
Segmenting the social networking sites users: an empirical study

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Abstract: The growth of social networking sites (SNS) presents businesses and marketers with risks and challenges. Customers become sophisticated, empowered and increasingly involved in shaping of the marketing offer. Marketers are becoming aware of the threat of losing control over their message but also begin to realise the potential of SNS as marketing tools; understanding the nature of the SNS users and the way they interact online is a vital step in developing business strategies targeting and engaging the networked consumer. The paper presents an explorative survey on the demographics, background, adoption motives and behaviour of SNS users as bases for the identification of segments in this market. The survey, held among SNS users in The Netherlands, identifies four distinctive user profiles of social networking users. The paper presents the results of the survey, discusses the management implications of the findings and identifies areas of future research.

Keywords: social networking sites; SNS; Web 2.0; social media; behavioural characteristics; segmentation of SNS users; cluster analysis; SNS users profile; Dutch online survey; business implications; segmenting; internet marketing; advertising.

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1 Introduction¹

Social networking is one of the oldest human activities dating back to the times that people begun socialising by establishing close and frequent contacts with tribe or community members. Social networks have been subject of study by sociologists, cultural anthropologists and social system theorists (Parsons, 1964). Burt (1980) defines a social network as a set of individuals who are united by the relations established

between them; these relationships can take different forms: formal or informal, superficial or strong, frequent or sporadic and a lot more. The existence of social networks and their effects on human behavior makes them an interesting management issue and research subject (Wellman, 1999).

The effects of networking on business activities are well documented. Networks have been studied from the perspective of the social capital accumulation (Lin et al., 2006), as parameters of the new product development process (Goldenberg et al., 2002; Van Raesfeld et al., 1996) and innovation diffusion (Golder and Tellis, 1997; Rogers, 1995). Research has also identified and analysed the importance and role of social networks as factors affecting the entrepreneurial activity (Groen, 2005; Wakkee et al., 2001), new ventures (Heuven and Groen, 2006) and firm performance (Boshuizen, 2009).

Recently developed internet applications (labeled as Web 2.0 or Social Media) have triggered the explosive growth of citizen-generated content and citizen networking for personal and social rather than business purposes. Virtual online social networks, known as social networking sites (SNS) are today part of the everyday life for hundreds of millions of people worldwide and particularly of the young ones (Ellison et al., 2007; Jones, 2002; Lenhart and Madden, 2007; Subrahmanyam et al., 2008). According to a recent report from ComScore Media Metrix (2010) interaction through virtual social networks has become one of the most popular and engaging activities across the web. In December 2009, nearly 4 out of 5 of the US internet users visited an SNS. These activities now account for 11% of all time spent online in the USA, making it one of the most popular online activities. SNS like Facebook (400 mil users), MySpace (130 mil users) and Qzone (200 mil users) are leading examples of the thousands of online networks attracting hundreds of millions of users and serving a variety of needs of the wired public.

The explosive expansion of SNS has attracted the interest of business strategists and marketing practitioners; publicity, research papers and journal special issues around the subject are also increasing. Despite the growing interest of researchers in the use of SNS as part of the marketing strategy, little academic attention has been so far placed on the nature and behaviour of the online SNS user. This study is a step in the direction of mapping the SNS public by identifying market segments and user profiles on the basis of socio-demographics, motivation, participation, activities and usage patterns; the cluster analysis method is used for the identification of the segments. Specifically, the present study is addressing the social networking issue in a European country (The Netherlands) by looking to the behaviour of the total population of users of SNS rather than a specific segment. The purpose is to categorise the online networked public as the first step in the direction of understanding the behaviour of this category of consumers. The study therefore attempts to address some basic issues of the online behaviour of SNS users by giving an answer to the following question: What are the distinctive profiles of SNS users in The Netherlands and what are their main behavioural characteristics? The findings provide useful insights in the demographics, interests, behaviour and motives of the online networked consumer and provide a basis for future research directions. It also provides practitioners basic and essential information into the behaviour of networked internet users, as starting point of engaging SNS as part of their marketing strategy.

2 Theoretical background

2.1 *Web 2.0, social media and SNS: a revision of concepts*

The term Web 2.0 was introduced by O'Reilly (2005) as the new stage in the internet evolution referring to a collection of online applications sharing a number of common characteristics: "The Web as a platform, Harnessing of the Collective Intelligence, Data is the Next Intel Inside, End of the Software Release Cycle, Lightweight Programming Models, Rich User Experiences" (p.3). The Web 2.0 has been defined in the literature in different ways (Anderson, 2007; Birdsall, 2007; Coyle, 2007; Craig, 2007; Needleman, 2007; Swisher, 2007). Constantinides and Fountain (2008) describe the Web 2.0 as an online interactive platform consisting of three components: the application types (i.e. five categories of Web 2.0 applications), the social effects and the enabling technologies. The application types are commonly labelled as 'social media'. These are online environments allowing direct contact, networking, interactive communication between online users and the posting, editing and dissemination of user generated content (Constantinides and Fountain, 2008).

