Share experiences through weblog	4.5%	2.3%	11.6%
Share opinions through forums	4.5%	2.7%	17.7%
Share info about sport or hobby	2.3%	4.5%	15.2%
Review purchased products	0.0%	0.0%	8.4%
Share pictures and videos	0.0%	23.2%	37.2%

Table B10. Percentage of segment (factor analysis) carrying out certain activities at least sometimes on the Social Media (N=403)

	Beginner (N=119; 29.5%)	**Social (N=164; 40.7%)**	**Informational (N=120; 29.7%)**
Entertainment	66.5%	97.6%	95.6%
Stay in touch with contacts	50.2%	99.2%	96.9%
Make appointments with contacts	49.7%	97.6%	94.6%
Search for new contacts	15.8%	59.9%	56.9%
View pictures and videos	59.9%	98.2%	94.8%
Search info for school	31.3%	43.9%	98.7%
Search info about study	23.7%	25.4%	94.6%
Search info about university	26.1%	32.9%	90.0%
Read productreviews before purchase	35.1%	35.8%	94.4%
Vote in polls	27.3%	55.5%	78.2%
Subscribe to RSS feeds	6.5%	2.7%	11.9%
Share experiences through weblog	14.4%	23.4%	33.5%
Share opinions through forums	26.9%	26.9%	39.7%
Share info about sport or hobby	23.9%	34.9%	48.3%
Review purchased products	8.7%	5.8%	29.1%
Share pictures and videos	25.6%	89.9%	81.6%

Table B11. Percentage of segment (factor analysis) carrying out certain activities often or always on the Social Media (N=403)

	Beginner (N=119; 29.5%)	Social (N=164; 40.7%)	Informational (N=120; 29.7%)
Entertainment	27.1%	84.9%	77.4%
Stay in touch with contacts	11.0%	89.4%	72.6%
Make appointments with contacts	12.1%	82.5%	72.6%
Search for new contacts	11.0%	89.4%	72.6%
View pictures and videos	13.6%	74.7%	72.6%
Search info for school	9.8%	11.9%	81.0%
Search info about study	1.1%	2.4%	45.4%
Search info about university	0.2%	0.9%	44.1%
Read productreviews before purchase	8.5%	8.6%	65.3%
Vote in polls	3.2%	7.5%	31.8%
Subscribe to RSS feeds	0.2%	0.9%	1.5%
Share experiences through weblog	4.2%	5.2%	11.3%
Share opinions through forums	8.0%	7.3%	14.4%
Share info about sport or hobby	2.1%	10.1%	14.2%
Review purchased products	1.1%	0.9%	10.3%
Share pictures and videos	0.2%	34.2%	41.2%

Table B12. Relations between the segmentation based on the Social Media use and other variables in the data with significance >0.05

Variable	Option	Beginner (N=119; 29.5%)		Social (N=164; 40.7%)		Informational (N=120; 29.7%)		Total	χ^2	Sig.
		% of segment	% of variable option	% of segment	% of variable option	% of segment	% of variable option	% of variable		
Gender	Male	55.1	45.9	28.2	32.4	25.7	21.7	35.4	28.699	.000
	Female	44.9	20.5	71.8	45.3	74.3	34.2	64.6		
Profile	Natuur & techniek	38.5	42.1	26.2	39.6	16.5	18.3	27.0	19.135	.004
	Natuur & gezondheid	25.4	25.4	27.1	37.5	36.6	37.1	29.4		
	Economie & maatschap.	25.4	27.3	26.0	38.6	31.4	34.1	27.5		
	Cultuur & maatschap.	10.6	19.3	20.7	52.2	15.5	28.5	16.2		
Great variety of studies	Completely disagree	3.2	25.9	2.6	29.2	5.5	44.9	3.6	22.647	.004
	Disagree	13.9	33.0	15.8	52.3	6.1	14.7	12.4		
	Undecided	30.4	33.5	26.5	40.9	22.8	25.5	26.6		
	Agree	44.6	30.3	43.8	41.6	41.0	28.2	43.2		
	Completely agree	7.9	16.3	11.3	32.6	24.6	51.1	14.3		
The institution's offer of cultural activities	Completely disagree	2.6	31.5	4.0	68.5	0.0	0.0	2.4	30.994	.000
	Disagree	17.1	29.8	24.5	59.7	5.9	10.4	16.8		
	Undecided	43.0	32.6	36.9	39.1	36.8	28.2	38.7		

