



RHODES UNIVERSITY

Grahamstown • 1810 • South Africa

An Investigation of Social Computing

A thesis submitted to Rhodes University in fulfilment of the requirements
for the degree of

MASTER OF COMMERCE

by

LARA SCHLENKRICH

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Abstract

Social network sites have recently become extremely popular online destinations as they offer users easy ways to build and maintain their relationships with each other. Consequently, students, lecturers, teachers, parents and businesses are using these tools to communicate with each other in a fast and cost-effective manner. However, literature suggests that the full potential of social network sites has not yet been revealed since users are still battling to overcome the various negative characteristics surrounding these sites. A framework for appropriate use of these sites is needed so that users are able to overcome these negative aspects, allowing them to be more effective and use the sites successfully.

The goal of this research is to construct a framework for perceived successful use of social computing tools in educational institutions. This framework will include critical success factors that need to be adopted by users in order to develop the positive aspects of social computing, while at the same time overcoming the disadvantages experienced by users.

Factors for successful use were derived from the literature and consolidated into a theoretical framework in order to understand the factors that drive successful use of social network sites. Measures used to test successful use of social network sites were also derived from these sources and were included in the same theoretical framework; these measures allow users to evaluate the extent of perceived successful use of social network sites.

This framework was tested empirically by means of a pilot study and online survey, and revised according to the results of the survey. The factors were identified using Cronbach alpha coefficients (in the pilot study) and exploratory factor analysis to confirm the reliability of the scales developed. Pearson product-moment correlation coefficient analysis, t-tests and Pearson Chi-Square tests were used to measure the relationships amongst the variables in the framework proposed in this research.

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The factors influencing perceived successful use of social network sites were identified by the empirical study as:

- Privacy and Security Settings need to be enabled. These are split into:
 - Settings: content that users allow others to see
 - Viewers: people who are allowed onto a user's profile
- It is necessary for users to practise Legal and Acceptable Activities when using social network sites
- Suspect Information needs to be checked before sharing it with others
- Personal and Professional Time needs to be separated to ensure that work is completed before social activities occur
- Users need to practise Professional and Ethical Behaviour
- Users need to have a Positive Attitude when using social network sites
- Usability of sites affects their success. This includes:
 - technical capacity (broadband)
 - ease of use
 - functionality (range of features and functions)
- Current and Controversial Issues need to be discussed on social network sites

The extent to which social network sites are being used successfully can be evaluated by the presence of the following measures:

- Range of Content must be available to users. This includes:
 - Content displayed on profiles
 - Viewers able to visit profiles
- Visitors Behaviour is monitored and no unwanted visitors are present users' profiles
- Social Contracts found on sites are followed by users
- Critical Thinking Skills and Accurate Information are displayed by users
- Work is completed before social activities occur on sites
- A Variety of Users is present on sites
- Collaboration between people as well as variety of opinions exist on sites
- Social Capital (well-being) is present after users have been on sites
- Learning and Advising Skills are enhanced on sites

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The framework developed provides users with a useful instrument to overcome the negative characteristics associated with social network sites. If used successfully, social network sites can offer lecturers and students a unique method to develop their relationship, creating a positive learning experience.

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Chapter 1: Introduction

This chapter introduces the research. The context of the research is presented as well as the scope of the research and the statement of the problem. The results of the research are also presented, together with details of the organisation of the thesis.

1.1. Introduction

People are social creatures (Haugen, 2007: 1); being part of a group brings a sense of belonging in life and shows you have the social skills necessary to live and work with people. A large number of new applications and services that facilitate collective action and social interaction online now dominate the Web (Parameswaran, 2007: 762); these applications are referred to under terms such as *Web 2.0*, *online communities* and *social computing/networking*.

1.2. Background to the Problem

Social computing refers to systems which support the gathering, representation, processing and dissemination of social information, such as race, sexual orientation and partners, religion, body type, favourite books and movies, relationship status and photo albums (Rimmer, 2007: 15); which is distributed across social groups such as teams, communities, organisations, cohorts and markets (Social Computing Group, 2007: 1). Social network sites also facilitate information exchange; students are using Facebook to form study groups and find out about upcoming events in campus clubs and organisations (Mathews, 2006: 1). Some common social computing initiatives include: blogging¹, Wikipedia², flickr³; social networks like MySpace⁴, Bebo⁵, Facebook⁶, and LinkedIn⁷; and social bookmarking services like del.icio.us⁸ (Parameswaran and Whinston, 2007: 337). Social network sites (SNSs) continue to grow, as they offer users easy ways to build and maintain their relationships with each other. Social computing technologies are intended to be easy to learn and use (Social Computing Group, 2007: 3), and consequently teachers, parents, students, lecturers and

¹ Blogging: online journals, published through the Web interface, and focused on topics reflecting interests of the authors (Parameswaran and Whinston, 2007: 764).

² Wikipedia: an online open source encyclopedia built by aggregating *wikis*, which are tools of collaborative authoring of tagged hypertext content (Parameswaran and Whinston, 2007: 764).

³ Flickr: an easy to use photo sharing service that allows users to upload, tag, and share photos (Parameswaran and Whinston, 2007: 766).

⁴ MySpace: allows users to easily build, launch and share their multimedia Web presence, and invite friends to form social networks (Parameswaran and Whinston, 2007: 767).

⁵ Bebo: a social networking site similar to MySpace (Parameswaran and Whinston, 2007: 767).

⁶ Facebook: an online social networking community, similar to MySpace and Bebo (Hewitt and Forte, 2006: 1).

⁷ LinkedIn: a social network for business professionals (Parameswaran and Whinston, 2007: 767).

⁸ Del.icio.us: a bookmarking service that allows users to create their tagged bookmarks in shared Web spaces (Parameswaran and Whinston, 2007: 766).

businesses are using tools like Facebook, MySpace and Mxit to communicate with each other in a fast and cost-effective manner.

Facebook is extremely flexible to use and expands opportunities for socialisation (Mathews, 2006: 1); it allows users to search for other students in their discipline, keep up with old friends and make new ones, flirt, gossip, complain about classes, and post an unlimited number of photos (Mathews, 2006: 1). Students can also use Facebook to form study groups and find out about upcoming events in campus clubs and organisations (Mathews, 2006: 1). As of July 2007, the site has more than 13 million registered users, is the seventh-most visited site on the web and is the number one photo-sharing site (Mack, Behler, Roberts and Rimland, 2007: 1). Ellison, Steinfield and Lampe (2007: 1144) state that the site is tightly integrated with its users' daily media practices; the typical user spends about 20 minutes a day on the site, and two-thirds of users log in at least once a day.

Parameswaran and Whinston (2007: 346) explain that education is a domain where the full potential of social computing has not yet been fully realised. Mazer, Murphy and Simonds (2007: 15) believe that Facebook can offer teachers and students a unique method to nurture the student-teacher relationship, which can ultimately create a positive learning experience for both parties. Ellison *et al* (2007: 1143) suggest that Facebook improves measures of psychological well-being and may have even greater benefits for users experiencing low self-esteem and low life satisfaction. Tebbutt (2006: 1) visualises social computing as a platform upon which people can collaborate in ad hoc groups, where they can share their expertise with others, and where the by-products of their activities automatically add to the wealth of retained corporate knowledge.

However, opinions regarding these tools differ. Teachers and lecturers are often distressed by the lack of concentration and interest displayed by students who have constant access to these trendy networks. Similarly, some managers are of the opinion that these systems have the potential to destroy hierarchies and put an end to departmental separation (Tebbutt, 2006: 1). Parameswaran and Whinston (2007: 762) suspect that social computing holds tremendous disruptive potential in the business world. These managers stress the importance of trust between colleagues and departments and warn against social computing if the organisation is disinclined to openness and transparency. Privacy implications are another serious concern.

Gross and Acquisti (2005: 78) highlight the fact that personal data is generously provided and limiting privacy preferences are sparingly used by members of Facebook; this results in users making themselves vulnerable to attacks of stalking and identity theft (Gross and Acquisti, 2005: 78).

Presently, research results comprise helpful suggestions on how these networks and tools may support business and education. Mathews (2007: 1) has used Facebook to market library resources and services to students effectively; he found that students responded to Facebook messages, but not to official campus emails. Krieglstein (2008: 1) provides a list of guidelines for faculty members to use when entering into the social networking world; these guidelines ensure that faculty members communicate with students on Facebook in an appropriate manner by specifying the kind of content that should be displayed on their profiles, and also by encouraging correct social protocol between faculty and students on Facebook. IBM Corporation (2007) encourages the adoption of social computing by providing suggestions, which they have found to be successful for new businesses wanting to implement a social network; these suggestions focus on how businesses can gain the most value from their social networks and take into consideration the fact that different people will use these social networks for a variety of purposes. MySpace.com, emphasise the fact that using information gained on MySpace.com in a negative manner (hiring decisions, grade decisions and promotion criteria) is a violation of the social contract entered into when viewing the information on MySpace (Snyder, Carpenter and Slauson, 2007: 9). They state that social contracts point to the appropriate ethical use of information contained on sites like MySpace. Mazer *et al* (2007: 12) suggest that teachers using Facebook should focus on the professionalism of their profile content, be themselves (as students desire to learn more about their teachers), and respect their students' privacy, as students are concerned that teachers would perceive them negatively after viewing their Facebook profiles.

Models have been developed concerning the adoption of Information Systems applications, like email and the Internet, which could be used as a basis for models regarding the adoption of social computing. Tam (2001: 35) states that individuals, work groups, departments and even business units have different levels of eagerness concerning the adoption of any new technology. Internet adopters can be classified into five categories based on when an organisation adopts an innovation in comparison to other organisations in their particular

social system: early beavers, who are usually groups charged with tracking new technologies; early adopters, require help and encouragement from their company before they adopt new technology; early majority, need to be informed and understand the implications of the new technology before they will adopt it; late majority have serious concerns about the risks involved with a new technology; and technically averse people and businesses will resist any new technology due to major concerns about loss of privacy, security, control and exposure to competition (Tam, 2001: 37). These categories play an important role in determining the success of adoption of any new Internet technology (Tam, 2001: 47) and will similarly affect the success of adoption of social computing. For instance, an early adopter would be less concerned about the loss of privacy that social networking involves and will probably be more comfortable providing personal information about themselves (inappropriate in certain contexts) than a technically averse person would; therefore good social computing practice will need to take these comfort levels into account.

SNSs have become extremely popular online destinations. However, a framework for appropriate use of these sites is needed to ensure that the full potential of social networking is realised. If used appropriately, social network sites can offer teachers and students a unique method to nurture the student-teacher relationship which can ultimately create a positive learning experience for both parties.

1.3. The Scope of the Research

This research focuses on the use of social network sites in an educational context. The deliverable of this research will be a framework for perceived successful use of SNSs in educational institutions. The resulting framework will provide students and lecturers with a general approach to successful use of social network sites.

1.4. The Statement of the Problem

The purpose of this research is to construct a framework for perceived successful use of social computing tools in educational institutions with specific reference to Facebook. This framework includes critical success factors that need to be adopted by users in order to

develop the positive aspects of social computing, while at the same time overcoming the disadvantages experienced by users.

1.5. Research Methodology

A quantitative research methodology using a post-positivist approach is adopted. Quantitative research generally uses scientific methods, which include: the generation of models, theories and hypotheses; the development of instruments and methods for measurement; experimental control and manipulation of variables; collection of empirical data; modelling and analysis of data; and evaluation of results (Kuhn, 1961: 162). Steps in the research include:

- An analysis of the social computing phenomenon, tools and underlying technology, common uses and impact of social computing.
- An analysis of helpful hints and guidelines and success factors for effective social computing in organisations.
- An analysis of the adoption of social computing in terms of the adoption of new technology and attitudes towards new technology.
- Construction of a theoretical framework for perceived successful use of social computing.
- Empirical investigation of the framework by means of a survey of students at Rhodes University.
- An analysis of the results of the survey, followed by possible amendments to the theoretical framework.
- Presentation of a framework for perceived successful use of social computing.

1.6. Summary of Results

The results of this research are summarised as follows:

Successful Use of SNSs is dependent on the following factors:

- Privacy and Security Settings need to be enabled. These are split into:

- Settings: content that users allow others to see
- Viewers: people who are allowed onto a user's profile
- Legal and Acceptable Activities need to be practised by users
- Suspect Information needs to be checked
- Personal and Professional Time needs to be separated
- Users need to practise Professional and Ethical Behaviour
- A Positive Attitude is needed when using social network sites
- Usability of sites affects their success. This includes:
 - technical capacity (broadband)
 - ease of use
 - functionality (range of features and functions)
- Current and Controversial Issues need to be discussed

The extent to which SNSs are being used successfully can be evaluated by the presence of the following measures:

- Range of Content must be available to users. This includes:
 - Content displayed on profiles
 - Viewers able to visit profiles
- Visitors Behaviour is monitored
- Social Contracts are followed by users
- Critical Thinking Skills and Accurate Information are displayed by users
- Work is completed before social activities occur on sites
- A Variety of Users is present on sites
- Collaboration between people as well as variety of opinions exist on sites
- Social Capital (well-being) is present after users have been on sites
- Learning and Advising Skills are enhanced on sites

1.7. Thesis Organisation

This thesis is organised into 10 chapters.

Chapter 1: Introduction

This chapter introduces the field of research. Contextual background information and the rationale for conducting the research are provided. The summary of results and discussion of the organisation of the thesis are also mentioned in this chapter.

Chapter 2: An Overview of Social Computing

This chapter introduces the concept of social computing and examines the history and characteristics of various popular SNSs. The general patterns of usage and the domains impacted upon by social networking are discussed. Finally, the similarities and differences between the sites, as well as possible reasons for success are debated.

Chapter 3: The Impact of Social Computing

This chapter analyses the opportunities and threats of social computing. The positive characteristics as well as threats and issues associated with using these sites are discussed.

Chapter 4: Guidelines for Users of Social Network Sites

This chapter analyses suggestions presented by authors on effective use of social computing in educational and organisational spheres. These suggestions attempt to solve problems and exploit the positive aspects of social computing.

Chapter 5: Adoption of New Technology

This chapter analyses guidelines presented by authors on adoption of technology both in general and educational spheres. General factors affecting attitudes towards adoption of technology and organisational factors affecting technology adoption are discussed. Models addressing the adoption of technology, as well as suggestions for appropriate use of technology are analysed.

Chapter 6: Proposed Framework for Perceived Successful Use of SNSs

This chapter proposes guidelines for perceived successful use of SNSs in education. Various aspects from previous chapters are synthesised into guidelines in order to promote successful use of SNSs between teachers/lecturers and students. Characteristics of SNSs used to measure perceived successful use are discussed, and finally, hypotheses relating to perceived successful use of SNSs are defined.

Chapter 7: Design of the Experiment

This chapter discusses the survey instrument which will be used to test the theoretical framework. The pilot study questionnaire can be found in Appendix A and the online questionnaire can be found in Appendix B.

Chapter 8: Analyses of the Results of the Experiment

This chapter presents the results of the experiment, along with hypotheses test results. These results are then analysed and the impact that they have on the research and the theoretical framework is discussed. Results for individual cases can be found in Appendix C, D, E, F and G. The factor analysis results can be found in Appendix H and I. Results for Categorical Variables can be found in Appendix J.

Chapter 9: Revisions to the Framework for Perceived Successful Use of SNSs

This chapter details the revisions made to the framework as a result of the experiment and analysis carried out.

Chapter 10: Conclusion

This chapter concludes the research by identifying the most significant contributions of the research and by suggesting areas of future work.

Chapter 2: An Overview of Social Computing

This chapter introduces the concept of social computing and examines the history and characteristics of various popular SNSs. The general patterns of usage and the domains impacted upon by social networking are discussed. Finally, the similarities and differences between the sites, as well as possible reasons for success are considered.

2.1. Introduction to Social Computing

Many new applications and services that facilitate collective action and social interaction online, with rich exchange of multimedia information and evolution of aggregate knowledge, now dominate the Web (Parameswaran, 2007: 762); these applications are referred to under terms such as *Web 2.0*, *online communities* and *social computing/networking*.

Social computing refers to systems, which support the gathering, representation, processing and dissemination of social information, such as race, sexual orientation and partners, religion, body type, favourite books and movies, relationship status and photo albums (Rimmer, 2007: 15); this information is distributed across social groups such as teams, communities, organisations, cohorts and markets (Social Computing Group, 2007: 1). The Web 2.0 term is broader in technological scope and is unconcerned with the social aspects involved (Parameswaran and Whinston, 2007: 337). According to Snyder *et al* (2007: 5) a SNS is an Internet site based upon a traditional social network. Boyd and Ellison (2008: 211) define SNSs as web-based services that allow individuals to:

- 1) construct a public profile within a bounded system,
- 2) articulate a list of other users with whom they share a connection, and
- 3) view and navigate through their list of connections and those made by others within the system

2.2. Social Networking Sites

Hundreds of SNSs support a wide range of interests and practices. Figure 2.1 illustrates the launch dates of many major SNSs as well as dates when community sites re-launched with SNS features.

2.2.1. Early SNSs

The first recognisable SNS launched in 1997, SixDegrees, promoted itself as a tool to help people connect and send messages to others by combining features such as: the ability to create profiles, listing friends, and surfing friends lists (Boyd and Ellison, 2008: 214). SixDegrees was the first site to combine these features and managed to attract millions of users, however, they were unable to sustain their business and the service closed in 2000

(Boyd and Ellison, 2008: 214). Other early SNSs include: Friends, AsianAvenue, BlackPlanet and MiGente (Boyd and Ellison, 2008: 214).

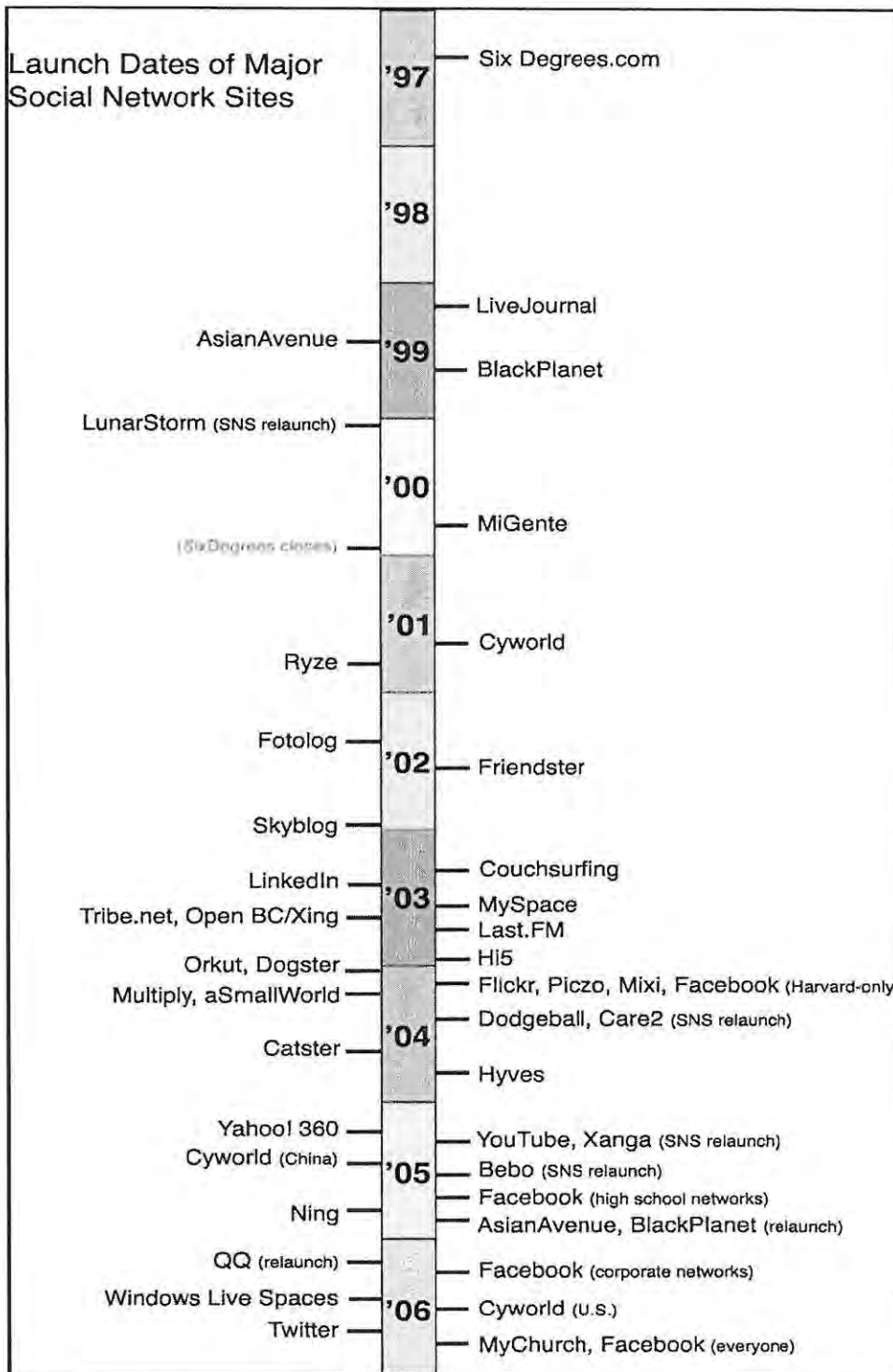


Figure 2.1: Timeline of the Launch Dates of many Major SNSs and Dates when Community Sites re-launched with SNS Features (Boyd and Ellison, 2008: 212)

2.2.2. Fotologs

Fotologs emerged in 2002 and are defined by Khalid and Dix (2007: 1) as a specific type of weblog that allows one to order digital photos systematically and in chronological order; it is a form of social software application that allows people to collaborate and connect through photographs. Examples include: Flickr, Fotopages and Fotolog. Flickr is a popular photo sharing service that allows users to easily upload, tag, and share photos, as well as provide feedback and ratings (Parameswaran and Whinston, 2007: 766).

2.2.3. Blogs

Parameswaran and Whinston (2007: 764) are of the opinion that Blogs are the most visible of the social computing initiatives; they may be thought of as online journals, which may be published by an individual or a small group, through the Web interface, and focused either on a single topic or a variety of topics, reflecting the authors' interests. Yap, Muirhead and Keefer (2005: 53) state that Blogs are software programs that run on servers over the Internet or on a network; they look like Web pages, however, any authorised user can add comments or upload documents and pictures to them.

2.2.4. Wikis

Lih (2004: 1) explains that Wikipedia is an Internet-based, user contributed encyclopaedia that is collaboratively edited, and utilises the wiki concept – the idea that any user on the Internet can change any page within the Web site and remain anonymous if they choose to. Parameswaran and Whinston (2007: 764) elaborate and describe Wikipedia as an online open source encyclopaedia built by aggregating *wikis*, which are tools of collaborative authoring of tagged hypertext content, with version control and user feedback features built in. Wikipedia has emerged as the largest example of participatory journalism to date (Lih, 2004: 1); figure 2.2 shows the growth of Wikipedia from 2001 – 2004.

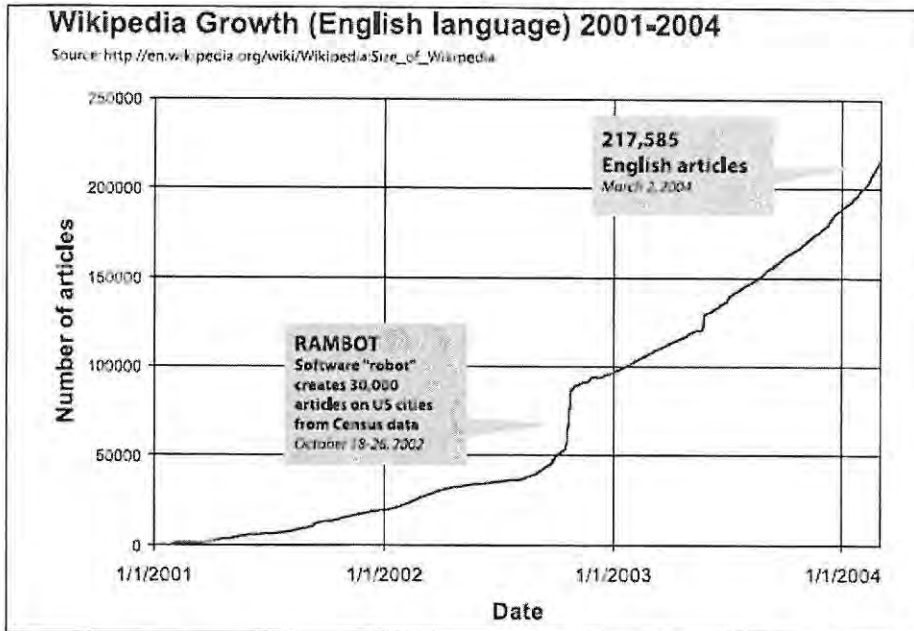


Figure 2.2: Wikipedia growth from 2001 – 2004 (Lih, 2004: 3).

2.2.5. Peer-to-peer Networks

According to Parameswaran and Whinston (2007: 764), Peer-to-Peer (P2P) networks represent the highest share of community activity among all the social software platforms; most of these applications use their own client applications instead of working through a Web browser. Ripeanu, Foster and Iamnitchi (2002: 1) explain that P2P systems have emerged as a significant social and technical phenomenon due to two factors: the low cost and high availability of large numbers of computing and storage resources, and increased network connectivity. Examples of these systems include the following: SETI@Home, Entropia, Napster, FreeNet, Gnutella and Groove (Ripeanu *et al*, 2002: 1).

2.2.6. Social Bookmarking Services

Social bookmarking services allow users to create their tagged bookmarks in shared Web spaces, where similarly tagged bookmarks aggregate (Parameswaran and Whinston, 2007: 766); *Del.icio.us*, is a popular example of a social bookmarking service. These services share a number of features:

- Individuals can create personal collections of bookmarks and share them with others
- Keywords or tags can be explicitly entered by the user for each bookmark – these allow individuals to organise and display their collection with labels that are meaningful to them
- Bookmark collections are visible to others

2.2.7. Online Dating Sites

Friendster, launched in mid-2002, was designed to compete with online dating sites and focused on helping friends-of-friends meet, based on the assumption that they would make better romantic partners than strangers would (Boyd and Ellison, 2008: 215). This network made it easy for users to find others with common interests and join groups of others who shared those interests (Gradman, 2003: 3), but was unable to sustain early success due to limited scalability and lack of multimedia capabilities (Parameswaran and Whinston, 2007: 767).

2.2.8. Mainstream SNSs

Parameswaran and Whinston (2007: 766) state that Slashdot is a popular site that selects and presents technology news through a system of partial moderation, reviews, and ratings; it supports discussions on user-submitted news stories and articles related to technology. Poor (2005: 1) presents Slashdot in a number of ways: a public sphere, an online community, an online bulletin board, a computer news site, or a massive blog; Slashdot seems like a news site, with a column of stories running down the middle, a variety of other items along the sides, and an advertisement along the top of the page (Poor, 2005: 6). Parameswaran and Whinston (2007: 771) believe that Slashdot is one of the most visited sites on the Internet and has been noted for insightful commentary and rapid response to events and trends in computing technology.

YouTube was intended for amateur users to post low-resolution video clips. It has seen dramatic growth and has consequently evolved into a medium that drives rapid dissemination of popular videos worldwide (Parameswaran and Whinston, 2007: 766). Clips of music videos, sporting events, political speeches and public events may all be found there. According to Zink, Suh, Gu and Kurose (2007: 1), YouTube video contents may be uploaded by anyone with access to the network, therefore the content and quality of these video clips varies greatly; video clips often only become popular after viewers have told their friends about it, discussed it in blogs, and put embedded links to the clip on their own web pages.

LinkedIn is a social network for business professionals, which is gaining popularity; it allows professionals to create their profiles and invite professional contacts to join their “network” (Parameswaran and Whinston, 2007: 767). LinkedIn also acts as a memory for networking efforts; this reduces the burden of storing, organising and cross-linking contact information to make the contact useful (Parameswaran and Whinston, 2007: 767).

According to Snyder *et al* (2007: 5), MySpace is the SNS that rivals Yahoo!, Google, eBay and MSN for the top spot among visitors on the Internet. Figure 2.3 reveals how quickly MySpace gained popularity among Internet sites. Dwyer, Hiltz and Passerini (2007: 1) state that MySpace ranks sixth in overall web traffic and has over 47 million unique US visitors each month; this growth occurred because MySpace differentiated itself by regularly adding features based on user demand, allowing users to personalise their pages and by welcoming music bands and teenagers onto the site (Boyd and Ellison, 2007: 217).

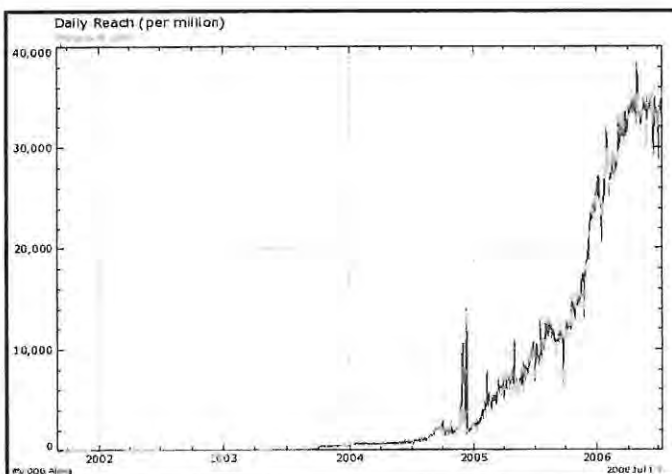


Figure 2.3: MySpace.com Daily Reach (Snyder *et al*, 2007: 5).

Facebook started as a Harvard-only (a user had to have a Harvard.edu email address) social network site, but soon began supporting other universities as well (Boyd and Ellison, 2007: 218). The site expanded to include high school students, professionals in corporate networks, and eventually everyone; Facebook now shows web traffic of over 15 million unique US visitors a month (Dwyer *et al*, 2007: 1) and over 80% of students at US universities have registered profile pages (DiMicco and Millen, 2007: 383).

Second Life is known for its avatar (online) personas and 3-D user interfaces (Valdes, 2007: 4) and offers users a virtual economy of goods and services. The main attraction is the social network of people behind their fantasy avatar personas.

Twitter is one of the most recent SNSs to be launched; it is a mobile-centric social-networking application and allows friends to share their experiences via SMS text messaging (Valdes, 2007: 4).

Many social software technologies and approaches are at the early stages of their evolution as we can see by the density of the "dots" climbing up the slope of the Hype Cycle in Figure 2.4 (Drakos, Mann, Cain, Andrews, Knox, Valdes, Rozwell, Bradley, Maoz, Otter, Harris, McGuire, Bell, Basso, Prentice, Smith, Fenn, Prentice, Sarnier, Dunne, Harris, 2008: 5).

Leading Internet social networks, such as Facebook and MySpace, have extended their services to mobile and users are now able to share personal information, presence information (location and mood) and personal created content through mobile phones (Drakos *et al*, 2008: 5).

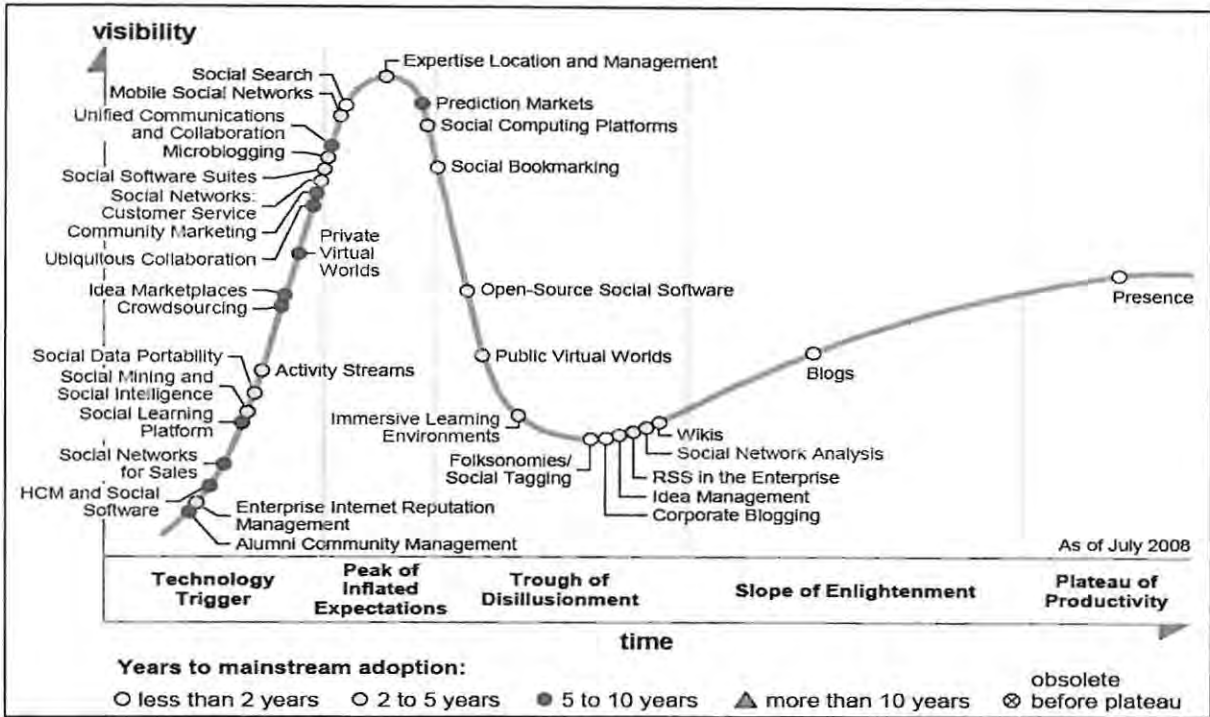


Figure 2.4: Hype Cycle for Social Software, 2008 (Drakos *et al*, 2008: 5).

2.3. Features on SNSs

Haugen (2007: 1) explains that the common theme of social networking is the creation of a personal profile, which is then shared with others. SNSs allow individuals to present themselves, articulate their social networks, and establish or maintain connections with others (Ellison *et al*, 2007: 1143). The authors agree that SNSs allow users to present their profiles across social groups enabling them to meet strangers or communicate with people who are already part of their social network.

Gross and Acquisti (2005: 71) state that online networking sites share a core of features: through the site an individual offers a “profile” – a representation of themselves and their social networks – to others to peruse, with the intention of contacting or being contacted by others, to meet new friends or dates (Friendster), find new jobs (LinkedIn), receive or provide recommendations and much more. Valdes (2007: 6) explains that both MySpace and Facebook enable users to:

- Create profile pages that define a user’s public persona.
- Manage lists of friends, use a search engine to find them and invite them from the user’s already-established e-mail accounts.

- Send messages of various types (mostly asynchronous such as email, but also with instant messaging).
- Post photos in galleries, tag them and share them with others.
- Customise a range of aspects, from layout and design, to function and selective disclosure of information to different audiences.

Boyd and Ellison (2008: 210) have found that the majority of sites support the maintenance of pre-existing social networks, but others help strangers meet based on shared interests, political views, or activities. Members connect with others by sending a “friend” message (Dwyer *et al*, 2007: 1). This message must be accepted by the other party in order for them to have access to the profile and social network, and vice versa.

The visibility of a profile varies according to user discretion and also by site (Boyd and Ellison, 2008: 213); MySpace lets users choose whether they want their profile made public or “friends only”. Facebook, however, allows anyone who is part of your “network” to see your profile unless a profile owner denies permission to those in their network. Facebook offers users a range of options in protecting and choosing to disclose information of a sensitive personal nature (Valdes, 2007: 11). However, having these mechanisms available in the system does not mean that users will know how to use and adopt them.

In regard to “friends”, comments, and private messaging, SNSs vary greatly in their features; some have photo or video sharing capabilities, while others have built-in blogging and instant messaging technology. Specific goals and patterns of usage also vary significantly across different services (Gross and Acquisti, 2005: 72): *identifiability* (use of real names) changes across different types of sites, the *type* of information revealed often revolves around hobbies and interests but can take a different direction altogether, and *visibility* of information is highly variable. Boyd and Ellison (2008: 211) state that SNSs enable users to articulate and make visible their social networks; this can result in connections between individuals that would not otherwise be made.

2.4. Activities on SNSs

Activities on SNSs include both initial and general activities:

2.4.1. Initial activities

When people join SNSs, they begin by creating a profile, and then make connections to existing friends as well as those they meet through the site (Dwyer *et al*, 2007: 1). Types of information disclosed includes: profiles containing an image, users revealing birth date, phone numbers, current residence, dating preferences, current relationship status, political views and various other interests like music, books and movies (Gross and Acquisti, 2005: 75). This profile is a representation of them that provides information to others on the network for a variety of activities.

2.4.2. General activities

Once users have created their profile, they may perform a number of general activities; these include: updating “friends” on activities and whereabouts, sharing photos and archiving events, getting updates on activities by friends, displaying a large social network, presenting an idealised persona, sending messages privately, and posting public testimonials (Dwyer *et al*, 2007: 1). These activities span a wide variety of information: email, pictures, journal entries, music, calendar, spreadsheets, podcasts, bookmarks, chat transcripts, location information, or work-related content (Parameswaran and Whinston, 2007: 769). This variety of information offers users compelling ways to manage their relationships with each other online.

2.5. Varied Use of SNSs

SNSs are used in various contexts including:

2.5.1. Politics

Blogs are used to cover political events, publicly share information and opinions about nearly everything, and are increasingly being used for more formal purposes in education (Yap *et al*, 2005: 53). Parameswaran and Whinston (2007: 764) agree and state that blogs played a significant role in the campaigns for presidential elections in 2004; mainstream media recognised their influence and started covering them the following year.

2.5.2. Education and Business

Blogging represents a dynamic and growing activity among professionals and students who appreciate blogs for their mix of informal commentary, links to resources and personal touch (Yap *et al*, 2005: 55). Mazer *et al* (2007: 13) suggest that teachers present themselves on Facebook as individuals who function outside of the classroom in relaxed, social situations unlike the traditional classroom environment. The authors are also of the opinion that blogging offers educators an excellent platform to create their own professional identity by sharing with other colleagues and debating ideas. Librarians are using Facebook to communicate with students online, allowing them to promote libraries and their own roles as librarians (Mack *et al*, 2007: 2); by letting students know what they do professionally and for fun, librarians are becoming more approachable to students.

Rimmer (2007: 15) states that employers are using SNSs to find personal information about job candidates, including drinking habits, nudity, general sleaziness and criminal behaviour. Yap *et al* (2005: 56) state that large businesses and organisations have found that communication via a social network is useful for both internal as well as external purposes; blogs are being used for marketing and public relations as well as internal communication, collaboration, and knowledge sharing and management.

2.5.3. Social

Mathews (2006: 1) states that Facebook is extremely flexible to use, members can search for other students in their discipline, as well as their dormitory, keep up with old friends and make new ones, flirt and gossip, complain about classes, and post an unlimited number of photos. Students can also form study groups, find out about upcoming events and parties, and stay in touch with campus clubs and organisations. Other activities include maintaining contact with high school friends and getting to know new classmates better (Dwyer *et al*, 2007: 7).

2.6. Comparison of SNSs

Even though the history of social computing has been relatively short, many attempts have been made by companies to generate a social computing site with a large following of users (Haugen, 2007: 1). DiMicco and Millen (2007: 383) are of the opinion that Friendster,

MySpace, Facebook and LinkedIn are some of the most popular SNSs due to the fact that each of these sites tailored its content and user experience to a particular audience.

Common characteristics of SNSs include:

- New users begin by creating a profile for themselves.
- Users connect with others by sending a “friend” message, which needs to be accepted or denied.
- Users are able to manage lists of friends; they can use a search engine to find them and/or invite them from their e-mail accounts.
- Users may send messages of various types (mostly email, but some sites use instant messaging as well).
- Users may post photos in galleries, tag them and share them with others.
- Users are able to customise a range of aspects, from layout and design, to function and selective disclosure of information to different audiences.

While most of their technological features are relatively consistent, the cultures that emerge around SNSs are varied (Boyd and Ellison, 2008: 210). DiMicco and Millen (2007: 383) have found that sites tailor their content and user experience to a particular group: teenagers on MySpace, college students on Facebook, and business professionals on LinkedIn.

Hinchcliffe (2007: 1) states that MySpace and Facebook are the two most popular SNSs; he believes that Facebook offers a richer platform with a large vibrant community of application developers and will soon overtake MySpace in overall usage. Facebook implemented a walled-garden approach, which relies on mostly closed, but semi-permeable networks backed by peer-verified identity verification (Valdes, 2007: 11). This system gives the user a range of options in protecting and choosing to disclose information of a sensitive personal nature.

Major differences between sites include:

- Cultures/audience
- Visibility of information (privacy)
- Specific features (photo capabilities, video capabilities, blogging, instant messaging)
- Identifiability (use of real names)
- Type of information disclosed

- Amount of information disclosed
- Security and privacy options
- Relationship development

Parameswaran and Whinston (2007: 768) have noticed that successful social networks have focused on the largest and most powerful segments of the market, usually, the youth market. They have also found that simplicity and low barrier for participation enhance the appeal for the average user.

2.7. Conclusion

SNSs have become extremely popular online destinations; Friendster, MySpace, Facebook and LinkedIn are some of the most successful SNSs due to the fact that each of these sites tailored its content and user experience to a particular audience. The main reason people use these facilities is to communicate and maintain relationships; this is achieved by: updating others on activities and whereabouts, sharing photos and archiving events, getting updates on activities by friends, displaying a large social network, presenting an idealised persona, sending messages privately, and posting public testimonials (Dwyer *et al*, 2007: 1). Social computing may impact domains such as politics, education, business and arts, depending on the audience for which the site caters. Facebook and MySpace are considered to be two of the most popular sites due to their simplicity and low barrier for participation.