The importance and popularity of the social media as marketing tools and communication channels is growing (Deighton and Kornfeld, 2009) and field studies provide evidence that these can influence the consumer behaviour. According to a Forrester Research (2008) report, the social media domain has become an important tool of interactive marketing and commercial budgets spend on social media marketing are growing at the cost of other forms of interactive and traditional marketing; in the USA, funds directed to social media are expected to grow from \$716 million in 2009 to \$3.1 billion in 2014. According to a recent report of Outsell, advertisers in the USA plan for the first time to spend more money in online advertising than print.

SNS are defined in different ways in the literature. Creation and exchange of user generated content are common in these definitions (Constantinides et al., 2008; Tredinnick, 2006). Boyd and Ellison (2007, p.1) define the SNS

"as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection and (3) view and traverse their list of connections and those made by others within the system".

Boyd and Ellison (2007) argue that the term 'social network sites' is more appropriate than the term 'social networking sites' and these terms should not be used interchangeably; they argue that the term 'networking' emphasises relationship initiation that for all intents and purposes is not among the priorities of users of these applications. Beer (2008) rejects this argument questioning the analytical value of such a distinction as making the terrain more difficult to deal with. According to Beer (2008), the term 'network' is not appropriate since it could imply the inclusion of web applications not necessarily aiming at social networking. The authors of this paper adopt the view of Beer (2008) and the acronym, SNS, will refer to the term social networking sites in this paper.

A common aspect of SNS is their capacity to bring together and connect people with similar demographics, interests, ideas, hobbies, educational, professional or social backgrounds. Participants of SNS can meet online peers they know or do not know and invite them to join their list of contacts. Depending on the application, these lists are labelled with a variety of terms: 'contacts', 'friends', 'followers', 'connections' and 'fans' are some of the more common terms used. SNS allow different forms of

interactions between the network participants. Instant messaging, voice communication, micro-blogging or discussion forums are some of the options. The network participants can create and share content in the form of information, comments, product reviews, news, opinions, messages, photos, videos, etc.

One of the advantages of SNS is that they allow people to meet virtually and create online communities without any geographical limitations. Furthermore, many SNS allow the creation of sub-networks (or groups) for bringing together people sharing very specific interests within the main networking site. As an example, the business social network, LinkedIn (<http://www.linkedin.com>), allows members to create and join unlimited special interest groups within the site. One of such online sub-groups is the 'e-marketing association network' with more than 200.000 members in January 2010.

Regarding the types of SNS, a 2007 research paper of FaberNovel identifies four categories of SNS depending on the participants' objectives: online communities (goal: socialising), business networks (goal: career and business opportunities), online matchmaking (goal: 'soul mate'), and alumni networks (goal: getting back in touch). Gillin (2009) provides a different classification of SNS including nine different types: general purpose networks, vertical networks, social bookmarking, recommendation engines, social shopping, horizontal networks, photo/video sharing, virtual worlds and mobile networks.

2.2 Behavioural characteristics of SNS users and their importance on business

The wide public acceptance of the internet has led to a sizable power migration in the marketplace based on information availability, many alternatives and easy transactions (Urban, 2005). Online networked customers create parallel channels of information under their control: information is generated, edited and distributed beyond the control of marketers who traditionally are in control of the information transmitted through mass media. Many studies indicate that customers are becoming increasingly the powerful part in the market equation while the power of traditional marketing in influencing peoples' behaviour is decreasing (Bush, 2004; Constantinides and Fountain, 2008; Rha et al., 2002). The customer empowerment is forcing corporations to consider ways to engage the social media and particularly the SNS as part of their marketing strategies and regain some control over the online information flows.

The fast growth of the SNS domain and the increasing importance of these networks as part of the everyday life for hundreds of millions of people have also attracted the attention of academics and observers. Prevalent themes in the literature are the status and effects of SNS on society and business (Boyd and Ellison, 2007; Keen, 2007), their role in identity construction and expression, their role in building and maintenance of social capital (e.g., Ellison et al., 2007), the motives and personality of users (Correa et al., 2010; Subrahmanyam et al., 2008). The role of SNS as marketing instruments (Constantinides et al., 2008; Hogg, 2010; Spaulding, 2010; Waters et al., 2009) and trust (Dwyer et al., 2007; Hoadley et al., 2010) is a subject attracting also substantial research attention. The issues of network security and privacy are themes also extensively discussed in the literature (Dwyer et al., 2007; Lenhart and Madden, 2007; Preibusch et al., 2007). Other areas of research interest are the practices and uses of SNS (Subrahmanyam et al., 2008) and the effect of customer generated content on customer behaviour (Constantinides, et al., 2008; Urban, 2005). Research evidence is still limited

but there is already plenty of anecdotal evidence that the influence of peers on customer decisions is substantial. =

Businesses are rushing to integrate all social media into their communication strategy. According to a study of Barnes and Mattson (2010), 35% of the Fortune 500 companies have already (February 2010) active Twitter accounts and nearly 50% of the top 100 companies have a Twitter account. A study published on February 2010 by the Small Business Success Index (SBSI) indicates that 75% of the surveyed small businesses in the USA have already a company page on a SNS and 57% have built a network through a networking site like LinkedIn. Similar trends were reported in studies conducted earlier by McKinsey (2007a, 2007b) and Forrester Research (2008). Moreover, SNS have been identified in the literature as very significant for individuals and businesses, since they support existing social ties and allow the formation of new connections and networks between users (Boyd and Ellison, 2007; Cliff et al., 2006; Donath and Boyd, 2004; Ellison et al., 2006, 2007; Lampe et al., 2007). Connections between users have been found to be important in facilitating group tasks (Preece and Maloney-Krichmar, 2003; Sproull and Kiesler, 1991), eliminating the tendency to misuse the system and building different types of social capital (Ellison et al., 2006); the potential benefits of social networking are quite extensive.