	Agree	33.0	26.7	28.3	32.1	50.1	41.1	36.1		
	Completely agree	4.3	21.1	6.3	43.2	7.2	35.7	6.0		
The institution's offer of social activities	Completely disagree	4.9	51.1	3.2	46.8	0.2	2.1	2.8	30.273	.000
	Disagree	5.8	24.5	8.4	50.1	5.9	25.4	6.9		
	Undecided	35.1	44.7	20.2	36.0	15.0	19.3	23.0		
	Agree	45.4	28.2	43.9	38.1	53.7	33.7	47.3		
	Completely agree	8.8	12.9	24.2	49.7	25.2	37.4	20.0		
The city's social and cultural facilities	Completely disagree	4.5	47.8	3.4	50.0	0.2	2.2	2.8	18.455	.018
	Disagree	10.7	38.7	6.3	31.8	8.0	29.4	8.1		
	Undecided	29.3	38.1	17.8	32.2	22.6	29.7	22.6		
	Agree	45.6	28.4	48.4	42.2	46.5	29.4	47.0		
	Completely agree	9.9	14.8	24.2	50.8	22.6	34.3	19.5		
Good mouth to mouth on the internet (e.g. on blogs or social networks)	Completely disagree	3.4	40.1	3.5	57.5	0.2	2.4	2.5	19.351	.013
	Disagree	15.2	41.8	7.8	30.0	10.2	28.2	10.7		
	Undecided	40.0	33.2	38.9	45.1	25.8	21.7	35.4		
	Agree	36.6	24.8	42.4	40.1	51.3	35.1	43.4		
	Completely agree	4.7	17.0	7.3	37.2	12.5	45.7	8.1		
Taster days/campus visit	Completely disagree	1.3	86.1	0.1	13.9	0.0	0.0	0.4	26.632	.001
	Disagree	0.2	3.9	2.3	60.5	1.9	35.7	1.6		
	Undecided	8.1	53.7	1.4	12.5	5.1	33.8	4.4		
	Agree	48.2	34.0	45.4	44.7	29.8	21.3	41.6		
	Completely agree	42.2	23.8	50.8	40.1	63.3	36.1	52.0		
Official university internet site	Completely disagree	0.2	33.3	0.1	33.3	0.2	33.3	0.2	13.067	.042
	Disagree	4.3	51.5	2.6	43.6	0.4	4.9	2.4		
	Undecided	10.5	35.8	8.9	42.3	6.3	21.9	8.6		
	Agree	68.3	32.1	60.1	39.5	59.7	28.4	62.4		
	Completely agree	16.7	18.5	28.3	44.0	33.4	37.5	26.4		
Social networks	Completely disagree	15.4	47.3	9.5	40.9	3.8	11.8	9.5	21.556	.006
	Disagree	37.7	32.7	36.3	44.1	26.4	23.2	33.8		
	Undecided	36.6	28.6	32.6	35.5	45.5	35.9	37.6		
	Agree	10.3	16.9	20.1	46.2	22.2	36.9	17.8		
	Completely agree	0.0	0.0	1.5	50.0	2.1	50.0	1.3		
Weblogs	Completely disagree	6.0	33.3	7.6	59.5	1.3	7.1	5.3	22.496	.004
	Disagree	21.6	26.6	27.3	47.0	21.2	26.4	23.8		
	Undecided	45.2	33.6	40.6	42.2	32.1	24.2	39.4		
	Agree	26.1	26.8	21.4	30.7	40.8	42.4	28.5		
	Completely agree	1.1	10.7	3.1	42.6	4.6	46.7	3.0		
Online communities	Completely disagree	10.5	33.1	11.5	50.7	5.1	16.2	9.3	20.870	.007
	Disagree	30.2	27.0	39.2	49.0	26.6	24.1	32.8		
	Undecided	40.9	32.1	36.1	39.7	35.5	28.2	37.3		
	Agree	16.1	27.7	10.1	24.3	27.5	48.0	17.0		
	Completely agree	2.4	19.6	3.1	35.7	5.3	44.7	3.5		
Forums	Completely disagree	9.4	28.8	13.0	55.6	5.1	15.6	9.6	22.510	.004
	Disagree	32.2	29.8	37.4	48.5	23.1	21.7	31.6		
	Undecided	40.4	29.8	37.7	38.8	42.0	31.4	39.8		
	Agree	16.9	28.0	11.2	25.9	27.5	46.1	17.7		
	Completely agree	1.1	23.9	0.8	23.9	2.3	52.3	1.3		
Yearly frequency of online purchase	Never	9.3	52.4	4.8	37.0	1.9	10.6	5.2	15.687	.047
	Less than 2 times	24.4	30.0	24.1	40.9	23.4	29.2	24.0		