Chapter 3: The Impact of Social Computing

This chapter analyses the opportunities and threats of social computing. The positive characteristics may be exploited by educational institutions in order to improve information exchange and provide learning opportunities to students. Before the opportunities can be realised by institutions, threats and issues associated with social computing tools need to be overcome.

3.1. Introduction

Education is a domain where the potential of social computing has not yet been fully realised (Parameswaran and Whinston, 2007: 346). Mazer *et al* (2007: 15) believe that Facebook can offer teachers and students a unique mechanism to nurture the student-teacher relationship, which can ultimately create a positive learning experience for both parties. Social computing presents many opportunities, which may be exploited by institutions to enhance learning. However, many threats exist as well, and will need to be overcome by institutions in order for the full potential of social computing to be realised.

3.2. Positive Characteristics of Social Computing

3.2.1. General Characteristics

3.2.1.1. Rich Environment for Content

“Social software provides an open and free-form environment that stimulates participation and interaction, as well as aggregates these interactions into an emergent structure that reflects the collective attitudes, dispositions and knowledge of the participants” (Bradley, 2007: 3). Social software sites, which create knowledge by collective contributions, debate and refinement tend to generate reasonably accurate information (Parameswaran and Whinston, 2007: 770). Social computing tools allow the user to create a dynamic information space around him or her (Parameswaran and Whinston, 2007: 769); this information space may include content and applications and may span a wide variety of things: email, pictures, journal entries, music, video, contacts, calendar, spreadsheets, bookmarks, chat transcripts, location information, or work-related content.

3.2.1.2. Reputation Systems control Negative Behaviour

At the centre of these SNSs are reputation systems; in LinkedIn, you are known by the company you keep and what this company says about you – who you are connected to and how you are endorsed (Shiple, 2005: 37). These reputation systems instil confidence in the social environment in which you engage as they bring legitimacy and context to the interactions in these environments (Shiple, 2005: 37). These reputation systems also improve governance of SNSs by restraining negative behaviour (Mann, 2008: 4). Users of these sites

are aware that their actions are monitored (by peers and administrators), and try and behave in an appropriate manner.

3.2.1.3. Weak Ties enable a Range of Opinions

Contact through sites such as Facebook will often be shallow, but these “weak ties” (weak relationships) are usually enough to encourage unanticipated exchanges (Mann, 2008: 4). Mann (2008: 4) believes that weak links can have more influence over decisions and insights than strong links because there are usually so many more of them. These links allow workers to have interactions with a wider variety of other colleagues, providing exposure to many more groups.

3.2.1.4. Provides a Solution to the “Knowledge Gap”

The knowledge gap is the general lack of content sources for the period between when the news is published and the history books are written (Lih, 2004: 5). Web logs and wikis fill this knowledge gap, as they are constantly updated secondary sources of knowledge (Lih, 2004: 5).

3.2.1.5. Social Computing delivers Value

Large organisations have found social networks to be useful for both internal and external purposes (Yap *et al*, 2005: 56). Many small and large organisations are using blogs for marketing and public relations purposes, as well as internal communication, collaboration, and knowledge sharing and management (Yap *et al*, 2005: 57). Some organisations find that internal blogs and wikis help stimulate creative thinking and capture knowledge (Tapscott and Williams, 2007: 15). Younger employees tend to develop their own self-organised networks that cut across traditional corporate divisions, making them capable of interacting as a global, real-time workforce (Tapscott and Williams, 2007: 15). By using social networks, you not only get answers in minutes rather than days, but you also start to form relationships with other people who share your interests (Tebbutt, 2006: 2). Tebbutt (2006: 3) states that social networks accelerate collaborative projects, reduce email, promote innovation, break down unnecessary barriers, and reduce the risks posed by staff members that leave the organisation because their contributions remain. Smith and Lundy (2007: 2) state that having real-time access to a community or network of experts can create real efficiencies and speed up processes; organisations can benefit from the knowledge that their employees gain from these networks. Organisations are realising that it is extremely valuable for people to share their

knowledge, since this allows the institution to capture the knowledge and build a learning ecosystem that will help others in the future (Lundy and Drakos, 2007: 2).

3.2.1.6. Improving Customer Relationship Management

Salespeople tend to carry relationships from one company to another (Desisto and Smith, 2008: 2). It is therefore in a company's best interests to enable integration of a social networking platform with a sales force automation application. Desisto and Smith (2008: 2) have found that this will improve the salesperson's effectiveness, and the organisation may enrich relationship knowledge about customers and prospects.

3.2.1.7. Enables Effective Project Management

Where people are separated by time or distance, blogs and associated technologies have the potential to weld teams and communities of practice together, introduce new team members, side-step the hierarchy, dramatically reduce email, and put control of communications into the hands of its participants (Tebbutt, 2005: 21). Tebbutt (2005: 21) explains that project heads can keep team members informed of news and progress and can observe reactions from comments posted on the site. SNSs offer workers improved ways of keeping in touch with colleagues (DiMicco and Millen, 2007: 386); as more employees work remotely, social networking tools can increase awareness and contact between distant employees. Social computing tools can also be used to explore and learn about new employees and team members; this can facilitate finding co-workers with particular skills or discovering past work experiences that might be relevant to new projects (DiMicco and Millen, 2007: 386).

3.2.1.8. Transforms the Knowledge Management Paradigm

Social computing taps into networks of people to access relevant practical expertise at the moment of need (IBM Corporation, 2008: 3). Social computing arises spontaneously as a core activity of daily work and is driven by natural motivations because it lets people share what they want to know, whenever they want to, with whomever and in whatever form they want (IBM Corporation, 2008: 3). People are able to choose how they want to manage their own personal knowledge, and they embrace the tools that serve their purpose best (IBM Corporation, 2008: 3).

3.2.1.9. Increased Productivity and reduced Cost

Facebook allows employees to communicate with co-workers and colleagues in seconds, leaving more time for productive work (Mann, 2008: 2). Mann (2008: 2) states that managers around the world are using Facebook to track their colleagues' projects and activities; they can see what people are working on immediately, without having to call or email them. Companies are also using Facebook to collect and test ideas about product development with potential customers, or as a sales tool to identify and find out about contacts at a target company (Mann, 2008: 2).

3.2.2. Educational Characteristics

3.2.2.1. Fosters Communication and Collaboration

Blogging represents a growing activity among professionals and students who appreciate blogs for their mix of informal commentary, links to resources and personal touch (Yap *et al*, 2005: 55). SNSs offer people opportunities to share life experiences, vent frustrations, offer reflections on social issues and express themselves in a non-threatening atmosphere (Yap *et al*, 2005: 55). Social software enables community involvement in locating expertise, sharing content and collaborating to build content (Bradley, 2007: 3). Social networking also allows knowledge workers to extend the range and scope of their professional relationships (Prentice, 2007: 2). It is clear that these sites help build connections between people by facilitating relationship development.

3.2.2.2. Social Computing Tools support Research and Development (R&D)

Researchers' work is different from other job types in a significant way: they create new knowledge while using existing knowledge (Rozwell, 2008: 2). Researchers' activities often take place in a social context made up of informal exchanges, brainstorming, idea exploration and cross-fertilisation (Rozwell, 2008: 2). Since there are often no guidelines or established processes to follow, it is important for researchers to be able to draw from a social network of information and people; social software tools allow researchers access to their internal network, to gain a broader perspective from outside their traditional "circle of friends" (Rozwell, 2008: 2). Social software tools that support research-oriented work processes can be found in Table 3.1.

3.2.2.3. Social Computing promotes Accumulation of Social Capital

Social capital broadly refers to the resources accumulated through relationships among people (Coleman (2005) as cited in Ellison *et al*, 2007: 1145). Social capital has been linked to positive social outcomes, including: better public health, lower crime rates, and more efficient financial markets (Adler and Kwon (2003) as cited in Ellison *et al*, 2007: 1145). Ellison *et al* (2007: 1162) have found that:

- Facebook lowers the barriers to participation so that students who might otherwise shy away from initiating communication or responding to others are encouraged to do so.
- Highly engaged users are using Facebook to strengthen relationships that would otherwise remain weak.

They believe that in addition to helping student populations, Facebook could support a variety of populations, including researchers, neighbourhood and community members, employees, or others who benefit from maintained ties.

Activity	Tool Category	Example of Products
Managing information sources	Personal portal with RSS (really simple syndication) feeds and mashups	Google desktop, System One
Creating a private “sandbox” to develop concepts and/or shared work space for selective team interaction	Team collaboration	Atlassian, Basecamp, Google applications, IBM,Jive, Software, Microsoft
Uncovering guides to useful information from like-minded colleagues	Folksonomies (social tagging) and content analytics	Connotea, del.icio.us, dig, Flickr, Google Scholar, Technorati
Develop a map of high-value relationships	Organisational and value network analysis	Decision Path, Genisis, Inxight, Visible Path, Visual Analytics
Getting just-in-time access to people who have been evaluated as having the knowledge they need	Expertise location, social software platforms and virtual presence	Illumio, me.dium, Trampoline
Finding opportunities to contribute to projects that excite the imagination	Idea management, wikis and blogs	BrightIdea, Imaginatik, Sopheon
Gaining confidence that the project will be judged using an unbiased set of criteria	Prediction markets and portfolio analysis	Consensuspoint, longbets, SmartOrg
Receiving recognition for actions and expertise, not just university degrees	Content rating and reputation management	CitULike
Maintaining personae – the digital identity	Social networking sites	Blogs, MyResearchSpace.com
Having the ability to work at any time and any place	VoIP, mobile computing, Web and videoconferencing	Cisco, Dialcom, Microsoft, Skype, Vyew

Table 3.1: Social Software Tools that support Research-Oriented Work Processes (Rozwell, 2008: 2)

3.2.2.4. Motivation and Learning Opportunities

Holzberg (2003, as cited in Clyde, 2005: 44) believes that classroom blogging has the potential to motivate students, to build online collaboration, and enhance learning opportunities. Literacy in the classroom may be promoted through the use of storytelling and dialogue (Huffaker (2004) as cited in Clyde, 2005: 44). O’Hear (2004, as cited in Clyde, 2005: 44) describes social networks as educational tools because they allow students to develop ideas and invite feedback. Social networks offer teachers a support tool to promote reflective analysis and the emergence of a learning community that goes beyond the school walls (Downes (2004) as cited in Clyde, 2005: 44). Mazer *et al* (2007: 1) found that participants who accessed the Facebook website of a teacher, who disclosed large amounts of information, anticipated higher levels of motivation and affective learning, indicating positive attitudes toward the course and the teacher. Research has suggested that teachers who personalise teaching through the use of humour, stories, enthusiasm, and self-disclosure are perceived by their students to be effective in explaining course content (Mazer *et al*, 2007: 5). This supports the idea that appropriate disclosure by teachers leads to a positive teaching atmosphere in the classroom and enhances interactions between teachers and students. Social networking also offers educators an excellent platform to forge their own professional identity by sharing with other colleagues and debating ideas (Yap *et al*, 2005: 55), allowing them to extend their professional relationships.

3.2.2.5. Learning Tool in Libraries

Clyde believes that blogging in schools is an information-related activity that requires and develops information skills in students and should therefore be supported by school libraries. Mathews (2008: 2) explains that by approaching students on online social networks, librarians can increase campus visibility and update their stereotypical image by letting students know what the library is really all about. Mack *et al* (2007: 4) suggest that librarians join Facebook because students are already actively using these messaging systems. Therefore, the presence of librarians in the social network environment makes library services and librarian assistance extremely convenient. When librarians provide content (like contact information) on their profiles, it encourages students to make use of this information (Mack *et al*, 2007: 4). Librarians who have promoted their own Facebook profiles have found that their research assistance traffic in their Facebook message boxes, institutional email and in person has increased dramatically (Mack *et al*, 2007: 4).

3.2.2.6. Enables Educators to be Better Advisors

Comments that students post on the site may provoke thoughtful conversation (Lipka, 2007: 2). SNSs may provide helpful information to educators and help them deal with certain situations better – one educator knew to go easy on a student when he saw his status change from “in a relationship” to “single” (Lipka, 2007: 2). Students may also feel more comfortable approaching educators who are present and friendly on Facebook – it gives them the encouragement they need (Lipka, 2007: 3). If students are able to interact with their educators casually on a social network, then they may feel more comfortable interacting with them in the classroom, as well as approaching them with problems and suggestions.

3.2.2.7. Digital Learning as a Substitution Process

Online learning is a new social process that is beginning to act as a complete substitute for both distance learning and the traditional face-to-face class (Hiltz and Turoff, 2005: 60). These authors believe that face-to-face courses; which are effectively blended with online learning technologies and methodologies; are generally rated by students as significant improvements over face-to-face (only) classes. Hiltz and Turoff (2005: 62) identify the following driving forces for online learning:

- It offers students who work and have children, the flexibility of being able to integrate education with the demands of work and family.
- Learning effectiveness in online or blended courses is equal to or better than in entirely face-to-face courses.
- The value to the instructor is being able to treat all students equally, and to prepare and deliver the materials of the course as a single entity.
- The value to the organisation is avoiding duplication of any administrative or support function.
- The growing competitive environment in higher education and the need to provide quality online instruction as a matter of long-term survival.

Table 3.2 summarises these positive characteristics.

Positive Characteristics of SNSs	References
Provides a rich environment for content	Parameswaran and Whinston (2007) and Bradley (2007)
Fosters collaboration between people	Yap <i>et al</i> (2005), Bradley (2007) and Prentice (2007)
Supports Research and Development	Rozwell (2008)
Controls negative behaviour	Shipley (2005) and Mann (2008)
Enables a variety of opinions	Mann (2008)
Promotes the accumulation of social capital, thereby increasing self-esteem and life satisfaction	Ellison <i>et al</i> (2007)
Provides motivation and learning opportunities	Mazer <i>et al</i> (2007) and Yap <i>et al</i> (2005)
Constitutes a learning tool in libraries	Mathews (2008) and Mack <i>et al</i> (2007)
Delivers quality information	Desisto and Smith (2008)
Promotes responsibility	Mazer <i>et al</i> (2007) and Connell (1994)
Enables professors to be better advisors	Lipka (2007)

Table 3.2: The Positive Impact of Social Computing in an Educational Context.

3.3. Weaknesses and Threats of Social computing

3.3.1. Lack of Privacy and the Related Security Risks

The visibility of a profile varies according to user discretion and also by site (Boyd and Ellison, 2008: 213); MySpace lets users choose whether they want their profile made public or “friends only”, however, Facebook allows anyone who is part of your “network” to see your profile unless a profile owner denies permission to those in their network. Facebook offers users a range of options in protecting and choosing to disclose information of a sensitive personal nature (Valdes, 2007: 11). Users can control who can search for them, view their profile and view their contact information and other personal details. However, having these mechanisms available in the system does not mean that users will know how to use and

adopt them. Mayer, Davis and Schoorman (1995) as cited in Dwyer *et al* (2007: 2) define trust as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. Privacy within SNSs is often not expected or is undefined (Dwyer *et al*, 2007: 2). SNSs record all interactions, and keep them for personal use in social data mining; it is therefore important for these sites to have explicit policies and data protection mechanisms, allowing them to provide users with a certain amount of privacy (Dwyer *et al*, 2007: 2). Trust may affect what users are willing to share on sites – Facebook users are more willing to share information, due to a greater degree of trust in the network, than MySpace users (Dwyer, Hiltz and Passerini (2007) as cited in Boyd and Ellison, 2008: 222). Trust is therefore important for the exchange of information.

3.3.2. Social and Network Security

Gross and Acquisti (2005: 73) observe that the simple processes required to join and extend your network, and the lack of basic security measures at most sites, make it easy for third parties to access your data without your permission or the permission of the site. Risks range from identity theft to online and physical stalking; from embarrassment to price discrimination (Gross and Acquisti, 2005: 73); other risks that manifest within a social network include: fraudulent profile pages and messages, defamation, and theft of artwork or intellectual property (Walls, 2007: 2). The safety of young users is a primary concern (Boyd and Ellison, 2008: 221); schools have attempted to prohibit students' use of the sites due to allegations that sexual predators are using the sites to make contact with teenagers (Dwyer *et al*, 2007: 4).

Since social networks are highly decentralised, weakly governed and encourage easy access, the risk of malicious activity is significant (Parameswaran and Whinston, 2007: 775). Most of these environments rely on the exchange of multimedia content, which potentially carry viruses and other risks (Parameswaran and Whinston, 2007: 775). This content can be rapidly distributed to a very large number of users in a short amount of time.

3.3.3. Legal and Regulatory Matters

Parameswaran and Whinston (2007: 773) explain that social software raises the possibility of malicious or criminal communities, which use the anonymity, fault-tolerance, robustness, and low cost of online communities to build very effective platforms, which usually go unnoticed. Social networks can be used to perform a variety of activities that would be considered illegal in many jurisdictions (Walls, 2007: 4); these activities include: online bullying, theft of intellectual property, identity fraud, defamation of character, privacy infringement and slander. Unfortunately most of these jurisdictions do not have established laws and regulations that are applicable to social networks and the activities performed on them (Walls, 2007: 4), however, security practices on sites will have to accommodate new practices once legal precedents are set regarding activities on SNSs.

3.3.4. Suspect Information Quality

Clyde (2005: 43) has found that not all weblogs carry reliable, current information. Some weblogs are created for the sole purpose of providing an online platform for the views, rantings and creative works of the blogger (Clyde, 2005: 43). Desisto and Smith (2008: 3) believe that this will be less of an issue for experienced users, but insist that new users be educated on information reliability and quality.

3.3.5. Managing Personal and Professional Time

Social networking can present challenges in managing student productivity and promoting work/life balance (Bradley, 2008: 4). Teachers and lecturers are often distressed by the lack of concentration and interest displayed by students who have constant access to these social networks. Many organisations are concerned with managing productivity in more loosely structured network environments; this concern often coincides with organisations where the nature of their work is not collaborative or their cultural environment does not recognise the importance of social interactions (Bradley, 2008: 4). Social computing holds tremendous disruptive potential for organisations.

3.3.6. Governing Participant Behaviours

Bradley (2008: 3) explains that governance of social sites is not a “one size fits all” proposition, but depends on who is participating (employee or public), how they are participating (business or personal) and where they are participating (corporate site or public

site). Social applications, like all social structures, will contain bad behaviour, which should be expected and addressed in application design and social mediation (Bradley, 2008: 4). Organisations must balance the benefits of social networking with the risks of bad behaviour.

3.3.7. Cultural Barriers

Tebbutt (2005: 21) suggests that social computing is unlikely to work in organisations with a strong “command-and-control” culture. These traditional, hierarchical organisations will feel threatened by the amount of trust and equality that is required in order for social computing to be effective (Tebbutt, 2005: 21). Social computing holds the potential to destroy hierarchies and departments (Tebbutt, 2006: 1). People adopt technology in different ways depending on their culture and education; this may cause a barrier to form between cultures inclined towards technology and those that battle to adopt new technologies.

3.3.8. Lack of Professionalism

Hewitt and Forte (2006: 2) have found that students have mixed reactions to faculty being on SNSs. Students seem to be concerned that Facebook is able to alter a professor’s perception of a student when they are in a student environment; they believe that Facebook should be a fun website, where they can include information that they don’t want professors to see (Hewitt and Forte, 2006: 2). Students indicated that the student/faculty relationship should remain professional and should not be sociable (Hewitt and Forte, 2006: 2); students expressed the following opinions:

- Facebook is a social network for students.
- Faculty and students should remain separate when it comes to social functions.
- They would find it strange if a staff member were to “poke” (friendly gesture used to Facebook).

Mazer *et al* (2007: 3) believe that teachers who use Facebook may violate students’ expectations of proper behaviour and then run the risk of losing their credibility. This would depend on whether the content on the teacher’s profile was appropriate or not. However, as discussed, teachers may not always have control over what is put up on their profiles. Mazer *et al* (2007: 14) urge teachers to proceed with caution.

3.3.9. General Reasons why Organisations are rejecting Social Computing

Tebbutt (2006: 19) has found that managers are rejecting social computing in their organisations due to the following reasons:

- Managers are very wary about losing control - the leakage of private information is a huge concern for organisations.
- Traditional organisations find it difficult to place so much trust in their employees.
- Managers believe that past software implementations have just brought extra work and little direct benefit to users.
- Managers and staff are afraid of embarrassing themselves through the kind of exposure that social software brings.
- Managers are concerned that staff will bypass the “official channels” if it makes their lives easier.
- Social computing threatens the conventional power structure within organisations.
- Social computing reduces employee productivity and wastes time.

Tebbutt (2006: 21) suggests that organisations need to weigh up the benefits and disadvantages carefully, and consider factors like the nature of the business, its regulatory environment and its culture before allowing employees to participate freely on social networks. Some managers believe that social networking is a drain on employee productivity, as well as a potential way to leak confidential information (Valdes, 2007: 7). Valdes (2007: 12) states that organisations face the following significant risks when they engage in social networking:

- Market collisions, product dead ends and paralysis through lawsuits may occur.
- “Social pollution” such as spam, scams, stalkers, identity theft and objectionable content will seep in.
- Demographic collisions will occur between younger users and older professionals (older professionals do not realise the value of social networking (or are uncomfortable using the tools) and think that younger employees are wasting time).

3.3.10. Employers/professors are using Social Networks to check up on Potential Employees/students

Rimmer (2007: 15) suggests that social networks provide massive potential for recruiting companies; employers are using sites like MySpace and Facebook to find personal

information about job candidates, including drinking habits, general sleaziness and criminal behaviour. Snyder *et al* (2007: 6) believe that an ethical issue arises when potential employers view this “public” information and make hiring decisions based upon the information content. Most networking sites have a social contract which establishes acceptable behaviour on these sites (Snyder *et al*, 2007: 8); most of the social contracts indicate that the site should not be used as an information-gathering device, but more for personal use.

Table 3.3 summarises the negative characteristics of SNSs.

Negative Characteristics of SNSs	References
Lack of privacy and security	Boyd and Ellison (2008); Valdes (2007); Gross and Aquisti (2005); Dwyer <i>et al</i> (2007); Parameswaran and Whinston (2007); Walls (2007); McCracken (2008) and Krieglstein (2008)
Legal and regulatory matters arise due to irresponsible behaviour	Parameswaran and Whinston (2007); Walls (2007); Facebook (2007); Snyder <i>et al</i> (2007); Dwyer <i>et al</i> (2007) and Krieglstein (2008)
Suspect information quality	Clyde (2005); Desisto and Smith (2008) and Walls (2007)
Lack of personal and professional time management	Bradley (2008)
Much participant behaviour to govern	Bradley (2008) and Krieglstein (2008)
Cultural barriers exist as sites are not suited to all cultures	Tebbutt (2005); Tam (2001) and Berson and Berson (2003)
Lack of professionalism	Hewitt and Forte (2006); Mazer <i>et al</i> (2007); Facebook (2007); Krieglstein (2008) and Lipka (2007)
Inappropriate use of others’ personal information	Rimmer (2007); Snyder <i>et al</i> (2007); Lipka (2007) and Krieglstein (2008)

Table 3.3: The Negative Impact of Social Computing in an Educational Context

3.4. Conclusion

Social computing provides new learning opportunities for both educators and students. The following opportunities need to be exploited by educational institutions: provide a rich environment for content; fosters communication and collaboration; supports research and development; weak ties enable a range of opinions; negative behaviour is controlled; social capital is accumulated; provides learning opportunities; provides a solution to the “knowledge gap”; learning tool in libraries; professors are better advisors; digital learning may be used as a substitution process; value is delivered; enables effective project management; transforms the Knowledge Management paradigm; and productivity increases while costs decrease. Similarly, many new threats arise, including: lack of privacy and related security risks; legal and regulatory matters; trust is often absent; suspect information quality; managing personal and professional time; governing participant behaviours; overcoming cultural barriers; lack of professionalism; and professors are using the site to check up on students. These need to be mitigated by educational institutions in order for the benefits of social computing to be realised.

Chapter 4: Guidelines for Users of SNSs

This chapter analyses various approaches to effective use of social computing in educational and organisational spheres. These approaches attempt to solve problems associated with social computing; some of these include: privacy and security risks; legal and regulatory matters; the distinction between professional and personal lives; issues with content; appropriate behaviour and content for faculty using these networks; overcoming cultural barriers; and general issues for organisations wanting to implement and use social networks. The use of social networking tools to exploit the positive aspects of social computing is also discussed.

4.1. Introduction

In the previous chapter, problems associated with social computing tools were discussed. This chapter considers solutions to some of these issues, and also provides guidelines on how the positive aspects of these tools can be exploited by instructors and organisations. Berson and Berson (2003: 166) believe that digital communication is connected with global understanding, multicultural respect, diversity, and tolerance. Digital literacy efforts empower people to analyse, interpret and create information; it provides skills so that people are able to decipher complex messages; and it allows people to apply skills for critical analyses and ethical decision-making (Berson and Berson, 2003: 166). “Frequent real-time interaction with instructors via emerging technologies is essential” (Hentea, Shea and Pennington, 2003: 160). Since it is difficult to control access to information on social networks, the most effective way to prevent children’s exposure to violent, racist, and sexual content, and other harmful messages, is through education (Berson and Berson, 2003: 164).

4.2. Guidelines for Social Computing

4.2.1. Security Risks

Walls (2007: 3) argues that policies and standards must be in place in order to manage security risks in a social network. This governance program (policies and standards) should include the following aspects (Walls, 2007: 3):

Accountability

Any person choosing to use the social network in an organisation must take full responsibility for their presence and related security risks on the network. Employees should log any alterations to their profiles in order to support audit and review of the social network presence.

Content

Users should limit the information uploaded to the social network to the bare minimum required to meet their professional objectives. All content (text, photography, video, graphics and links) need to be approved by the content owner and copyrighted content must be

labelled. Uploaded and downloaded content needs to be scanned for viruses and any other inappropriate code.

Staff use

Any staff member working on a social network needs to abide by organisational policies regarding public and media relations. Staff should not place organisational content on their personal profiles without the approval of the institution. Any content developed by staff for use on a corporate profile is a corporate asset and does not belong to the staff member.

Messaging

Conversations within corporate social network messaging systems must comply with corporate policies regarding harassment and offensive speech. In the same way, messages to customers must comply with the relevant regulations. Messages containing sensitive personal information should not be sent through the system.

Monitoring

Corporate content should be monitored on a regular basis to detect unauthorised alterations. McCracken (2008: 13) believes that SNSs should follow these three basic principals of web privacy:

- Be clear: if bright people are battling to understand what is happening to their information, then something is definitely wrong.
- Be discrete with personal data.
- Remember that more control is always better than less control.

4.2.2. Legal and Regulatory Matters

As legal precedents are set, security practices must accommodate these new requirements (Walls, 2007: 4). Regulations applicable to non-social network information should also apply to any activities that take place in the social network environment. Walls (2007: 4) states that corporations should manage content and staff behaviour on social networks in a similar way to other environments.

Social contracts found on SNSs outline acceptable behaviour and posting rules (Snyder *et al*, 2007: 8). MySpace.com, emphasise the following two points in their Terms of Use (ToU) document (Snyder *et al*, 2007: 8):

- Members create profiles online in order to find and communicate with old and new friends.
- MySpace is for the personal use of Members only and may not be used in connection with any commercial endeavours.

Using information gained on MySpace.com in a negative manner (hiring decisions, grade decisions and promotion criteria) is a violation of the social contract entered into when viewing the information on MySpace (Snyder *et al*, 2007: 9); these authors state that social contracts point to the appropriate ethical use of information contained on sites like MySpace.

Terms of Use (social contract) found on Facebook (2007) provide users with guidelines for acceptable behaviour. Users of Facebook agree to use the site for their personal use only, and not for commercial gain. In addition to this, Facebook (2007) requires users to not to use the site to:

- harvest or collect email addresses or other contact information of other users from the Service or the Site by electronic or other means for the purposes of sending unsolicited emails or other unsolicited communications;
- use the Service or the Site in any unlawful manner or in any other manner that could damage, disable, overburden or impair the Site;
- use automated scripts to collect information from or otherwise interact with the Service or the Site;
- upload, post, transmit, share, store or otherwise make available any content that we deem to be harmful, threatening, unlawful, defamatory, infringing, abusive, inflammatory, harassing, vulgar, obscene, fraudulent, invasive of privacy or publicity rights, hateful, or racially, ethnically or otherwise objectionable;
- upload, post, transmit, share, store or otherwise make available any videos other than those of a personal nature that: (i) are of you or your friends, (ii) are taken by you or your friends, or (iii) are original art or animation created by you or your friends;

- register for more than one User account, register for a User account on behalf of an individual other than yourself, or register for a User account on behalf of any group or entity;
- impersonate any person or entity, or falsely state or otherwise misrepresent yourself, your age or your affiliation with any person or entity;
- upload, post, transmit, share or otherwise make available any unsolicited or unauthorized advertising, solicitations, promotional materials, "junk mail," "spam," "chain letters," "pyramid schemes," or any other form of solicitation;
- upload, post, transmit, share, store or otherwise make publicly available on the Site any private information of any third party, including, addresses, phone numbers, email addresses, Social Security numbers and credit card numbers;
- solicit personal information from anyone under 18 or solicit passwords or personally identifying information for commercial or unlawful purposes;
- upload, post, transmit, share or otherwise make available any material that contains software viruses or any other computer code, files or programs designed to interrupt, destroy or limit the functionality of any computer software or hardware or telecommunications equipment;
- intimidate or harass another;
- upload, post, transmit, share, store or otherwise make available content that would constitute, encourage or provide instructions for a criminal offense, violate the rights of any party, or that would otherwise create liability or violate any local, state, national or international law;
- use or attempt to use another's account, service or system without authorization from the Company, or create a false identity on the Service or the Site.
- upload, post, transmit, share, store or otherwise make available content that, in the sole judgment of Company, is objectionable or which restricts or inhibits any other person from using or enjoying the Site, or which may expose Company or its users to any harm or liability of any type.

If these social contracts are violated, then the administrators of the social network site may remove the offending person's account from the site as well as ban them from using the site in future (Facebook, 2007). If an illegal violation takes place, then that individual may be prosecuted either by the SNSs, or by the individual whose rights were violated (Facebook,

2007). Social contracts should be followed by users, in order to prevent privacy, security, legal and personal problems from occurring on SNSs.

4.2.3. Separation of personal and professional lives

Snyder *et al* (2007: 7) state that cyberspace has increased the overlap between personal and professional life. This overlap is illustrated in Table 4.1.

	Personal Life	Overlap	Professional Life
20 th Century		Company Picnic Company Christmas Party	
21 st Century		Company Picnic Company Christmas Party Personal Web Page Company Employee Information School Web Pages Personal Blogs Professional Associations Friends Web Sites <i>Social Networking Sites</i>	

Table 4.1: The Intersection of Personal and Professional Lives in the 20th and 21st Centuries (Reproduced from Snyder *et al*, 2007: 7)

However, if social contracts found on sites are followed, people are able to keep the overlap of personal and professional lives to a minimum (Snyder *et al*, 2007: 9). Table 4.2 highlights the separation of personal and professional information, which is necessary for cyberspace as it is becoming entwined into our lives in the 21st century.

	Personal Life	Overlap	Professional Life
Separation of Information	Personal Web Page Personal Blogs Friends Web Sites	Company Picnic Company Christmas Party	Company Employee Information School Web Pages Professional Associations

Table 4.2: Separation of Information (Snyder *et al*, 2007: 9)

4.2.4. Using Social Network Content

It is possible to collect a wide range of content about individuals that could be considered in recruitment or promotions. Walls (2007: 4) urges people not to use this information, as many fraudulent profiles have been constructed containing incorrect and private information without the knowledge of the targeted people. Walls (2007: 4) suggests that actionable information should be checked carefully before making any decisions based on this information.

4.2.5. Suggestions for Teachers using Social Network Sites

Mazer *et al* (2007: 12) suggest that teachers follow the following three guidelines in order to increase student motivation, encourage affective learning and improve classroom climate:

Teachers should be Professional

Teachers need to be cautious about the content that they put on their profiles and also need to be vigilant and analyse the content put on their profiles by others. Teachers should avoid sensitive issues (information about politics) and only disclose appropriate information.

Teachers should be Themselves

Students desire to learn more about their teachers; teachers should supply information about their interests so that students can learn more about their personalities.

Teachers should respect their Students' Privacy

Students were concerned that content on their profiles could damage a teacher's perception of them. Teachers should avoid using social networking sites to spy on students and should avoid lecturing students about content on their profiles.

Krieglstein (2008: 1) provides a list of guidelines for faculty members to use when entering into the social networking world; these guidelines ensure that faculty members communicate with students on Facebook in an appropriate manner by specifying the kind of content that should be displayed on their profiles, and also by encouraging correct social protocol between faculty and students on Facebook.

- Keep official course activities in official online tools and not on Facebook.

- Never require students to participate on Facebook or have Facebook participation influence a course grade.
- Do not “friend” students unless they request the connection.
- Accept friend requests from all students (unless the instructor makes the decision not to friend students at all).
- Do not look at student profiles unless the faculty member has been “friended” by the student and even then using Facebook information judiciously and for educational purposes.
- Faculty members should avoid association with Facebook groups with explicit sexual content or views that might offend or compromise the student/teacher relationship.
- Take extreme care with privacy settings and faculty profile content and limit profiles to information relevant to educational purposes.
- Exercise appropriate discretion when using Facebook for personal communications (with friends, colleagues, other students, etc.) keeping in mind that faculty behaviour on Facebook, may be used as a model by students.
- Never misrepresent yourself by using a false name or persona on Facebook.
- Consider that the uneven power dynamics (professors have authority over students) continue to shape the online relationship, even when the network tool (such as Facebook) is apparently democratic.
- Keep wall posts and other Facebook communication in accordance with standard ethical practices of the educational relationship.
- Never post official course communication (feedback on an assignment) in a public area of Facebook.

Lipka (2007: 2) states that the consensus on “friending” on social networks seems to be: accept students’ requests, but do not initiate any yourself. Lipka (2007: 2) also urges professors not to explore students’ profiles as they might find information they do not want to.

It appears that two kinds of information are available on these social networks:

- Information such as race, age, gender, gender orientation, which could be used (in violation of social contracts or illegally) to prejudice an individual.

- Information, for example, cheating in a test, theft, or some other illegal act, which should be used against the individual.

No common agreement exists by which to respond to the above scenarios. SNSs are of the opinion that any information seen on them should only be used for the purposes of socialising with “friends”. Some authors agree with this opinion, and suggest that any information (illegal or not) accidentally discovered by educators on these sites should be ignored. However, other authors are of the opinion that students should be more careful about what they put on these sites, and should therefore be disciplined if any untoward or illegal information is discovered.

Mack *et al* (2007: 5) suggest that educators include several basic elements when creating their Facebook profiles:

- The profile should contain professional contact information, including: an office address, phone number and email address.
- The “Website” field should contain a link to the profile owner’s professional website and the homepage of the department they work in.
- Educators should let students know what they do, both professionally and for good clean fun, so that they are able to identify with them.
- Fun pictures should also be included, perhaps photos of pets or of holidays – these small personal offerings often turn into conversations with students.
- It is important to present oneself in a professional manner – students may use Facebook to post anything about themselves, but it is important for educators to present themselves as the professionals that they are since peers may be viewing this information as well.

Mack *et al* (2007: 5) provide general pointers for educators on Facebook:

- Don’t seek students out and add them as your “friends”, rather wait for them to invite you.
- If someone writes something on your Facebook wall, write back – this is an easy way to start conversations with students.
- You are not obliged to put personal details up on your Facebook profile, find a balance that makes you feel comfortable.

- Post items that help students with their information and study needs, include: links to subject guides, podcasts, or tutorials.

A Tested Recipe for generating New Ideas

Berg, Berquam and Christoph (2007: 34) provide the following tested recipe for generating ideas on a social network: take your favourite social networking technology, add the university culture, budget, and a few innovative thinkers, and then pour everything on top of current practices and IT services. These are some of the results obtained from students (Berg *et al*, 2007: 34):

- The portal needs to be simplified.
- Important information should be emailed, not sent via a social network.
- Facebook should be left for students as a fun site; faculty should not attempt to contact students on Facebook.
- LiveJournal and MySpace expose student stress.
- Students get tips on safety, privacy, and using Facebook, they pay attention.
- Social networking tools should be kept simple.

Campus professionals had the following responses (Berg *et al*, 2007: 34):

- Faculty should consider how students would benefit, not what they want.
- Students enjoyed it when faculty posted holiday party invitations on Facebook.
- A staff member managed to get hold of a student in fifteen minutes on Facebook, after waiting three days for an email response from the student.
- Faculty enjoy social technologies because they are completely opt-in.
- Faculty are concerned about making these technologies sustainable enough to be cost-effective.
- No training, demonstrations and workshops are necessary for people wanting to use Facebook.
- New features on social networks are popular and make sense.
- Support personnel would prefer to work on community spaces where they offer information about themselves and what they know, as opposed to just creating Web pages about clickers.

Berg *et al* (2007: 44) make the following suggestions after taking into account the results obtained from their tested recipe:

- Listen to students.
- Be open to change.
- Be willing to try something new.
- Be aware of fears about technology.
- Create collaborative groups of thought across campus.
- Bring up social networking at every opportunity.

4.2.6. Overcoming Cultural Barriers

Berson and Berson (2003: 166) state that by developing coping techniques, and practicing responses to problematic situations, teachers can prepare children for our media-saturated culture. They suggest the following strategies:

- Familiarise yourself with the digital technology that your students are using both in and out of school. Teachers have a range of knowledge and skill levels, and need to stay informed on emerging technologies and their application to the school setting.
- Integrate standards-based lesson plans to address the following issues: safety; social, ethical and legal behaviour online; privacy issues; commercial advertising on the web; cybercitizenship; cyberbullying; cybersecurity; and online research skills.
- Provide specific opportunities to practice new skills and develop new habits in respect, empathy, equity, peace, and advocacy.
- Foster the study of respect, responsibility, and safety within a global context.
- Provide multiple opportunities to study philosophies, religious beliefs, and practices of peace, non-violence, and respect for differences and social justice.
- Teach skills in critical analysis of media, investigation and evaluation of information, peaceful conflict resolution, and problem solving. Through guided activities, students can learn to recognise representations of point of view and bias in images, assess the reliability of sources of information, discuss different interpretations, support their conclusions with evidence, and acquire the skills necessary for evaluating information in a free society.
- Develop knowledge and skills for global citizenship, demonstrating connections between everyday individual actions and global well-being.

4.2.7. General Guidelines for Institutions

Suggestions for Social Networking that enable Effective Learning

Hentea *et al* (2003: 162) state that instructors and supporting services within a university must be capable of working together to build tools and an infrastructure for effective learning; they suggest the following:

- Pre-assessing and preparing students: it is critical to promote “smart learners” by teaching students the importance of taking notes, individual studying and learning, organising and evaluating multiple sources of information, using new technology effectively, accessing and disseminating online information via Web pages, using library resources, reading books, reading standards related to the field, reading professional journals, discovering new information, and building new knowledge.
- Increasing motivation: it has been found that students using computer-mediated, collaborative, web-based learning perform significantly better than the students using only web-based learning methods.
- Effective use of tools and technologies: instructors using online delivery methods should be trained by their schools to use computer and networking emerging technologies.
- Increasing interactivity and customisation: it is very important that accurate and timely feedback continue in distance learning. Technology should be a tool to facilitate interaction, reduce the barriers of time and space, and foster community.
- Assessment of student learning: in distance learning assessment is even more crucial given the lack of face-to-face interaction that is normally used to determine student progress.
- Utilising intelligent agents: one of the roles the online instructor should play is that of process facilitator, which is supportive of student learning at the group level. Important tasks include: maintaining conversation, providing positive feedback, ensuring a safe environment, allocating roles and maintaining effective groups.

Lundy and Drakos (2007: 3) provide the following guidelines, which enable organisations to enhance their learning ecosystems by using social software:



- Align strategy with people interest: the popularity of social software has grown based on need and interest, and not through the traditional top-down corporate mandate; therefore strategy should be adapted to suit people's interests.
- Establish communities of interest: let users search for people who have common interests or who know about a particular topic. They can then interact via normal collaboration tools and begin to expand their network as questions arise.
- Extend your e-learning solution into learning ecosystems: learning will shift from training workers to self-service learning. Successful companies will harness these tools in order to enhance worker performance, improve customer experience, leverage interactions, and convert problems into solutions more effectively.
- Form an always-on learning ecosystem: learning ecosystems should enable users to communicate and share information 24/7; search for colleagues and experts with common interests; establish connections; share documents and examples; and engage in experience-based, just-in-time training.

Suggestions for Successful SNSs

Haugen (2007: 2) believes that the following guidelines result in successful social networking sites:

- Give control to the user: users should be able to express themselves in as many ways as possible; they should be in control of their own profiles.
- Regularly introduce new features: a social network site should always be introducing new features to prevent users from growing bored.
- Tap into niche markets: with giants like MySpace and Facebook taking up most of the market share of social networks, new sites need to differentiate themselves by finding a niche market which they can serve well.
- Make sure the interface is easy to understand: good social networking sites make actions intuitive; they are logical and make sense.
- Respond to criticism quickly: it is best to sort problems out quickly to avoid losing people and brand image.
- Privacy is important: although social networking sites cannot police all their users, preventative measures can be put in place. Facebook profiles can be set to private so that only your "friends" may view them.

Valdes and Frank (2007: 5) argue that the success of SNSs depends on these factors:

- Attention to user privacy, access to sensitive data should be limited.
- Implementation of user controls over sending and receiving activity notifications, as these are considered to be low-grade spam.
- Changes in the behaviour of users and brands.
- The ability to tune the system to strike a careful balance between excess commercialism and insufficient marketing performance.