A number of researchers in the SNS domain are focused on the mapping of the terrain and the role of the social media and of social networks in particular as marketing tools for commercial organisations; such studies identify several areas where SNS can play an important role as part of the marketing toolbox (Bickart and Schindler, 2001; Costantinides and Fountain, 2008; Deighton and Kornfeld, 2009; Ellonen et al., 2010; Hennig-Thurau et al., 2004; Hoegg et al., 2006; Korica et al., 2006; Subramani and Rajagopalan, 2003).

Next to commercial organisations non-profit ones can benefit from engaging SNS as part of their marketing strategy; Waters et al. (2009) analysed the use of a SNS (Facebook), concluding that a well-planned social network-based communication strategy can be beneficial for non-profit organisations as well. The literature indicates that the focus of most researchers is the nature and the strategic importance of the SNS, but there is limited attention placed on the demand side of the market equation. More specifically, there is little known about the adoption process of SNS by individuals and also little known about users' types, behaviour and personality. Studies found in the literature are addressing some of the above issues but are mostly focused on specific areas of social networking. Mayer and Puller (2008) investigated the formation of social networks among university students and Boyd (2008) studied the motives of teenagers using SNS.

3 Methodology

The study is based on a national survey conducted in the autumn of 2009 in The Netherlands. This country is an appropriate market for research on internet-related issues due to high penetration of the web and the experience/sophistication of internet users; according to the 2009 European commission's Digital Competitiveness Report, 83% of the Dutch are regular internet users – connecting to the internet at least once a week – and 74% of the population has access to broadband connection. In both aspects, The Netherlands is ranking number 1 in the European Union.

An online questionnaire was used for data collection. The sample population consisted of 400 individuals, users of SNS from the entire country with ages ranging from 16 to 74 years. The non-probability method by quota sampling was used in order to ensure that the panel is representative of the Dutch population with regard to gender, age and area of residence.

The questionnaire was based on a combination of closed-ended, dichotomous and multi-chotomous questions, with single and multiple responses. The main objective was to obtain information about the Dutch consumer's experience and use of the internet in general and of the SNS in particular. This means assessing the level of involvement and usage of SNS, the user motivations to participate in these sites, the types of profiles (public or private) preferred, the extend of network-based contacts, the ways people access SNS, the number of accounts in different SNS, and the socio-demographics of the users.

The analytical techniques used in this study were applied in two stages. A cluster analysis was used in the first stage in order to determine different clusters of SNS users; the criterion here was the level of individual participation in SNS. In the second stage, the significant differences between the obtained clusters and the user profiles have been analysed. These profiles were created on the basis of socio-demographic characteristics, user's aptitude as internet users (based on the number of years of experience), the intensity of internet usage (based on the hours of usage per week), the level of use of internet tools in order to obtain information or generate content, the years of experience with SNS, the intensity of interaction in SNS (number of personal accounts, the frequency and hours of use), the types of profiles preferred (public or private), the size of personal networks, the way of accessing SNS, the motivations to participate in SNS and the types of activities carried out in SNS. The analysis of the data was done by means of the statistical program SPSS®.

The cluster analysis technique has been used in this research because the important of the segmentation as marketing tool. According to Smith (1956, p.6), market segmentation

“consists of viewing a heterogeneous market (one characterized by divergent demand) as a number of smaller homogeneous markets in response to differing product preferences among important market segments. It is attributable to the desires of consumers or users for more precise satisfaction of their varying wants”.

Today, market segmentation is an essential element of marketing. Due to the big number of SNS users, market segmentation is necessary for most companies which participate, or want to participate, in SNS, as far as majority of services have to be focused on needs of well-defined sub-markets, in order to be successful and to get a company-customer relationship.

4 Results

4.1 SNS user segments

Boone and Roehm (2002) have indicated that there are over 50 clustering methods that could be applied to market segmentation. Similar views are shared by authors such as Milligan and Cooper (1985) and Wedel and Kamakura (2000). However, none of the

clustering techniques is generally superior across different data sets (Arabie, Hubert, and De Soete, 1996; Punj and Stewart, 1983; Wedel and Kamakura, 2000).

Following the approach of Boone and Rohem (2002), the K-means criterion was selected because it has been frequently used as comparative standard in similar studies (Balakrishnan et al., 1994, 1996; Hruschka and Natter, 1999). As K-means is a non-hierarchical clustering method; Ward and average linkage methods were selected as hierarchical clustering.

Cluster analysis was intended to group the individuals of the sample into groups according to the level of their participation in SNS. The analysis identified four differentiated SNS user segments which were branded as 'basic users', 'average users', 'outstanding users' and 'expert users'.

As shown in Table 1, there is an association between group membership and gender, age, marital status, work situation, information-oriented activities, content generation oriented activities, number of accounts and use of these accounts in SNS, the amount of contacts and the reasons to participate in SNS. On the other hand, there is independence between the variables related to group membership and the education level, duration of use of the internet and SNS (most of them are users for more than eight years), the number of hours spend on the internet, the kind of profiles preferred (most users have a private profile) and the way to access SNS.