	2 - 6 times	36.7	24.1	51.1	46.4	44.4	29.5	44.8		
	7 - 12 times	20.3	34.0	15.5	35.8	17.8	30.1	17.6		
	More than 12 times	9.3	32.8	4.6	22.4	12.6	44.7	8.4		
Daily duration of listening to the radio	Less than 30 min	54.9	35.0	48.9	43.1	33.9	21.9	46.2	16.790	.032
	30 min - 1 hour	17.4	22.3	20.8	37.0	31.2	40.6	22.9		
	1 hour - 2 hours	16.5	28.8	16.1	38.7	18.4	32.5	16.9		
	2 - 3 hours	4.5	14.9	9.5	44.0	12.1	41.1	8.8		
	More than 3 hours	6.8	38.3	4.7	36.9	4.4	24.9	5.2		
Log in frequency on the Social Media	Constantly	3.0	8.1	12.4	54.8	11.5	37.2	9.7	101.670	.000
	More than once per day	16.2	10.8	49.1	54.0	43.7	35.2	38.9		
	Once per day	29.9	23.5	33.8	44.0	34.1	32.5	32.9		
	Once per week	26.2	72.1	3.8	17.4	3.1	10.5	9.4		
	Less than once per week	24.6	69.8	0.9	4.3	7.5	25.9	9.1		
Duration on the Social Media per session	Less than 5 min	25.9	55.7	5.4	19.1	9.6	25.1	12.0	35.000	.000
	5 - 10 min	33.8	30.3	27.8	41.5	25.9	28.2	28.8		
	11 - 30 min	29.2	19.4	44.4	48.9	39.3	31.7	38.9		
	31 - 60 min	7.1	11.4	17.6	47.0	21.3	41.6	16.1		
	More than 60 min	4.1	24.6	4.8	47.8	3.8	27.6	4.3		
Use of the Social Media compared to last year	Decreased	30.9	41.6	13.3	29.7	17.6	28.7	19.2	26.437	.000
	About the same	48.8	31.1	38.1	40.4	36.8	28.5	40.5		
	Increased	20.3	13.0	48.6	51.6	45.6	35.4	40.3		
Weblog follower	Yes	15.9	19.6	23.7	40.5	32.0	39.9	23.9	8.116	.017
	No	84.1	32.5	76.3	40.8	68.0	26.6	76.1		
YouTube channel follower	Yes	28.4	23.7	34.0	39.3	43.7	37.0	35.3	6.274	.043
	No	71.6	32.6	66.0	41.5	56.3	25.9	64.7		
Connected to own school on SNS	Yes	49.7	18.2	79.8	48.5	75.1	33.3	70.6	29.104	.000
	No	50.3	44.1	20.2	29.4	24.9	26.5	29.4		
Connected to other educational institutions on SNS	Yes	24.5	14.8	53.5	51.4	44.6	33.8	43.0	19.164	.000
	No	75.5	34.5	46.5	33.7	55.4	31.7	57.0		
Connected to companies or brands on SNS	Yes	31.4	16.9	55.0	49.0	51.8	34.1	47.9	13.147	.001
	No	68.6	34.0	45.0	36.9	48.2	29.1	52.1		
Connected to groups or communities on SNS	Yes	68.6	21.0	87.9	45.4	90.4	33.5	83.7	18.182	.000
	No	31.4	49.5	12.1	32.2	9.6	18.2	16.3		

Table B13. Social Technographics Ladder segmentation for the sample (N=403) and for the Dutch population (age 18-24; obtained from Forrester Research (2009))