Suggestions for Businesses wanting to implement Social Networking

IBM Corporation (2007) encourages the adoption of social computing by providing suggestions, which they have found to be successful for new businesses wanting to implement a social network:

- Create a community of early adopters who will generate buzz.
- Allow people to benefit from the network without having to produce information.
- Be sure a search engine is in place so people can find information.
- Identify goals and requirements, which will tell you whether to start small or increase your size.
- Encourage people to try different tools, but let them gravitate to those they find useful.

Organisations need to realise that the value of social networks resides in content and not code (Prentice, 2007: 4). Prentice (2007: 4) suggests the following guidelines when implementing a social network:

- IT departments should focus their attention on human factors that affect the adoption of social technology, and not on products.
- IT departments shouldn't overplay the security risks of social networking sites, instead, organisations should ensure that their policies on the confidentiality of corporate information are up-to-date and that staff are made aware that these policies will be enforced in a social networking context.
- IT departments should consider making social networking decisions on a component-by-component basis rather than as a suite.
- IT departments should actively support social networking best practices by doing things such as creating social networking usage communities, sponsoring regular

technology fairs, or recommending best-practice sites to learn social networking techniques.

Austin (2007: 4) encourages IT organisations to consider the following guidelines when implementing social networking:

- Select users who are likely to behave responsibly.
- Explain to users the risks of using new technologies and approaches.
- Set guidelines for use to minimise the risks of compliance problems.
- Define what support the IT organisation will provide and how it will give this support.
- Outline the costs and responsibilities that the users will have to bear.

Exploiting Valuable Information found on SNSs

In order for organisations to take advantage of the valuable information that social networks provide, they need to take these steps (Austin, 2007: 2):

- Experiment with free-form environments: companies must not ignore the value that continually emerges from the Web, despite the chaotic way these solutions materialise.
- Help users innovate: innovation speeds economic development, employees should be exploiting Web-based tools and sharing their experiences with others.
- Do not try and compete with the Web in providing many personal and social tools.
- Segment users according to their role and the value they produce: organisations can increase workers' effectiveness by giving them the support that better suits their needs.

Enhance Training Courses using Social Networking Tools

Social software can be used to enhance training courses in the following ways (Lundy and Drakos, 2007: 3):

- Require training course participants to maintain a learning blog where they describe what they are learning and how it relates to their work.
- Have managers and colleagues monitor and comment on these learning blogs.
- Encourage participants to read the blogs of earlier students before taking the course.

- Use wikis to allow students to maintain contact with fellow participants, develop ideas or ask follow-up questions once they return to their jobs.

Lundy and Drakos (2007: 3) believe that learning ecosystems complemented by social software can allow geographically diverse learners to conduct meetings, attend learning sessions and collaborate on projects without incurring travel costs or losing valuable business time travelling.

4.3. Summary of Guidelines

The following suggestions deal with some of the most serious negative characteristics:

- Policies and standards should be put in place in order to manage security risks (Walls, 2007: 3)
- Users are encouraged to follow the social contracts (terms of use) found on SNSs (Snyder *et al*, 2007: 9) to avoid committing illegal activities or breaking site rules
- Users are encouraged to keep the overlap of personal and professional lives to a minimum (Snyder *et al*, 2007: 9)
- Any information found on these sites should be checked carefully before use (Walls, 2007: 4)
- Teachers should be professional and respect their students' privacy (Mazer *et al*, 2007: 12)
- Any content posted on SNSs should be professional (Krieglstein, 2008: 1)
- Teachers should avoid posting any course work on SNSs (Krieglstein, 2008: 1)
- Teachers should be careful about "friending" students on SNSs (Mack *et al*, 2007: 5)
- Users should be aware that some cultures may not feel comfortable communicating on SNSs (Berson and Berson, 2003: 166)

4.4. Conclusion

Lundy and Drakos (2007: 3) state that by using social software, organisations provide easier-to-access information, which can enable better retention of knowledge and faster adoption of new processes, quicker responses to customer questions, better compliance training, and measurable, sustainable results. The initial focus on Internet safety has emphasised the role of schools (Berson and Berson, 2003: 164); this places educators in an important position to familiarise children in schools with tools on the Internet and to teach appropriate online behaviour for safe and rewarding use of the Internet. It is important for teachers to recognise how social computing can positively affect student-teacher relationships and learning, if it is conducted in an appropriate manner. This chapter provides guidelines on how instructors and organisations can use social computing tools to their advantage, allowing them to overcome the disadvantages that have been associated with some of these tools.

Chapter 5: Adoption of New Technology

This chapter analyses guidelines presented by authors on adoption of technology both in general and educational spheres. General factors affecting attitudes towards adoption of technology are discussed, including: gender, age, ethnicity, and education level. Organisational factors affecting technology adoption are discussed, and models addressing the adoption of technology, as well as suggestions for appropriate use of technology are analysed.

5.1. Introduction

The previous chapter examined solutions to some of the problems associated with SNSs. This chapter focuses on factors affecting attitudes towards technology adoption, as well as suggestions for effective use and adoption of technology. Models have been developed for the adoption of Information Systems applications, like email and the Internet, which could be used as a basis for models concerning the adoption of social computing.

5.2. General Factors affecting Adoption and Attitudes towards Technology

5.2.1. Factors affecting Adoption of Technology

Czaja, Fisk, Hertzog, Rogers, Charness, Nair and Sharit (2006: 334) have shown that a number of factors, such as education, socioeconomic status, attitudes towards the technology, the perceived benefits of technology, and access to technology influence technology adoption. According to Christensen (2002: 411), most researchers agree that the successful use of computers in the classroom is dependent on positive teacher attitudes towards computers. Positive attitudes towards computers and related information technologies are positively related to teachers' experience with computer technology (Loyd and Gressard in Christensen, 2002: 411). Familiarity with these technologies decreases fears and anxieties, while at the same time, increasing confidence (Christensen, 2002: 411). In addition to a positive teacher attitude, adequate computer literacy skills, is another major requirement to incorporate technology successfully into the classroom (Christensen, 2002: 412).

5.2.2. Attitudes towards Technology

Czaja *et al* (2006: 337) report seven dimensions of attitudes toward computers:

- Comfort: feelings of comfort with computers and their use.
- Efficacy: feelings of competence with computers.
- Gender equality: the belief that computers are important to both men and women.
- Control: the belief that people control computers.
- Interest: the extent to which one is interested in learning about and using computers.
- Dehumanisation: the belief that computers are dehumanising.
- Utility: the belief that computers are useful.

Levin, Gordon and Whitley in Hargittai and Shafer (2006: 436) have found that men and boys have significantly more positive attitudes toward computers and more stereotyped attitudes regarding who is capable of using them. They believe that female students' attitudes towards computers discourage them from using the technology. They have also found that men display higher self-efficacy when using computers, while women generally display less confidence and more discomfort. However, Hargittai and Shafer (2006: 436) state that more recent data indicates that this gender gap in computer and Internet use has disappeared.

Ebeling-Witte, Frank and Lester (2007: 713) have found that shy, introverted people prefer using the Internet as a form of socialisation. Hamburger and Ben-Artzi in Ebeling-Witte *et al* (2007: 713) have found that introverted and neurotic females use the distance the Internet creates between people as a kind of security blanket for social interaction; these females use email, chat rooms and discussion services more than non-neurotic and non-introverted males and females.

According to Czaja *et al* (2006: 345) older adults have less experience with computers and the Internet and therefore, use it less than younger generations. As a result, older adults have more difficulty than younger people in learning to use and operate current technologies like computers, the Internet, videocassette recorders, automatic teller machines, and telephone menu systems (Czaja *et al*, 2006: 333).

Minority populations in America also reported differences in patterns of technology adoption (Czaja *et al*, 2006: 345):

- Black/African Americans use the Internet less than Hispanic/Latino and White/European Americans due to lack of experience and poor education.
- Both Black/African Americans and Hispanic/Latino Americans have less experience using computers than White/European Americans.

People who are less educated also report less use of technology in general and less experience using computers and the Internet (Czaja *et al*, 2006: 345). Since adoption of technology is influenced by peoples' attitudes towards technology, computer literacy skills and experience, adoption of SNSs will be influenced by these factors in a similar manner.

5.3. Organisational Factors that affect Adoption of Technology

Broadband

Martins and Oliveira (2008: 31) believe that broadband (technical capacity) is positively associated with the intensity of Internet use by workers.

IT Skills

The level of IT skills is positively related to the intensity of Internet use by workers and positively associated to the probability of being an enhanced user.

Quality of Human Resources

The level of education of workers is positively related to the intensity of Internet use and adoption (Martins and Oliveira, 2008: 32).

5.4. Adoption of Technology

5.4.1. The Five Categories of Adopters

Tam (2001: 35) states that individuals, work groups, departments and even business units have different levels of eagerness concerning the adoption of any new technology. Internet adopters can be classified into five categories based on when an organisation adopts an innovation in comparison to other organisations in their particular social system (McNurlin and Sprague in Tam, 2001: 36):

- Eager beavers are usually groups charged with tracking new technologies. This group is excited about everything to do with the Internet.
- Early adopters require help and encouragement from their company/department before they adopt new technology.
- Early majority need to be informed and understand the implications of the new technology before they will adopt it.
- Late majority are not afraid of new technology, but have serious concerns about the risks and costs involved. They would like issues like security, compatibility, standards, bandwidth and simplicity to be resolved before using the Internet.
- Technically averse people and businesses will resist any new technology due to major concerns about loss of privacy, security, control and exposure to competition.

These categories are graphed as a two-humped camel (“Technology Camel”). This is illustrated in Figure 5.1.

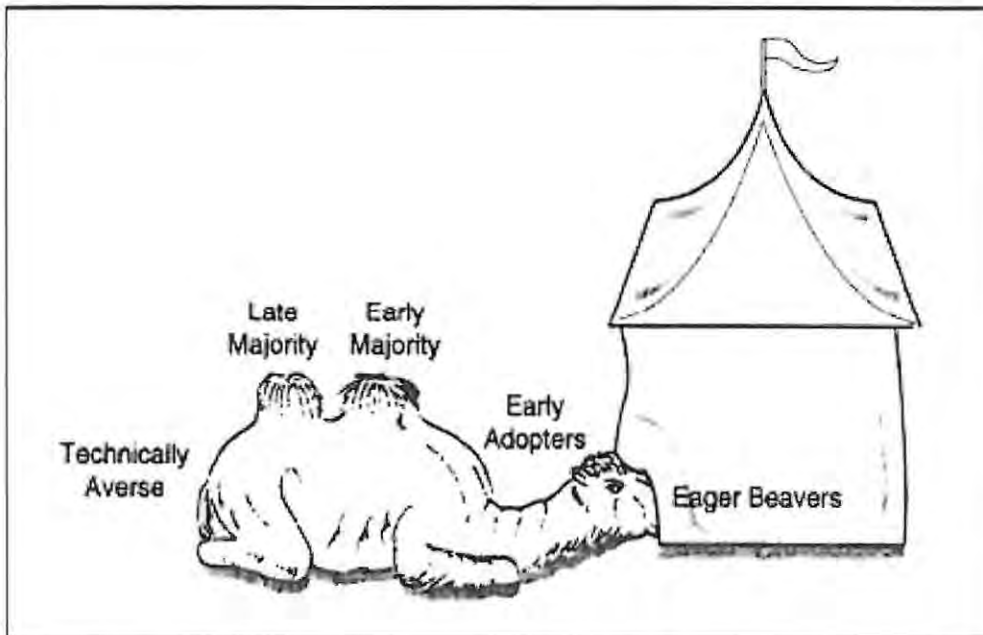


Figure 5.1: The Camel Hump Indicating Types of Adopters (McNurlin and Sprague in Tam, 2001: 37).

These categories play an important role in determining the success of adoption of any new Internet technology (Tam, 2001: 47) and will similarly affect the manner in which SNSs are adopted. For instance, an early adopter would be less concerned about the loss of privacy that social networking involves and will probably be more comfortable providing personal information about themselves (inappropriate in certain contexts) than a technically averse person would; therefore good social computing practice will need to take these comfort levels into account.

5.4.2. Framework for Managing Technology Adoption in Higher Education

Zastrocky, Lowendahl and Harris (2007: 2) offer high-level guidelines for devising a technology adoption framework in higher education that will help campus leaders examine investments in new and emerging technologies. In this framework, the authors recognise the very different objectives of the two core processes (to research and to educate) and the support processes (administration). The various approaches are illustrated in Figure 5.2.

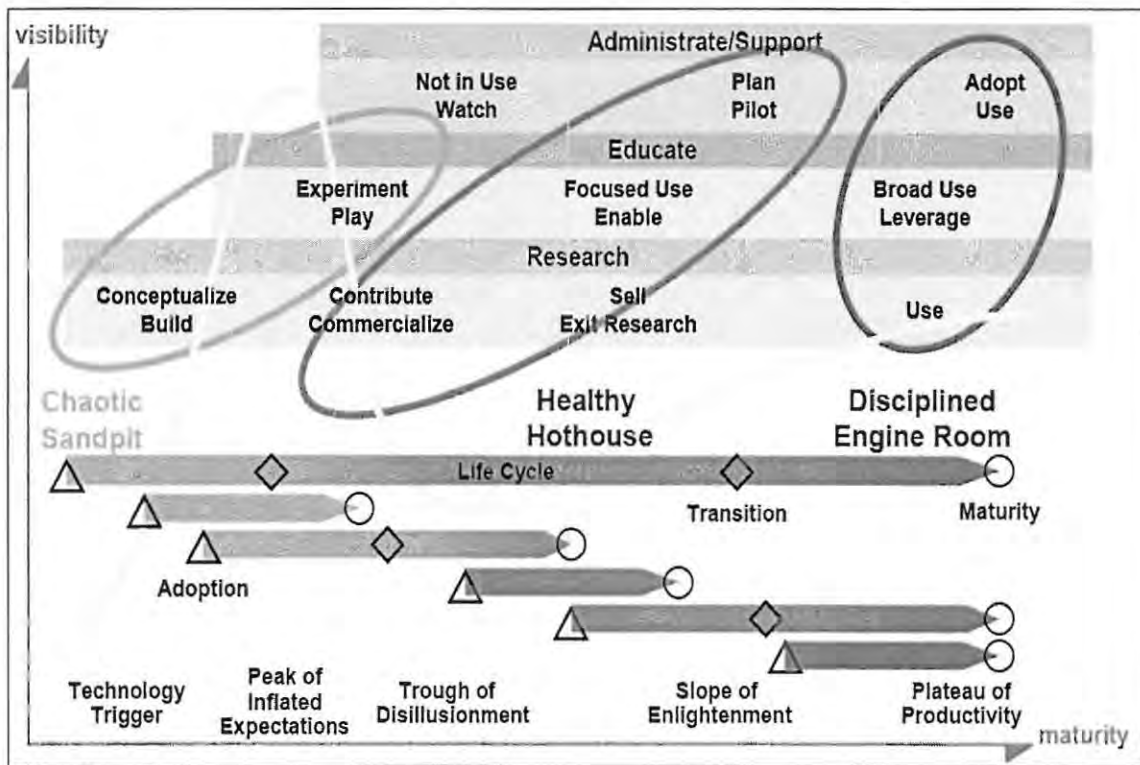


Figure 5.2: Framework for Managing Technology Adoption in Higher Education (Zastrocky *et al*, 2007: 3).

Chaotic Sandpit

Zastrocky *et al* (2007: 3) have found that research is the most unconstrained and risk-tolerant area, as it has to participate in the development of new technologies. The Chaotic Sandpit is an ad hoc approach to technology adoption that allows a high level of risk and freedom, which suits the early experimental stage of technology adoption (Zastrocky *et al*, 2007: 3).

Healthy Hothouse

The Healthy Hothouse approach takes into consideration the higher number of end users and greater impact of failures and therefore, has more controlled risk levels and uses more mature technologies (Zastrocky *et al*, 2007: 3). However, the need to expose students to current technologies and e-learning tools must also allow for the adoption of new technology (Zastrocky *et al*, 2007: 3). The Healthy Hothouse approach to technology adoption is controlled, and allows large-scale, medium risk tolerance and medium gain (Zastrocky *et al*, 2007: 3).

Disciplined Engine Room

The lowest level of risk tolerance can be found in the area of support processes or administration (Zastrocky *et al*, 2007: 3). This approach focuses on cost-effectiveness and the impact on end users, and demands highly controlled risk levels and mature technology. The disciplined engine room approach allows large-scale, low risk tolerance and low gain for the core support processes (Zastrocky *et al*, 2007: 3).

Zastrocky *et al* (2007: 4) state that for communication purposes, it is important to recognise the three different “businesses” of higher education and their cultures. Solutions should be adapted to suit the end users.

5.4.3. Comparison of the Five Categories of Adopters and the Framework for Managing Technology Adoption in Higher Education

The Framework for Managing Technology Adoption in Higher Education correlates well with the previously mentioned Five Categories of Adopters (two-humped camel). These two models share similar characteristics and are compared in the following discussion (Figure 5.3.):

- The *chaotic sandpit* is characterised by high levels of risk and freedom. Similarly, the Eager Beaver category is charged with tracking new technologies, which require high levels of risk and freedom. These groups would fit into the *technology trigger* stage in the technology maturity cycle; they are responsible for conceptualising, building and experimenting with new technology.
- The *healthy hothouse* has more controlled risk levels and uses more mature technologies. The Early Adopter category borders on the *chaotic sandpit* and the *healthy hothouse* with regards to risk levels and technology maturity; they require some encouragement before adopting new technologies. These adopters would most likely adopt technology during the *peak of inflated expectations* stage in the technology maturity cycle. The Early Majority category would fit into the *healthy hothouse*, as these users need to be informed and understand the implications of new technology before they will adopt it. These adopters would most likely fall into the *slope of enlightenment* stage in the technology maturity cycle.
- The *disciplined engine room* is characterised by low levels of risk and mature technology. The Late Majority category would fit into the *disciplined engine room* as

these users prefer to have all concerns about new technology solved before they consider adopting it. Late majority would only adopt technology during the *plateau of productivity* stage in the technology maturity cycle. The Technically Averse category would also fit into the *disciplined engine room* as these users will resist any new technology due to major concerns about privacy and security. They would only adopt technology late in the *plateau of productivity* stage when the technology is stable and relatively risk-free.

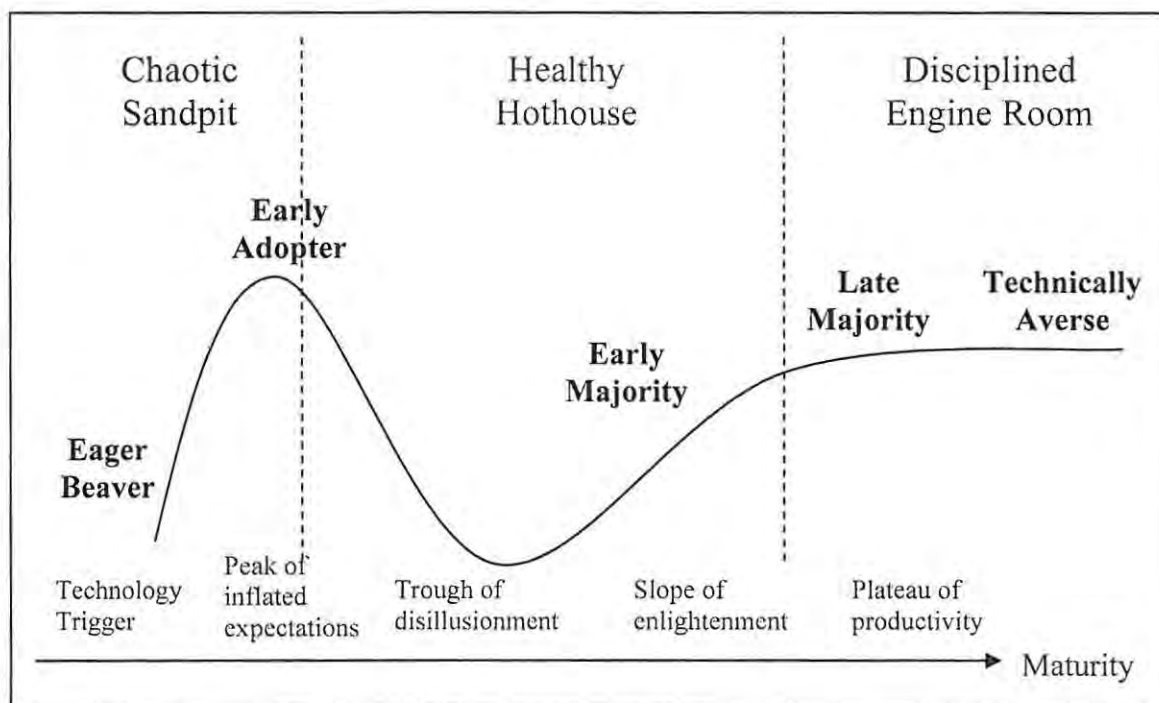


Figure 5.3: Combination of the Five Categories of Adopters (McNurlin and Sprague in Tam, 2001: 37) and the Framework for Managing Technology Adoption in Higher Education (Zastrocky *et al*, 2007: 3).

These models provide useful categories used to analyse types of adopters with regards to maturity of technology and risk. These categories of users affect the adoption of SNSs in a similar fashion.

5.4.4. Model of Technology Adoption

Czaja *et al* (2006: 334) believe that adoption of technology is a complex issue, and propose a model of technology adoption that includes:

- Social/demographic and person variables (age and education)

- Attitudinal variables (computer anxiety)
- Fluid intelligence (problem-solving, learning and pattern recognition) and crystallised intelligence (specific, acquired knowledge)

The relationships between these factors are illustrated in Figure 5.4.

Czaja *et al* (2006: 334) propose the following points in their model regarding the adoption of technology:

- Age is negatively associated with computer knowledge and computer interest and positively associated with computer anxiety.
- Higher levels of computer knowledge are related to less computer anxiety and higher computer interest.
- Cognitive abilities (fluid and crystallised intelligence) are positively related to technology adoption.
- Education is positively associated with computer knowledge and computer interest and negatively associated with computer anxiety.
- Age is negatively related to technology adoption.
- Education is positively related to technology adoption.
- Computer efficacy is positively related to technology adoption.
- Computer anxiety is negatively related to technology adoption.

Since these variables play an important role in the adoption of technology, they have a similar effect on the adoption of SNSs. Age, education levels, technology experience and intelligence levels will affect the adoption and use of SNSs.

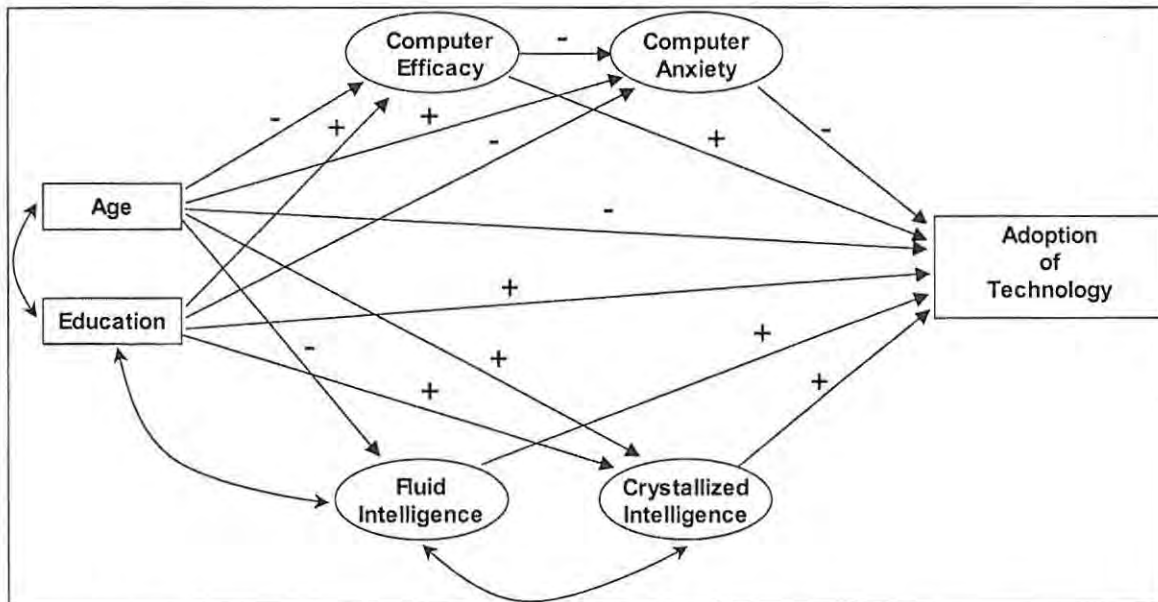


Figure 5.4: Model of the relationships among social/demographic variables, computer attitude variables, cognitive ability variables, and adoption of technology (Czaja *et al*, 2006: 335).

5.5. Other Suggestions for Use of SNSs

5.5.1. Suggestions for Anxiety Management

Christensen (2002: 431) believes that teacher training fosters meaningful use of computers and related technologies in classrooms. However, since older adults reported higher levels of computer anxiety than did younger adults, computer training should focus on training techniques that reduce anxiety about computers as well as provide computer skills training (Czaja *et al*, 2006: 348). This training should be conducted in a relaxed and supportive environment that allows sufficient time so that trainees are not rushed (Czaja *et al*, 2006: 348). Supportive training should reduce anxiety about using computers and the Internet, resulting in improved performance among older adults (Czaja *et al*, 2006: 348). Similarly, training could be used to reduce anxiety about using SNSs.

5.5.2. Specific Guidelines for the Use of Email

Tuffley (2007: 1) states that even though there have been many attempts to establish guidelines for email etiquette, no common agreement has been forged. Netiquette (email etiquette) involves the same basic principles as etiquette: courtesy, respect and ethics (Tuffley, 2007: 1). The following email guidelines could be considered when using SNSs (Tuffley, 2007: 1):

- Do not shout at people: using all uppercase letters is the on-line equivalent of shouting. Uppercase should be used sparingly and only to emphasise certain words.
- Avoid angry outbursts: wait until you have calmed down before replying to an email.
- Do not be over-familiar with the recipient.
- Do not engage in illegal activities, these include: defamatory statements, discrimination and illegal information.
- Remember that email and SNSs are not confidential; it is easy for your messages to be read without your knowledge so avoid saying anything that can't be read by others.

Rinaldi (2008: 1) agrees with most of these guidelines, and suggests the following points of good practice:

- Use humour and sarcasm with care.
- Avoid sending frivolous, vulgar, abusive or defamatory messages.

5.5.3. Specific Guidelines for the Use of Networks

The West Virginia Department of Education (2001: 5) suggest the following guidelines be followed when using networks:

- Be polite: do not write or send abusive messages to others.
- Use appropriate language: do not swear or use any other inappropriate language.
- Do not reveal the personal home address or phone number of students or colleagues.

These guidelines (email and networks) are general and focus on maintaining normal courtesy, respect and ethics and therefore, should be carefully considered when using SNSs.

5.5.4. The Constructivist Approach

Bruner in Connell (1994: 2) believes that a constructivist approach may be the best way to embed Internet technology in school curricula. In a constructivist model, a student-centred classroom, as opposed to a teacher-centred classroom, is the main objective (Connell, 1994: 2). The role of the teacher changes from instructor, to facilitator and coach, as the teachers' main goal is to empower students (Connell, 1994: 2). Teachers need to help students acquire the following skills in order for this approach to be effective (Connell, 1994: 2):

- Critical thinking skills: includes abstract thinking, problem solving and inference. Students need to use these skills to sift through large amounts of information to find

the most current, relevant and useful information. In order to master critical thinking skills, students need to form some concept of value/relevant/accurate information and practise sifting through information to find the best answer according to their pre-conceived guidelines.

- Collaborative and integrative skills: include the ability to synthesise different types of sources (oral, print, graphic) and then organise the information for presentation. These skills may be mastered by collective problem solving, group decision-making, and collaborative design.
- Responsibility. On the Internet, teachers are able to set up exercises in which students exchange opinions on controversial subjects via email, participate in online discussions and simulations, and conduct collaborative research with academic experts. Teachers can help students improve responsibility skills by developing activities that put students in charge of their own learning while they interact with existing knowledge.

If students use SNSs well, then they should display the skills mentioned in the constructivist approach: critical thinking, collaboration and integration, and responsibility. These skills could possibly be used to measure successful use of SNSs.

5.6. Conclusion

Various suggestions for effective use and adoption of new technologies have been analysed in this chapter; these suggestions can be used as a basis for guidelines for recommended use of SNSs. These models address the following issues: various types of adopters and the concerns they have about technology; technology adoption in higher education; computer anxiety issues; specific guidelines for effective use of email and networks; as well as general pointers on how to be respectful, courteous and ethical when using various forms of technology. These issues have often prevented the effective use and adoption of technologies like email and the Internet, and should be considered carefully when using and adopting SNSs.

Chapter 6: Theoretical Framework for Perceived Successful Use of SNSs

This chapter proposes guidelines for perceived successful use of SNSs in education. Various aspects from previous chapters are synthesised into guidelines in order to promote successful use of SNSs between teachers/lecturers and students. Characteristics of SNSs used to measure perceived successful use are discussed, and finally, hypotheses relating to perceived successful use of SNSs are defined.

6.1. Introduction

In chapter 3, negative characteristics affecting the use of SNSs were discussed. Suggestions and guidelines (in chapter 4) addressed most of these negative characteristics experienced by SNS users, allowing users to overcome negative aspects of social networking. Factors affecting use and adoption of technology were discussed in chapter 5. These factors, together with the previously negative characteristics of SNSs, form the basis of guidelines for perceived successful use of SNSs in education. The objective of these guidelines is to promote perceived successful use of SNSs between:

- Students and teachers/lecturers
- Students and students
- Teachers and teachers

Positive characteristics of SNSs were discussed in chapter 3. These characteristics can be used as a measure of perceived successful use of SNSs in education. If the guidelines (negative characteristics to be aware of and factors affecting use and adoption of technology) are followed by users, then social networks in education will be used successfully. In order to determine whether perceived successful use of SNSs has been achieved, the positive characteristics of SNSs must be realised by users of these sites.

This chapter presents a theoretical framework for perceived successful use of SNSs. The framework comprises a number of guidelines, as well as a set of appropriate measures of perceived successful use of SNSs. Finally, hypotheses relating to perceived successful use are defined.

6.2. Negative Characteristics of SNSs

Users need to overcome negative characteristics of social networking in order to achieve successful use of SNSs. A summary of these negative characteristics (repeated for convenience) can be found in Table 6.1.

Negative Characteristics of SNSs	Explanation	References
Lack of privacy and security	SNSs are troubled by a lack of privacy and users of these sites suffer from the subsequent security issues.	Boyd and Ellison (2008); Valdes (2007); Gross and Aquisti (2005); Dwyer <i>et al</i> (2007); Parameswaran and Whinston (2007); Walls (2007); McCracken (2008) and Krieglstein (2008)
Legal and regulatory matters	SNSs are being used to perform a number of activities that are considered illegal in many jurisdictions.	Parameswaran and Whinston (2007); Walls (2007); Facebook (2007); Snyder <i>et al</i> (2007); Dwyer <i>et al</i> (2007) and Krieglstein (2008)
Suspect information quality	Some SNSs carry unreliable information of a poor quality.	Clyde (2005); Desisto and Smith (2008) and Walls (2007)
Lack of personal and professional time management	Students are tempted to use social networks when they should be working.	Bradley (2008)
Much participant behaviour to govern	It is difficult to govern SNSs as there are so many people using them.	Bradley (2008) and Krieglstein (2008)
Cultural barriers exist as sites are not suited to all cultures	People adopt technology in different ways depending on their culture and education.	Tebbutt (2005); Tam (2001) and Berson and Berson (2003)
Lack of professionalism	SNSs have the potential to damage professional relationships between teachers and students by making them too social.	Hewitt and Forte (2006); Mazer <i>et al</i> (2007); Facebook (2007); Krieglstein (2008) and Lipka (2007)

Inappropriate use of others' personal information	An ethical issue arises when educators view personal information about students on social network sites that they would not normally be aware of.	Rimmer (2007); Snyder <i>et al</i> (2007); Lipka (2007) and Krieglstein (2008)
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Table 6.1: Negative Characteristics of SNSs

6.3. Factors affecting Adoption and Use of SNSs

In chapter 5, guidelines for adoption and use of technology were discussed. These factors also affect adoption and use of SNSs. A summary of these factors (repeated for convenience) can be found in Table 6.2.

Factors affecting Adoption and Use of SNSs	Explanation	References
Age of the user	Older adults have more difficulty than younger people in learning to use and operate current technologies.	Czaja <i>et al</i> (2006)
Level of education of the user	People who are less educated report less use of technology in general and less experience using computers and the Internet.	Czaja <i>et al</i> (2006) and Martins and Oliveira (2008)
Experience (computer literacy skills) of the user	Computer literacy skills are necessary for effective use of technology in classrooms.	Czaja <i>et al</i> (2006); Martins and Oliveira (2008) and Christensen (2002)
Etiquette of the user	Basic principles of courtesy, respect and ethics should be followed when using social network sites.	Tuffley (2007)

Intelligence of the user	Cognitive abilities (fluid and crystallised intelligence) are positively related to technology adoption.	Czaja <i>et al</i> (2006)
Training of the user	Teacher training fosters meaningful use of computers and related technologies in classrooms.	Christensen (2002) and Czaja <i>et al</i> (2006)
Attitude towards application of the user	Successful use of computers in the classroom is dependent on positive teacher attitudes towards computers.	Christensen (2002)
Level of access (broadband) available to the user	Technical capacity (broadband) is positively associated with the intensity of social computing.	Martins and Oliveira (2008)
Ease of use	Social networking technologies are intended to be easy to learn and use.	Social Computing Group (2007)
Range of functions	Growth on MySpace occurred because the site differentiated itself by regularly adding features based on user demand.	Boyd and Ellison (2007)
Current and controversial issues	Social network sites are used to cover political events, publicly share information and opinions about nearly everything.	Yap <i>et al</i> (2005)

Table 6.2: Factors affecting Adoption and Use of SNSs

6.4. Guidelines for Successful Use of SNSs

The factors affecting use and adoption of SNSs, together with the previously negative characteristics of SNSs, form the basis of guidelines for perceived successful use of SNSs in education. These guidelines should be followed in order to achieve perceived successful use of social computing.

6.4.1. Privacy and Security Measures

- Set appropriate security settings on their site to prevent security risks (Walls, 2007: 3)
- Be accountable for your own security (Walls, 2007: 3)
- Be discrete with personal information (telephone number, home address etc) (McCracken, 2008: 13)
- Make sure that any content on your profile is suitable enough to be viewed by others (Krieglstein, 2008: 1)
- Never misrepresent yourself by using a false name or persona (Krieglstein, 2008: 1)

6.4.2. Legal and Acceptable Activities

- Ensure that any activities performed are legal (Facebook, 2007)
- Conform to site regulations (Snyder *et al*, 2007: 8)
- Understand the “terms of acceptable use” on the site (Facebook, 2007)
- Behave ethically (Snyder *et al*, 2007: 8)
- Do not use social networks as information-gathering tools (Snyder *et al*, 2007: 8)
- Be aware that that interactions on the site are monitored and recorded (Dwyer *et al*, 2007: 2)
- Never misrepresent yourself by using a false name or persona (Krieglstein, 2008: 1)
- Faculty should not explore students profiles (Lipka, 2007: 2)
- Use information discovered on profiles judiciously and for educational purposes (Krieglstein, 2008: 1)

6.4.3. Suspect Information

- Understand that information found on these sites may not be reliable (Walls, 2007: 4)
- Analyse information carefully before using it (Walls, 2007: 4)

6.4.4. Personal and Professional Time

- Have two profiles, this enables people to keep work contacts and personal contacts separate
- Use your work profile during work hours and your social profile during your social time (Bradley, 2008: 4)

6.4.5. Types of Adopters/Cultures

- Be aware that various cultures adopt technology in different ways (Tam, 2001: 47)
- People have different comfort levels when adopting technology (Tam, 2001: 47)
- Be patient (Berson and Berson, 2003: 166)
- Teachers should show support for different interpretations of information (Berson and Berson, 2003: 166)

6.4.6. Professional and Ethical Behaviour

- Behave appropriately on SNSs (Mazer *et al*, 2007: 12)
- Follow “terms of acceptable use” (Facebook, 2007)
- Respect others’ privacy (Mazer *et al*, 2007: 12)
- Do not keep official course work (feedback on assignments) on SNSs (Krieglstein, 2008: 1)
- Do not let usage of sites influence course grades (Krieglstein, 2008: 1)
- Be consistent when “friending” students/teachers (either accept all or none) (Krieglstein, 2008: 1)
- Teachers should not extend friend requests to students (wait for them to invite you) (Krieglstein, 2008: 1)
- Faculty should avoid association with groups that might compromise the student-teacher relationship (Krieglstein, 2008: 1)
- Limit your profile to information relevant to educational purposes (Krieglstein, 2008: 1)
- Exercise discretion when using social networks for personal communications (Krieglstein, 2008: 1)
- Remember that faculty behaviour on social networks may be used as a model by students (Krieglstein, 2008: 1)
- Never misrepresent yourself by using a false name or persona (Krieglstein, 2008: 1)
- Keep the same ethical educational practices that you would normally follow face-to-face (Krieglstein, 2008: 1)
- Faculty should not explore students profiles (Lipka, 2007: 2)

6.4.7. Computer Literacy Skills

- Higher levels of computer knowledge are related to less computer anxiety and higher computer interest (Czaja *et al*, 2006: 334)
- Adequate computer literacy skills, is a major requirement to incorporate technology successfully into the classroom (Christensen, 2002: 412)

6.4.8. Positive Attitude

- Successful use of computers in the classroom is dependent on positive teacher attitudes towards computers (Christensen, 2002: 411)

6.4.9. Technical Capacity (broadband)

- Technical capacity (broadband) is positively associated with the intensity of social computing (Martins and Oliveira, 2008: 31)

6.4.10. Ease of Use

- Social networking technologies are intended to be easy to learn and use (Social Computing Group, 2007: 3), and are consequently being used by people to communicate with each other in a fast and cost-effective manner.

6.4.11. Range of Functions

- Growth on MySpace occurred because the site differentiated itself by regularly adding features based on user demand (Boyd and Ellison, 2007: 217).

6.4.12. Current and Controversial Issues

- SNSs are used to cover political events, publicly share information and opinions about nearly everything, and are increasingly being used for more formal purposes in education (Yap *et al*, 2005: 53).

6.5. Positive Characteristics used to measure Perceived Successful Use of SNSs

In order for the proposed guidelines to be effective, the following characteristics of perceived successful use of SNSs must be present. Perceived successful use of SNSs is measured by the extent to which:

- A range of content is available (Parameswaran and Whinston, 2007: 769)
- Visitors can be monitored (Valdes, 2007: 11)
- Social contracts are followed (Snyder *et al*, 2007: 9)
- Accurate information is displayed (Desisto and Smith, 2008: 3)
- Work is complete (Snyder *et al*, 2007: 9)
- A variety of users is present (Mann, 2008: 4)
- Collaboration between users exists (Yap *et al*, 2005: 55)
- A variety of opinions is enabled (Mann, 2008: 4)
- The accumulation of social capital (thereby increasing self-esteem and life satisfaction) is promoted (Ellison *et al*, 2007: 1162)
- Critical thinking skills are promoted (Connell, 1994: 2)
- Learning and motivation are enhanced (Mazer *et al*, 2007: 1)
- Advising skills are enhanced (Lipka, 2007: 3)

6.6. Theoretical Framework for Perceived Successful Use of SNSs

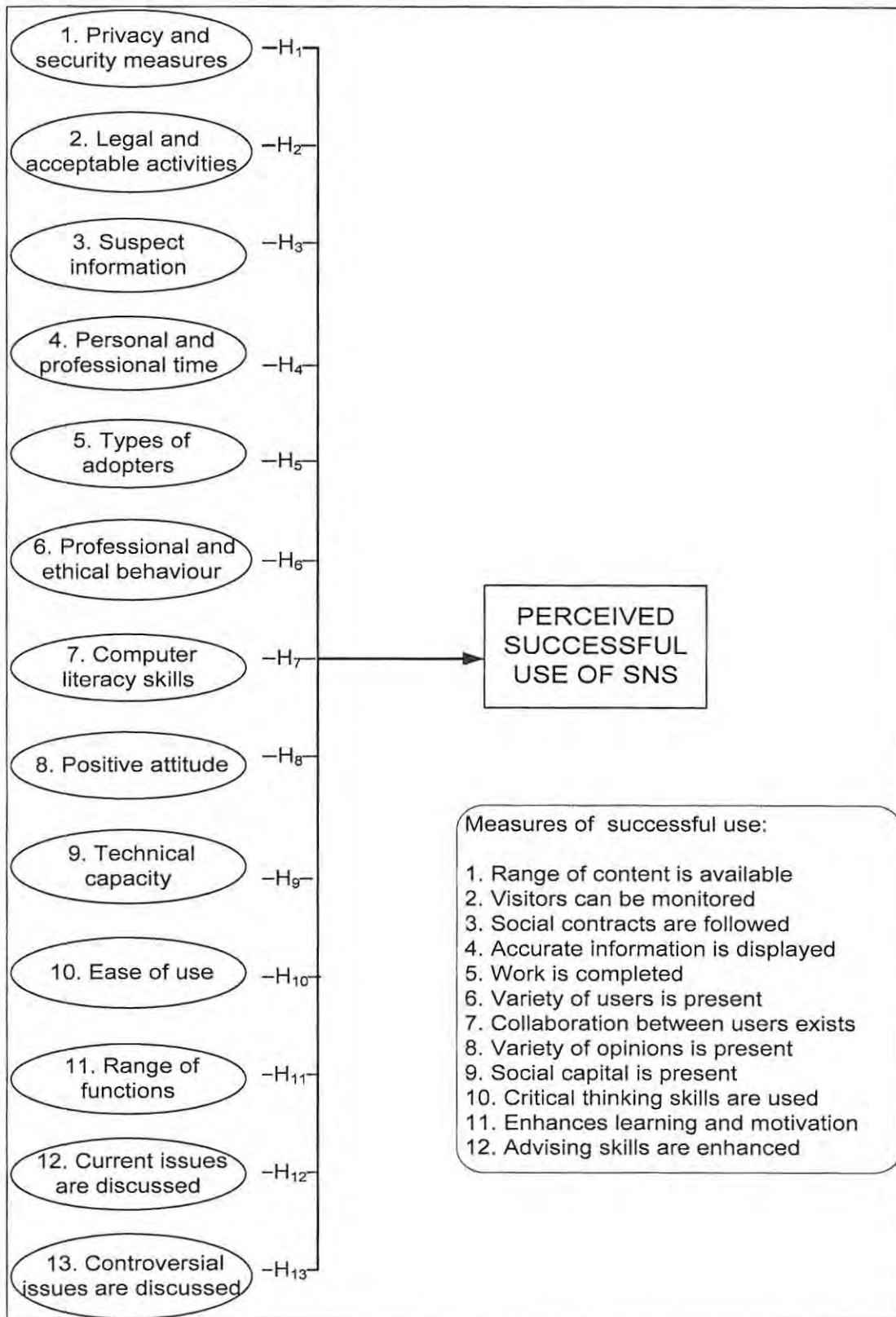


Figure 6.1: Theoretical Framework for Perceived Successful Use of SNSs

6.7. Detailed Hypotheses

The hypotheses in this study are tested against the dependent variable: perceived successful use of SNSs.