- 1 *Basic users*: This segment represents the majority group, 45% of SNS users. This group, compared with the rest, is characterised by a limited activity in SNS. Most of them connect to SNS for sending private messages (80.6%), searching for people (79.5%), updating their profile (73.9%), and sharing or uploading photos (67.8%). The majority have accounts in one SNS only (58.3%) and the highest proportion of users have between 10 and 50 contacts (33.3%). The main reason for them to use SNS is to keep in touch with their friends and relations (51.1%). The socio-demographic analysis of Table 1 shows that the majority of Basic users are females (55%), between 25 and 34 years (46.7%), married (54.4%) and employed (63.3%). While basic users engage in different information-oriented activities in the internet (passive participation) it is the group with the lowest proportion of users who carry out these type of activities. Regarding the activities related to content generation (active participation) the basic users are mostly expressing opinions and valuations (60%). Considering the low degree of participation of this category on content generation the basic users can be labelled as 'passive' SNS users.
- 2 *Average users*: This segment includes 18.2% of total SNS users. Compared with the other clusters, average users are characterised by the intensive use of SNS as channels for sending private messages (97.3%), getting information about things that interest them (97.3%), updating their profile (95.9%), searching for people (94.5%), communicating news or information they think might be interesting to other people (64.4%), searching for job opportunities (53.4%). While the highest proportion of average users (37%) have one SNS account, this is the group with the highest percentage of individuals with more than two accounts (30.2%) from all four segments. The highest proportion of these users (35.6%) has between 10 and 50 contacts. Main reasons for using SNS are the ease of staying in touch with their friends and acquaintances (65.8%) and entertainment (58.9%). Most users in this category are male (57.5%) between 25 and 44 years old (57.6%), married (43.8%) and employed (65.8%). Concerning the use of internet in a passive way, the

behaviour of this category is similar in some aspect to basic users but they are much more involved than the basic users in activities with an interactive character: transferring files (57.5%), participating in chats (69.9%), receiving email alerts (82.2%) and creating virtual personalities (avatars) (42.5%). Regarding the content generating activities, they are in their majority posting opinions and product valuations (84.9%), participating in forums (79.5%), sending messages to distribution lists (64.4%), creating/sending files through the internet (58.9%) and providing comments on other blogs (53.4%).

- 3 *Outstanding users*: This segment includes 26.2% SNS users. Individuals in this segment use SNS for exchanging private messages (98.1%), searching for people (97.1%), updating their profile (96.2%), reporting what they are doing (90.5%), discussing about what people they know say or do (88.6%), sending public messages (78.1%), and gossiping (52.4%). Most individuals in this group are active members of one SNS and a high proportion (40%) has more than 100 online contacts. Among the main reasons for using the SNS is staying in touch with their friends and acquaintances (77.1%), entertainment (60%) and invitations by others to participate (54.3%). Regarding the socio-demographic profile of this group, most are female (65.7%), and the highest proportion are between 25 and 34 years old (39%), married (37.1%), and employed (79.5%). In relation to use of internet, outstanding users participate in 'passive' activities in ways similar to the other groups. However, the active participation (generating online content) is not the expected one in this segment since this activity in some aspects is lower than average user's. Outstanding users prefer expressing opinions and valuations (71.4%) and participating in forums (64.8%).
- 4 *Expert users*: This is the smallest segment representing 10.5% of SNS users but Experts spend more hours on the internet than any other segment and have the most active and engaged profile. The segment has the highest percentages of users engaged in most categories of passive and active types of SNS activity than any other segment (sharing or uploading photos, discussing about what people say or do, getting information about things of interest and communicate ideas/thoughts. The overwhelming majority of them update their profile (97.6%), send private messages (97.6%), share links about interesting web sites (97.6%), report about what they are doing (97.6%), discuss about photos posted by their friends (95.2%), share mood (90.5%), send public messages (85.7%), gossip (83.3%), download applications (81%), communicate news or issues that they think might be interesting to other people (78.6%), tag friends' photos (76.2%), report about brands or products they use (76.2%), write or comment about advertisements (76.2%), and download games (61.9%). Most experts are active users of one SNS (38.1%) but they are also the segment with the highest proportion of owners of more than six SNS accounts (2.4%). Moreover, the highest proportion (45.2%) has more than 100 contacts on these sites. Finally, the main reasons that motivate them to use the SNS are usually to keep in touch with their friends and acquaintances (78.6%), entertainment (66.7%), because all their friends were users (57.1%), and because they were invited (52.4%). Most expert users are female (69%), between 16 and 24 years old (31%); a high percentage of users are between 35 and 44 years old (28.6%). Also most users are married (31%) and employed (45.2%). Concerning the use of internet in a

passive way, that is to say, only to obtain information, they use it in a similar proportion to other groups, but also make more use of peer to peer file sharing (61.9%) and visit web sites using avatars (54.8%). On the other hand, expert users are the most active internet users, as they generate content in a variety of ways. Specifically, they express opinions and provide product reviews or valuations (95.2%), provide comments on other blogs (83.3%), participate in forums (73.8%), publish content to their blog (66.7%), create/send files through the internet (64.3%), and send messages to distribution lists (59.5%).