	Sample (age 16-19)	Dutch population (age 18-24)
Inactive	14,2%	9,0%
Spectator	81,9%	81,0%
Joiner	69,6%	71,0%
Collector	13,9%	9,0%
Critic	12,5%	33,0%
Creator	33,1%	35,0%

APPENDIX C: Survey

Vragenlijst "Internet en Studiekeuze"

Deze vragenlijst bevat vragen over je keuze voor een opleiding na je VWO, en vragen over je internetgebruik. De vragenlijst wordt anoniem ingevuld. De antwoorden zullen gebruikt worden voor een onderzoek in opdracht van de Universiteit Twente. Mocht je vragen hebben over dit onderzoek kun je een mail sturen naar s0039586@student.utwente.nl. Alvast bedankt voor het invullen!

A1. Ik zit in klas:
- ○ 5VWO
- ○ 6VWO

A2. Ik ben een:
- ○ Jongen
- ○ Meisje

A3. Ik heb het profiel:
- ○ Natuur en techniek
- ○ Natuur en gezondheid
- ○ Economie en maatschappij
- ○ Cultuur en maatschappij

A5. Ik heb de volgende vakken in mijn vrije deel:
- ☐ Aardrijkskunde
- ☐ Biologie
- ☐ Economie
- ☐ Management en organisatie
- ☐ Maatschappijleer 2
- ☐ Muziek (inclusief kunst)
- ☐ Beeldende vorming (inclusief kunst)
- ☐ Filosofie
- ☐ Geschiedenis
- ☐ Godsdienst / Levensbeschouwing
- ☐ Franse taal en letterkunde
- ☐ Duitse taal en letterkunde
- ☐ Spaanse taal en letterkunde
- ☐ Arabische/ Turkse taal en letterkunde
- ☐ Latijnse taal en letterkunde
- ☐ Griekse taal en letterkunde
- ☐ Informatica
- ☐ Natuurkunde
- ☐ Scheikunde
- ☐ Natuur Leven en Technologie
- ☐ Lichamelijke opvoeding 2 / Beweging Sport en Maatschappij

De vragen B1 t/m B4 gaan over je keuze voor een opleiding en voor een aanbieder van opleidingen (universiteit, hoge school, e.d.) nadat je je VWO hebt afgerond.

B1. Heb je al een vervolgopleiding gekozen?
- ○ Ja, namelijk ……..
- ○ Nee, maar waarschijnlijk kies ik één van de volgende opleidingen:
  - ……..
  - ……..
  - ……..
- ○ Nee, ik weet het nog niet
- ○ Nee, ik ga namelijk geen vervolgopleiding volgen (ga verder met vraag C1)

B2. Heb je al een universiteit, hoge school of andere aanbieder van vervolgonderwijs gekozen?
- ○ Ja, namelijk ……..
- ○ Nee, maar waarschijnlijk kies ik één van de volgende aanbieders van vervolgonderwijs:
  - ……..
  - ……..
  - ……..
- ○ Nee, ik weet het nog niet

B3. In hoeverre ben je het eens/oneens met onderstaande stellingen over hoe je tot de keuze bent gekomen of gaat komen voor een aanbieder van vervolgonderwijs?

Ik vind het *belangrijk* dat:	**helemaal mee oneens**	**mee oneens**	**neutraal**	**mee eens**	**helemaal mee eens**
• **er een breed aanbod is aan verschillende opleidingen**	o	o	o	o	o
• **mijn vrienden/vriendinnen er gaan studeren**	o	o	o	o	o
• **mijn familieleden er studeren of hebben gestudeerd**	o	o	o	o	o
• **er een breed aanbod is aan studentenleven op het vlak van sport**	o	o	o	o	o
• **er een breed aanbod is aan studentenleven op het vlak van cultuur**	o	o	o	o	o
• **er een breed aanbod is aan studentenleven op het sociale vlak**	o	o	o	o	o
• **de stad van de aanbieder veel sociale en culturele faciliteiten biedt (bijv. uitgaansgelegenheden, theaters en bioscopen)**	o	o	o	o	o
• **de aanbieder dicht bij mijn ouders zit zodat ik daar kan blijven wonen en/of niet ver hoef te reizen**	o	o	o	o	o
• **de stad of campus een goed aanbod heeft aan goedkope woonruimte**	o	o	o	o	o
• **de aanbieder goede beoordelingen behaalt in de ranglijsten (bijv. de jaarlijkse ranglijst door Elsevier)**	o	o	o	o	o
• **er op internet goede verhalen rondgaan over de aanbieder (bijv. op schoolsites, weblogs, fora of Hyves)**	o	o	o	o	o