Hypothesis 1: Appropriate Privacy and Security Measures

- **H0₁:** There is no relationship between appropriate privacy and security measures and perceived successful use of SNSs.
- **H1₁:** There is a relationship between appropriate privacy and security measures and perceived successful use of SNSs.

Hypothesis 2: Legal and Acceptable Activities

- **H0₂:** There is no relationship between practising legal and acceptable activities and perceived successful use of SNSs.
- **H1₂:** There is a relationship between practising legal and acceptable activities and perceived successful use of SNSs.

Hypothesis 3: Suspect Information

- **H0₃:** There is no relationship between analysing suspect information before use and perceived successful use of SNSs.
- **H1₃:** There is a relationship between analysing suspect information before use and perceived successful use of SNSs.

Hypothesis 4: Personal and Professional Time

- **H0₄:** There is no relationship between managing personal and professional time and perceived successful use of SNSs.
- **H1₄:** There is a relationship between managing personal and professional time and perceived successful use of SNSs.

Hypothesis 5: Various types of Adopters/cultures

- **H0₅:** There is no relationship between understanding various adopters/cultures and perceived successful use of SNSs.
- **H1₅:** There is a relationship between understanding various adopters/cultures and perceived successful use of SNSs.

Hypothesis 6: Professional and Ethical Behaviour

- **H0₆**: There is no relationship between practising professional and ethical behaviour and perceived successful use of SNSs.
- **H1₆**: There is a relationship between practising professional and ethical behaviour and perceived successful use of SNSs.

Hypothesis 7: Computer Literacy Skills

- **H0₇**: There is no relationship between computer literacy skills and perceived successful use of SNSs.
- **H1₇**: There is a relationship between computer literacy skills and perceived successful use of SNSs.

Hypothesis 8: Attitude towards Technology

- **H0₈**: There is no relationship between attitude towards technology and perceived successful use of SNSs.
- **H1₈**: There is a relationship between attitude towards technology and perceived successful use of SNSs.

Hypothesis 9: Technical Capacity

- **H0₉**: There is no relationship between technical capacity and perceived successful use of SNSs.
- **H1₉**: There is a relationship between technical capacity and perceived successful use of SNSs.

Hypothesis 10: Ease of Use

- **H0₁₀**: There is no relationship between ease of use and perceived successful use of SNSs.
- **H1₁₀**: There is a relationship between ease of use and perceived successful use of SNSs.

Hypothesis 11: Range of Functions

- **H0₁₁**: There is no relationship between functionality and perceived successful use of SNSs.
- **H1₁₁**: There is a relationship between functionality and perceived successful use of SNSs.

Hypothesis 12: Current Issues

- **H0₁₂**: There is no relationship between discussing current issues and perceived successful use of SNSs.
- **H1₁₂**: There is a relationship between discussing current issues and perceived successful use of SNSs.

Hypothesis 13: Controversial Issues

- **H0₁₃**: There is no relationship between discussing controversial issues and perceived successful use of SNSs.
- **H1₁₃**: There is a relationship between discussing controversial issues and perceived successful use of SNSs.

6.8. Summary of Hypotheses

The factors affecting perceived successful use of SNSs were identified and explored in previous chapters and form the basis of the theoretical framework developed in the previous chapter. These factors are now converted into a series of hypotheses that are tested in the questionnaire.

Summary of Hypotheses	
H ₁ :	<i>Implementing appropriate privacy and security measures is associated with perceived successful use of SNSs</i>
H ₂ :	<i>Practicing legal and acceptable activities on social network sites is associated with perceived successful use of SNSs</i>
H ₃ :	<i>Analysing suspect information found on social network sites before use is associated with perceived successful use of SNSs</i>
H ₄ :	<i>Managing personal and professional time is associated with perceived successful use of SNSs</i>
H ₅ :	<i>Understanding and being patient with various types of technology adopters (cultures) is associated with perceived successful use of SNSs</i>
H ₆ :	<i>Professional and ethical behaviour is associated with perceived successful use of SNSs</i>
H ₇ :	<i>Technical experience (computer literacy) is associated with perceived successful use of SNSs</i>
H ₈ :	<i>Attitude is associated with perceived successful use of SNSs</i>
H ₉ :	<i>Level of access (technical capacity) is associated with perceived successful use of SNSs</i>
H ₁₀ :	<i>Ease of use is associated with perceived successful use of SNSs</i>
H ₁₁ :	<i>Functionality is associated with perceived successful use of SNSs</i>
H ₁₂ :	<i>Discovering current issues is associated with perceived successful use of SNSs</i>
H ₁₃ :	<i>Discussing controversial issues is associated with perceived successful use of SNSs</i>

Table 6.3: Summary of Hypotheses

6.9. Conclusion

Various characteristics of SNSs as well as factors affecting adoption and use of these sites were discussed and synthesised into guidelines for perceived successful use of SNSs. Characteristics used to measure perceived successful use of sites were also included. A visual representation of these guidelines and measures was provided in order to explain the relationship between guidelines (factors of perceived successful use) and perceived successful use of SNSs. Hypotheses based on the theoretical framework were also defined.

Chapter 7: Design of the Experiment

Chapter 6 described the formulation of the theoretical framework: Perceived Successful Use of SNSs. This chapter discusses the survey instrument which will be used to test the theoretical framework.

7.1. Introduction

The preceding chapters described various factors that influence the use of SNSs. The factors that impact on perceived successful use of SNSs were presented in chapter 6 within the context of a theoretical framework. An empirical study is conducted to explore the framework further and the relationship between this framework and perceived successful use of SNSs. The empirical study comprises a pilot study as well as an online survey. This chapter describes the structure and context of the survey instrument.

7.2. Detailed Theoretical Framework

The following diagram elaborates on the theoretical framework developed in Chapter 6 by including the items (questions) used to test each hypothesis (termed actions in the diagram). The items used to test the measures of perceived successful use of SNSs are also included in Figure 7.1.

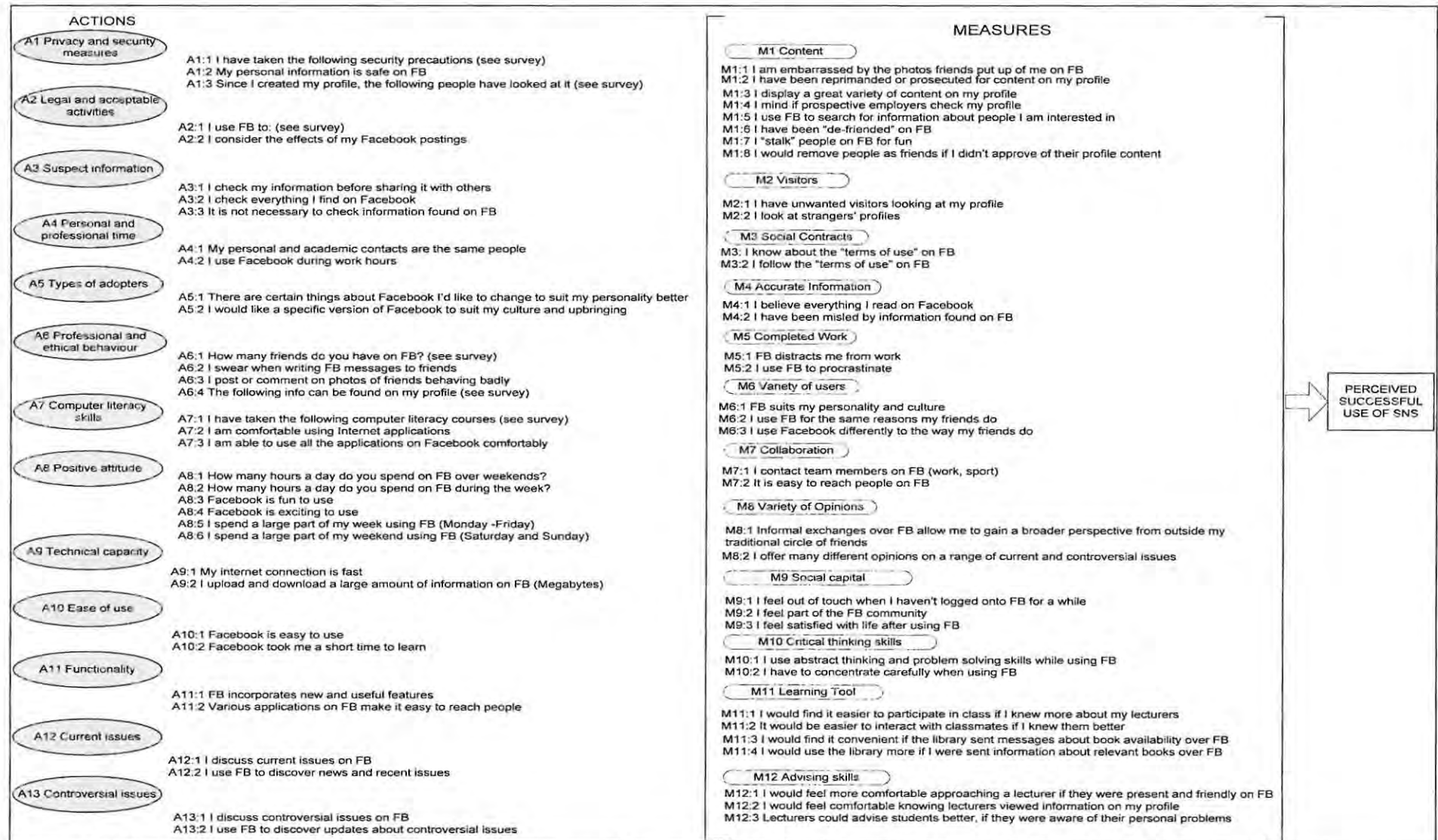


Figure 7.1: Detailed Theoretical Framework with items testing Hypotheses and the Measures of Perceived Successful Use of SNS

7.3. Methodology

A structured questionnaire was developed in order to collect data about the factors that are hypothesised to influence perceived successful use of SNSs. This section discusses the pilot study, how the population was defined, how the instrument was developed as well as the administration of the questionnaires.

7.3.1. The Pilot Study

The questionnaire was given to the Information Systems Honours class at Rhodes University to complete in order to discover any inconsistencies or problems. Twenty four hard copies of the questionnaire were handed out and 23 copies were received back from the students. However, one of the students did not use her Facebook account and, therefore, did not complete the questionnaire. As a result, 22 completed copies were received back from the students. The format of the pilot study can be found in Table 7.1. A full copy of the pilot study can be found in Appendix A.

Questionnaire
Questions 1 - 6 <i>(Demographics)</i>
Question 7 <i>(Facebook Friends)</i>
Question 8 and 9 <i>(Hours spent using Facebook)</i>
Question 10 <i>(Information displayed on profile)</i>
Question 11 <i>(People viewing profile)</i>
Question 12 <i>(Uses of Facebook)</i>
Question 13 <i>(Security Measures)</i>

<p>Question 14 <i>(Application Competency)</i></p>
<p>Question 15 <i>(Remaining Independent Variables)</i></p>
<p>Question 16 <i>(Dependent Variable – Perceived Successful Use of Social Network Sites)</i></p>

Table 7.1: Format of the Pilot Study and Online Questionnaire

The completed questionnaires were analysed using Cronbach’s Alpha Coefficient analysis and the following changes were made to the questionnaire before it was put online:

- The textbox in Question 2 was changed to a drop-down box on the online questionnaire so that it would be easier for students to select an option instead of entering text in themselves.
- The “Asian” option in Question 3 was removed because Rhodes University only uses the “Indian” option when capturing students’ demographic details.
- Question 4 was changed from “Access to a computer:” to “What is your dominant access to a computer?” as students were selecting more than one option.
- The options “4-5 hours”, “5-6 hours” and “Greater than 6 hours” were removed from Questions 8 and 9 as none of the students from the pilot study had ticked these options as they only used Facebook for shorter periods of time. These options were considered unnecessary.
- The option “Greater than 4 hours” was added to Question 8 and 9 after the option “3-4 hours” since the other options (discussed above) had been removed.

7.3.2. Online Questionnaire

An online questionnaire was developed and loaded onto RUconnected, an online course management system available for access by all registered students. The changes made to the pilot study were taken into account before the questionnaire was put online. A full copy of the online questionnaire can be found in Appendix B.

7.3.3. Population Studied

The survey targeted students at Rhodes University in South Africa. The online survey was open for a period of 1 week. The survey was constructed and managed by using

RUconnected, an online course management system used by Rhodes University. An advertisement for the online questionnaire was put on the main RUconnected page with a link to the questionnaire, so that any interested student at Rhodes University was able to complete it. The respondents therefore self-selected themselves. The questionnaire was available to guests (students who had not logged in to the site before), so any Rhodes students visiting the RUconnected site were able to access the questionnaire and complete it anonymously.

The survey was completed by 599 students, 12 of whom were not members of Facebook (Question 6 in the questionnaire) and therefore, their results were disregarded since the questionnaire was used to test Facebook use. Consequently, 587 completed questionnaires were used to obtain the results discussed in the remainder of this chapter.

7.3.4. The Relationship between Factors, Hypotheses and Questions

The survey questions are designed to elicit the demographic information of each respondent, to determine their behaviour as well as the content they display on SNSs and to explore the factors that are hypothesised to affect the way users behave on SNSs.

- Questions 1 to 6 address the demographic details of the respondents.
- Question 7 identifies the number of people users maintain relationships with on the sites.
- Question 8 and 9 determine the number of hours users spend using these sites during the week and over weekends.
- Question 10 gathers data about the type and amount of information people display on their profiles.
- Question 11 determines whether users are aware of other people accessing their profiles.
- Question 12 determines what activities users perform on SNSs.
- Question 13 gathers data about users' security measures and determines whether they have set their security settings or not.
- Question 14 gathers data about the computer literacy skills of users to see whether they are comfortable using SNSs.
- Question 15 measures the remaining independent variables (factors affecting perceived successful use).

- Question 16 tests the dependent variable: Perceived Successful Use of SNSs.

The relationship between the factors, hypotheses and questions are represented in Figure 7.2.

Chapter 7 – Design of the Experiment

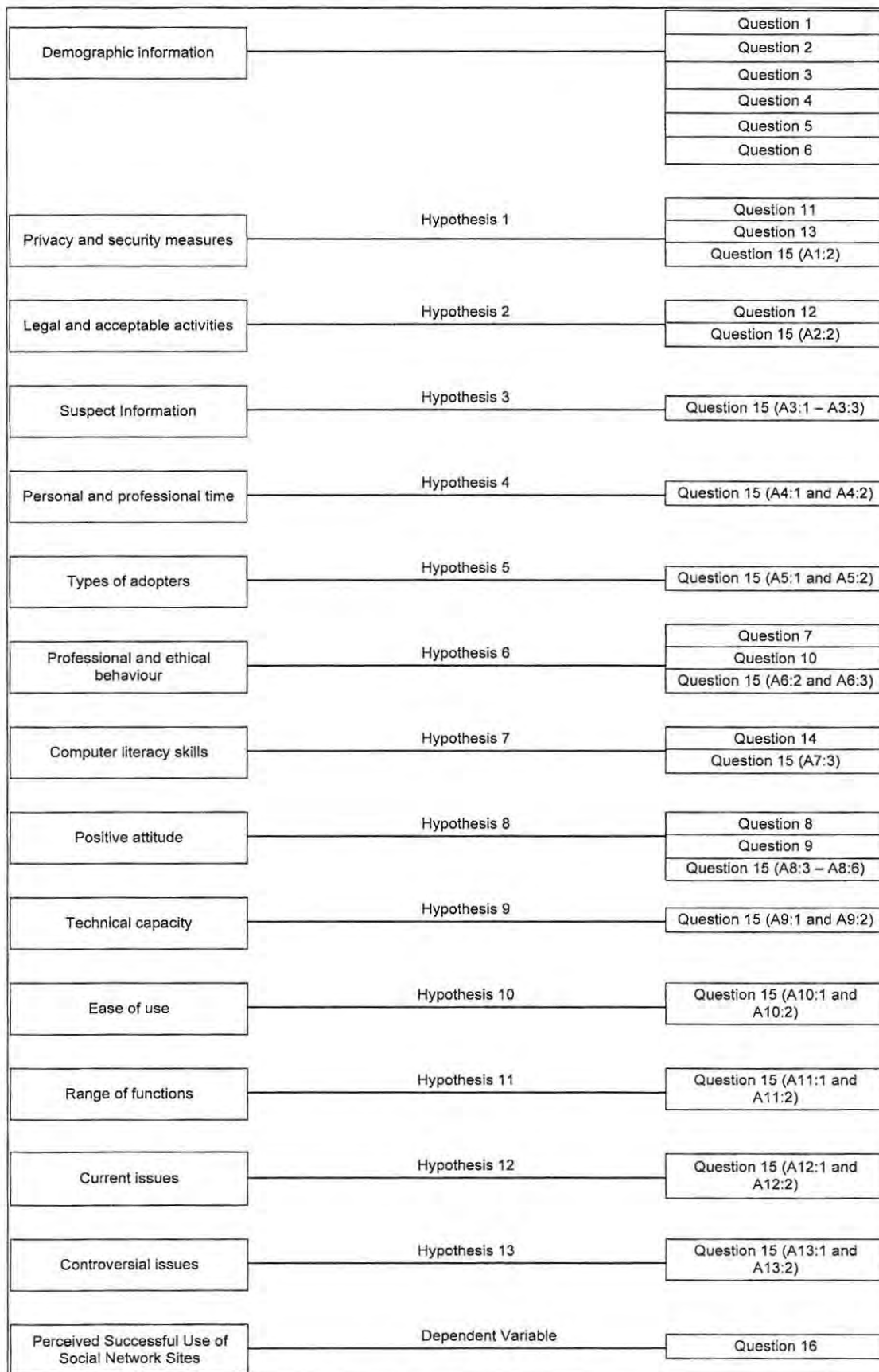


Figure 7.2: The Relationship between Factors, Hypotheses and Questions

7.4. Conclusion

This chapter provides a detailed description of the empirical study to be taken. The key factors of perceived successful use of SNSs were identified in previous chapters and were converted into 13 hypotheses. These hypotheses were then incorporated into a pilot study questionnaire as well as an online survey. The dependent variable: Perceived Successful Use of SNSs is also tested in this survey.

Chapter 8: Analysis of the Results of the Experiment

Chapter 7 presented the pilot study and online questionnaire used to test the hypotheses developed in the theoretical framework. This chapter presents the results of the experiment, along with the hypotheses test results.

8.1. Introduction

In this chapter the results of the experiment discussed in chapter 7 are presented. The experiment consisted of an online questionnaire, which was completed successfully by 587 students. A copy of the online questionnaire can be found in Appendix B.

8.2. Demographic Data

The first 5 questions of the survey addressed the respondents' demographic details. These questions were designed to gather information about the respondents' gender, age, ethnicity, access to a computer and their academic year of study.

Question 1: What is your gender:

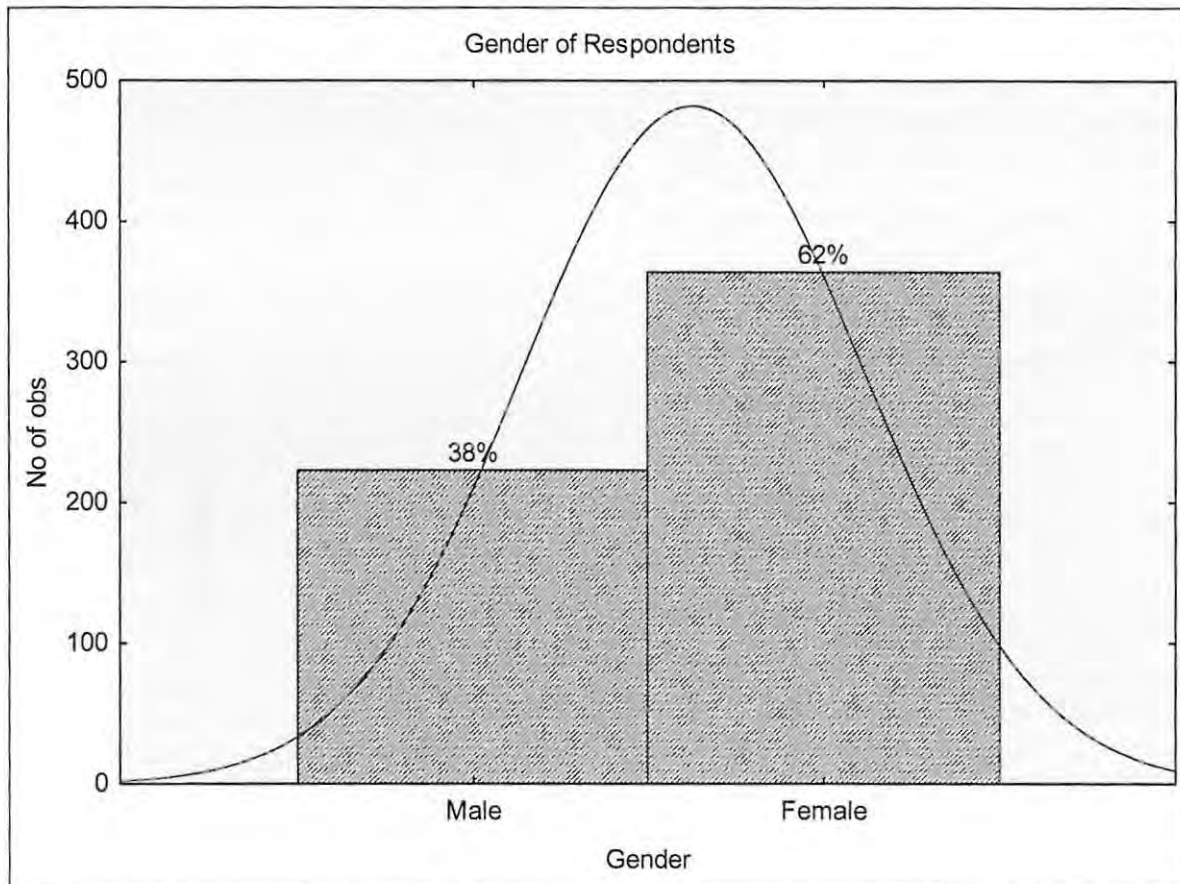


Figure 8.1: Gender of Respondents

The majority of respondents (62%) are female, while males comprise 38% of the respondents. This is consistent with the gender composition of all students at Rhodes University in 2007:

Gender	Number of students	Percentage
Male	2565	42%
Female	3504	58%
Total	6069	100%

Table 8.1: Gender Composition of Rhodes University Students (Rhodes University, 2007)

Question 2: What is your age:

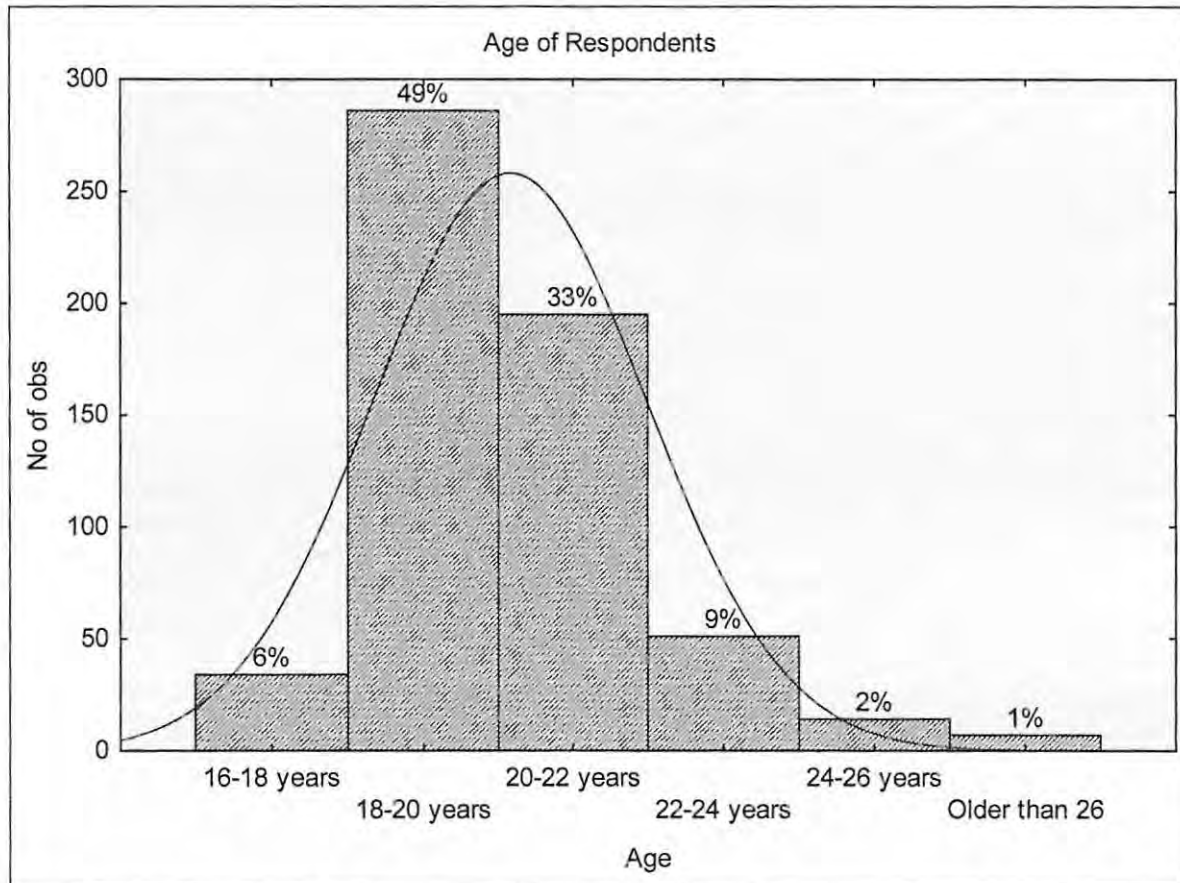


Figure 8.2: Age of the Respondents

The majority of the respondents (49%) indicated that they were between 18-20 years old. Thirty-three percent indicated that they were between 20-22 years old, 9% indicated that they were between 22-24 years old, 6% indicated that they were between 16-18 years old, 2% indicated that they were between 24-26 years old, and 1% indicated that they were older than 26.

Question 3: Demographics:

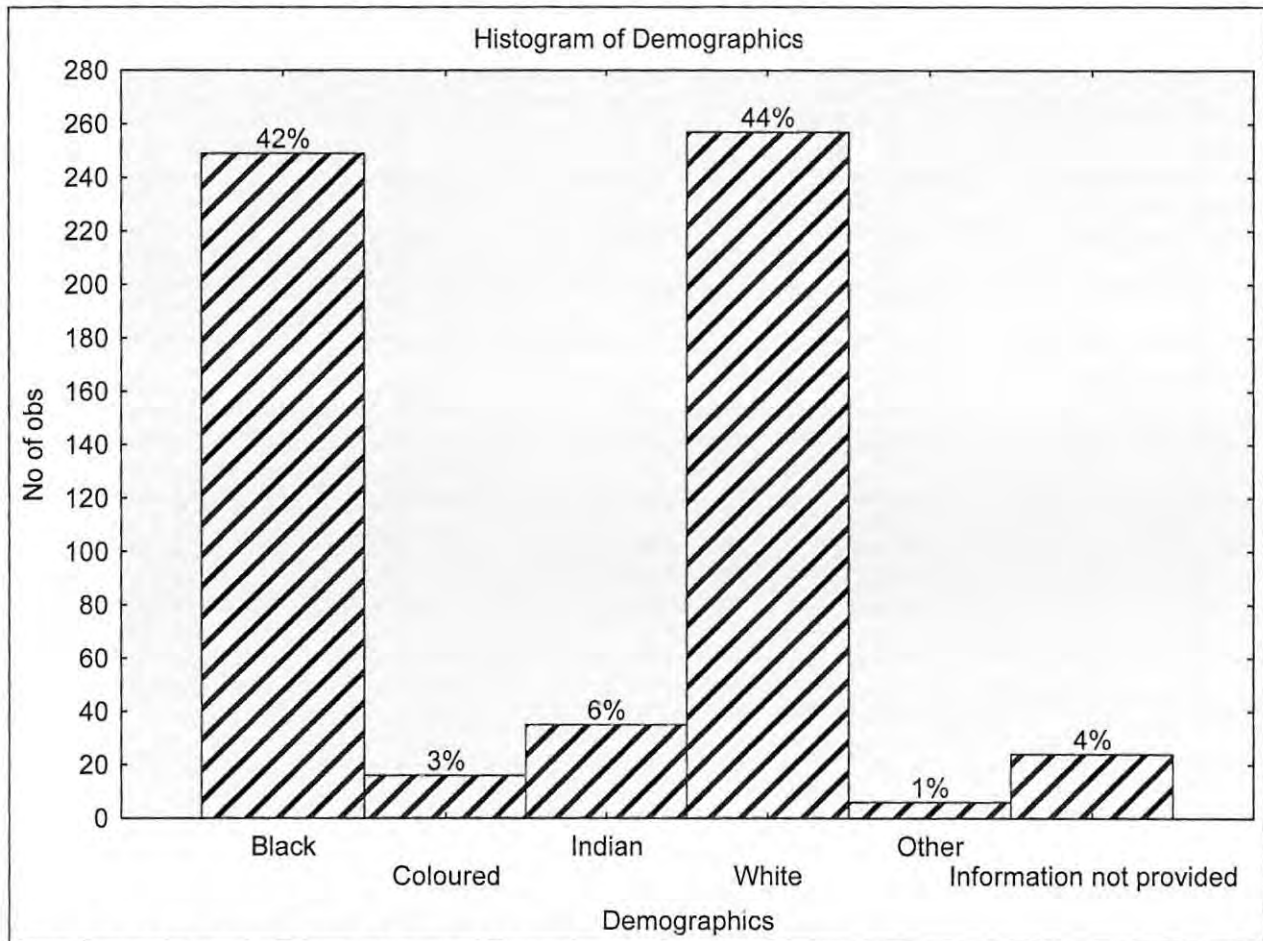


Figure 8.3: Demographics of Respondents

The majority of the respondents were White (44%) and Black (42%). Six percent were Indian, 4% did not provide their demographic details, 3% were coloured, and 1% were of some other group. This is to be expected since the racial composition of all students at Rhodes University in 2007 was as follows:

Race	Number of students	Percentage
Indian	329	5%
African	2554	42%
Coloured	233	4%
White	2953	49%
Total	6069	100%

Table 8.2: Racial Composition of Rhodes University Students (Rhodes University, 2007)

Question 4: What is your dominant access to a computer:

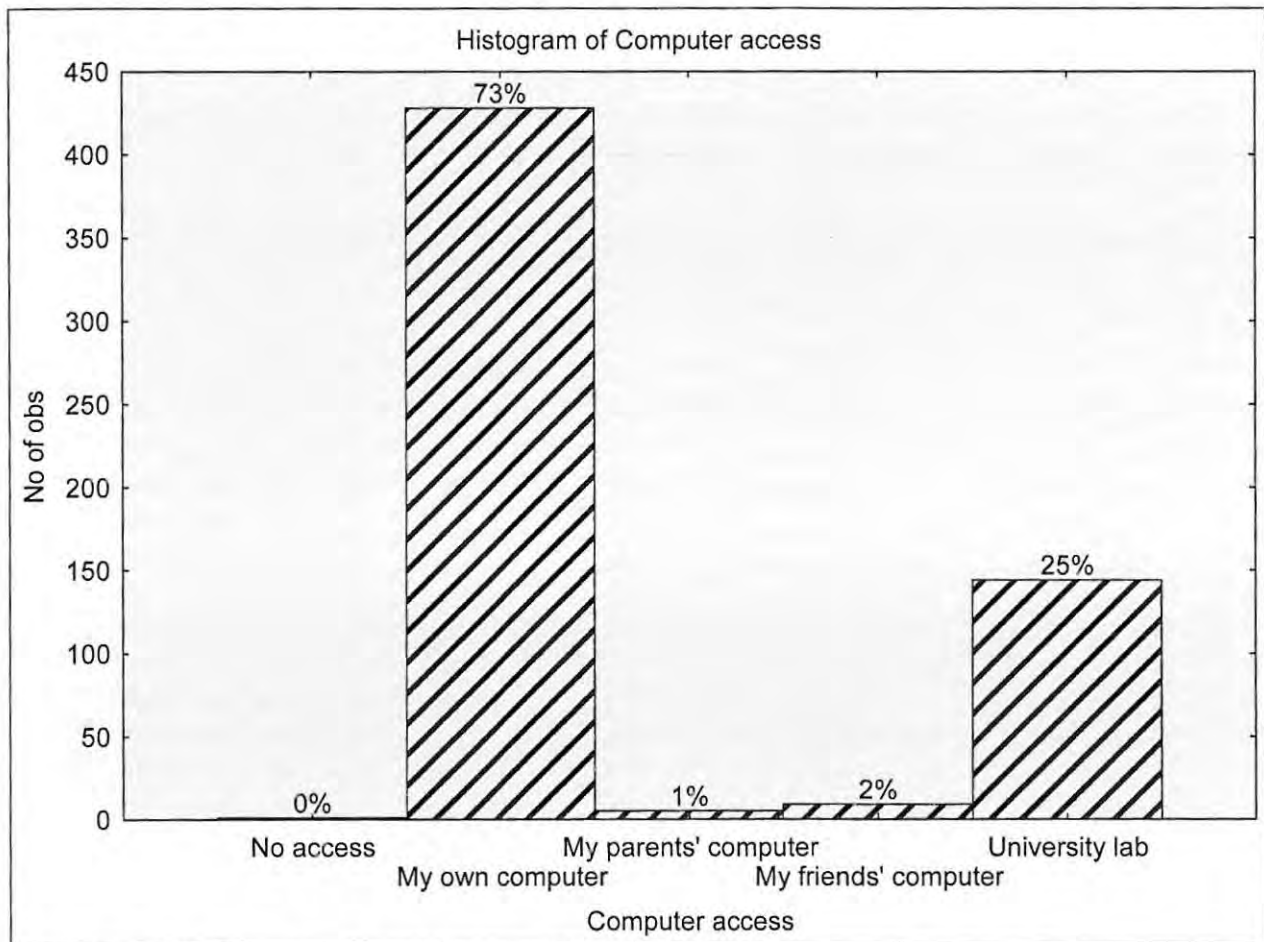


Figure 8.4: Dominant Computer Access of Respondents

The majority of respondents (73%) use their own computers, 25% use computers provided by Rhodes University, 2% use a friends' computer, 1% use their parents' computer and 0% have no access to a computer.

Question 5: Your academic year of study:

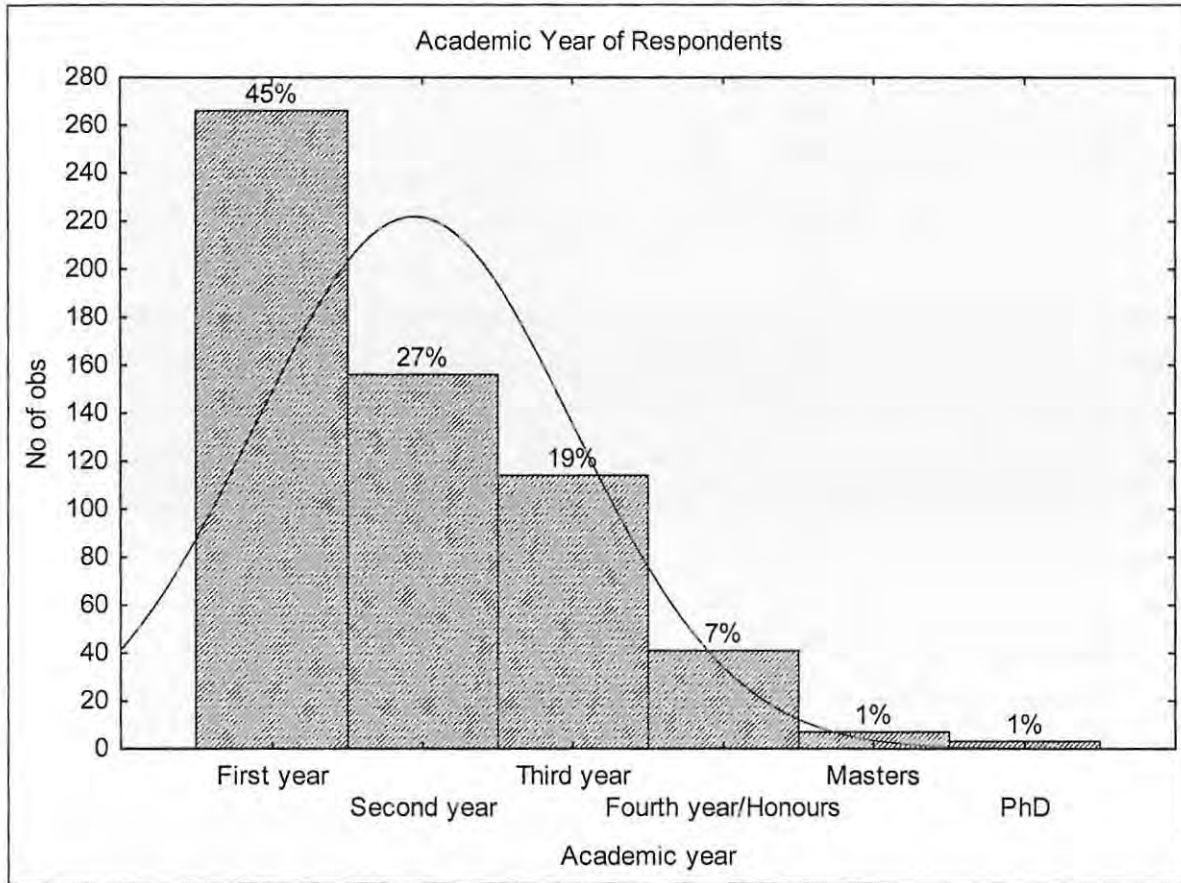


Figure 8.5: Academic Year of Respondents

The majority of respondents (45%) comprised first year students, 27% were second year students, 19% were third year students, 7% were Honours students (Fourth Year), 1% were Masters students, and 1% were PhD students. These statistics are consistent with registered students by qualification type at Rhodes University in 2008:

Qualification Type	Academic Year	Number of students	Percentage
Undergrad certificate	Undergraduate students (1 st year – 3 rd year)	334	5%
General Bachelors		3423	54%
Professional Bachelors		1128	18%
Postgraduate Diplomas	4 th year students	194	3%
Honours		402	6%
Masters	Masters	637	10%
PhD	PhD	240	4%
Total		6358	100%

Table 8.3: Qualification Composition of Rhodes University Students (Rhodes University, 2008)

8.3. Total Facebook Friends

Question 7: About how many total Facebook friends do you have?