Next to the differences of behaviour among the four segments the above analysis provides information about the online behaviour and use of social media and SNS in particular, revealing vital information for marketers interested to engage such applications as marketing tools. In the following analysis will be looked in more detail to two aspects of the use of SNS namely the reasons people use these applications and how they use them.

Table 1 SNS user segments

		<i>Basic</i> 45%	<i>Average</i> 18.25%	<i>Outstanding</i> 26.25%	<i>Expert</i> 10.5%	χ^2 value	Sig.
<i>Gender</i>	Male	45.0%	57.5%	34.3%	31.0%	12.326	0.006
	Female	55.0%	42.5%	65.7%	69.0%		
<i>Age</i>	16–24	17.8%	8.2%	23.8%	31.0%	31.161	0.008
	25–34	25.6%	28.8%	39.0%	19.0%		
	35–44	21.1%	28.8%	20.0%	28.6%		
	45–54	16.7%	13.7%	10.5%	16.7%		
	55–64	13.9%	13.7%	4.8%	4.8%		
	65–74	5.0%	6.8%	1.9%	0.0%		
<i>Education level</i>	Not graduated from high school	3.3%	2.7%	1.9%	7.1%	18.204	0.110
	High school	27.2%	23.3%	21.0%	47.6%		
	Professional school/college	48.9%	56.2%	59.0%	35.7%		
	University	8.9%	9.6%	8.6%	7.1%		
	Postgraduate course	11.7%	8.2%	9.5%	2.4%		
<i>Marital status</i>	Unmarried living with my parents	14.4%	15.1%	25.7%	35.7%	33.377	0.004
	Unmarried living on my own	10.0%	4.1%	9.5%	7.1%		
	Married	54.4%	43.8%	37.1%	31.0%		
	Widows/widower	0.0%	2.7%	1.9%	0.0%		
	Divorced	5.6%	9.6%	1.9%	7.1%		
	Unmarried living with partner	15.6%	24.7%	23.8%	19.0%		

Table 1 SNS user segments (continued)

		<i>Basic</i> 45%	<i>Average</i> 18.25%	<i>Outstanding</i> 26.25%	<i>Expert</i> 10.5%	χ^2 value	Sig.			
<i>Work situation</i>	Self-employed	5.0%	6.8%	2.9%	11.9%	26.264	0.010			
	Employee	63.3%	65.8%	70.5%	45.2%					
	Student	12.2%	6.8%	15.2%	26.2%					
	Housewife	6.1%	9.6%	3.8%	14.3%					
	Unemployed/retire	13.3%	11.0%	7.6%	2.4%					
<i>Length of Internet use</i>	Less than 6 months	1.7%	1.4%	1.0%	0.0%	20.075	0.329			
	Between 6 and 12 months	1.7%	0.0%	1.9%	0.0%					
	More than 1 year and less than 2	2.2%	0.0%	2.9%	2.4%					
	Between 2 years and less than 3	4.4%	2.7%	1.0%	7.1%					
	Between 3 years and less than 5	11.1%	12.3%	4.8%	7.1%					
	Between 5 years and less than 8	20.6%	16.4%	32.4%	28.6%					
	8 years or more	58.3%	67.1%	56.2%	54.8%					
	<i>Number of hours spend on the internet</i>	0–4 hours per week	42.8%	37.0%	26.7%			31.0%	11.488	0.074
		5–13 hours per week	40.0%	38.4%	51.4%			38.1%		
14 or more hours per week		17.2%	24.7%	21.9%	31.0%					
<i>Activities carried out to obtain information</i>	Use e-mail	100%	100%	99.0%	100%	10.637	0.560			
	Transfer network file (FTP)	40.6%	57.5%	46.7%	50.0%	31.293	0.008			
	Use instant messaging	60.0%	69.9%	78.1%	85.7%	35.054	0.002			
	Participate in chats	46.7%	69.9%	60.0%	78.6%	48.588	0.000			
	Make phone calls over the internet	32.8%	35.6%	36.2%	35.7%	17.785	0.274			
	Consult forums for information	78.9%	90.4%	87.6%	90.5%	33.211	0.004			
	Reading reviews about products, news,...	81.7%	94.5%	92.4%	92.9%	51.033	0.000			
	Consult distribution lists	88.9%	95.9%	93.3%	95.2%	31.829	0.007			
	Consult wikis	70.6%	91.8%	75.2%	88.1%	31.983	0.006			
	Consult blogs	53.3%	86.3%	81.0%	83.3%	73.623	0.000			
	Watch and listen to files by the Internet	80.6%	95.9%	91.4%	95.2%	41.479	0.000			
	Make use of P2P file sharing	35.0%	45.2%	38.1%	61.9%	34.087	0.003			
	Receive e-mail alerts and subscriptions	53.9%	82.2%	73.3%	83.3%	53.133	0.000			
	Visit web sites using avatars	17.2%	42.5%	31.4%	54.8%	64.147	0.000			

Table 1 SNS user segments (continued)