B4. In hoeverre ben je het eens/oneens met onderstaande stellingen over hoe je tot de keuze bent gekomen of gaat komen voor een aanbieder van vervolgonderwijs?

Om een keuze te maken vind ik de volgende informatiebronnen *nuttig*:	**helemaal mee oneens**	**mee oneens**	**neutraal**	**mee eens**	**helemaal mee eens**
• **Brochures van universtiteiten, hoge scholen e.d.**	o	o	o	o	o
• **Voorlichtingsdagen/meeloopdagen/bezoek aan instelling**	o	o	o	o	o
• **Loopbaan Orientatie Begeleiding/Studie Loopbaan Begeleider/Decaan**	o	o	o	o	o
• **Familie/vrienden/kennissen**	o	o	o	o	o
• **Officiële internet sites van universiteiten, hoge scholen e.d.**	o	o	o	o	o
• **Sociale netwerken (bijv. Hyves of Facebook)**	o	o	o	o	o
• **Weblogs (bijv. geschreven door medescholieren, studenten, studentenverenigingen e.d.)**	o	o	o	o	o
• **Zogeheten “online communities”, waar een gebruiker informatie online kan zetten en delen (bijv. Youtube, Wikipedia, Flickr, Picasa)**	o	o	o	o	o
• **Fora (bijv. forum.scholieren.com of forum.fok.nl)**	o	o	o	o	o

C1. Hoe lang internet je (gemiddeld) dagelijks? (denk daarbij ook aan internetten voor school, online games, online winkelen en mailen)

- ○ Minder dan 30 minuten
- ○ 30 minuten – 1 uur
- ○ 1 – 2 uur
- ○ 2 – 3 uur
- ○ Meer dan 3 uur

C2. Hoe vaak koop je in een jaar iets online? (bijv. elektronica, kleding, CD's/DVD's/iTunes, enz.)

- ○ Nooit (ga verder met vraag C4)
- ○ Minder dan 2 keer
- ○ 2 – 6 keer
- ○ 6 – 12 keer
- ○ Meer dan 12 keer

C3. Wat geef je in een jaar ongeveer uit aan je online aankopen?

- ○ Minder dan 10 euro
- ○ 10 – 50 euro
- ○ 51 – 100 euro
- ○ 100 – 250 euro
- ○ Meer dan 250 euro

C4. Hoe lang luister je dagelijks (gemiddeld) naar de radio?

- ○ Minder dan 30 minuten
- ○ 30 minuten – 1 uur
- ○ 1 – 2 uur
- ○ 2 – 3 uur
- ○ Meer dan 3 uur

C5. Hoe lang kijk je dagelijks (gemiddeld) naar de TV?

- ○ Minder dan 30 minuten
- ○ 30 minuten – 1 uur
- ○ 1 – 2 uur
- ○ 2 – 3 uur
- ○ Meer dan 3 uur

C6. Hoe vaak lees je de krant?

- ○ Dagelijks
- ○ 2 – 3 keer per week
- ○ Minder dan 2 keer per week
- ○ Nooit

De vragen D1 t/m D13 gaan over je gebruik van de Sociale Media. Sociale Media is een verzamelnaam voor internetsites en online omgevingen die mensen gebruiken om meningen, inzichten, ervaringen en perspectieven met elkaar te delen of om contacten te leggen (netwerken). Denk hierbij aan ***sociale netwerksites, fora, blogsites en de eerdergenoemde online communities****. Enkele voorbeelden van dit soort sites kom je bij de volgende vraag tegen.*

D1. Op welke van de volgende sociale media sites heb je een profiel? (meerder antwoorden mogelijk, geen e-mail sites)