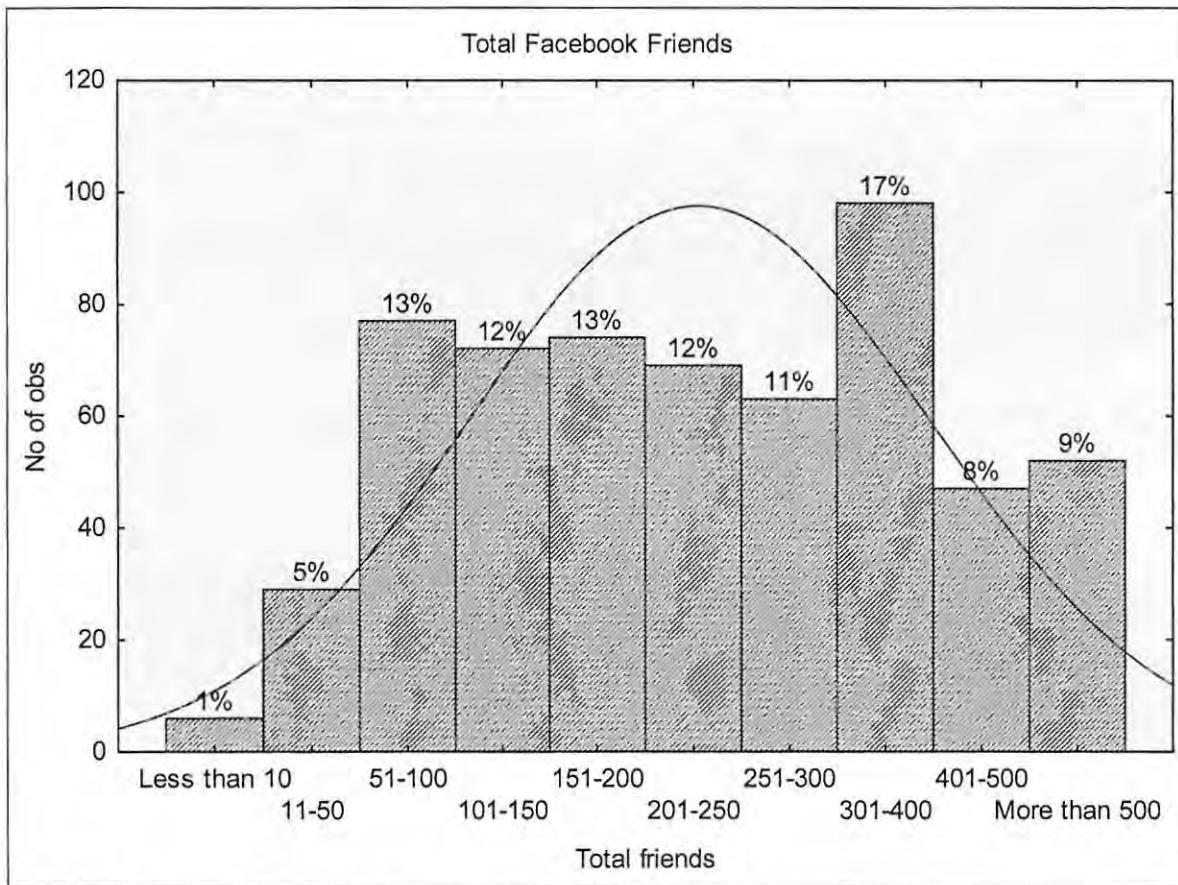


Figure 8.6: Total Facebook Friends

Figure 8.6 illustrates the total number of friends that students have on Facebook. A large number of students seem to have between 301 - 400 friends on Facebook, while the average total number of friends is between 201 – 250 friends.

8.4. Hours Spent Using Facebook

Question 8: How many hours do you typically spend using Facebook each day during a typical weekend?

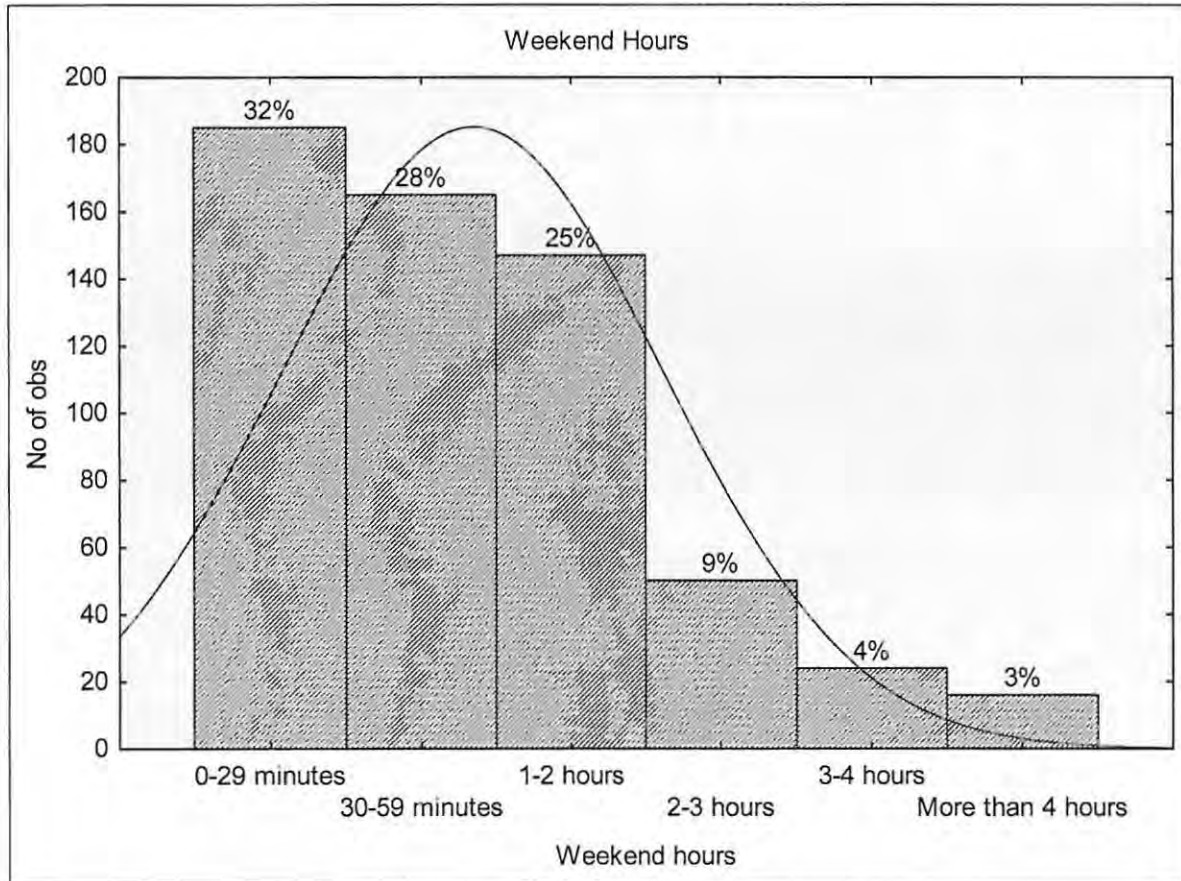


Figure 8.7: Hours spent using Facebook per Day during Weekends

Figure 8.7 illustrates the number of hours students spend using Facebook per day over weekends. The majority of students spend less than 2 hours a day using Facebook over weekends.

Question 9: How many hours do you typically spend using Facebook each day during a typical week day?

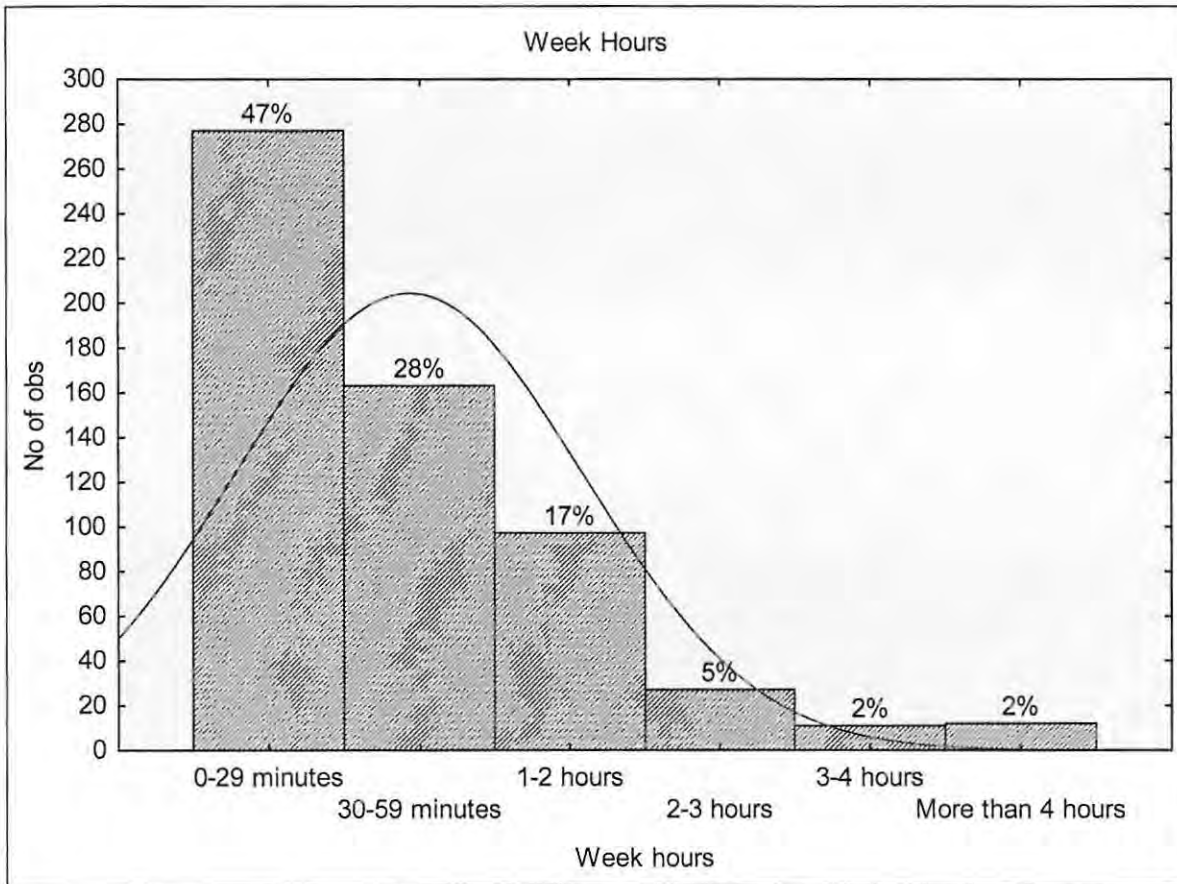


Figure 8.8: Hours spent using Facebook per Day during the Week

Figure 8.8 illustrates the number of hours students spend using Facebook per day during the week. Most students seem to spend less than an hour on Facebook per day during the week.

8.5. Information Displayed on Facebook Profiles

Question 10: Indicate the likelihood of you including the following information in your Facebook profile:

Specific cases of profile information include: contact details, sexual orientation, high school, classes, likes and dislikes, work information, photos, relationship status, birthday and sport information. The results of these specific cases can be found in Appendix C. The results in Appendix C indicate that students are likely to display their sexual orientation, their high school, their likes and dislikes, photos, their birthday and their relationship status; while they were ambivalent about displaying their contact details, their classes, their work information and their sport information.

8.6. Viewers of Facebook Profiles

Question 11: Indicate the likelihood of the following people looking at your Facebook profile:

Individual viewers consist of: friends, family, friends-of-friends, strangers, residence wardens, lecturers, employers (recruiters) and police. The results for individual viewers may be seen in Appendix D. The results in Appendix D indicate that students think it is very likely that their friends are viewing their profiles; they think it is likely that family and friends-of-friends are viewing their profiles; they are unsure whether strangers view their profiles; and they think it is unlikely that wardens, lecturers, employers and police view their profiles.

8.7. Uses of Facebook

Question 12: Indicate the likelihood of using Facebook to:

Individual cases include: check out someone I met socially, meet new people, learn about people in classes, learn about people living near me, keep in touch with old friends, check out someone I am interested in, learn more about my lecturers, find out about university assignments and organise team meetings. Individual uses (in Appendix E) may differ from the

sum of uses. The results in Appendix E indicate that students are very likely to use Facebook to keep in touch with old school friends; they are likely to use Facebook to check out someone they met socially and learn about people they are interested in; they are ambivalent about using Facebook to find out people in their classes, find out about people living near them and to organise team meetings; and they are unlikely to use Facebook to meet new people, learn about their lecturers and to find out about university assignments.

8.8. Security Precautions

Question 13: Indicate the likelihood of taking the following security precautions:

Individual security precautions include: only friends can see my profile, friends-of-friends can see my profile, people in my networks can see my profile, people in groups I have joined can see my profile, anyone can see my profile, friends-of-friends can see my contact information, only friends can see my contact information, no one can see my contact information and I have customised my contact information so that only specific friends can see it. These individual cases can be found in Appendix F. The results in Appendix F indicate that it is likely that students have taken security precautions so that only friends can see their profile and contact information; they are unsure whether friends-of-friends, people in their networks and people in their groups can see their profile information; and they think it is unlikely that anyone can see their profile, that friends-of-friends and no one can see their contact information and that they have customised their contact information.

8.9. Application Competency

Question 14: Indicate your levels of competency with regards to the following applications:

The individual applications include: email, Internet, word processors, spreadsheets, database management systems, instant messaging applications and social network sites. These individual applications can be found in Appendix G. The results in Appendix G indicate that students are highly competent using email, Internet and word processors; they are competent using spreadsheets, instant messaging applications and social network sites; and they are ambivalent about using database management systems.

8.10. Perceived Successful Use of SNSs

Perceived successful use of SNSs is measured by the extent to which:

- A range of content is available
- Visitors can be monitored
- Social contracts are followed
- Accurate information is displayed
- Work is complete
- A variety of users is present
- Collaboration between users exists
- A variety of opinions is enabled
- The accumulation of social capital (thereby increasing self-esteem and life satisfaction) is promoted
- Critical thinking skills are promoted
- Learning and motivation are enhanced
- Advising skills are enhanced

These individual responses were gathered in question 16. To develop the measure of perceived successful use, the responses to these items were scored. This score was then used as an indicator of the level of perceived successful use of social network sites. The values for the dependent variable had a range of 0 to 175 which is derived as $35 \times (0 \text{ to } 5)$. The results of the dependent variable were as follows:

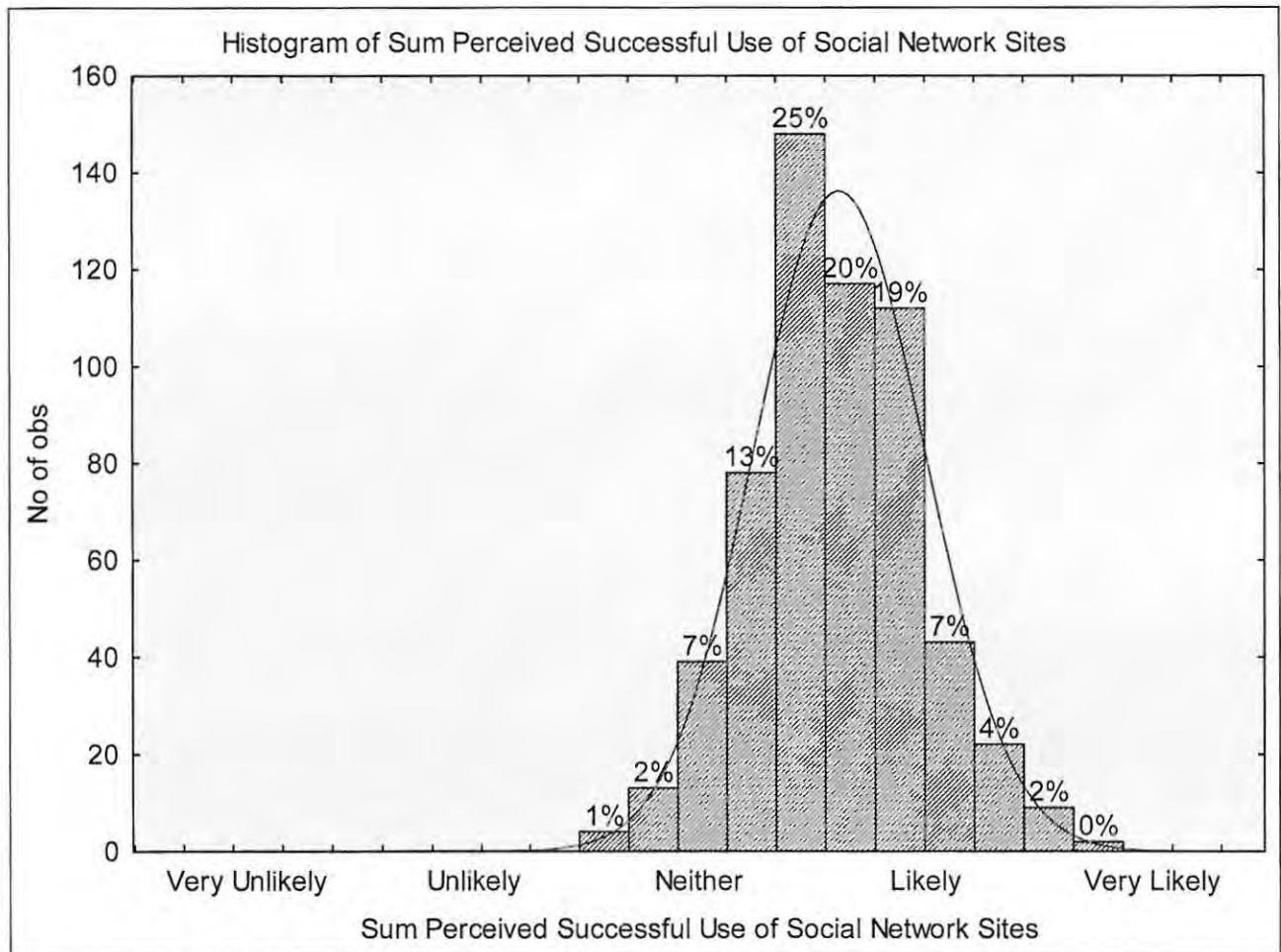


Figure 8.9: Perceived Successful Use of SNSs

8.11. Factor Analysis

Exploratory factor analysis was performed on the data collected using the online questionnaire. Initially, a maximum likelihood factor analysis is specified as the method of factor extraction and a varimax normalised rotation was undertaken to allow for inter-correlation between the factors (Statsoft, 2008). The maximum number of factors was restricted to thirteen when testing the independent factors (since these are the factors that appear as hypotheses in the theoretical framework) and twelve when testing the dependent variable (since these are the factors used to measure perceived successful use of SNSs). It was necessary to reduce the eigenvalue to 0.1 in order to get the items to load on all the factors; these eigenvalues were used in combination with the scree tests (a graphical method used to plot the eigenvalues in a simple line plot) to determine the resulting number of factors. The data was analysed to determine the highest value in each row, as this was the factor that each item loaded on the best. The majority of the items loaded higher than 0.35 on any factor; any items loading below this value were considered, but were not given as much weight as the higher factor loadings. A visual illustration of the factor loading can be seen in Appendix H and I. Appendix H illustrates the factor loadings of the Independent Factors (Hypotheses), while Appendix I illustrates the factor loadings of the Dependent Variable (Factor): Perceived Successful Use of SNSs.

8.11.1. Independent Variables

The tables below provide a summary of the factor analysis results along with changes to factor names and numbers. Table 8.4 illustrates the changes to the Independent Factors (Hypotheses), while Table 8.5 illustrates the changes to the Dependent Variable (Perceived Successful Use of SNSs). Originally 13 independent factors were identified, which were hypothesised to be associated with perceived successful use of SNSs; these have been combined and split up to form 11 independent factors.

Original Factor in Theoretical Model	New Factor Number	New Factor Name	Factor Analysis Number
1. Privacy and Security Measures	1	Privacy and Security Measures (Settings)	Factor 3
	2	Privacy and Security Measures (Viewers)	Factor 6
2. Legal and Acceptable Activities	3	Legal and Acceptable Activities (Incorporates Types of Adopters)	Factor 1
3. Suspect Information	4	Suspect Information	Factor 10
4. Personal and Professional Time	5	Personal and Professional Time	Factor 11
5. Types of Adopters	-	Combined with Legal and Acceptable Activities	-
6. Professional and Ethical Behaviour	6	Professional and Ethical Behaviour (Content)	Factor 4
	7	Professional and Ethical Behaviour (Behaviour)	Factor 9
7. Computer Literacy Skills	8	Computer Literacy Skills	Factor 2
8. Positive Attitude	9	Positive Attitude	Factor 5
9. Technical Capacity	10	Usability (Includes technical capacity, ease of use and functionality)	Factor 7
10. Ease of Use			
11. Range of functions			
12. Current Issues	11	Current and Controversial Issues	Factor 8
13. Controversial Issues			

Table 8.4: Changes to the Independent Variables/Factors (Hypotheses)

By referring to Appendix H, the following observations can be made:

- The items testing “Privacy and Security Measures” are divided into “Privacy and Security Measures (Settings)” and “Privacy and Security Measures (Viewers)”. This split can be seen by Factor 3 and Factor 6 respectively, in the factor analysis test results in Appendix H. These factors will be Factor 1 and Factor 2 once changes have been made to the theoretical framework.

- The items testing “Types of Adopters” are loading with the items testing “Legal and Acceptable Activities” on Factor 1 in the factor analysis tests. These factors are now combined to form “Legal and Acceptable Activities” which will be Factor 3 once changes have been made to the theoretical model.
- The items testing “Suspect Information” are loading on Factor 10 in the factor analysis results. “Suspect Information” will be Factor 4 once changes have been made to the theoretical framework.
- The items testing “Personal and Professional Time” are loading on Factor 11 in the factor analysis results. “Personal and Professional Time” will be Factor 5 once changes have been made to the theoretical framework.
- The factor “Types of Adopters” is now included in “Legal and Acceptable Activities” as discussed above.
- The items testing “Professional and Ethical Behaviour” are being split up into “Professional and Ethical Behaviour (Content)” and “Professional and Ethical Behaviour (Behaviour)”. This split can be seen by Factor 4 and Factor 9 respectively, in the factor analysis test results in Appendix H. These factors will be Factor 6 and Factor 7 once changes have been made to the theoretical framework.
- The items testing “Computer Literacy Skills” are loading on Factor 2 in the factor analysis results. “Computer Literacy Skills” will be Factor 8 once changes have been made to the theoretical framework.
- The items testing “Positive Attitude” are loading on Factor 5 in the factor analysis results. “Positive Attitude” will be Factor 9 once changes have been made to the theoretical framework.
- The items testing “Technical Capacity”, “Ease of Use” and “Range of Functions” are loading on Factor 7 in the factor analysis tests. These factors are now combined to form “Usability” which will be Factor 10 once changes have been made to the theoretical model.
- The items testing “Current Issues” and “Controversial Issues” are loading on Factor 8 in the factor analysis tests. These factors are now combined to form “Current and Controversial Issues” which will be Factor 11 once changes have been made to the theoretical model.

Factor 12 and 13 in the factor analysis results were very difficult to identify and have consequently been removed as the original 13 factors could be identified by checking the item loadings on the first 11 factors in the factor analysis results. None of the factors will be removed from the model, they will however be reworked to reflect the combinations and splits observed in the factor analysis results.

8.11.2. Dependent Variable

Originally 12 measures of perceived successful use of SNSs were identified; these have been combined and split up to form 10 measures of perceived successful use of SNSs.

Original Measure	New Measure Number	New Measure Name	Factor Analysis Number
1. Range of Content is available	1	Range of Content (Content)	Factor 8
	2	Range of Content (Viewers)	Factor 10
2. Visitors can be monitored	3	Visitors Behaviour is monitored (Includes some content information)	Factor 3
3. Social Contracts are followed	4	Social Contracts are followed	Factor 4
4. Accurate Information is displayed	5	Critical Thinking Skills and Accurate Information	Factor 5
10. Critical Thinking Skills are used			
5. Work is completed	6	Work is completed	Factor 7
6. Variety of Users is present	7	Variety of Users is present	Factor 9
7. Collaboration between users exists	8	Collaboration and a Variety of Opinions exist	Factor 6
8. Variety of Opinions is present			
9. Social Capital is present	9	Social Capital is present	Factor 2

11. Enhancing Learning and Motivation	10	Learning and Advising Skills are enhanced	Factor 1
12. Advising Skills are Enhanced			

Table 8.5: Changes to the Dependent Variables/Factors (Perceived Successful Use of SNSs)

By referring to Appendix I, the following observations can be made (the 12 measures will be referred to as factors in this discussion, as in Appendix I):

- The items testing “Range of Content” are divided into “Range of Content (Content)” and “Range of Content (Viewers)”. This split can be seen by Factor 8 and Factor 10 respectively, in the factor analysis test results in Appendix I. These factors will be Measure 1 and Measure 2 once changes have been made to the theoretical framework.
- The items testing “Visitors can be monitored” and a few items testing “Range of Content” are loading on Factor 3 in the factor analysis tests. These factors are now combined to form “Visitors Behaviour” which will be Measure 3 once changes have been made to the theoretical model.
- The items testing “Social Contracts are followed” are loading on Factor 4 in the factor analysis results. “Social Contracts are followed” will be Measure 4 once changes have been made to the theoretical framework.
- The items testing “Accurate Information is displayed” and “Critical Thinking Skills are used” are loading on Factor 5 in the factor analysis tests. These factors are now combined to form “Critical Thinking Skills and Accurate Information” which will be Measure 5 once changes have been made to the theoretical model.
- The items testing “Work is completed” are loading on Factor 7 in the factor analysis results. “Work is completed” will be Measure 6 once changes have been made to the theoretical framework.
- The items testing “Variety of users is present” are loading on Factor 9 in the factor analysis results. “Variety of users is present” will be Measure 7 once changes have been made to the theoretical framework.
- The items testing “Collaboration between users exists” and “Variety of opinions is present” are loading on Factor 6 in the factor analysis tests. These factors are now combined to form “Collaboration and Opinions” which will be Measure 8 once changes have been made to the theoretical model.

- The items testing “Social Capital is present” are loading on Factor 2 in the factor analysis results. “Social Capital is present” will be Measure 9 once changes have been made to the theoretical framework.
- The items testing “Enhances Learning and Motivation” and “Advising Skills are enhanced” are loading on Factor 1 in the factor analysis tests. These factors are now combined to form “Learning and Advising” which will be Measure 10 once changes have been made to the theoretical model.

Factor/Measure 11 and 12 in the factor analysis results were very difficult to identify and have consequently been removed as the original 12 measures could be identified by checking the item loadings on the first 10 measures in the factor analysis results. None of the measures will be removed from the model, they will however be reworked to reflect the combinations and splits observed in the factor analysis results. The changes to both the Independent and Dependent variables can be seen in Figure 8.10.

8.11.3. Revised Theoretical Framework

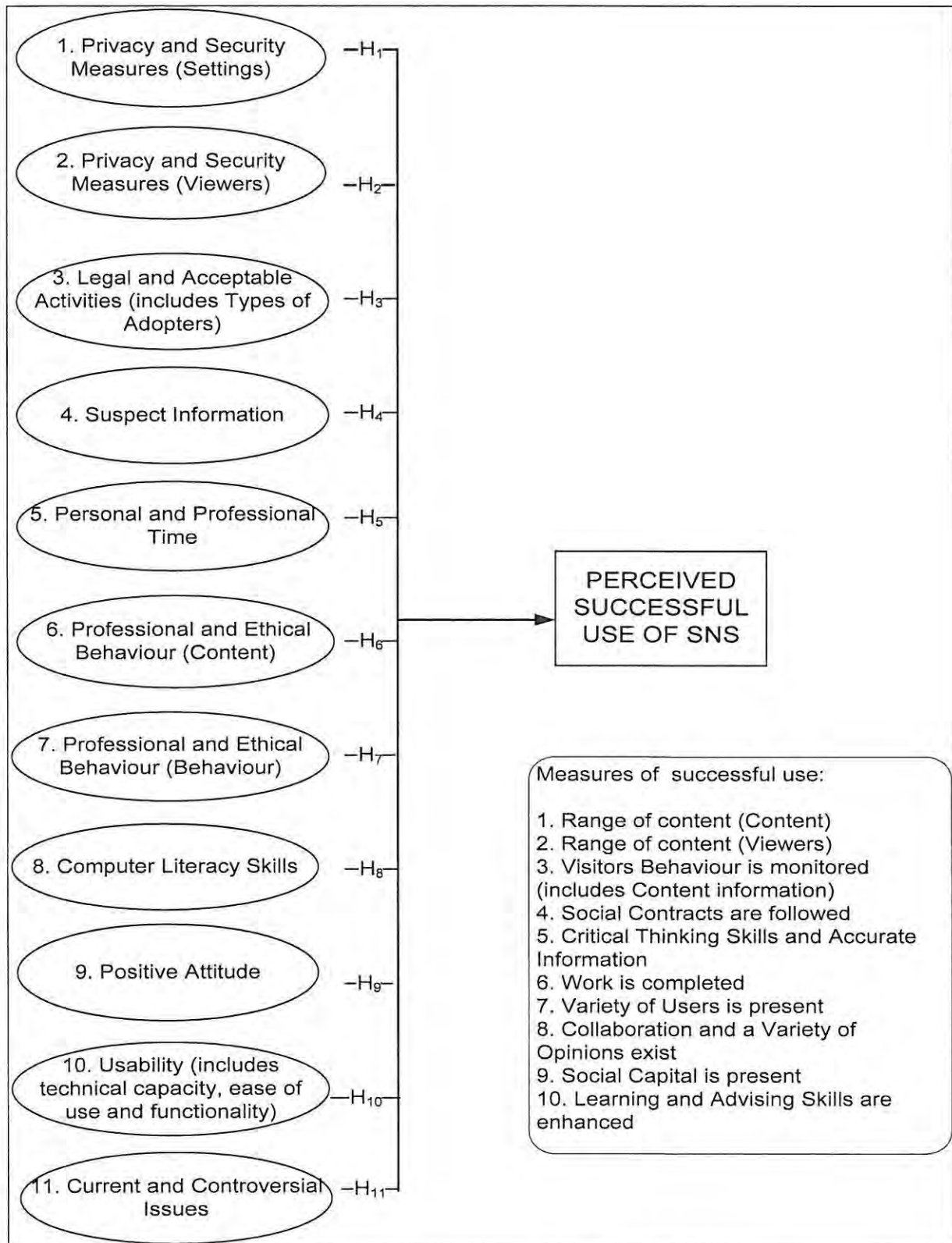


Figure 8.10: Revisions to the Theoretical Framework after Factor Analysis

8.12. Revised Hypotheses

It is necessary to revise the hypotheses to reflect the changes made after factor analysis:

Hypothesis 1: Privacy and Security Measures (Settings)

- **H0₁**: There is no relationship between privacy and security measures (settings) and perceived successful use of SNSs.
- **H1₁**: There is a relationship between privacy and security measures (settings) and perceived successful use of SNSs.

Hypothesis 2: Privacy and Security Measures (Viewers)

- **H0₂**: There is no relationship between privacy and security measures (viewers) and perceived successful use of SNSs.
- **H1₂**: There is a relationship between privacy and security measures (viewers) and perceived successful use of SNSs.

Hypothesis 3: Legal and Acceptable Activities

- **H0₃**: There is no relationship between legal and acceptable activities and perceived successful use of SNSs.
- **H1₃**: There is a relationship between legal and acceptable activities and perceived successful use of SNSs.

Hypothesis 4: Suspect Information

- **H0₄**: There is no relationship between suspect information before use and perceived successful use of SNSs.
- **H1₄**: There is a relationship between suspect information before use and perceived successful use of SNSs.

Hypothesis 5: Personal and Professional Time

- **H0₅**: There is no relationship between personal and professional time and perceived successful use of SNSs.
- **H1₅**: There is a relationship between personal and professional time and perceived successful use of SNSs.

Hypothesis 6: Professional and Ethical Behaviour (Content)

- **H0₆**: There is no relationship between professional and ethical behaviour (content) and perceived successful use of SNSs.
- **H1₆**: There is a relationship between professional and ethical behaviour (content) and perceived successful use of SNSs.

Hypothesis 7: Professional and Ethical Behaviour (Behaviour)

- **H0₇**: There is no relationship between professional and ethical behaviour (behaviour) and perceived successful use of SNSs.
- **H1₇**: There is a relationship between professional and ethical behaviour (behaviour) and perceived successful use of SNSs.

Hypothesis 8: Computer Literacy Skills

- **H0₈**: There is no relationship between computer literacy skills and perceived successful use of SNSs.
- **H1₈**: There is a relationship between computer literacy skills and perceived successful use of SNSs.

Hypothesis 9: Attitude towards Technology

- **H0₉**: There is no relationship between attitude towards technology and perceived successful use of SNSs.
- **H1₉**: There is a relationship between attitude towards technology and perceived successful use of SNSs.

Hypothesis 10: Usability

- **H0₁₀**: There is no relationship between usability and perceived successful use of SNSs.
- **H1₁₀**: There is a relationship between usability and perceived successful use of SNSs.

Hypothesis 11: Current and Controversial Issues

- **H0₁₁**: There is no relationship between current and controversial issues and perceived successful use of SNSs.

- **H1₁₁**: There is a relationship between current and controversial issues and perceived successful use of SNSs.

8.13. Hypotheses Testing

8.13.1. Pearson product-moment Correlation Coefficient

Pearson's Correlation Coefficient determines the extent to which values of two aggregate scales are proportional to each other (Statsoft, 2008). The coefficient of determination, r^2 , is a measurement of the variation in the dependent variable, y (perceived successful use of social network sites), due to a change (variation) in the independent variable, x (Statsoft, 2008). The population correlation coefficient, is estimated by the sample correlation coefficient, r . The correlation coefficient (r) provides the researcher with an idea of the extent of the linear relationship between the variables. The correlation coefficient (r) varies between positive one and negative one. A positive correlation coefficient (r) indicates a positive linear relationship and negative correlation coefficient (r) indicates a negative linear relationship between the two variables (Sekaran, 2000). The closer the correlation coefficient is to one, the stronger the positive correlation between the variables and the closer the correlation coefficient is to zero the weaker the correlation between the variables (Sekaran, 2000). The closer the correlation is to negative one the stronger the negative correlation between the variables. The p-value, or observed significance level, is "computed as the probability that a value of the statistic will be at least as extreme as the sample value of the test statistic in the direction of the alternate hypothesis" (Byrkit, 1987:52). Thus the p- value is the smallest alpha sign (alpha value) for which the observed sample result will reject H_0 (the null hypothesis). Thus this p-value provides a measure of significance of the correlation, giving an idea of the probability of the correlation's actual existence or significance (Byrkit, 1987).

The hypotheses tests attempt to demonstrate relationships between the factors and the dependent variable: perceived successful use of social network sites. A confidence level of 95.5% ($p < 0.05$) was set; this level of confidence represents a statistically significant relationship between the tested variables.

Correlation	Negative	Positive
Small	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Large	-1.0 to -0.5	0.5 to 1.0

Table 8.6: Pearson Correlation Coefficient Range (Cohen, 1988)

The hypotheses results are as follows:

Variable	Perceived Successful Use of SNSs	Relationship Exists	Correlation
H1: Privacy and Security Measures (Settings)	r= .4984	Yes	Medium
	p= 0.00		
H2: Privacy and Security Measures (Viewers)	r= .1838	Yes	Small
	p= 0.000		
H3: Legal and Acceptable Activities (includes Types of Adopters)	r= .3997	Yes	Medium
	p= 0.00		
H4: Suspect Information	r=.2560	Yes	Small
	p=.000		
H5: Personal and Professional Time	r=.2273	Yes	Small
	p= 0.000		
H6: Professional and Ethical Behaviour (Content)	r=.2008	Yes	Small
	p= 0.000		
H7: Professional and Ethical Behaviour (Behaviour)	r= -.0391	No relationship since $p > 0.05$	-
	p= 0.344		
H8: Computer Literacy Skills	r=.0658	No relationship since $p > 0.05$	-
	p=.111		
H9: Positive Attitude	r= .2449	Yes	Small
	p= 0.000		
H10: Usability	r= .5869	Yes	Large
	p= 0.00		
H11: Current and Controversial Issues	r= .3668	Yes	Medium
	p=0.00		

Table 8.7: Results of Hypotheses

(Note: The p score of 0.000 is the result of the rounding off of 0.0001. Similarly the p score of 0.00 is the result of the rounding off of 0.001)

Marked correlations are significant at $p < 0.0500$ (marked in red). These relationships are also illustrated by the following scatterplots, where the linear relationship between the various factors and the dependent variable can be seen by the red line in the graph. Note that the results indicate that there is no relationship between Professional and Ethical Behaviour (Behaviour) and Computer Literacy Skills and perceived successful use of SNSs because $p > 0.05$ (the relationship is insignificant) (Figure 8.17 and Figure 8.18).