		<i>Basic</i> 45%	<i>Average</i> 18.25%	<i>Outstanding</i> 26.25%	<i>Expert</i> 10.5%	χ^2 value	Sig.
<i>Activities carried out to generate content</i>	Participate in forums	41.7%	79.5%	64.8%	73.8%	58.982	0.000
	Express opinions and valuations	60.0%	84.9%	71.4%	95.2%	43.245	0.000
	Send messages to distribution lists	23.3%	64.4%	38.1%	59.5%	84.587	0.000
	Incorporate content in wikis	7.8%	34.2%	9.5%	45.2%	81.150	0.000
	Publish content to my blog	11.1%	32.9%	36.2%	66.7%	84.393	0.000
	Provide comments on other blogs	17.8%	53.4%	46.7%	83.3%	113.802	0.000
	Create/send files through the Internet	30.6%	58.9%	42.9%	64.3%	43.119	0.000
	Design/adapt products or services through the Internet	16.7%	47.9%	22.9%	47.6%	44.182	0.000
<i>Antiquity of use of SNS</i>	Less than 1 month	3.9%	5.5%	3.8%	2.4%	9.552	0.388
	Between 1 and 6 months	11.1%	12.3%	5.7%	7.1%		
	Between 6 months and 1 year	13.9%	6.8%	7.6%	16.7%		
	Over 1 year ago	71.1%	75.3%	82.9%	73.8%		
<i>Number of SNS in which have account and use them</i>	None	8.3%	6.8%	1.0%	7.1%	38.050	0.004
	One	58.3%	37.0%	53.3%	38.1%		
	Two	21.7%	26.0%	24.8%	28.6%		
	Three	8.9%	12.3%	13.3%	19.0%		
	Four	1.7%	11.0%	3.8%	2.4%		
	Five	1.1%	5.5%	3.8%	2.4%		
	Six	0.0%	1.4%	0.0%	2.4%		
<i>Profile</i>	Public	22.8%	21.9%	21.0%	26.2%	11.127	0.267
	Private in some and public in other	15.0%	26.0%	24.8%	28.6%		
	Private in some and public in other	49.4%	41.1%	47.6%	40.5%		
	I do not know	12.8%	11.0%	6.7%	4.8%		
<i>Amount of contacts</i>	Less than 10	23.3%	21.9%	7.6%	9.5%	39.523	0.000
	From 10 to 50	33.3%	35.6%	17.1%	26.2%		
	From 51 to 100	22.2%	23.3%	35.2%	19.0%		
	More than 100	21.1%	19.2%	40.0%	45.2%		

Table 1 SNS user segments (continued)

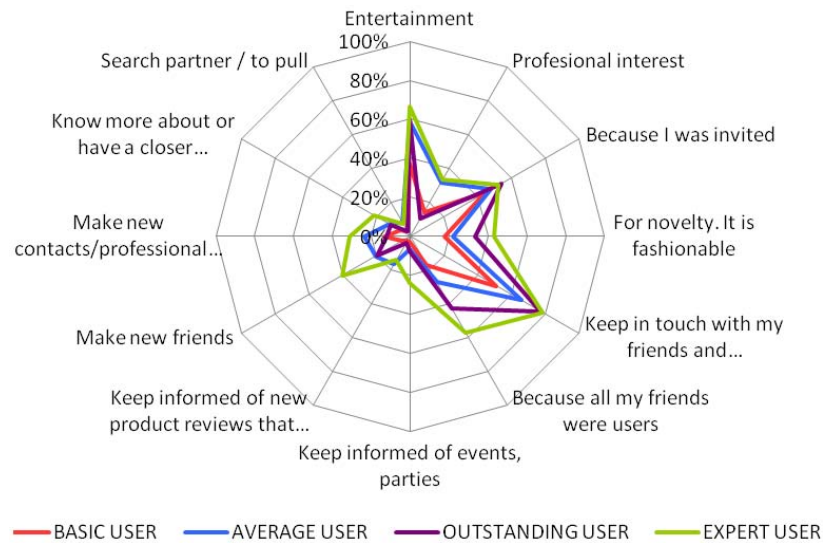
		<i>Basic</i> 45%	<i>Average</i> 18.25%	<i>Outstanding</i> 26.25%	<i>Expert</i> 10.5%	χ^2 value	Sig.
<i>Way to access SNS</i>	Computer	95.6%	91.8%	91.4%	85.7%	8.290	0.218
	Mobile phone	0.0%	0.0%	1.0%	0.0%		
	Both	4.4%	8.2%	7.6%	14.3%		
<i>Reasons to participate in SNS</i>	Entertainment	37.2%	58.9%	60.0%	66.7%	22.928	0.000
	Professional interest	14.4%	31.5%	10.5%	33.3%	20.767	0.000
	Because I was invited	45.0%	47.9%	54.3%	52.4%	2.542	0.468
	For novelty. It is fashionable	17.8%	21.9%	33.3%	42.9%	16.288	0.001
	Keep in touch with my friends and acquaintances	51.1%	65.8%	77.1%	78.6%	24.628	0.000
	Because all my friends were users	17.2%	27.4%	42.9%	57.1%	37.230	0.000
	Keep informed of events, parties	2.8%	6.8%	7.6%	23.8%	23.223	0.000
	Keep informed of new product reviews that interest me	2.8%	16.4%	3.8%	14.3%	20.630	0.000
	Make new friends	4.4%	20.5%	20.0%	40.5%	40.359	0.000
	Make new contacts/professional relations	13.3%	23.3%	12.4%	31.0%	11.257	0.100
	Know more about or have a closer relationship with certain people who I do not have a direct relation	6.1%	12.3%	11.4%	21.4%	9.558	0.023
	Search partner/to pull	2.8%	8.2%	2.9%	7.1%	5.149	0.161
	<i>Activities carried out in SNS</i>	Share or upload photos	67.8%	87.7%	95.2%	100.0%	166.761
Discuss the photos of my friends		35.0%	63.0%	86.7%	95.2%	193.979	0.000
Discuss about what people I know say or do		22.8%	68.5%	88.6%	100.0%	237.343	0.000
Gossip		11.7%	20.5%	52.4%	83.3%	136.313	0.000
Update my profile		73.9%	95.9%	96.2%	97.6%	142.229	0.000
Send private messages		80.6%	97.3%	98.1%	97.6%	104.939	0.000
Send public messages		35.0%	71.2%	78.1%	85.7%	107.218	0.000
Tag friends in photos		6.1%	32.9%	37.1%	76.2%	128.662	0.000
Get information about things that interest me		31.1%	97.3%	74.3%	100%	212.546	0.000