- ☐ Hyves
- ☐ Facebook
- ☐ Twitter
- ☐ Picasa
- ☐ Flickr
- ☐ Forum.Fok.nl

- ☐ Myspace
- ☐ LinkedIn
- ☐ eBuddy.com
- ☐ Youtube
- ☐ Blogger.com
- ☐ Spelletjes.nl
- ☐ Forum.Scholieren.com
- ☐ SecondLife
- ☐ Anders, namelijk:
  - …….
  - …….
  - …….
- ☐ Ik heb geen profiel op een sociale media site (ga verder met vraag D12)

D2. Hoe vaak log je in op de sociale media site die je het meest gebruikt? (geen e-mail sites)

- o Ik ben constant ingelogd
- o Meer dan 1 keer per dag
- o 1 keer per dag
- o 1 keer per week
- o Minder dan 1 keer per week

D3. Hoe lang ben je (gemiddeld) per keer ingelogd en actief (informatie zoeken of zelf aan het toevoegen)?

- o Minder dan 5 minuten
- o 5-10 minuten
- o 11-30 minuten
- o 30-60 minuten
- o Meer dan 60 minuten

D4. Mijn gebruik van sociale media sites is ten opzicht van een jaar geleden:

- o Afgenomen
- o Ongeveer gelijk gebleven
- o Toegenomen

D5. Hoe vaak voer je de onderstaande activiteiten uit op Sociale Media sites?

	nooit	bijna nooit	soms	vaak	altijd
• **Informatie opzoeken voor school**	o	o	o	o	o
• **Informatie zoeken over studie**	o	o	o	o	o
• **Informatie zoeken over universiteiten/hoge scholen**	o	o	o	o	o
• **Jezelf vermaken**	o	o	o	o	o
• **Foto's en video's van jezelf delen**	o	o	o	o	o
• **Je ideeën en ervaringen delen via een weblog**	o	o	o	o	o
• **Je ideeën en meningen delen op fora**	o	o	o	o	o
• **Productbeoordelingen schrijven over iets wat je gekocht hebt**	o	o	o	o	o
• **Je stem uitbrengen op peilingen**	o	o	o	o	o
• **Abonneren op RSS feeds**	o	o	o	o	o
• **Nieuwe contacten zoeken**	o	o	o	o	o
• **Contact met bestaande vrienden, afspraken maken**	o	o	o	o	o
• **Op de hoogte blijven van vrienden**	o	o	o	o	o
• **Foto's en video's van anderen bekijken**	o	o	o	o	o
• **Productbeoordelingen lezen voordat je iets koopt**	o	o	o	o	o
• **Informatie toevoegen over je hobby of sport**	o	o	o	o	o

D6. Hoeveel vrienden/contacten heb je op je sociale netwerksite die je het meest gebruikt? (Indien geen, vul dan een 0 in)

- …… (aantal)

D7. Ben jij bevriend met/lid van je eigen school op een sociale netwerksite?

- Ja
- Nee, maar mijn school heeft wel een profiel
- Nee, mijn school heeft geen profiel op de sociale netwerksites waar ik een profiel heb

D8. Ben jij bevriend met/lid van/fan van een andere school of universiteit op een sociale netwerksite? Zoja, hoeveel?

- Ja, namelijk ……. (aantal)
- Nee

D9. Ben jij bevriend met/lid van/fan van een bedrijf of een merk op een sociale netwerksite? Zoja, hoeveel?

- Ja, namelijk ……. (aantal)
- Nee

D10. Ben jij bevriend met/lid van/fan van andere groepen/communities op een sociale netwerksite? (denk daarbij aan je hobby's, muziekinteresses, sportverenigingen enz.)

- Ja, namelijk ……. (aantal)
- Nee

D12. Volg je regelmatig weblogs?

- Ja, namelijk ……..... (noem minimaal 1 weblog die je regelmatig volgt)
- Nee, ik volg geen weblogs

D13. Volg je mensen/organisaties op Twitter? Zoja, hoeveel?

- Ja, namelijk ……. (aantal)
- Nee

D14. Ben je op Youtube kanalen geabonneerd, of volg je bepaalde Youtube kanalen regelmatig? Zoja, hoeveel?

- Ja, namelijk ……. (aantal)
- Nee

Je bent klaar met de vragenlijst. Bedankt voor het invullen!