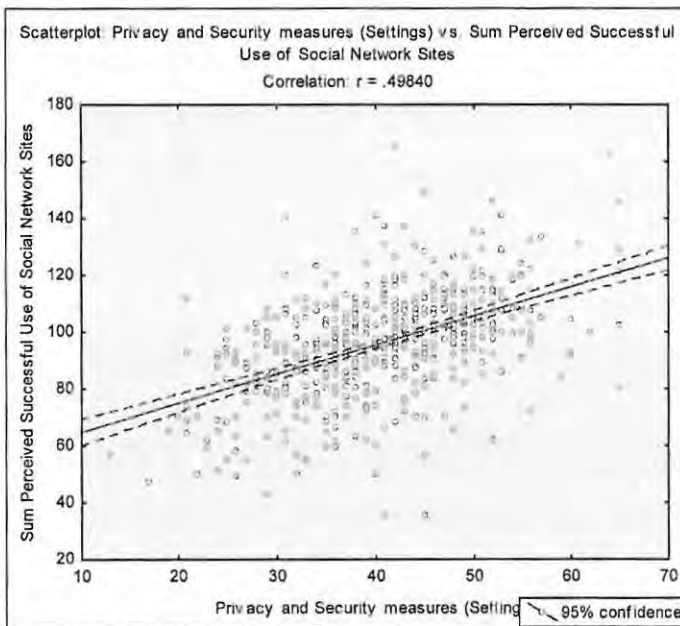


Figure 8.11: Hypothesis 1: Relationship between Privacy and Security Measures (Settings) and Perceived Successful Use of SNS

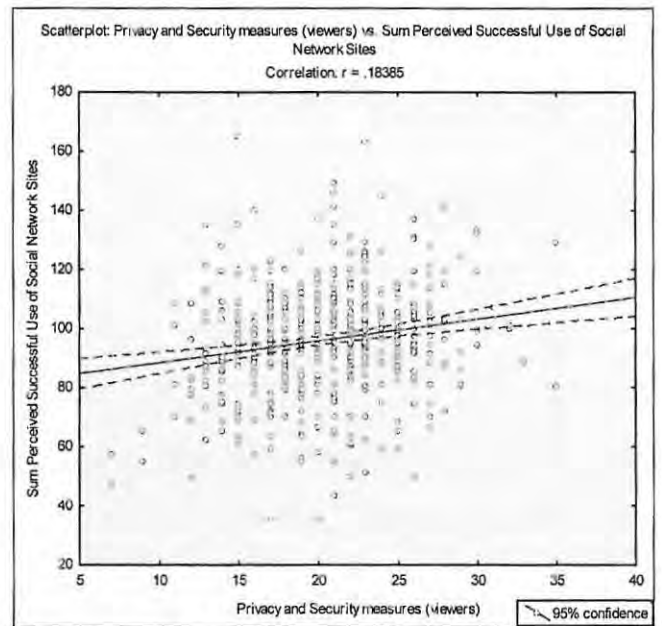


Figure 8.12: Hypothesis 2: Relationship between Privacy and Security Measures (Viewers) and Perceived Successful Use of SNS

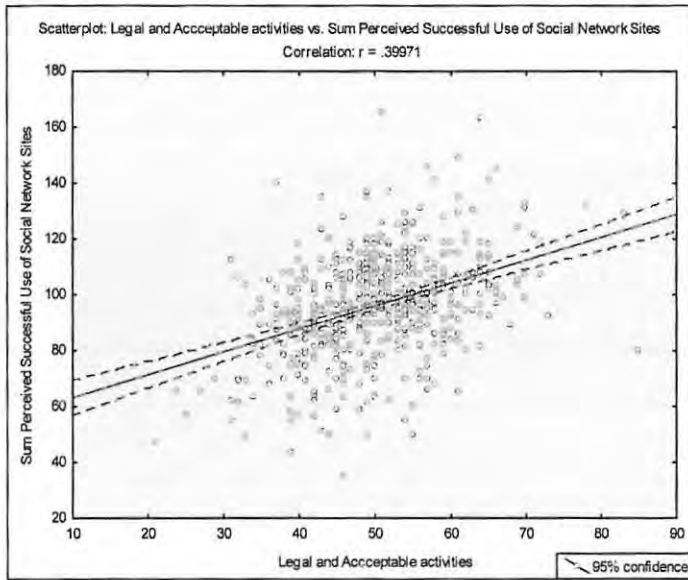


Figure 8.13: Hypothesis 3: Relationship between Legal and Acceptable Activities and Perceived Successful Use of SNS

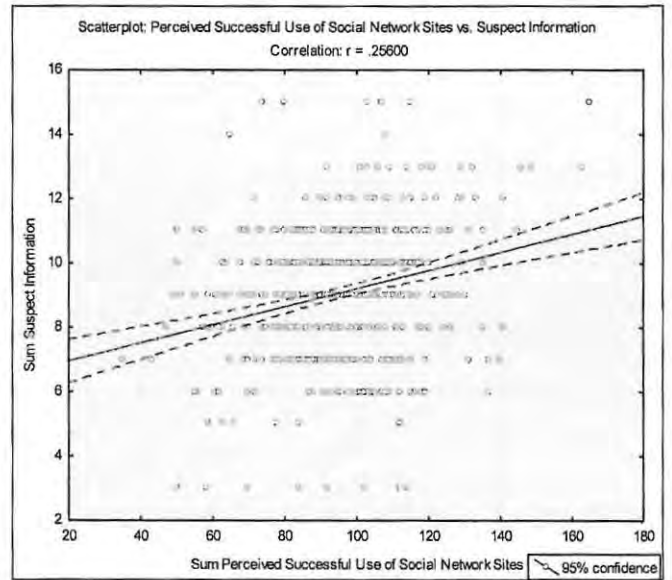


Figure 8.14: Hypothesis 4: Relationship between Suspect Information and Perceived Successful Use of SNS

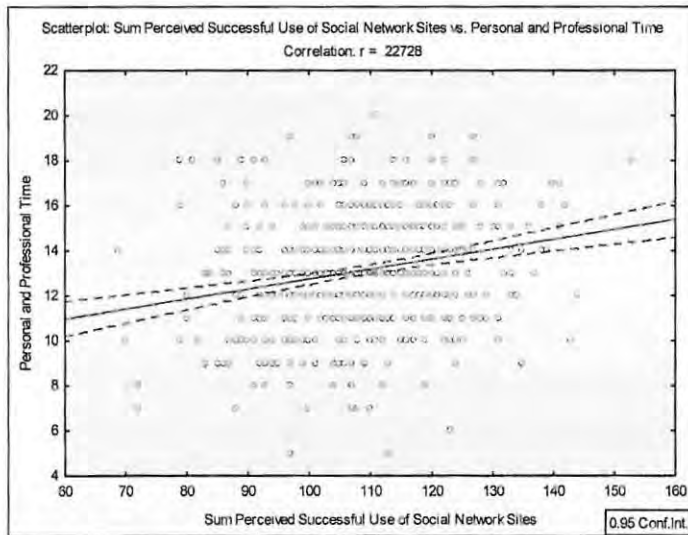


Figure 8.15: Hypothesis 5: Relationship between Personal and Professional Time and Perceived Successful Use of SNS

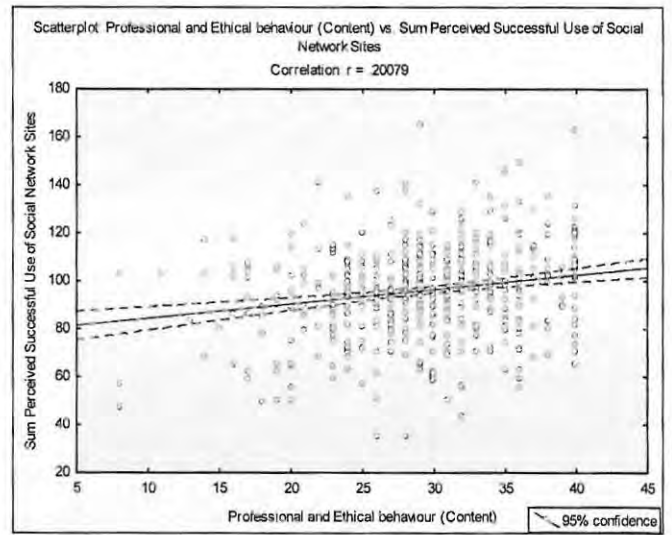


Figure 8.16: Hypothesis 6: Relationship between Professional and Ethical Behaviour (Content) and Perceived Successful Use of SNS

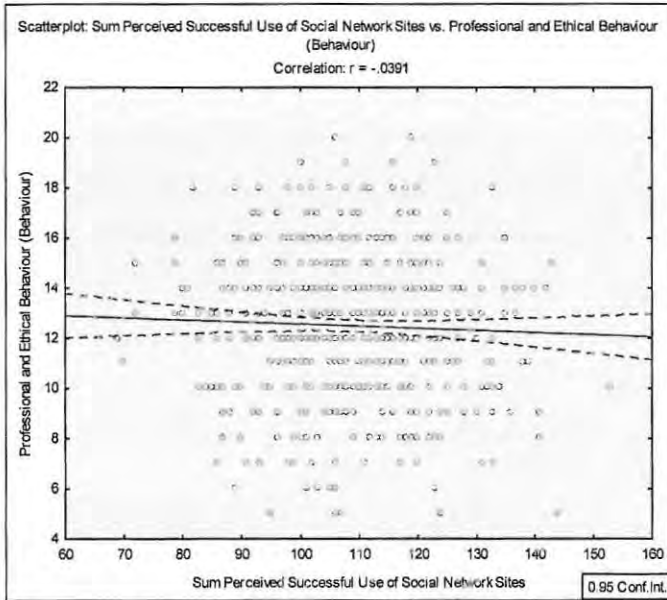


Figure 8.17: Hypothesis 7: Relationship between Professional and Ethical Behaviour (Behaviour) and Perceived Successful Use of SNS (no relationship since $p = 0.344$)

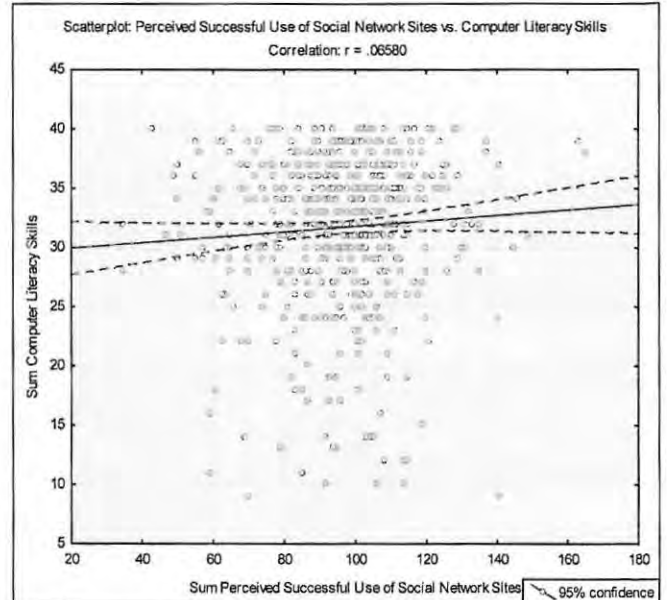


Figure 8.18: Hypothesis 8: Relationship between Computer Literacy Skills and Perceived Successful Use of SNS (no relationship since $p = 0.111$)

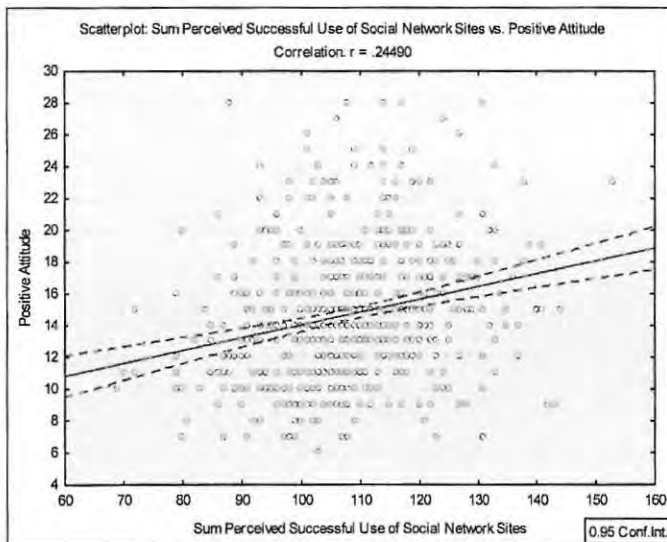


Figure 8.19: Hypothesis 9: Relationship between Positive Attitude and Perceived Successful Use of SNS

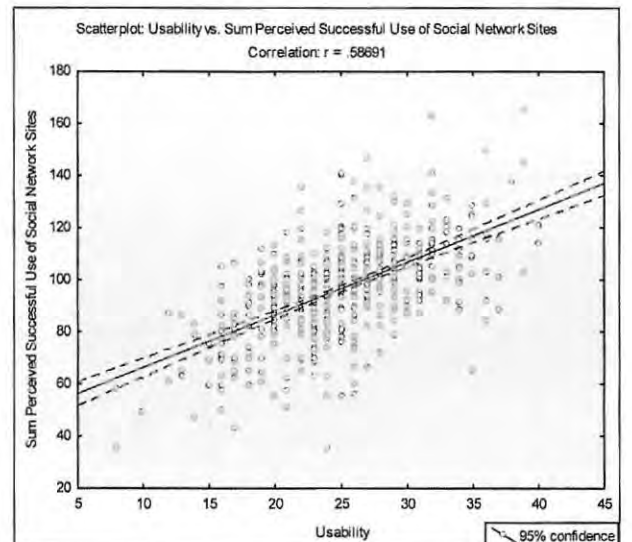


Figure 8.20: Hypothesis 10: Relationship between Usability and Perceived Successful Use of SNS

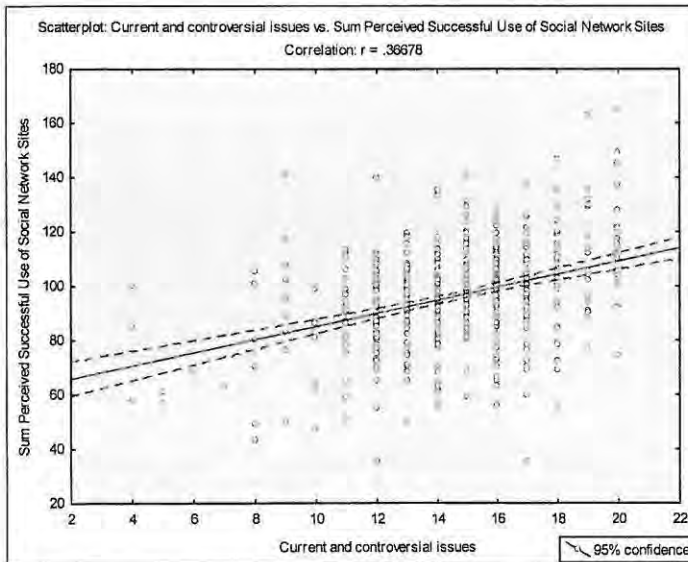


Figure 8.21: Hypothesis 11: Relationship between Current and Controversial Issues and Perceived Successful Use of SNS

8.13.2. Detailed Pearson Correlation Coefficient Analysis

Pearson's Correlation Coefficient can also be used to determine whether relationships exist between the independent factors and the individual factors used to measure perceived successful use of SNSs. In the following tables, each of the independent factors is tested against all of the measures of perceived successful use to determine where relationships exist. These results provide more insight as to why relationships existed between the Independent Variable and Dependent Variable: Perceived Successful Use of SNSs.

8.13.2.1. Factor 1: Privacy and Security Measures (Settings)

Measure of Perceived Successful Use	Results for Privacy and Security Measures (Settings)	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.0908	Yes	Small
	p=.028		
2. Range of Content (Viewers)	r=.2247	Yes	Small
	p=.000		
3. Visitors' behaviour is monitored	r=-.1933	Yes	Small
	p=.000		
4. Social Contracts are followed	r=.1035	Yes	Small
	p=.012		
5. Critical Thinking Skills and Accurate Information	r=.2269	Yes	Small
	p=.000		
6. Work is completed	r=-.1803	Yes	Small
	p=.000		
7. Variety of Users is present	r=.1803	Yes	Small
	p=.000		
8. Collaboration and a Variety of Opinions exists	r=.4705	Yes	Medium
	p=0.00		
9. Social Capital is present	r=.3767	Yes	Medium
	p=0.00		
10. Learning and Advising Skills are enhanced	r=.3523	Yes	Medium
	p=.000		

Table 8.8: Relationships between Factor 1: Privacy and Security Measures (Settings) and Measures of Perceived Successful Use of SNS

There is a relationship between Factor 1: Privacy and Security Measures (Settings) and all the measures of perceived successful use (Table 8.8). The strongest relationship exists between Factor 1: Privacy and Security Measures (Settings) and:

- Measure 8: Collaboration and a Variety of Opinions exists

Other relationships of a medium strength exist between Factor 1: Privacy and Security Measures (Settings) and:

- Measure 8: Collaboration and a Variety of Opinions exists
- Measure 9: Social Capital is present
- Measure 10: Learning and Advising Skills are enhanced

8.13.2.2. Factor 2: Privacy and Security Measures (Viewers)

Measure of Perceived Successful Use	Results for Privacy and Security Measures (Viewers)	Relationship exists	Strength of Relationship
1. Range of Content (Content)	$r=.0202$	No relationship since $p > 0.05$	-
	$p=.625$		
2. Range of Content (Viewers)	$r=.1349$	Yes	Small
	$p=.001$		
3. Visitors' behaviour is monitored	$r=-.1138$	Yes	Small
	$p=.006$		
4. Social Contracts are followed	$r=-.0184$	No relationship since $p > 0.05$	-
	$p=.656$		
5. Critical Thinking Skills and Accurate Information	$r=.1137$	Yes	Small
	$p=.006$		
6. Work is completed	$r=-.0514$	No relationship since $p > 0.05$	-
	$p=.214$		
7. Variety of Users is present	$r=.1268$	Yes	Small
	$p=.002$		
8. Collaboration and a Variety of Opinions exists	$r=.1625$	Yes	Small
	$p=.000$		

9. Social Capital is present	r=.1530	Yes	Small
	p=.000		
10. Learning and Advising Skills are enhanced	r=.1173	Yes	Small
	p=.004		

Table 8.9: Relationships between Factor 2: Privacy and Security Measures (Viewers) and Measures of Perceived Successful Use of SNS

There is a relationship between Factor 2: Privacy and Security Measures (Viewers) and some of the measures of perceived successful use (Table 8.9). The strongest relationship exists between Factor 2: Privacy and Security Measures (Viewers) and:

- Measure 8: Collaboration and a Variety of Opinions exists

8.13.2.3. Factor 3: Legal and Acceptable Activities

Measure of Perceived Successful Use	Results for Legal and Acceptable Activities	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.0549	No relationship since $p > 0.05$	-
	p=.184		
2. Range of Content (Viewers)	r=.2328	Yes	Small
	p=.000		
3. Visitors' behaviour is monitored	r=-.2019	Yes	Small
	p=.000		
4. Social Contracts are followed	r=.0770	No relationship since $p > 0.05$	-
	p=.062		
5. Critical Thinking Skills and Accurate Information	r=.2242	Yes	Small
	p=.000		
6. Work is completed	r=-.0942	Yes	Small
	p=.022		
7. Variety of Users is present	r=.1764	Yes	Small
	p=.000		

8. Collaboration and a Variety of Opinions exists	r=.3318	Yes	Medium
	p=.000		
9. Social Capital is present	r=.3166	Yes	Medium
	p=.000		
10. Learning and Advising Skills are enhanced	r=.2583	Yes	Small
	p=.000		

Table 8.10: Relationships between Factor 3: Legal and Acceptable Activities and Measures of Perceived Successful Use of SNS

There is a relationship between Factor 3: Legal and Acceptable Activities and most of the measures of perceived successful use (Table 8.10). The strongest relationship exists between Factor 3: Legal and Acceptable Activities and:

- Measure 8: Collaboration and a Variety of Opinions exists

A relationship of a medium strength exists between Factor 3: Legal and Acceptable Activities and:

- Measure 9: Social Capital is present

8.13.2.4. Factor 4: Suspect Information

Measure of Perceived Successful Use	Results for Suspect Information	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.1165	Yes	Small
	p=.005		
2. Range of Content (Viewers)	r=.1671	Yes	Small
	p=.000		
3. Visitors' Behaviour is monitored	r=-.1062	Yes	Small
	p=.010		
4. Social Contracts are followed	r=.0651	No relationship since $p > 0.05$	-
	p=.115		

5. Critical Thinking Skills and Accurate Information	$r=.0800$	No relationship since $p > 0.05$	-
	$p=.053$		
6. Work is completed	$r=-.0429$	No relationship since $p > 0.05$	-
	$p=.299$		
7. Variety of Users is present	$r=.1189$	Yes	Small
	$p=.004$		
8. Collaboration and a Variety of Opinions exist	$r=.1486$	Yes	Small
	$p=.000$		
9. Social Capital is present	$r=.1262$	Yes	Small
	$p=.002$		
10. Learning and Advising Skills are enhanced	$r=.1723$	Yes	Small
	$p=.000$		

Table 8.11: Relationships between Factor 4: Suspect Information and Measures of Perceived Successful Use of SNS

The strongest relationship exists between Factor 4: Suspect Information and:

- Measure 10: Learning and Advising Skills are enhanced

There is a relationship between Factor 4: Suspect Information and most of the measures of perceived successful use (Table 8.11), except:

- Measure 4: Social Contracts are followed
- Measure 5: Critical Thinking Skills and Accurate Information
- Measure 6: Work is Completed

8.13.2.5. Factor 5: Personal and Professional Time

Measure of Perceived Successful Use	Results for Personal and Professional Time	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.1568	Yes	Small
	p=.000		
2. Range of Content (Viewers)	r=.1077	Yes	Small
	p=.009		
3. Visitors' Behaviour is monitored	r=.0371	No relationship since $p > 0.05$	-
	p=.370		
4. Social Contracts are followed	r=.2315	Yes	Small
	p=.000		
5. Critical Thinking Skills and Accurate Information	r=.1158	Yes	Small
	p=.005		
6. Work is completed	r=-.0886	Yes	Small
	p=.032		
7. Variety of Users is present	r=.1441	Yes	Small
	p=.000		
8. Collaboration and a Variety of Opinions exists	r=.2017	Yes	Small
	p=.000		
9. Social Capital is present	r=.1811	Yes	Small
	p=.000		
10. Learning and Advising Skills are enhanced	r=.0384	No relationship since $p > 0.05$	-
	p=.353		

Table 8.12: Relationships between Factor 5: Personal and Professional Time and Measures of Perceived Successful Use of SNS

The strongest relationship exists between Factor 5: Personal and Professional Time and:

- Measure 4: Social Contracts are Followed

There is a relationship between Factor 5: Personal and Professional Time and most of the measures of perceived successful use (Table 8.12), except:

- Measure 3: Visitors’ Behaviour is monitored
- Measure 10: Learning and Advising Skills are Enhanced

8.13.2.6. Factor 6: Professional and Ethical Behaviour (Content)

Measure of Perceived Successful Use	Results for Professional and Ethical Behaviour (Content)	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.1890	Yes	Small
	p=.000		
2. Range of Content (Viewers)	r=.1199	Yes	Small
	p=.004		
3. Visitors’ Behaviour is monitored	r=-.0681	No relationship since $p > 0.05$	-
	p=.099		
4. Social Contracts are followed	r=.0823	Yes	Small
	p=.046		
5. Critical Thinking Skills and Accurate Information	r=.0473	No relationship since $p > 0.05$	-
	p=.252		
6. Work is completed	r=-.1357	Yes	Small
	p=.001		
7. Variety of Users is present	r=.0826	Yes	Small
	p=.045		
8. Collaboration and a Variety of Opinions exists	r=.2101	Yes	Small
	p=.000		
9. Social Capital is present	r=.1695	Yes	Small
	p=.000		

10. Learning and Advising Skills are enhanced	$r=.1160$	Yes	Small
	$p=.005$		

Table 8.13: Relationships between Factor 6: Professional and Ethical Behaviour (Content) and Measures of Perceived Successful Use of SNS

The strongest relationship exists between Factor 6: Professional and Ethical Behaviour (Content) and:

- Measure 8: Collaboration and a Variety of Opinions exists

There is a relationship between Factor 6: Professional and Ethical Behaviour (Content) and most of the measures of perceived successful use (Table 8.13), except:

- Measure 3: Visitors’ Behaviour is monitored
- Measure 5: Critical Thinking Skills and Accurate Information

8.13.2.7. Factor 7: Professional and Ethical Behaviour (Behaviour)

Measure of Perceived Successful Use	Results for Professional and Ethical Behaviour (Behaviour)	Relationship exists	Strength of Relationship
1. Range of Content (Content)	$r=.0055$	No relationship since $p > 0.05$	-
	$p=.895$		
2. Range of Content (Viewers)	$r=.0458$	No relationship since $p > 0.05$	-
	$p=.268$		
3. Visitors’ Behaviour is monitored	$r=.2216$	Yes	Small
	$p=.000$		
4. Social Contracts are followed	$r=-.0164$	No relationship since $p > 0.05$	-
	$p=.691$		
5. Critical Thinking Skills and Accurate Information	$r=-.0694$	No relationship since $p > 0.05$	-
	$p=.093$		

6. Work is completed	$r=-.0511$	No relationship since $p > 0.05$	-
	$p=.216$		
7. Variety of Users is present	$r=-.0649$	No relationship since $p > 0.05$	-
	$p=.116$		
8. Collaboration and a Variety of Opinions exists	$r=-.0430$	No relationship since $p > 0.05$	-
	$p=.298$		
9. Social Capital is present	$r=-.0215$	No relationship since $p > 0.05$	-
	$p=.604$		
10. Learning and Advising Skills are enhanced	$r=-.1536$	Yes	Small
	$p=.000$		

Table 8.14: Relationships between Factor 7: Professional and Ethical Behaviour (Behaviour) and Measures of Perceived Successful Use of SNS

The strongest relationship exists between Factor 7: Professional and Ethical Behaviour (Behaviour) and:

- Measure 3: Visitors' Behaviour is Monitored

The only other relationship that exists is between Factor 7: Professional and Ethical Behaviour (Behaviour) and Measure 10: Learning and Advising Skills (Table 8.14). The two relationships that did exist were of a small strength. These results are to be expected since it was found that there is no relationship between Factor 7: Professional and Ethical Behaviour (Behaviour) and the Dependent Variable: Perceived Successful Use of SNSs.

8.13.2.8. Factor 8: Computer Literacy Skills

Measure of Perceived Successful Use	Results for Computer Literacy Skills	Relationship exists	Strength of Relationship
1. Range of Content (Content)	$r=.0031$	No relationship since $p > 0.05$	-
	$p=.940$		

2. Range of Content (Viewers)	r=.0695	No relationship since $p > 0.05$	-
	p=.092		
2. Visitors' behaviour is monitored	r=-.1037	Yes	Small
	p=.012		
3. Social Contracts are followed	r=.0113	No relationship since $p > 0.05$	-
	p=.786		
4. Critical Thinking Skills and Accurate Information	r=.1083	Yes	Small
	p=.009		
5. Work is completed	r=.0285	No relationship since $p > 0.05$	-
	p=.490		
6. Variety of Users is present	r=.1722	Yes	Small
	p=.000		
7. Collaboration and a Variety of Opinions exists	r=.1706	Yes	Small
	p=.000		
9. Social Capital is present	r=.0436	No relationship since $p > 0.05$	-
	p=.292		
10. Learning and Advising Skills are enhanced	r=.1413	Yes	Small
	p=.001		

Table 8.15: Relationships between Factor 8: Computer Literacy Skills and Measures of Perceived Successful Use of SNS

There were relationships between Factor 8: Computer Literacy Skills and some of the measures of perceived successful use of SNSs (Table 8.15). The relationships that did exist were of a small strength. These results are to be expected since it was found that there is no relationship between Factor 8: Computer Literacy Skills and the Dependent Variable: Perceived Successful Use of SNSs.

8.13.2.9. Factor 9: Positive Attitude

Measure of Perceived Successful Use	Results for Positive Attitude	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.1426	Yes	Small
	p=.001		
2. Range of Content (Viewers)	r=.1137	Yes	Small
	p=.006		
3. Visitors' Behaviour is monitored	r=-.1873	Yes	Small
	p=.000		
4. Social Contracts are followed	r=.1085	Yes	Small
	p=.008		
5. Critical Thinking Skills and Accurate Information	r=.1333	Yes	Small
	p=.001		
6. Work is completed	r=-.3248	Yes	Medium
	p=0.000		
7. Variety of Users is present	r=.0817	Yes	Small
	p=.048		
8. Collaboration and a Variety of Opinions exist	r=.2556	Yes	Small
	p=.000		
9. Social Capital is present	r=.4326	Yes	Medium
	p=0.00		
10. Learning and Advising Skills are enhanced	r=.1910	Yes	Small
	p=.000		

Table 8.16: Relationships between Factor 9: Positive Attitude and Measures of Perceived Successful Use of SNS

There is a relationship between Factor 9: Positive Attitude and all the measures of perceived successful use of SNSs (Table 8.16). The strongest relationship exists between Factor 9: Positive attitude and:

- Measure 9: Social Capital is Present

Another relationship of a medium strength exists between Factor 9: Positive Attitude and:

- Measure 6: Work is completed

8.13.2.10. Factor 10: Usability

Measure of Perceived Successful Use	Results for Usability	Relationship exists	Strength of Relationship
1. Range of Content (Content)	$r=.2247$	Yes	Small
	$p=.000$		
2. Range of Content (Viewers)	$r=.1565$	Yes	Small
	$p=.000$		
3. Visitors' Behaviour is monitored	$r=-.2331$	Yes	Small
	$p=.000$		
4. Social Contracts are followed	$r=.1516$	Yes	Small
	$p=.000$		
5. Critical Thinking Skills and Accurate Information	$r=.2794$	Yes	Small
	$p=0.000$		
6. Work is completed	$r=-.3485$	Yes	Medium
	$p=.000$		
7. Variety of Users is present	$r=.1942$	Yes	Small
	$p=.000$		
8. Collaboration and a Variety of Opinions exist	$r=.4181$	Yes	Medium
	$p=0.00$		
9. Social Capital is present	$r=.5736$	Yes	Large
	$p=0.00$		
10. Learning and Advising Skills are enhanced	$r=.3827$	Yes	Medium
	$p=0.00$		

Table 8.17: Relationships between Factor 10: Usability and Measures of Perceived Successful Use of SNS

There is a relationship between Factor 10: Usability and all of the measures of perceived successful use of SNSs (Table 8.17).

The strongest relationship exists between Factor 10: Usability and:

- Measure 9: Social Capital is present.

Relationships of a medium strength exist between Factor 10: Usability and:

- Measure 6: Work is completed
- Measure 8: Collaboration and a Variety of Opinions exist
- Measure 10: Learning and Advising Skills are enhanced

8.13.2.11. Factor 11: Current and Controversial Issues

Measure of Perceived Successful Use	Results for Current and Controversial Issues	Relationship exists	Strength of Relationship
1. Range of Content (Content)	r=.2120	Yes	Small
	p=.000		
2. Range of Content (Viewers)	r=.1077	Yes	Small
	p=.000		
3. Visitors' Behaviour is monitored	r=-.0197	No relationship since $p > 0.05$	-
	p=.633		
4. Social Contracts are followed	r=.2140	Yes	Small
	p=.000		
5. Critical Thinking Skills and Accurate Information	r=.1459	Yes	Small
	p=.000		
6. Work is completed	r=-.2172	Yes	Small
	p=.000		

7. Variety of Users is present	$r=.1960$	Yes	Small
	$p=.000$		
8. Collaboration and a Variety of Opinions exist	$r=.3661$	Yes	Medium
	$p=0.00$		
9. Social Capital is present	$r=.4382$	Yes	Medium
	$p=0.00$		
10. Learning and Advising Skills are enhanced	$r=.1735$	Yes	Small
	$p=.000$		

Table 8.18: Relationships between Factor 11: Current and Controversial Issues and Measures of Perceived Successful Use of SNS

The strongest relationship exists between Factor 11: Current and Controversial Issues and:

- Measure 9: Social Capital is present

There is a relationship between Factor 11: Current and Controversial Issues and all of the measures of perceived successful use of SNSs (Table 8.18), except:

- Measure 3: Visitors' Behaviour is monitored

Other relationships of a medium strength exist between Factor 11: Current and Controversial Issues and:

- Measure 8: Collaboration and a Variety of Opinions exist

8.13.3. Hypotheses Results

From the results discussed, the following observations can be made:

Hypothesis 1: Privacy and Security Measures (Settings)

- **H₀₁**: There is no relationship between privacy and security measures (settings) and perceived successful use of SNSs.
- **H₁₁**: There is a relationship between privacy and security measures (settings) and perceived successful use of SNSs.

Hypothesis 1: Pearson's Correlation Coefficient value of $p=0.00$. Thus the null hypothesis is rejected.

The correlation coefficient for the testing of hypothesis 1 is of a medium strength ($r=0.4984$), and the test confirms that a positive relationship exists between privacy and security measures (settings) and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.11.

Hypothesis 2: Privacy and Security Measures (Viewers)

- **H0₂**: There is no relationship between privacy and security measures (viewers) and perceived successful use of SNSs.
- **H1₂**: There is a relationship between privacy and security measures (viewers) and perceived successful use of SNSs.

Hypothesis 2: Pearson's Correlation Coefficient value of $p=0.000$. Thus the null hypothesis is rejected.

While the correlation coefficient for the testing of hypothesis 2 is of a small strength ($r=0.1838$), and the test confirms that a positive relationship exists between privacy and security measures (viewers) and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.12.

Hypothesis 3: Legal and Acceptable Activities

- **H0₃**: There is no relationship between legal and acceptable activities and perceived successful use of SNSs.
- **H1₃**: There is a relationship between legal and acceptable activities and perceived successful use of SNSs.

Hypothesis 3: Pearson's Correlation Coefficient value of $p=0.00$. Thus the null hypothesis is rejected.

The correlation coefficient for the testing of hypothesis 3 is of a medium strength ($r=0.3997$) and the test confirms that a positive relationship exists between legal and acceptable activities

and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.13.

Hypothesis 4: Suspect Information

- **H0₄**: There is no relationship between suspect information before use and perceived successful use of SNSs.
- **H1₄**: There is a relationship between suspect information before use and perceived successful use of SNSs.

Hypothesis 4: Pearson's Correlation Coefficient value of $p=0.000$. Thus the null hypothesis is rejected.

While the correlation coefficient for the testing of hypothesis 4 is small ($r=0.2560$), the test confirms that a positive relationship exists between suspect information and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.14.

Hypothesis 5: Personal and Professional Time

- **H0₅**: There is no relationship between personal and professional time and perceived successful use of SNSs.
- **H1₅**: There is a relationship between personal and professional time and perceived successful use of SNSs.

Hypothesis 5: Pearson's Correlation Coefficient value of $p=0.000$. Thus the null hypothesis is rejected.

While the correlation coefficient for the testing of hypothesis 5 is of a small strength ($r=0.2273$), the test confirms that a positive relationship exists between personal and professional time and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.15.

Hypothesis 6: Professional and Ethical Behaviour (Content)

- **H0₆:** There is no relationship between professional and ethical behaviour (content) and perceived successful use of SNSs.
- **H1₆:** There is a relationship between professional and ethical behaviour (content) and perceived successful use of SNSs.

Hypothesis 6: Pearson's Correlation Coefficient value of $p=0.000$. Thus the null hypothesis is rejected.

While the correlation coefficient for the testing of hypothesis 6 is small ($r=0.2008$), the test confirms that a positive relationship exists between professional and ethical behaviour (content) and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.16.

Hypothesis 7: Professional and Ethical Behaviour (Behaviour)

- **H0₇:** There is no relationship between professional and ethical behaviour (behaviour) and perceived successful use of SNSs.
- **H1₇:** There is a relationship between professional and ethical behaviour (behaviour) and perceived successful use of SNSs.

Hypothesis 7: Pearson's Correlation Coefficient value of $p=0.344$. Thus the null hypothesis cannot be rejected.

The correlation coefficient for the testing of hypothesis 7 is small ($r=-0.0391$) and the test confirms that there is no relationship between professional and ethical behaviour (behaviour) and perceived successful use of SNSs. This can be observed in Figure 8.17.

Hypothesis 8: Computer Literacy Skills

- **H0₈:** There is no relationship between computer literacy skills and perceived successful use of SNSs.
- **H1₈:** There is a relationship between computer literacy skills and perceived successful use of SNSs.

Hypothesis 8: Pearson's Correlation Coefficient value of $p=0.111$. Thus the null hypothesis cannot be rejected.

The correlation coefficient for the testing of hypothesis 8 is small ($r=0.0658$) and the test confirms that there is no relationship between computer literacy skills and perceived successful use of SNSs. This can be observed in Figure 8.18.

Hypothesis 9: Attitude towards Technology

- **H0₉**: There is no relationship between attitude towards technology and perceived successful use of SNSs.
- **H1₉**: There is a relationship between attitude towards technology and perceived successful use of SNSs.

Hypothesis 9: Pearson's Correlation Coefficient value of $p=0.000$. Thus the null hypothesis is rejected.

The correlation coefficient for the testing of hypothesis 9 is small ($r=0.2449$) and the test confirms that a positive relationship exists between attitude towards technology and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.19.

Hypothesis 10: Usability

- **H0₁₀**: There is no relationship between usability and perceived successful use of SNSs.
- **H1₁₀**: There is a relationship between usability and perceived successful use of SNSs.

Hypothesis 10: Pearson's Correlation Coefficient value of $p=0.00$. Thus the null hypothesis is rejected.

The correlation coefficient for the testing of hypothesis 10 is large ($r=0.5869$), and the test confirms that a positive relationship exists between usability and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.20.

Hypothesis 11: Current and Controversial Issues

- **H0₁₁**: There is no relationship between current and controversial issues and perceived successful use of SNSs.
- **H1₁₁**: There is a relationship between current and controversial issues and perceived successful use of SNSs.

Hypothesis 11: Pearson's Correlation Coefficient value of $p=0.00$. Thus the null hypothesis is rejected.

The correlation coefficient for the testing of hypothesis 11 is of a medium strength ($r=0.3668$) and the test confirms that a positive relationship exists between current and controversial issues and perceived successful use of SNSs. This positive relationship can be observed in Figure 8.21.

8.13.4. Analysis of the Hypotheses Results

The following thirteen factors were identified in Chapter 5:

1. Privacy and Security Measures
2. Legal and Acceptable Activities
3. Suspect Information
4. Personal and Professional Time
5. Types of Adopters
6. Professional and Ethical Behaviour
7. Computer Literacy Skills
8. Positive Attitude
9. Technical Capacity
10. Ease of Use
11. Range of Functions
12. Current Issues
13. Controversial Issues

After factor analysis, these factors were modified to form the following 11 factors, contributing to perceived successful use of SNSs:

1. Privacy and Security Measures (Settings)
2. Privacy and Security Measures (Viewers)
3. Legal and Acceptable Activities
4. Suspect Information
5. Personal and Professional Time
6. Professional and Ethical Behaviour (Content)
7. Professional and Ethical Behaviour (Behaviour)
8. Computer Literacy Skills
9. Positive Attitude
10. Usability
11. Current and Controversial Issues

The results of the experiment are encouraging as they confirm the importance of these factors, except for Factor 7: Professional and Ethical Behaviour (Behaviour) and Factor 8: Computer Literacy Skills. Revisions to the theoretical framework based on the factor analysis and Pearson Correlation Coefficient results will be made in the following chapter.

8.14. Other Results

8.14.1. Gender and Successful Use of SNSs

The t-test is the most commonly used method to evaluate the differences in means between two groups (Statsoft, 2008). The p-level reported with a t-test represents the probability of error involved in accepting our research hypothesis about the existence of a difference; this is the probability of error associated with rejecting the hypothesis of no difference between two categories of observations.

The following measures resulted in significant differences in the means of males and females:

Measures tested against Gender	Mean Females (2)	Mean Males (1)	t-value	df (variance)	p-value
3. Visitors' Behaviour is monitored	15.29396	14.71749	2.03324	585	0.042479

4. Social Contracts are followed	6.34341	5.81166	2.72775	585	0.006568
10. Learning and Advising Skills are enhanced	15.64011	16.81614	-2.52783	585	0.011739

Table 8.19: Gender vs. Measures of Perceived Successful Use of SNSs

- **H0:** $u_m = u_f$ (there is no difference in the means of males and females)
- **H1:** $u_m \neq u_f$ (there is a significant difference in the means of males and females)

Since $p < 0.05$ in the 5 cases above, we are able to reject H0 since the mean values for males and females differ. This can be interpreted in the following way:

- Males and Females feel differently about the importance of monitoring visitors behaviour on social networks
- Males and Females feel differently about the importance of following social contracts on social networks
- Males and females feel differently about social network sites enhancing learning and advising skills

The differences in means can be seen in the following Box and Whisker Plots:

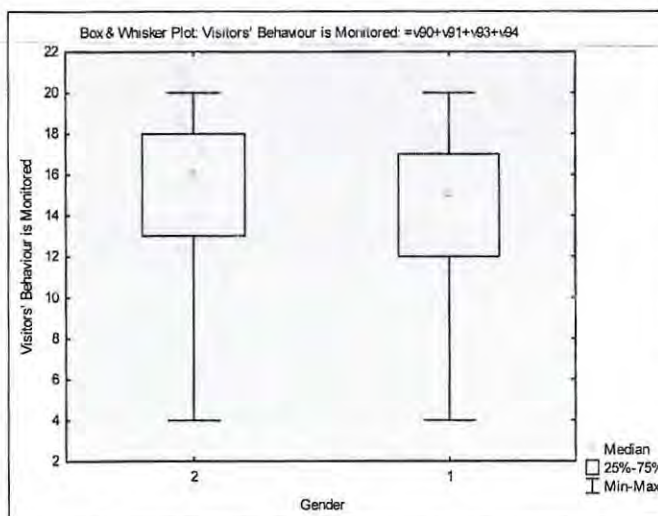


Figure 8.22: Gender vs. Measure 3: Visitors' Behaviour is Monitored

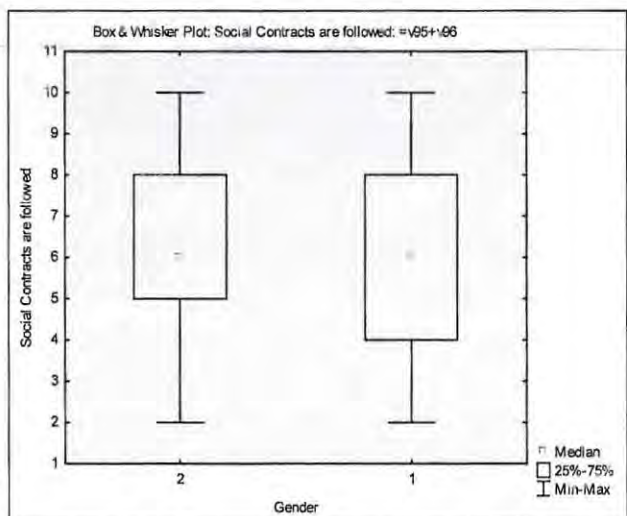


Figure 8.23: Gender vs. Measure 4: Social Contracts are followed

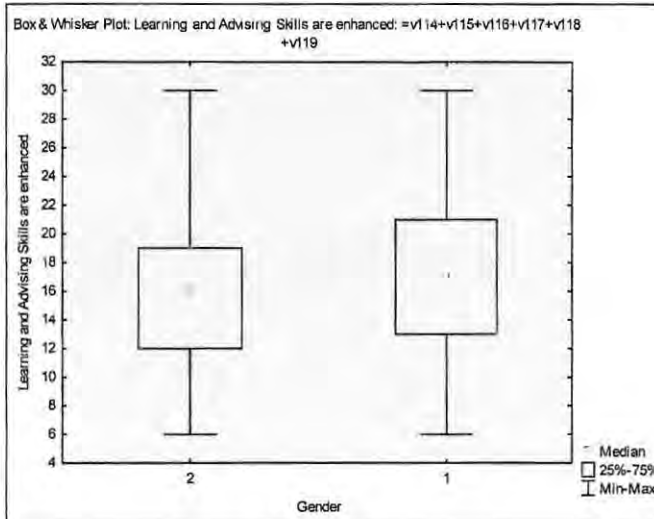


Figure 8.24: Gender vs. Measure 10: Learning and Advising Skills are enhanced

8.14.2. Age and Successful Use of SNSs

In earlier chapters it was suggested that the age of users affects the way they adopt and use technology. One-way ANOVA tests have shown that there is no variance in the means of the ages of this sample of students, which is to be expected since the students only ranged from 16 – 26 years old.

8.14.3. Relationships between Categorical Variables

The Pearson Chi-Square test is the most common test for significance of the relationship between categorical variables (Statsoft, 2008). Significant relationships exist between all the items in Table 8.20 since $p < 0.01$. These relationships can also be seen in the 3D Histograms in Appendix J, where an integrated picture of the results is displayed. Both the items are based on a scale of 1 -5, where 1 – Very Unlikely, 2 – Unlikely, 3 – Neither, 4 – Likely and 5 – Very Likely; which is taken into consideration when interpreting the relationships.

Hypotheses

- **H0₁:** There is no relationship between A1:2 My personal information is safe on Facebook and M1:1 I am embarrassed by the photos friends put up of me on Facebook.
- **H1₁:** There is a relationship between A1:2 My personal information is safe on Facebook and M1:1 I am embarrassed by the photos friends put up of me on Facebook.

The Pearson Chi-Square test had a value of $p = 0.000020$. Thus, the null hypothesis is rejected. In Appendix J: even if people feel that their personal information is safe on Facebook, they are still sometimes embarrassed by the photos posted by their friends.

- **H0₂:** There is no relationship between A1:2 My personal information is safe on Facebook and M2:1 I have unwanted visitors looking at my profile.
- **H1₂:** There is a relationship between A1:2 My personal information is safe on Facebook and M2:1 I have unwanted visitors looking at my profile.

The Pearson Chi-Square test had a value of $p = 0.000038$. Thus, the null hypothesis is rejected. In Appendix J: even if people feel that their personal information is safe on Facebook, they still have unwanted visitors looking at their profiles.

- **H0₃:** There is no relationship between A2:2 I consider the effects of my Facebook postings and M3:2 I follow the “terms of use” on Facebook.
- **H1₃:** There is a relationship between A2:2 I consider the effects of my Facebook postings and M3:2 I follow the “terms of use” on Facebook.

The Pearson Chi-Square test had a value of $p = 0.000005$. Thus, the null hypothesis is rejected. In Appendix J: people who are likely to consider the effect of their facebook postings are also likely to follow the “terms of use” on Facebook.

- **H0₄:** There is no relationship between A3:1 I check my information before sharing it with others and M4:1 I believe everything I read on Facebook.
- **H1₄:** There is a relationship between A3:1 I check my information before sharing it with others and M4:1 I believe everything I read on Facebook

The Pearson Chi-Square test had a value of $p = 0.000492$. Thus, the null hypothesis is rejected. In Appendix J: people who are likely to check all their information are unlikely to believe everything they read on Facebook.