Table 1 SNS user segments (continued)

		<i>Basic</i> 45%	<i>Average</i> 18.25%	<i>Outstanding</i> 26.25%	<i>Expert</i> 10.5%	χ^2 value	<i>Sig.</i>
<i>Activities carried out in SNS</i>	Download applications	7.2%	69.9%	39.0%	81.0%	190.838	0.000
	Download games	6.7%	37.0%	16.2%	61.9%	110.087	0.000
	Search for people	79.4%	94.5%	97.1%	95.2%	80.276	0.000
	Search for job opportunities	13.3%	53.4%	12.4%	69.0%	111.212	0.000
	Communicate news or issues that I think might be interesting to other people	6.7%	64.4%	36.2%	78.6%	181.179	0.000
	Share mood	8.3%	28.8%	72.4%	90.5%	229.661	0.000
	Share links about interesting web sites	12.3%	71.2%	55.2%	97.6%	208.315	0.000
	Communicate ideas/thoughts	12.8%	57.5%	83.8%	100%	249.435	0.000
	Report about what I am doing	25.0%	54.8%	90.5%	97.6%	226.902	0.000
	Report about brands or products I use	3.3%	31.5%	40.0%	76.2%	150.599	0.000
	Write or comment about advertisement	0.0%	19.2%	19.0%	66.7%	142.411	0.000

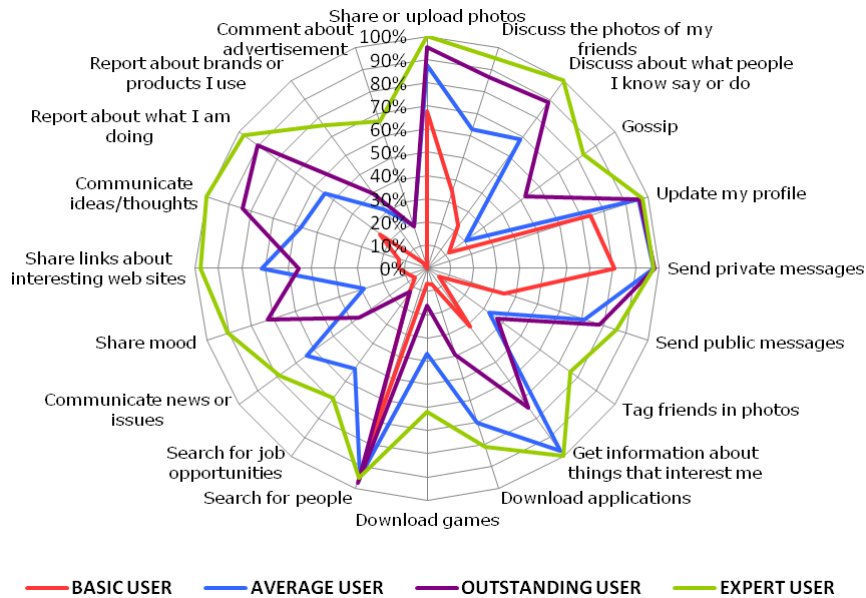
4.2 Usage and motives for using SNS

Figure 1 illustrates the main motives of the Dutch public to use SNS. It can be observed that there are some clearly visible main motives along all four segments. Keeping in touch with friends, entertainment and getting an invitation from a friend are the main reasons for joining a SNS. The fact that many friends are using such sites and the novelty of these applications are also mentioned as reasons for joining SNS. What is interesting is that very few users from any segment mention reasons related to professional interests, to personal relationships and interest for products or services information as major motives to join SNS. This finding implies that the public is not attracted to SNS by commercial motives. It can be argued that, as a result of this, attempting to recruit customers in business-sponsored online networks is not a sound commercial policy. The choice and adoption of the social networks by the public is mainly motivated by networking intentions. Another observation is that the most advanced users (experts) seem to be exposed to more stimuli for adoption of SNS than the other categories.