- **H0₅:** There is no relationship between A4:2 I use Facebook during work hours and

M5:2 I use Facebook to procrastinate.

- **H1₅:** There is a relationship between A4:2 I use Facebook during work hours and M5:2 I use Facebook to procrastinate.

The Pearson Chi-Square test had a value of $p = 0.00000$. Thus, the null hypothesis is rejected. In Appendix J: people who use Facebook during work hours are likely to use it to procrastinate.

- **H0₆:** There is no relationship between A5:1 There are things about Facebook I'd change to suit my personality and M6:3 I use Facebook differently to the way my friends do.
- **H1₆:** There is a relationship between A5:1 There are things about Facebook I'd change to suit my personality and M6:3 I use Facebook differently to the way my friends do.

The Pearson Chi-Square test had a value of $p = 0.000012$. Thus, the null hypothesis is rejected. In Appendix J: people who are likely to want to change Facebook to suit their personalities use it differently to the way their friends do.

- **H0₇:** There is no relationship between A6:1 I post or comment on photos of friends behaving badly and M1:1 I am embarrassed by the photos friends put up of me on Facebook.
- **H1₇:** There is a relationship between A6:1 I post or comment on photos of friends behaving badly and M1:1 I am embarrassed by the photos friends put up of me on Facebook.

The Pearson Chi-Square test had a value of $p = 0.000012$. Thus, the null hypothesis is rejected. In Appendix J: people who post bad behaviour are also quite likely to be embarrassed by photos their friends post of them on Facebook.

- **H0₈:** There is no relationship between A8:3 Facebook is fun to use and M7:1 I contact team members on Facebook.
- **H1₈:** There is a relationship between A8:3 Facebook is fun to use and M7:1 I contact team members on Facebook.

The Pearson Chi-Square test had a value of $p = 0.000000$. Thus, the null hypothesis is rejected. In Appendix J: people who think Facebook is fun, are likely to use it to contact team members.

- **H0₉:** There is no relationship between A9:1 My Internet connection is fast and M1:3 I

display a great variety of content on my profile.

- **H1₉**: There is a relationship between A9:1 My Internet connection is fast and M1:3 I display a great variety of content on my profile.

The Pearson Chi-Square test had a value of $p = 0.002082$. Thus, the null hypothesis is rejected. In Appendix J: people who have a fast Internet connected are likely to post a variety of content on Facebook.

- **H0₁₀**: There is no relationship between A11:2 Various applications on Facebook make it easy to reach people and M9:2 I feel part of the Facebook community.
- **H1₁₀**: There is a relationship between A11:2 Various applications on Facebook make it easy to reach people and M9:2 I feel part of the Facebook community.

The Pearson Chi-Square test had a value of $p = 0.00000$. Thus, the null hypothesis is rejected. In Appendix J: applications on Facebook make it easy to reach people are likely to make people feel part of the Facebook community.

- **H0₁₁**: There is no relationship between A12:1 I discuss current issues on Facebook and M8:1 Informal exchanges on Facebook allow me to gain a broader perspective from outside my traditional circle of friends.
- **H1₁₁**: There is a relationship between A12:1 I discuss current issues on Facebook and M8:1 Informal exchanges on Facebook allow me to gain a broader perspective from outside my traditional circle of friends.

The Pearson Chi-Square test had a value of $p = 0.00000$. Thus, the null hypothesis is rejected. In Appendix J: users who discuss current issues on Facebook, use these informal exchanges to gain a broader perspective on certain topics.

- **H0₁₂**: There is no relationship between A12:2 I use Facebook to discover news and recent issues and M10:2 I have to concentrate carefully when using Facebook.
- **H1₁₂**: There is a relationship between A12:2 I use Facebook to discover news and recent issues and M10:2 I have to concentrate carefully when using Facebook.

The Pearson Chi-Square test had a value of $p = 0.000000$. Thus, the null hypothesis is rejected. In Appendix J: people who use Facebook to discover news and recent events do not have to concentrate very carefully when doing so.

Table 8.20: Relationships between Categorical Variables

8.15. Conclusion

This chapter reported the results of the data analysis for this research. After having identified the factors affecting the use of SNSs, these were tested for their influence on the Dependent Variable: Perceived Successful Use of Social Network Sites. Revisions to the theoretical framework and the hypotheses were made after factor analysis. The revised hypotheses were then tested using Pearson Correlation analysis. On the basis of these results, the hypotheses were able to be either accepted or rejected.

Chapter 9: Revisions to the Theoretical Framework

The previous chapter presented the results of the experiment along with their impact on the framework proposed in Chapter 6. Based on the results and analysis, this Chapter details the revisions to the theoretical framework.

9.1. Introduction

A Theoretical Framework was proposed in Chapter 6 following the review of literature in chapters 2, 3, 4 and 5. The experiment was designed to further explore and verify the relevance and validity of the proposed framework. Revisions to the framework will now be made to reflect the results of the experiment.

9.2. Revisions to the Theoretical Framework

9.2.1. Proposed Framework

A framework for perceived successful use of SNSs, was proposed that comprised thirteen factors each loaded by a number of items. Perceived successful use was proposed to be measured by twelve items. The framework is illustrated by Figure 9.1, together with a number of hypotheses.

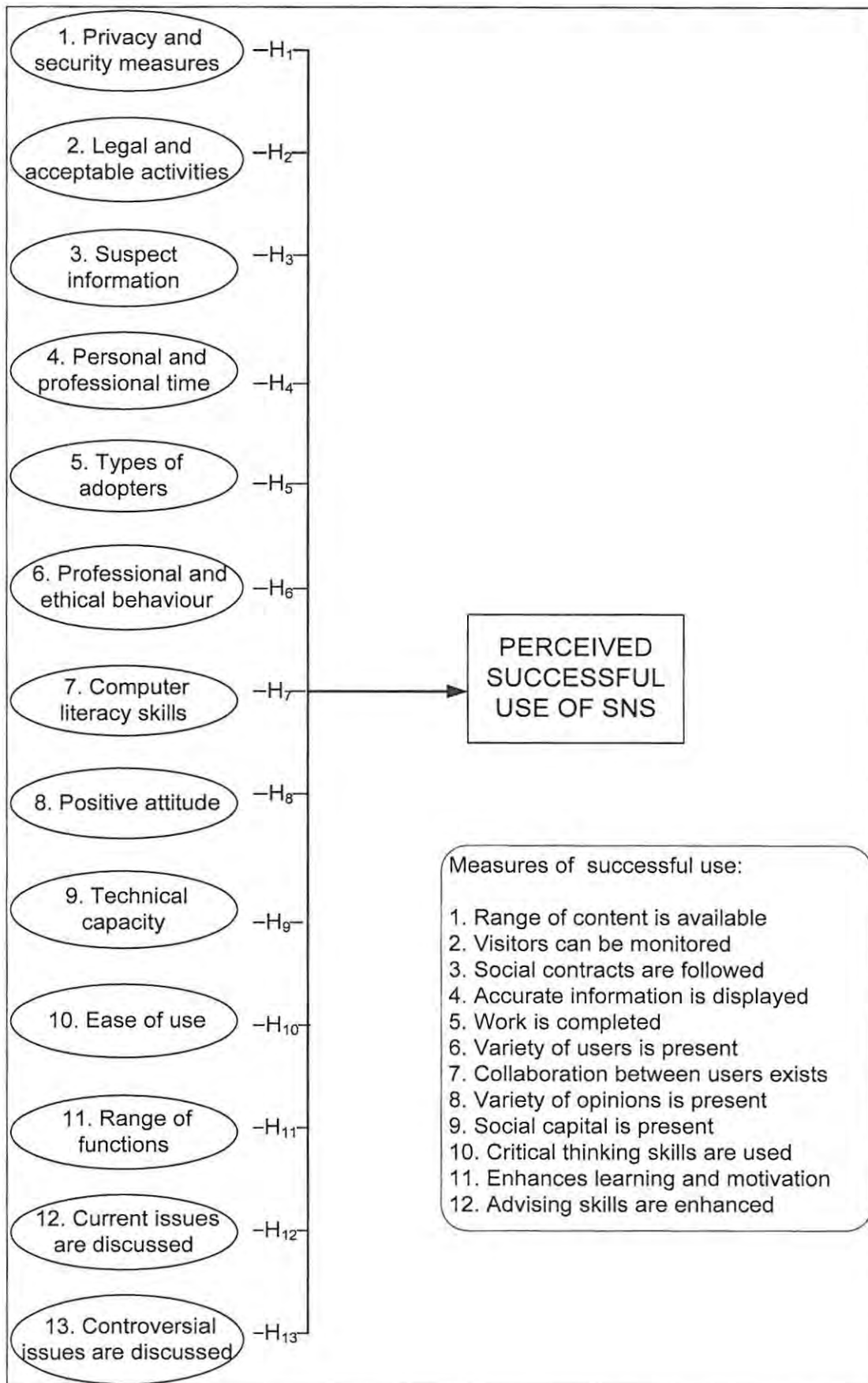


Figure 9.1: Proposed Theoretical Framework

9.2.2. Experiment Results

Data was collected via a survey and factor analysis was performed on the proposed framework. The tables below provide a summary of the factor analysis results along with changes to factor names and numbers. Originally 13 independent factors were hypothesised to be associated with perceived successful use of SNSs; these have been combined and split up to form 11 independent factors, which can be seen in Table 9.1.

Factor Analysis (Independent Variables)			
Proposed Factors		Results of Factor Analysis	
Factor Number	Factor Name	New Factor Number	New Factor Name
1	Privacy and Security Measures	1	Privacy and Security Measures (Settings)
		2	Privacy and Security Measures (Viewers)
2	Legal and Acceptable Activities	3	Legal and Acceptable Activities (Incorporates Types of Adopters)
3	Suspect Information	4	Suspect Information
4	Personal and Professional Time	5	Personal and Professional Time
5	Types of Adopters	-	Combined with Legal and Acceptable Activities
6	Professional and Ethical Behaviour	6	Professional and Ethical Behaviour (Content)
		7	Professional and Ethical Behaviour (Behaviour)
7	Computer Literacy Skills	8	Computer Literacy Skills
8	Positive Attitude	9	Positive Attitude
9	Technical Capacity	10	Usability (Includes technical capacity, ease of use and functionality)
10	Ease of Use		
11	Range of functions		
12	Current Issues	11	Current and Controversial Issues
13	Controversial Issues		

Table 9.1: Changes to the Independent Factors (Hypotheses)

Originally 12 measures of perceived successful use of SNSs were developed; these have been combined and split up to form 10 measures of perceived successful use of SNSs, which can be seen in Table 9.2.

Factor Analysis (Dependent Variable)			
Proposed Measures		Results of Factor Analysis	
Measure Number	Measure Name	New Measure Number	New Measure Name
1	Range of Content is available	1	Range of Content (Content)
		2	Range of Content (Viewers)
2	Visitors can be monitored	3	Visitors Behaviour is monitored (Includes some content information)
3	Social Contracts are followed	4	Social Contracts are followed
4	Accurate Information is displayed	5	Critical Thinking Skills and Accurate Information
10	Critical Thinking Skills are used		
5	Work is completed	6	Work is completed
6	Variety of Users is present	7	Variety of Users is present
7	Collaboration between users exists	8	Collaboration and a Variety of Opinions exist
8	Variety of Opinions is present		
9	Social Capital is present	9	Social Capital is present
11	Enhancing Learning and Motivation	10	Learning and Advising Skills are enhanced
12	Advising Skills are Enhanced		

Table 9.2: Changes to the Dependent Variable

Chapter 9 – Revisions to the Theoretical Framework

The theoretical framework was revised based on the changes specified in Table 9.1 and Table 9.2. See Figure 9.2.

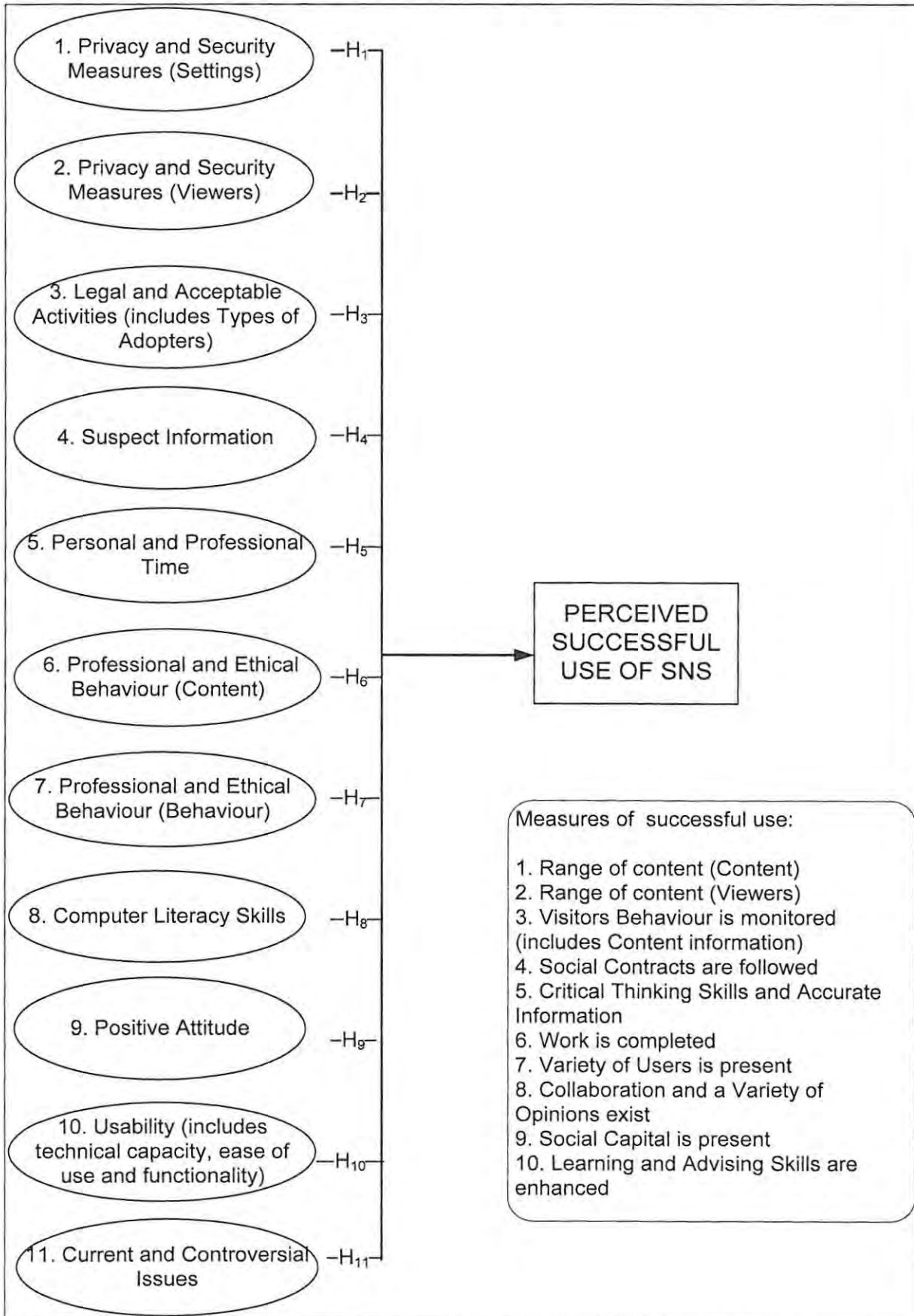


Figure 9.2: Revisions to the Theoretical Framework after Factor Analysis

In addition to the factor analysis, Pearson Correlation Coefficient tests were conducted in order to test the eleven hypotheses. The results of analysis can be found in Table 9.3.

Hypotheses	Relationship exists
Hypothesis 1: Privacy and Security Measures (Settings)	Yes, null hypothesis rejected
Hypotheses 2: Privacy and Security Measures (Viewers)	Yes, null hypothesis rejected
Hypothesis 3: Legal and Acceptable Activities	Yes, null hypothesis rejected
Hypothesis 4: Suspect Information	Yes, null hypothesis rejected
Hypothesis 5: Personal and Professional Time	Yes, null hypothesis rejected
Hypothesis 6: Professional and Ethical Behaviour (Content)	Yes, null hypothesis rejected
Hypothesis 7: Professional and Ethical Behaviour (Behaviour)	No, null hypothesis cannot be rejected
Hypothesis 8: Computer Literacy Skills	No, null hypothesis cannot be rejected
Hypothesis 9: Attitude towards Technology	Yes, null hypothesis rejected
Hypothesis 10: Usability	Yes, null hypothesis rejected
Hypothesis 11: Current and Controversial Issues	Yes, null hypothesis rejected

Table 9.3: Results of the Hypotheses

9.2.3. Final Framework

The final framework includes revisions from both the factor analysis and the correlation tests. Figure 9.2 has been revised so that Factor 7: Professional and Ethical Behaviour (Behaviour) and Factor 8: Computer Literacy Skills are removed, as it was found that there is no relationship between these factors and perceived successful use of SNSs. The final Framework for Perceived Successful Use of SNSs is illustrated in Figure 9.3.

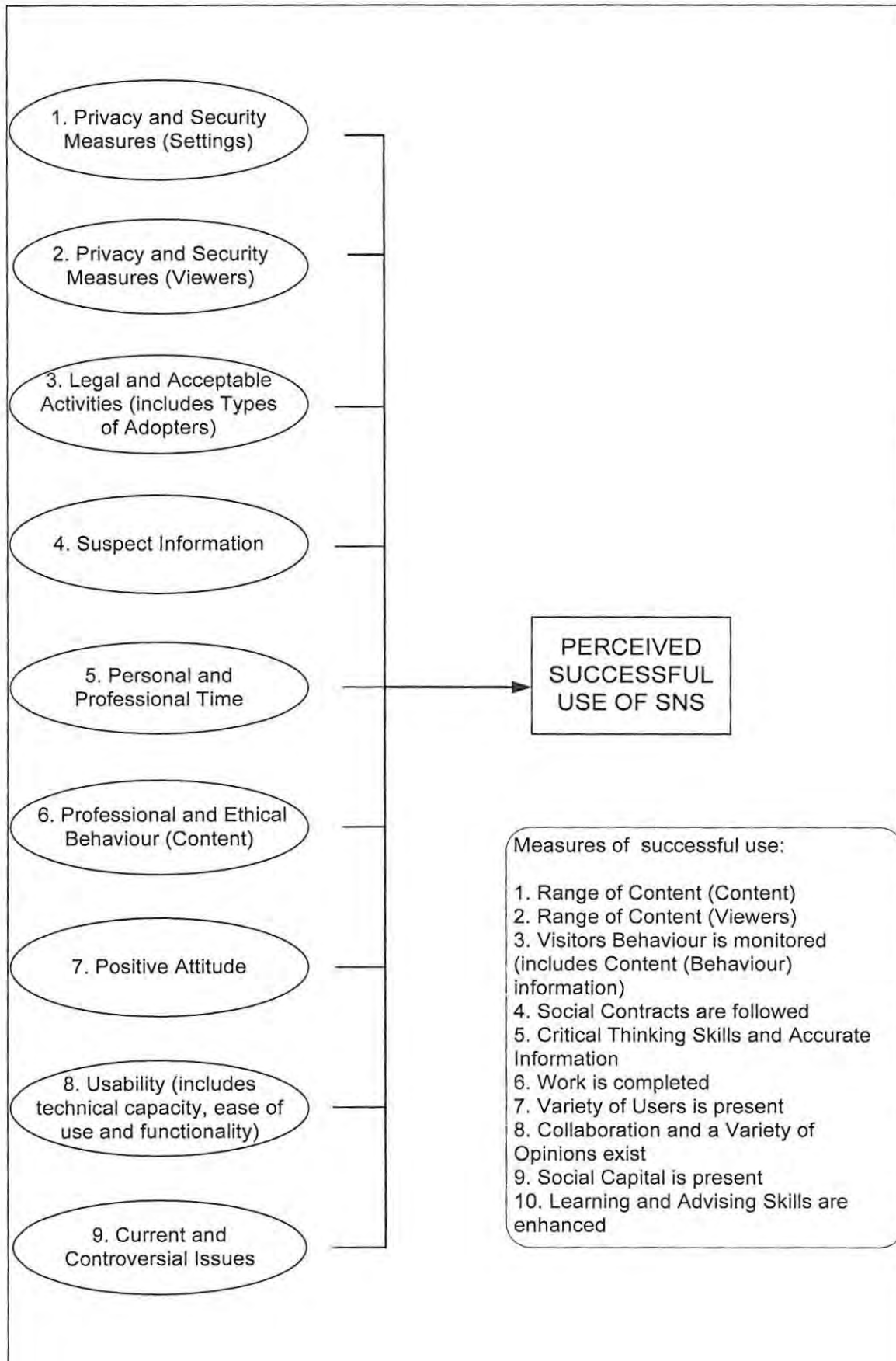


Figure 9.3: Framework for Perceived Successful Use of SNSs

9.3. Description of a Successful SNS User

The final Framework for Perceived Successful Use of SNSs provides useful guidelines that users can follow to use these sites successfully. The guidelines and measures can be combined with the analysed literature to describe successful SNSs users.

Successful SNSs users:

- Take security precautions to ensure that their personal information is safe, and that they are aware of any people who have access to their profiles
- Consider the effects of their information on sites and ensure that they follow social contracts by only practising legal and acceptable activities
- Check their information before sharing it with others to ensure that anything they post is accurate and reliable
- Check other peoples' information so that they are not misled by anything they read on sites
- Separate their personal and professional time so that their work is complete before social activities occur
- Are aware that different people adopt technology in different ways and that there are a variety of users on the site
- Display professional content and behaviour to avoid embarrassment and other implications
- Display a variety of content on their profiles
- Have positive attitudes regarding sites and other users
- Do not spend excessive amounts of time on these sites
- Enjoy easy-to-use sites with a range of new and useful features
- Collaborate with others and share their opinions effectively
- Discuss current and controversial issues allowing them to use sites for learning, critical thinking and advising others

9.4. Conclusion

The literature review led to the development of the theoretical framework for perceived successful use of SNSs in Chapter 6. The experiment was developed to test this framework along with the eleven revised hypotheses. The survey and tests confirmed 9 of the eleven hypotheses as well as minor alterations and changes to the framework. Finally, a final Framework for Perceived Successful Use of SNSs was presented.

Chapter 10: Conclusion

This chapter concludes the research by identifying the most significant contributions of the research and by suggesting areas of future work.

10.1. Introduction

SNSs have recently become extremely popular online destinations as they offer users easy ways to build and maintain their relationships with each other. Consequently, students, lecturers, teachers, parents and businesses are using these tools to communicate with each other in a fast and cost-effective manner. However, literature suggests that the full potential of SNSs has not yet been revealed since users are still battling to overcome the various negative characteristics surrounding these sites. A framework for appropriate use of these sites is needed so that users are able to overcome these negative aspects, allowing them to be more effective and use the sites successfully.

This thesis proposes a framework for successful use of SNSs that enables users to overcome the negative aspects of these sites, allowing them to use the sites effectively for educational purposes.

10.2. Contributions of the Research

Most of the literature devoted to social computing/networking is very specific, that is, the majority of authors have chosen to focus their efforts on one aspect or problem surrounding SNSs. Factors for successful use were derived from these sources and were consolidated into one theoretical framework in order to understand the factors that drive successful use of SNSs. Measures used to test successful use of SNSs were also derived from these sources and consolidated into the same theoretical framework; these measures allow users to evaluate the extent of perceived successful use of SNSs. Following experimental work, which comprised a survey of 587 students of Rhodes University, a framework for successful use of SNSs was developed. According to this framework, successful use of SNSs is dependent on the following factors:

- Privacy and Security Settings need to be enabled. These are split into:
 - Settings: content that users allow others to see
 - Viewers: people who are allowed onto a user's profile
- It is necessary for users to practise Legal and Acceptable Activities when using SNSs
- Suspect Information needs to be checked before sharing it with others

- Personal and Professional Time needs to be separated to ensure that work is completed before social activities occur
- Users need to practise Professional and Ethical Behaviour with regards to the content they display on their profiles
- Users need to have a Positive Attitude when using SNSs
- Usability of sites affects their success. This includes:
 - technical capacity (broadband)
 - ease of use
 - functionality (range of features and functions)
- Current and Controversial Issues need to be discussed on SNSs

The extent to which SNSs are being used successfully can be evaluated by the presence of the following measures:

- Range of Content must be available to users. This includes:
 - Content displayed on profiles
 - Viewers able to visit profiles
- Visitors' Behaviour is monitored and no unwanted visitors are present users' profiles
- Social Contracts found on sites are followed by users
- Critical Thinking Skills and Accurate Information are displayed by users
- Work is completed before social activities occur on sites
- A Variety of Users is present on sites
- Collaboration between people as well as variety of opinions exist on sites
- Social Capital (well-being) is present after users have been on sites
- Learning and Advising Skills are enhanced on sites

This framework also allows for the identification of characteristics of successful users of SNSs. Successful users:

- Take security precautions to ensure that their personal information is safe, and that they are aware of any people who have access to their profiles
- Consider the effects of their information on sites and ensure that they follow social contracts by only practising legal and acceptable activities

- Check their information before sharing it with others to ensure that anything they post is accurate and reliable
- Check other peoples' information so that they are not misled by anything they read on sites
- Separate their personal and professional time so that their work is complete before social activities occur
- Are aware that different people adopt technology in different ways and that there are a variety of users on the site
- Display professional content and behaviour to avoid embarrassment and other implications
- Display a variety of content on their profiles
- Have positive attitudes regarding sites and other users
- Do not spend excessive amounts of time on these sites
- Enjoy easy-to-use sites with a range of new and useful features
- Collaborate with others and share their opinions effectively
- Discuss current and controversial issues allowing them to use sites for learning, critical thinking and advising others

10.3. Limitations of the Study and Recommendations for Future Research

This study has contributed to the knowledge and understanding of the factors and measures that influence perceived successful use of SNSs. Future research includes:

10.3.1. Sample

A self-selected sample was used in this research, with all the respondents drawn from students at Rhodes University in the Eastern Cape Province. Further studies should attempt to explore this framework at schools and other universities. The research could also be replicated in other countries.

10.3.2. Context

This study was restricted to an educational context. Further studies are needed to modify the framework so that it could be used across various industries. Similar research issues in areas such as business, politics and arts and culture should be explored.

10.3.3. Other SNSs

This study was conducted with specific reference to Facebook. Further studies should attempt to explore this framework when using other SNSs. Future work could explore the use of blogs, Wikipedia, flickr, MySpace, Bebo and LinkedIn and modify the framework accordingly.

10.4. Concluding Remarks

This research focuses on the use of SNSs in an educational context. Literature acknowledges that that these sites are widely used by both students and lecturers for a variety of purposes, but stresses the fact that various negative aspects are ruining the experience for many users. The framework developed in this research provides users with a useful instrument to overcome these negative characteristics and focus on the positive aspects of these sites. If used successfully, SNSs can offer lecturers and students a unique method to develop their relationship, creating a positive learning experience.

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Appendices

Appendix A: Pilot Study Questionnaire

Survey testing perceived successful use of social network sites

Please complete the following questions by circling or ticking the appropriate option(s).

1. Your gender:	M	F	2. Your age:	
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3. Demographics:	Asian	Black	Coloured	Indian	White	Other	Information refused
If other, please specify:							

4. Access to a computer:

No access/computer
Use my own computer
Use my parents' computer
Use my friends' computer
Use university lab

5. Your academic year of study:

First year	Fourth year/ Honours
Second Year	Masters
Third Year	PhD

6. Are you a member of Facebook? Yes No

7. About how many total Facebook friends do you have? (A6:1)

< 10	11-50	51-100	101-150	151-200	201-250	251-300	301-400	401-500	> 500
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8. How many hours do you typically spend using Facebook each day during a typical "WEEKEND" day? (A8:1)

0-29 min	30-59 min	1-2 hours	2-3 hours	3-4 hours	4-5 hours	5-6 hours	> 6 hours
----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

9. How many hours do you typically spend using Facebook each day during a typical "WEEK" day? (A8:2)

0-29 min	30-59 min	1-2 hours	2-3 hours	3-4 hours	4-5 hours	5-6 hours	> 6 hours
----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

10. Indicate the likelihood of you including the following information in your Facebook profile: (A6:4)

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
Contact details (phone or email)					
Sexual orientation					
My high school					
My classes					
Likes and dislikes					
Work information					
Photos of myself and others					
My relationship status					
My birthday					
Sport information					

11. Indicate the likelihood of the following people looking at your Facebook profile (A1:3)

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
Friends					
Family					
Friends-of-friends					
Strangers					
Residence Wardens					
Lecturers					
Employers (Recruiters)					
Police					

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12. Indicate the likelihood of using Facebook to: (A2::1)

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
Check out someone I met socially					
Meet new people					
Learn more about people in my classes					
Learn more about other people living near me					
Keep in touch with my old friends					
Check out someone I am interested in					
Learn more about my lecturers					
Find out about university assignments					
Organise team meetings					

13. Indicate the likelihood of taking the following security precautions (A1:1):

	Very Unlikely	Unlikely	Neither	Likely	Very Likely
Only friends can see my profile					
Friends-of-friends can see my profile					
People in my networks can see my profile					
People in groups I have joined can see my profile					
Anyone can see my profile					
Friends-of-friends can see my contact information					
Only friends can see my contact information					
No one can see my contact information					
I have customised my contact information so that only specific friends can see it					

14. Please indicate your levels of competency with regards to the following applications (A7:1):

	Highly Incompetent	Incompetent	Neither	Competent	Highly Competent
Email					
Internet					
Word Processor					
Spreadsheet					
Database Management System					
Instant messaging application					
Social networks					

15. Please indicate the extent to which you agree with each of the following statements.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
A1:2 My personal information is safe on Facebook					
A2:2 I consider the effects of my Facebook postings					
A3:1 I check my information before sharing it with others					
A3:2 I check everything I find on Facebook					
A3:3 It is not necessary to check information found on Facebook					
A4:1 My personal and academic contacts are the same people					
A4:2 I use Facebook during work hours					
A5:1 There are certain things about Facebook I'd change to suit my personality					
A5:2 I would like a specific version of Facebook to suit my culture					
A6:2 I swear when writing Facebook messages to friends					
A6:3 I post or comment on photos of friends behaving badly					
A7:3 I am able to use all the applications on Facebook comfortably					
A8:3 Facebook is fun to use					
A8:4 Facebook is exciting to use					
A8:5 I spend a large part of my week using Facebook (Mon – Fri)					
A8:6 I spend a large part of my weekend using Facebook (Sat and Sun)					
A9:1 My internet connection is fast					
A9:2 I upload and download a large amount of information (text and photos) on Facebook					

Appendices

A10:1 Facebook is easy to use					
A10:2 Facebook took me a short time to learn how to use					
A11:1 Facebook incorporates new and useful features					
A11:2 Various applications on Facebook make it easy to reach people					
A12:1 I discuss current issues on Facebook					
A12:2 I use Facebook to discover news and recent issues					
A13:1 I discuss controversial issues on Facebook					
A13:2 I use Facebook to discover updates about controversial issues					

16. Please indicate the extent to which you agree with each of the following statements.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
M1:1 I am embarrassed by the photos friends put up of me on Facebook					
M1:2 I have been reprimanded or prosecuted for content on my profile					
M1:3 I display a great variety of content on my profile					
M1:4 I mind if prospective employers check my profile					
M1:5 I use Facebook to search for information about people I am interested in					
M1:6 I have been "de-friended" on Facebook					
M1:7 I stalk people on Facebook for fun					
M1:8 I would remove people as friends if I didn't approve of their profile content					
M2:1 I have unwanted visitors looking at my profile					
M2:2 I look at strangers' profiles					
M3:1 I know about the "terms of use" on Facebook					
M3:2 I follow the "terms of use" on Facebook					
M4:1 I believe everything I read on Facebook					
M4:2 I have been misled by information found on Facebook					
M5:1 Facebook distracts me from work					
M5:2 I use Facebook to procrastinate					
M6:1 Facebook suits my personality and culture					
M6:2 I use Facebook for the same reasons my friends do					
M6:3 I use Facebook differently to the way my friends do					
M7:1 I contact team members on Facebook (work and sport)					
M7:2 It is easy to reach people on Facebook					
M8:1 Informal exchanges on Facebook allow me to gain a broader perspective from outside my traditional circle of friends					
M8:2 I offer many different opinions on a range of current and controversial issues					
M9:1 I feel out of touch when I haven't logged onto Facebook for a while					
M9:2 I feel part of the Facebook community					
M9:3 I feel satisfied with life after using Facebook					
M10:1 I use abstract thinking and problem solving skills while using Facebook					
M10:2 I have to concentrate carefully when using Facebook					
M11:1 I find it easier to participate in class if I know more about my lecturers					
M11:2 It is easier to interact with classmates if I know them better					
M11:3 I find it convenient if the library sends messages about book availability over Facebook					
M11:4 I use the library more if I am sent information about relevant books over Facebook					
M12:1 I feel more comfortable approaching a lecturer if they are present and friendly on Facebook					
M12:2 I feel comfortable knowing lecturers view information on my profile					
M12:3 Lecturers advise students better, if they are aware of students' personal problems					

Appendix B: Online Questionnaire

Facebook questionnaire

Dear Participant

You are invited to participate in the research project “Facebook Survey” by completing the online questionnaire. The aim of the project is to examine how students at Rhodes use Facebook. The study is being conducted by Lara Schlenkrich and Prof. Dave Sewry of the Department of Information Systems at Rhodes University.

The questionnaire will take you approximately 10 minutes at the most to complete. It consists of a total of 19 questions (some of which are optional). All questions are in multiple choice format and ask you to select the most appropriate answer.

Participation in this survey is voluntary. By completing this questionnaire you are agreeing to take part in this research. If at any stage you do not wish to continue with the survey you may withdraw your consent by simply logging out of RUconnected or closing your browser window. By completing the questionnaire it will be understood that you have consented to participate in the project, and that you consent to publication of the results of the project with the understanding that anonymity will be preserved.

This is an anonymous study. We are not trying to find out your identity nor examine the responses on an individual basis. The results of the project will be published, but you may be assured that any information obtained in connection with this study that may be identified with you will remain confidential and will not be disclosed. To ensure confidentiality the data of completed questionnaires is being stored electronically in a database on a secured server and access is restricted by password to the researchers.

If at any stage you have any queries or concerns regarding your participation in the study, please feel free to contact me.

Lara Schlenkrich
Email: g04s0540@campus.ru.ac.za

1	What is your gender:
<input type="radio"/> Male	
<input type="radio"/> Female	
2	What is your age?
<input type="text" value="Choose..."/>	

Appendices

3 Demographics:

- Black
- Coloured
- Indian
- White
- Other
- Information refused

4 What is your dominant access to a computer:

- No access/computer
- Use my own computer
- Use my parents' computer
- Use my friends' computer
- Use university lab

5 Your academic year of study:

- First year
- Second year
- Third year
- Fourth year/Honours
- Masters
- PhD

6 Are you a member of Facebook?

- Yes
- No

Appendices

7 About how many total Facebook friends do you have?

- Less than 10
- 11-50
- 51-100
- 101-150
- 151-200
- 201-250
- 251-300
- 301-400
- 401-500
- More than 500

8 How many hours do you typically spend using Facebook each day during a typical "WEEKEND" day?

- 0-29 minutes
- 30-59 minutes
- 1-2 hours
- 2-3 hours
- 3-4 hours
- More than 4 hours

9 How many hours do you typically spend using Facebook each day during a typical "WEEK" day?

- 0-29 minutes
- 30-59 minutes
- 1-2 hours
- 2-3 hours
- 3-4 hours
- More than 4 hours

Appendices

10 Indicate the likelihood of you including the following information in your Facebook profile (1 - Very Unlikely, 2 - Unlikely, 3 - Neither, 4 - Likely, 5 - Very Likely)

	1	2	3	4	5
Contact details (phone or email)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual orientation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My high school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Likes and dislikes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Photos of myself and others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My relationship status	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My birthday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sport information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11 Indicate the likelihood of the following people looking at your Facebook profile? (1 - Very Unlikely, 2 - Unlikely, 3 - Neither, 4 - Likely, 5 - Very Likely)

	1	2	3	4	5
Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends-of-friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strangers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residence wardens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lecturers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employers (recruiters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendices

12 Indicate the likelihood of using Facebook to: (1 - Very Unlikely, 2 - Unlikely, 3 - Neither, 4 - Likely, 5 - Very Likely)

	1	2	3	4	5
Check out someone I met socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meet new people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learn more about people in my classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learn more about people living near me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep in touch with my old friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check out someone I am interested in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learn more about my lecturers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Find out about University assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organise team meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13 Indicate the likelihood of taking the following security precautions: (1 - Very Unlikely, 2 - Unlikely, 3 - Neither, 4 - Likely, 5 - Very Likely)

	1	2	3	4	5
Only friends can see my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends-of-friends can see my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People in my networks can see my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People in groups I have joined can see my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anyone can see my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends-of-friends can see my contact information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Only friends can see my contact information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No one can see my contact information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have customised my contact information so that only specific friends can see it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14 Please indicate your levels of competency with regards to the following applications: (1 - Highly Incompetent, 2 - Incompetent, 3 - Neither, 4 - Competent, 5 - Highly Competent)

	1	2	3	4	5
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Word Processor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spreadsheet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Database Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instant Messaging Application	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15

Please indicate the extent to which you agree with each of the following statements: (1 - Strongly Disagree, 2 - Disagree, 3 - Neither, 4 - Agree, 5 - Strongly Agree)

	1	2	3	4	5
My personal information is safe on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider the effects of my Facebook postings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I check my information before sharing it with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I check everything I find on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is not necessary to check information found on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal and academic contacts are the same people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook during work hours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are certain things about Facebook I'd change to suit my personality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like a specific version of Facebook to suit my culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I swear when writing Facebook messages to friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I post or comment on photos of friends behaving badly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to use all the applications on Facebook comfortably	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook is fun to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook is exciting to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend a large part of my week using Facebook (Monday - Friday)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend a large part of my weekend using Facebook (Saturday and Sunday)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My internet connection is fast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I upload and download a large amount of information (text and photos) on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook is easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook took me a short time to learn how to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook incorporates new and useful features	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Various applications on Facebook make it easy to reach people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I discuss current issues on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook to discover news and recent issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I discuss controversial issues on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook to discover updates about controversial issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

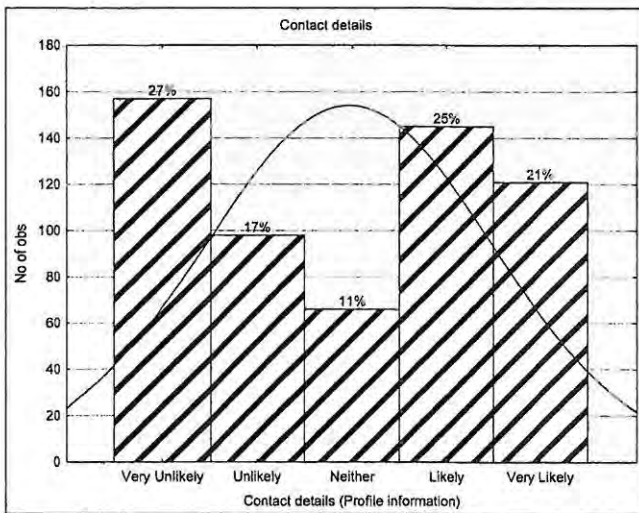
16 Please indicate the extent to which you agree with each of the following statements: (1 - Strongly Disagree, 2 - Disagree, 3 - Neither, 4 - Agree, 5 - Strongly Agree)

	1	2	3	4	5
I am embarrassed by the photos friends put up of me on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been reprimanded or prosecuted for content on my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I display a great variety of content on my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I mind if prospective employers check my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook to search for information about people I am interested in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been "de-friended" on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I stalk people on Facebook for fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would remove people as friends if I didn't approve of their profile content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have unwanted visitors looking at my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I look at strangers' profiles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know about the "terms of use" on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I follow the "terms of use" on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe everything I read on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been misled by information found on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook distracts me from work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook to procrastinate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook suits my personality and culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook for the same reasons my friends do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Facebook differently to the way my friends do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I contact team members on Facebook (work and sport)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to reach people on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informal exchanges on Facebook allow me to gain a broader perspective from outside my traditional circle of friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I offer many different opinions on a range of current and controversial issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel out of touch when I haven't logged onto Facebook for a while	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel part of the Facebook community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel satisfied with life after using Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use abstract thinking and problem solving skills while using Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to concentrate carefully when using Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

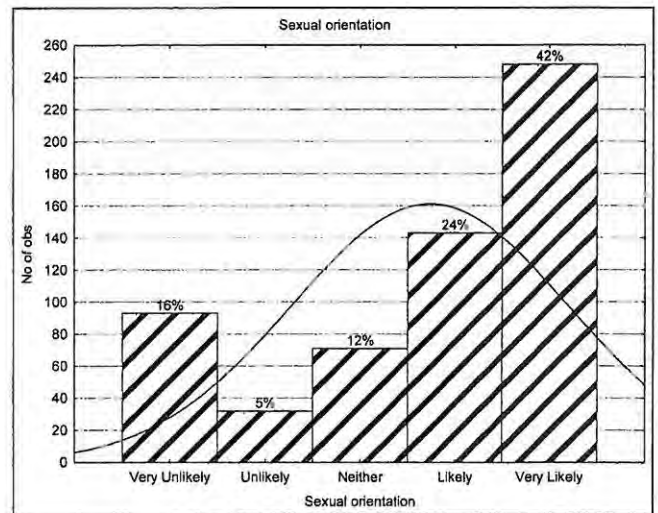
Appendices

I find it easier to participate in class if I know more about my lecturers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to interact with classmates if I know them better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it convenient if the library sends messages about book availability over Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use the library more if I am sent information about relevant books over Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more comfortable approaching a lecturer if they are present and friendly on Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable knowing lecturers view information on my profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lecturers advise students better if they are aware of students' personal problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