Figure 1 Reasons to participate in SNS (see online version for colours)

In Figure 2, the different activities carried out in SNS are depicted. A number of activities are very popular among all segments can be observed. The most popular activity seems to be searching for people online where all segments score above 79% followed by updating profiles, sharing photos, send private messages and using SNS as Information Sources (over 74% for three segments). The last point is significant: While according to the previous findings (Figure 1) customers would not join business-sponsored SNS for commercial purposes many of them use them indeed as sources of commercial information once they join them. An interesting issue for further research is the analysis of the information seeking behaviour of customers in more detail; do customers look for commercial information in their personal networks, in business-sponsored networks or both?

The Figure 2 also reveals that for a number of activities the usage differences between the expert users and the basic users are substantial. Basic users are very cautious about revealing personal information while most other segments do not seem to have many problems with this. A sound hypothesis here is that basic users experience lack of trust or that they are very concerned with privacy. This attitude has not to do with experience, since about 78% of basic users are very experienced internet users using this medium for more than five years. This level of experience is comparable to the experience of the rest of the segments. The basic user is therefore not new to the internet but rather someone lacking trust to the medium. Finally, looking to activities related to content generation and dissemination in the form of comments, product reviews and news sharing can be observed that the expert users and to a less degree the outstanding ones are the main contributors of online content.

Figure 2 Activities carried out in SNS by the clusters (see online version for colours)

5 Conclusions

Considering the high growth of the SNS and the customer empowerment emanating from the public control over information flows and media, marketers are facing an interesting dilemma: watching passively the networked customers becoming immune and insensitive to corporate information and communication as influencing factors of the buying process or actively trying to engage the SNS as part of their marketing strategy. This paper argues that the SNS provide many opportunities to small and medium-sized enterprises as a domain, attracting an ever-increasing number of online customers but understanding the online networked consumer is the basis for developing effective marketing programs. Segmenting this market is a first step towards better understanding of the SNS public.

To this end, a segmentation study was conducted among users of SNS in a national survey in The Netherlands. Based on usage, motivation, activities and socio-demographic characteristics a cluster analysis provided four distinct segments of Dutch SNS users: the basic, average, outstanding, and expert users.

The results indicate that socio-demographic characteristics alone are not suitable segmentation criteria for this market; more attention must be paid on criteria related to behaviour, use and motivation of SNS users. The study reveals the motives for adoption, the existence of segments and the specific behavioural characteristics of these segments; it provides marketers with important information as basis for designing strategies making use of SNS as marketing tools.

Another observation is that female customers are the majority of users in three of the four segments while the majority of users are between 16 and 44 years old. More than 75% of the Dutch internet users are experienced ones with more than five years of experience but a particular category namely the basic users do not trust the internet for

sharing or posting personal information. The study provides information as to what SNS are popular in the Netherlands and identifies ways people use the SNS, mainly as platforms of networking but also as forums of criticism, complaints and product reviews. Such forums can deliver high quality customer information, customer insights and complaints at much lower cost and much faster than traditional market research methods. Taping the online customer voice requires that businesses engage seriously in such an activity by developing the necessary organisational structure, expertise and infrastructure. Finally, the study reveals a consistent picture regarding the adoption motives and popular activities among all segments.

The minority of SNS users carry out marketing-relevant activities such as commenting on ads or gathering information on brands or products they use. Therefore, the company should offer and added value to users, not only behaving like a company that offers information on a uni-directional form, because the success of a company in SNS is based on the understanding of the users' needs. Because of this, they should offer to the different segments of users the possibility of carrying out activities demanded by each segment, as well as try to be another 'friend' with whom they maintain a relationship allowing this bi-directional communication. To carry out this, companies should create new positions as the Community managers, which are specifically dedicated to maintain a company presence in the different SNS, and adopt new tools to monitor the conversations about their products and brands.

Information available in SNS, voluntarily uploaded by their users, allows companies to obtain a great amount of information about their customers regarding their habits, personalities and lifestyles. Thanks to this information, companies can identified in a easy way, in which segment the individuals are, and act consequently offering the information, services, applications, etc. that they demand and use frequently. An analysis of user behaviour can also provide an early warning of unknown to the product problems. Therefore, businesses can use SNS as a source of customer voice: they can obtain, at very low cost, the direct and valuable market information that is necessary for decision making and control of opinions and complaints about the organisation, or even provide suggestions about new products or services.

Moreover, thanks to the segmentation, was found that a minority of SNS users, the outstanding and expert users, present the most interesting possibilities as potential sources of market information and possibilities for engagement as brand ambassadors. Businesses should find these users and attempt to increase the number of these engaged customers and create brand advocates by better understanding the needs and motives of their socially networked customers and to engage them in open dialogue. Businesses should develop online content adapted to potential and profitable customers. This way SNS can obtain large volumes of information and feedback, published voluntarily by the users.

6 Limitations and issues for further research

The main limitation of the study is the fact that it was conducted among residents of a single country and therefore one should be cautious with the generalisation of the findings. Cross-cultural studies with similar methodologies could provide a more complete picture of the European social networking public. The study has also an explorative character and identified areas where more explanatory research is necessary.

Another direction regarding future research work should be the inclusion of other user intrinsic constructs such as the trust, satisfaction, perceived risk, perceived benefits and ease of use in order to examine their effect on the use of SNS. Such research will contribute to the development and empirical analysis of a causal model, which will provide a more accurate vision of the influence relationships between the variables under study and a better picture of the customer behaviour in Social Networking applications.

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Notes

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