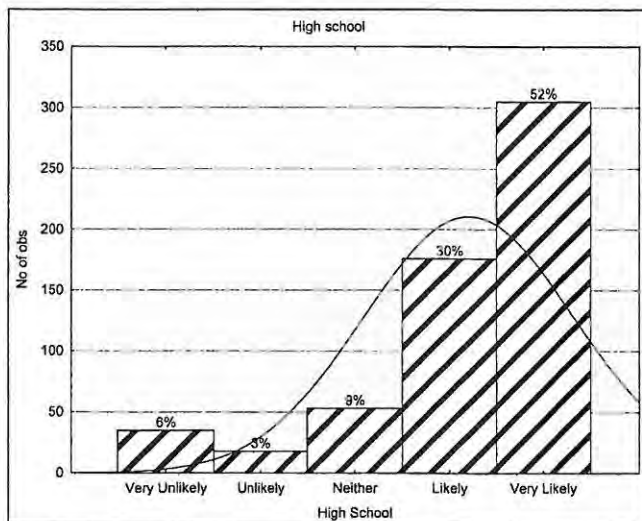
Appendix C: Individual Cases of Information Displayed on Facebook Profiles



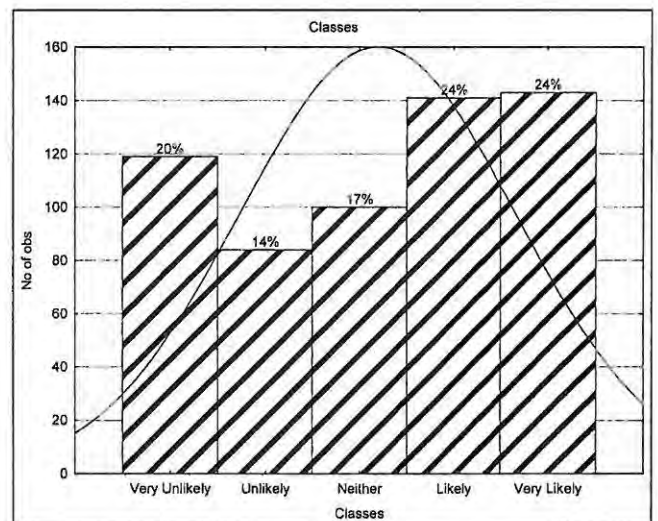
Contact details



Sexual orientation

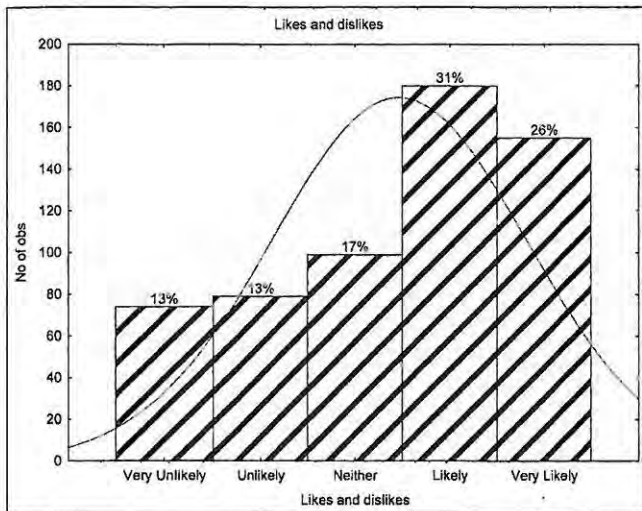


High School

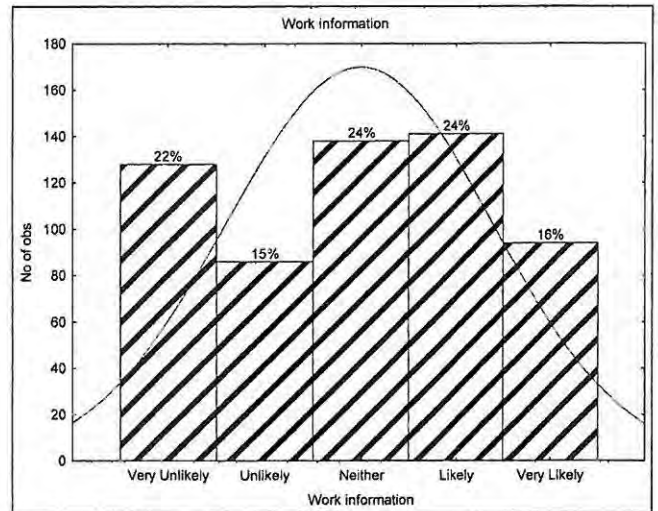


Classes

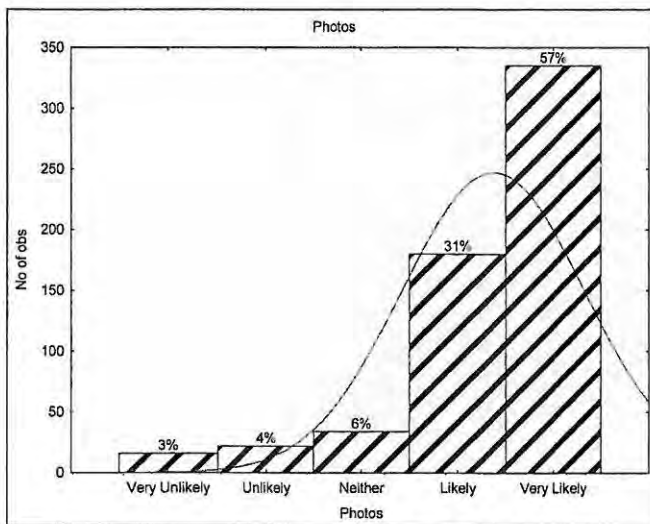
Appendices



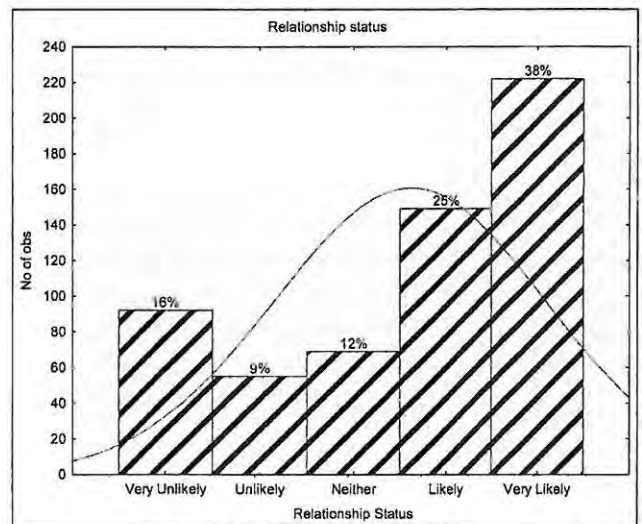
Likes and dislikes



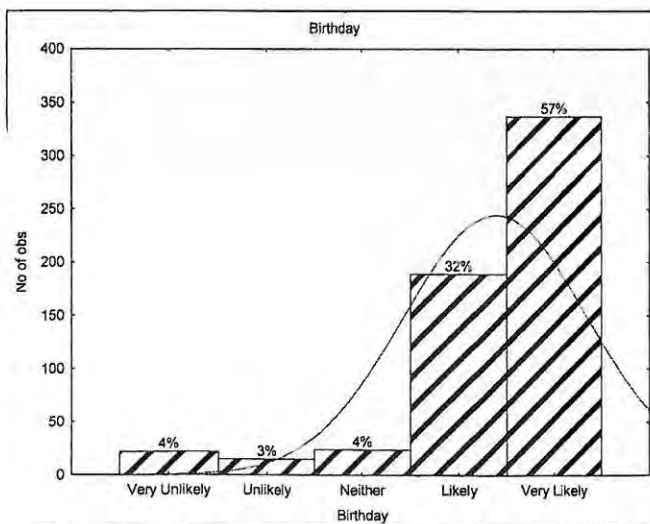
Work information



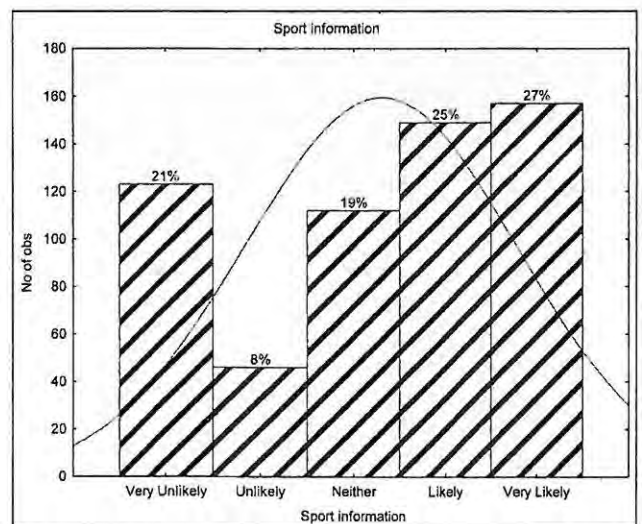
Photos



Relationship status

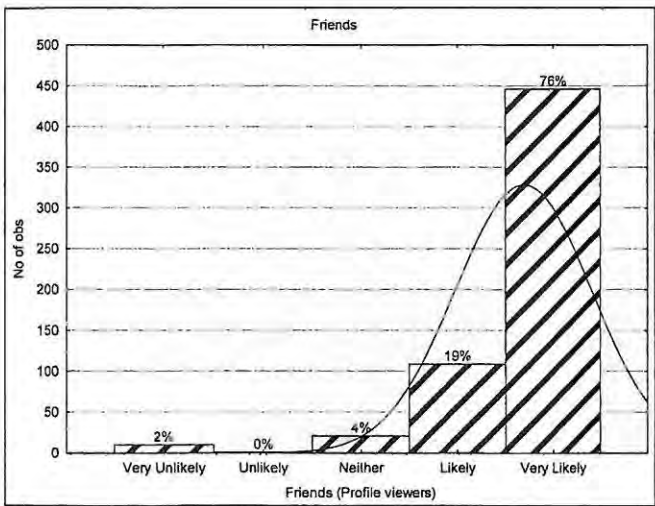


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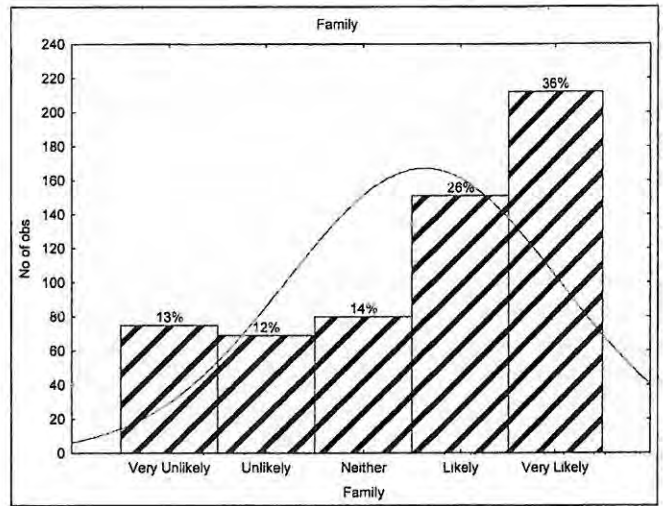


Sport Information

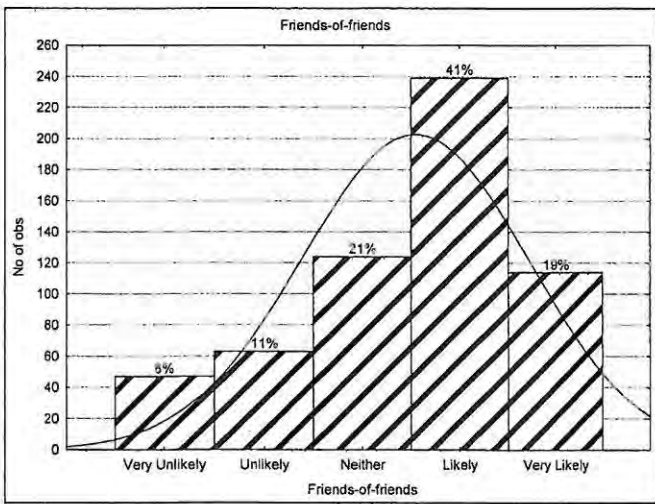
Appendix D: Individual Cases of Viewers of Facebook Profiles



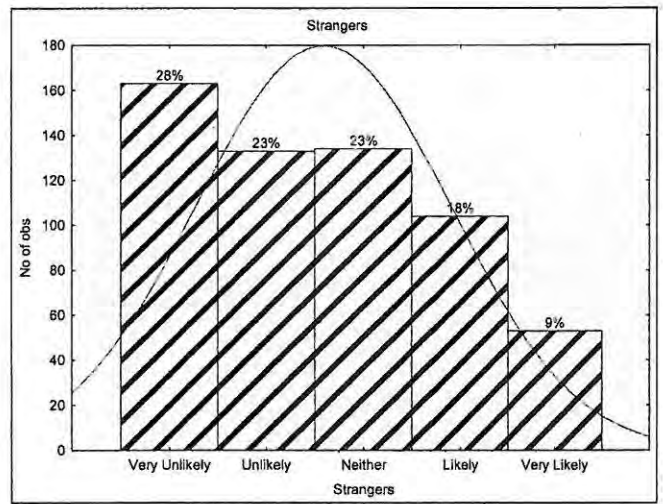
Friends



Family

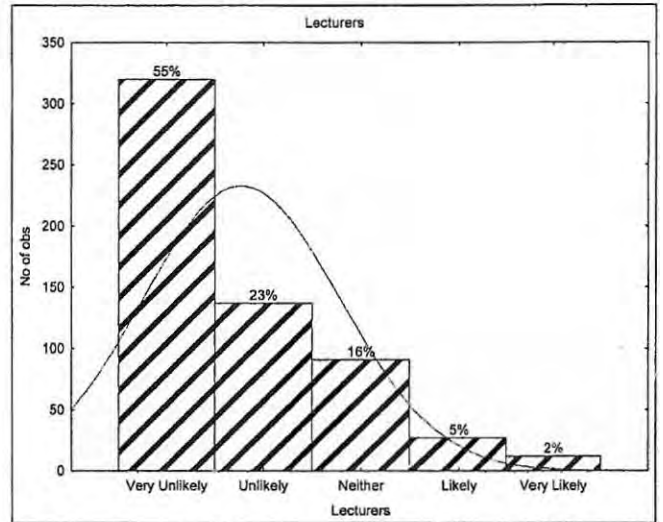
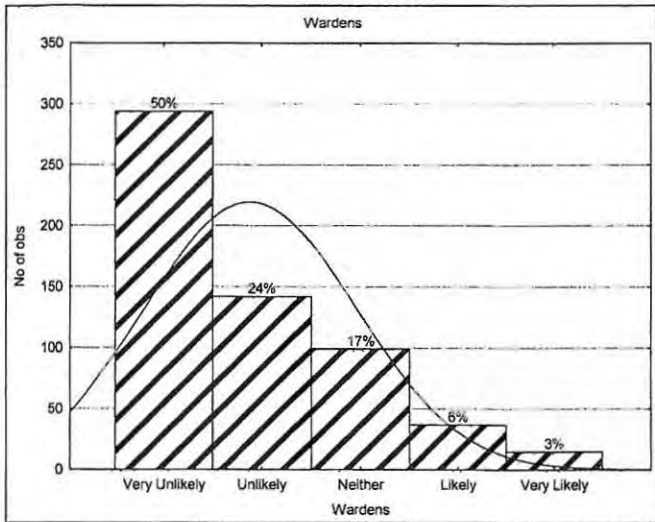


Friends-of-friends



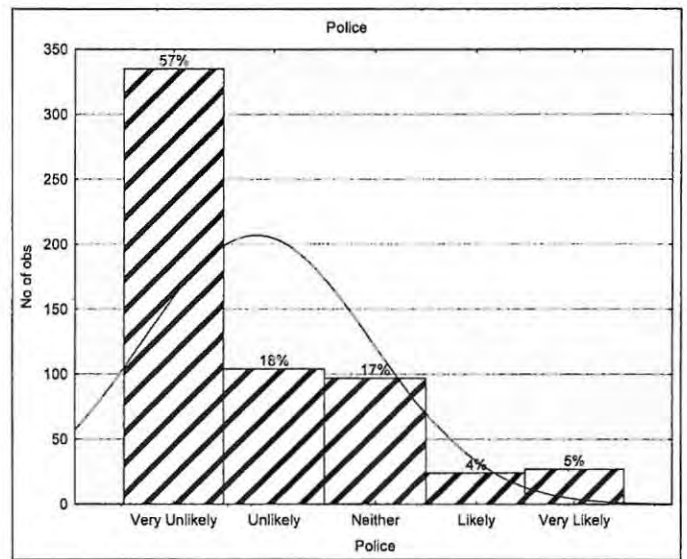
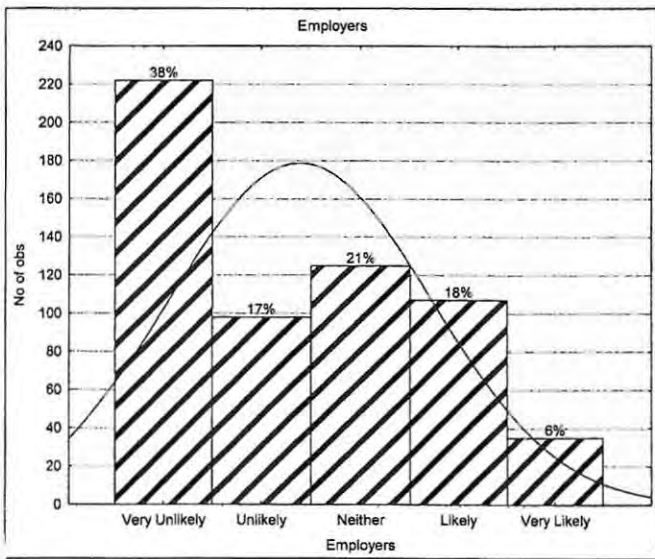
Strangers

Appendices



Wardens

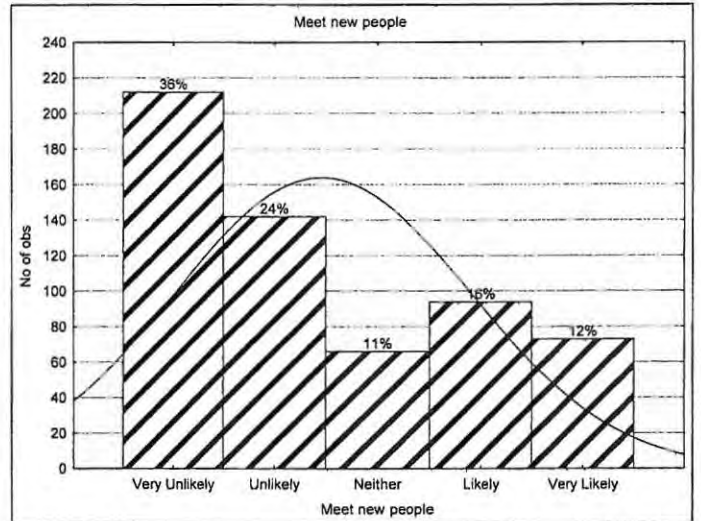
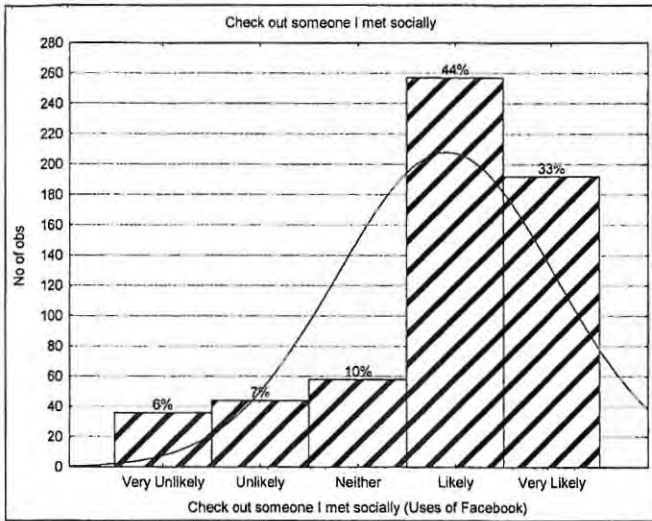
Lecturers



Employers

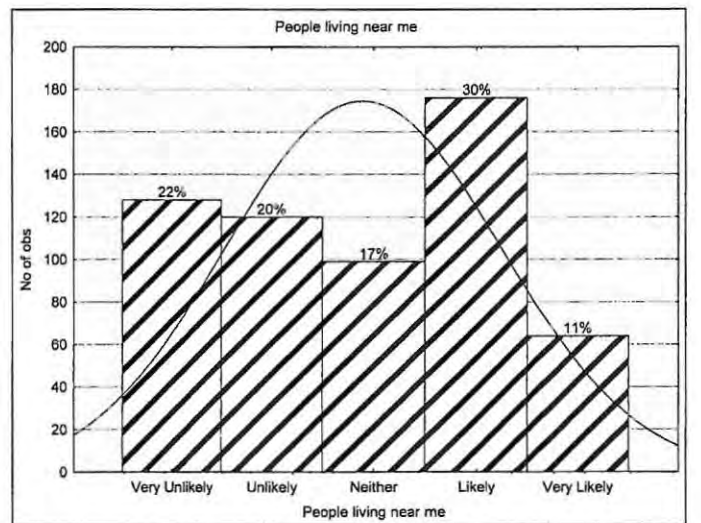
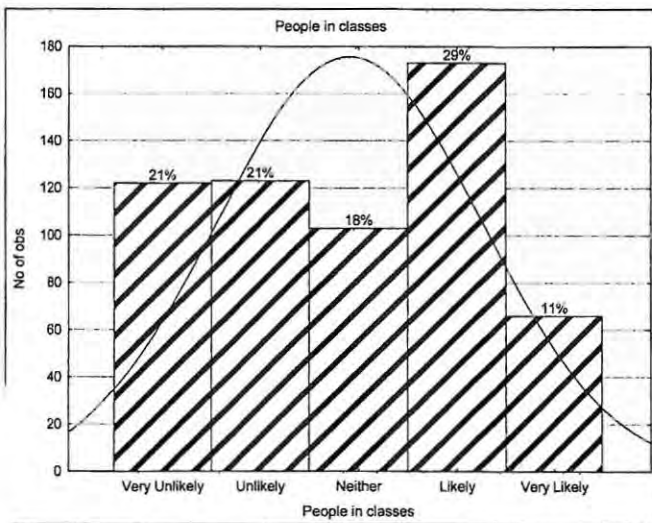
Police

Appendix E: Individual Uses of Facebook



Check out someone I met socially

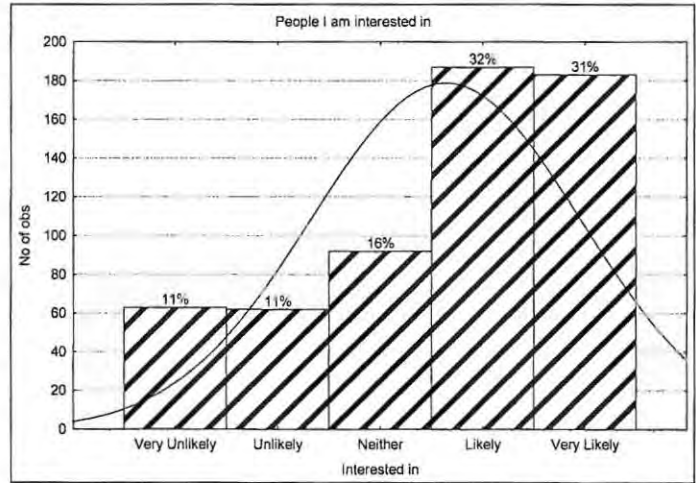
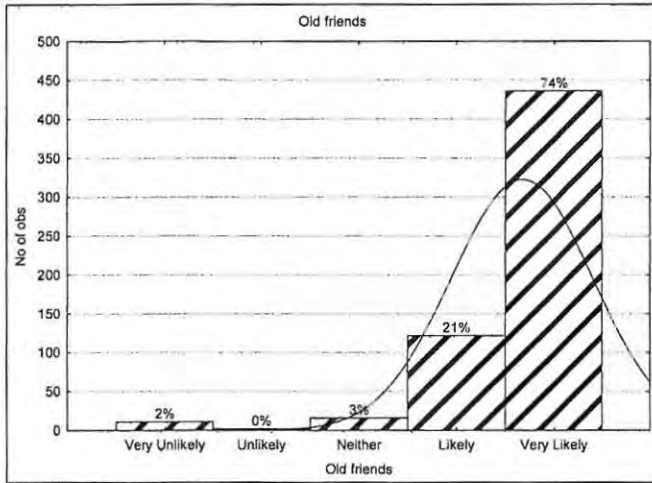
Meet new people



Find out about people in classes

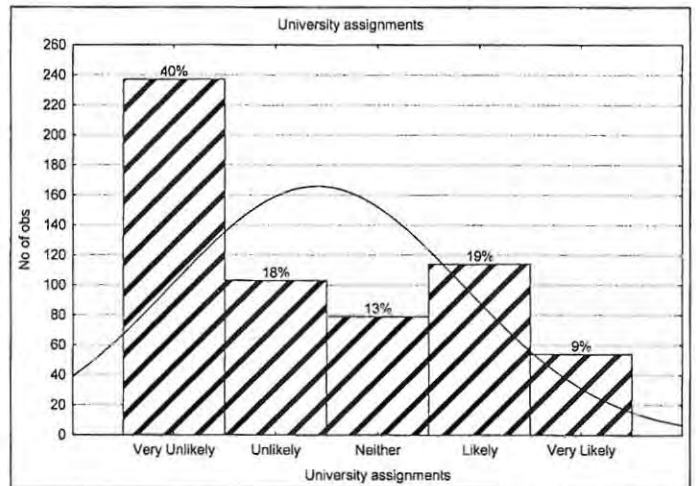
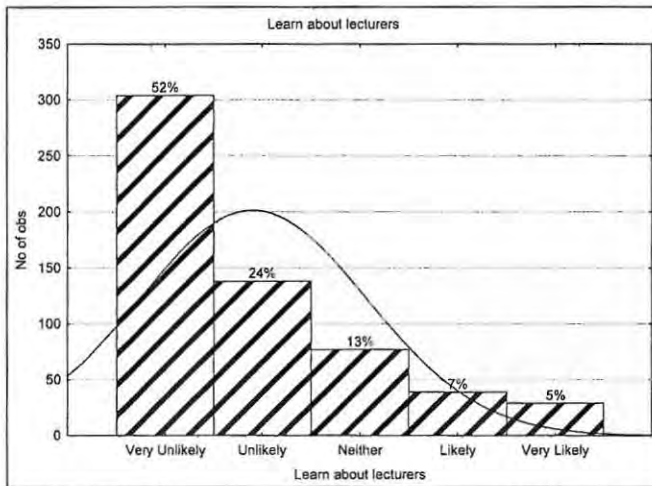
Find out about people living near me

Appendices



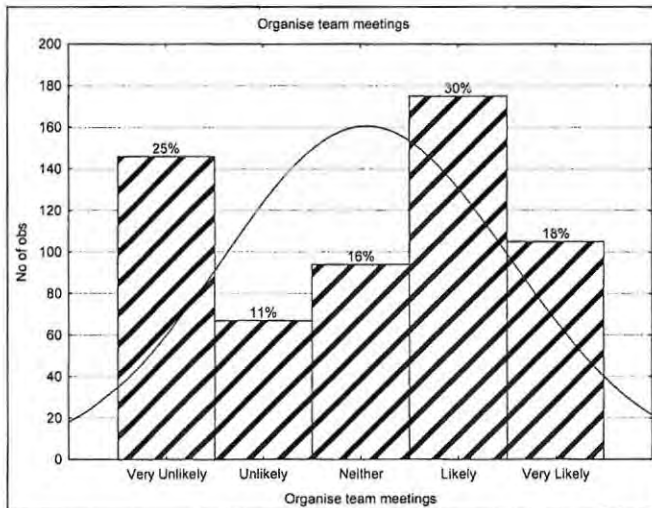
Keep in touch with old friends

Learn about people I am interested in



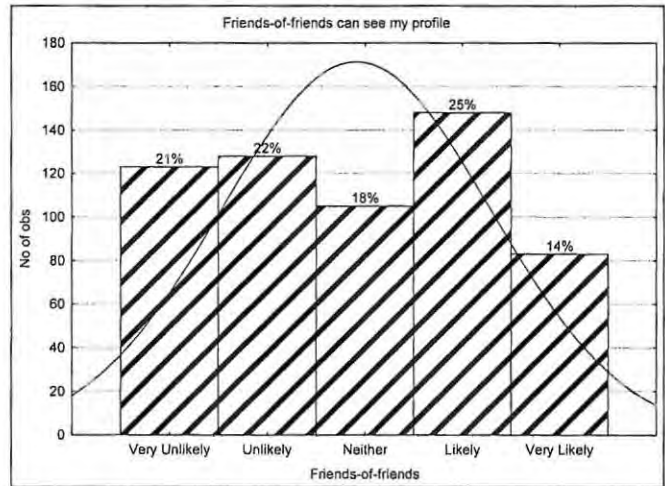
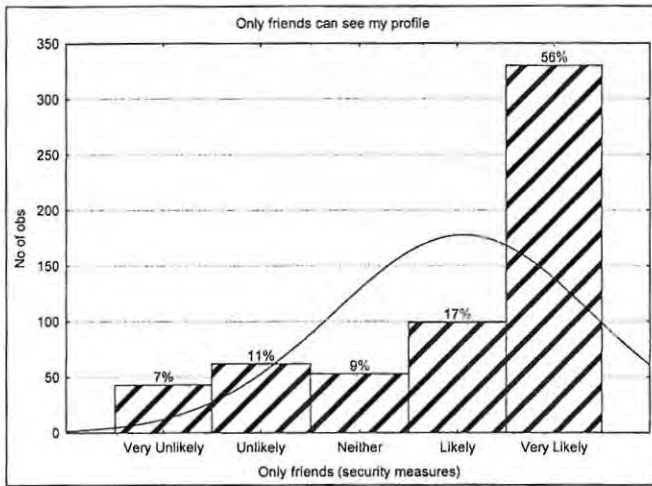
Learn about lecturers

Find out about university assignments



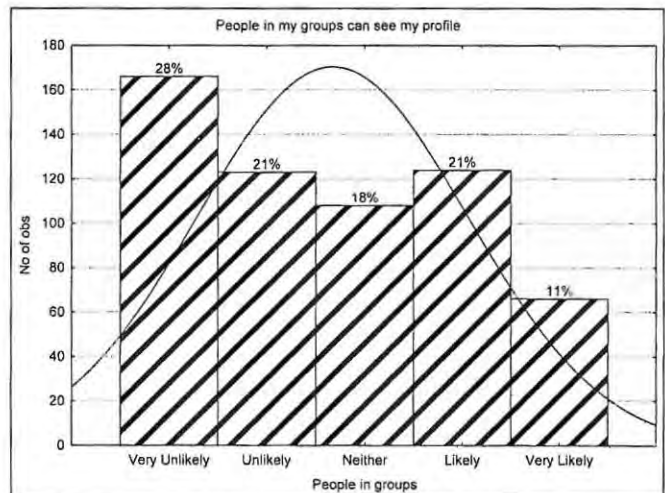
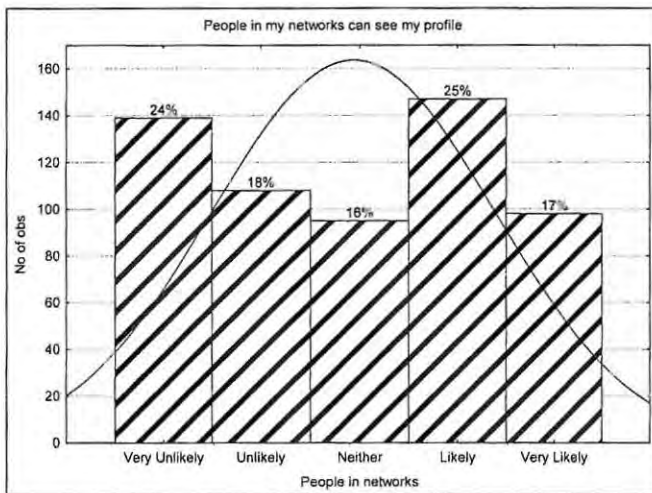
Organise team meetings

Appendix F: Individual Security Precautions



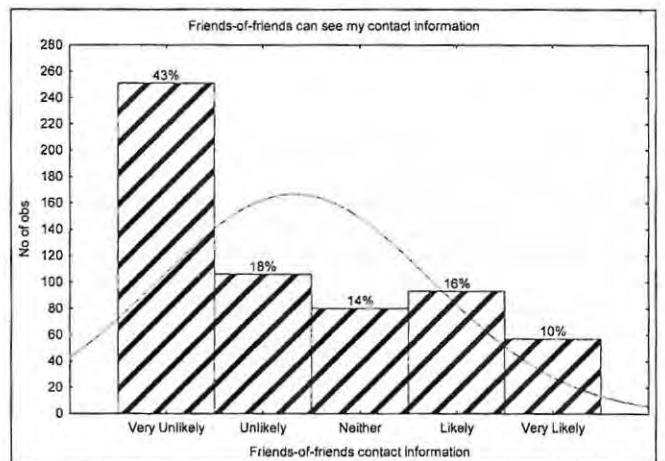
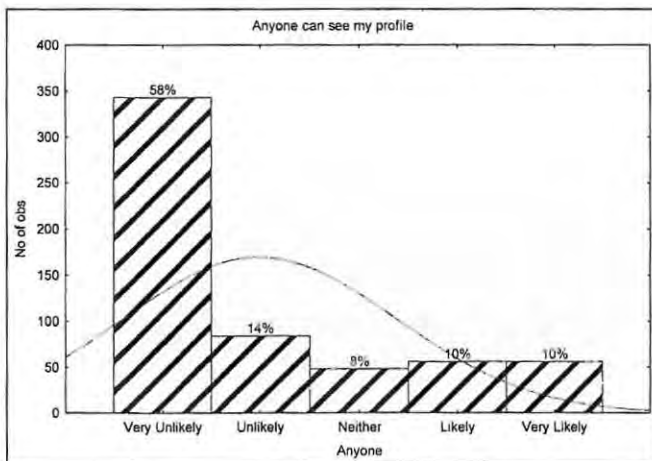
Only friends can see my profile

Friends-of-friends can see my profile



People in my networks

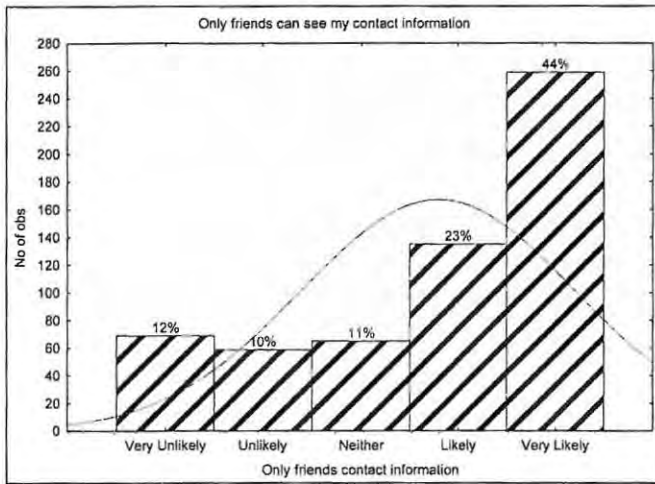
People in my groups



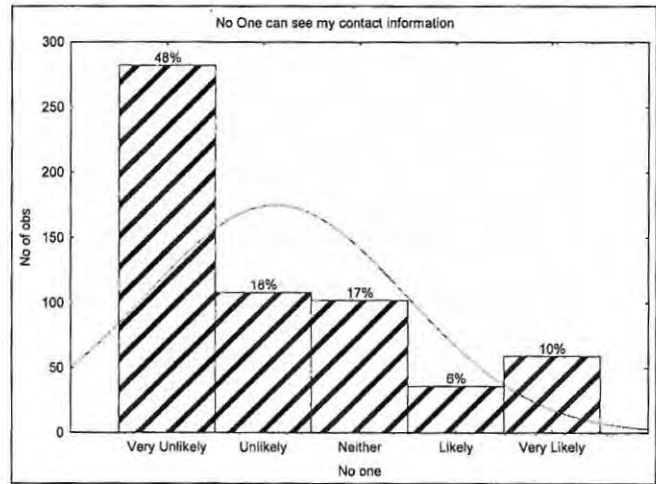
Anyone can see my profile

Friends-of-friends can see my contact details

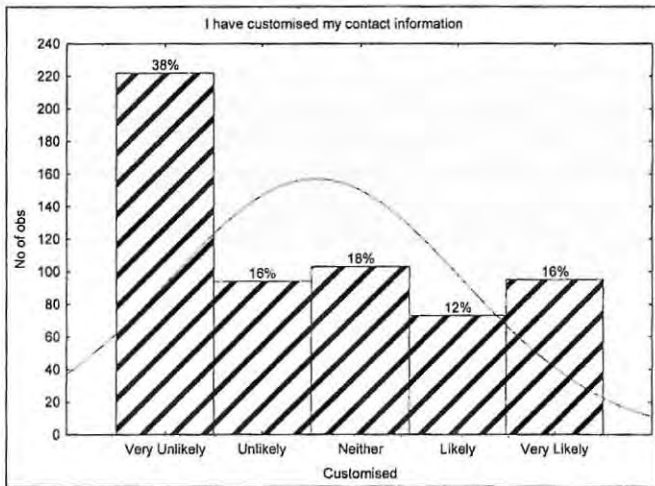
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Only friends can see my contact information

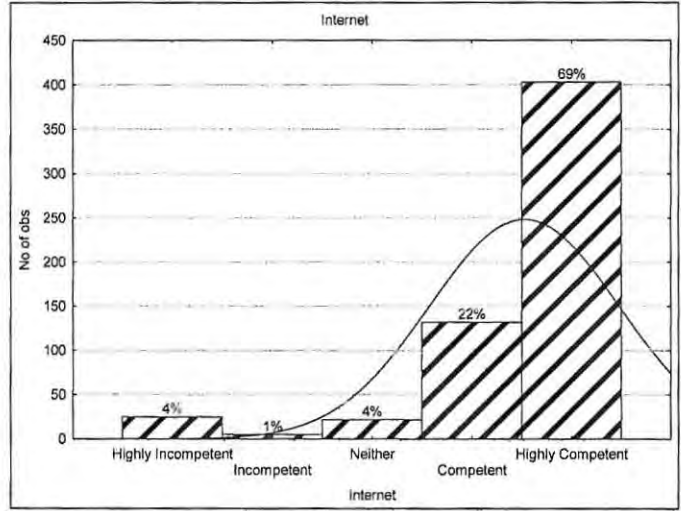
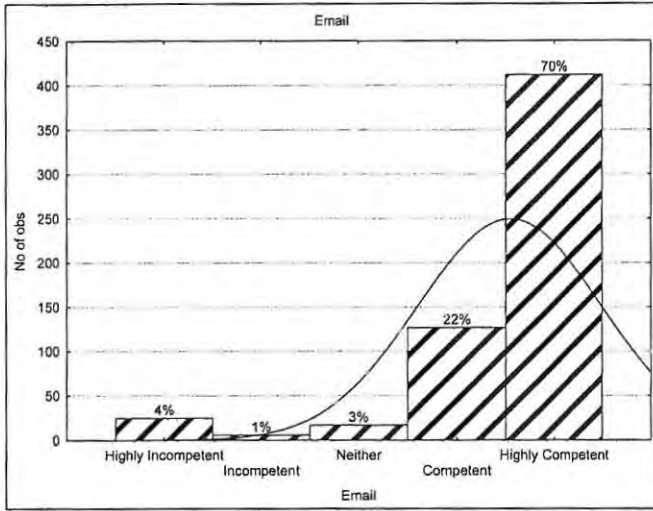


No one can see my contact information



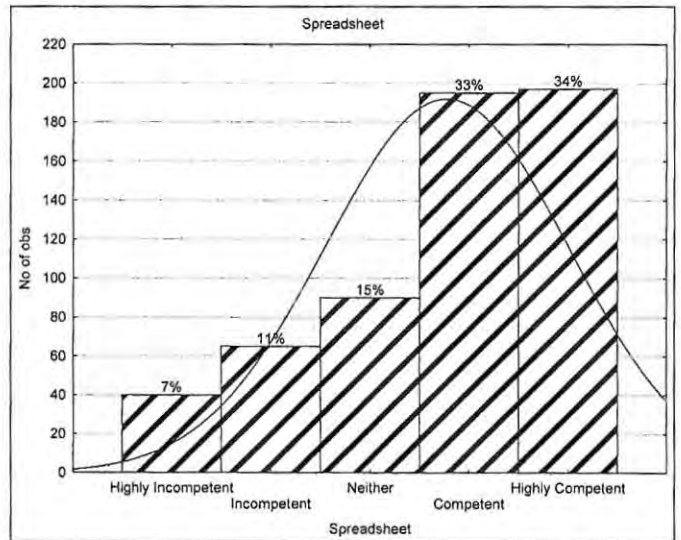
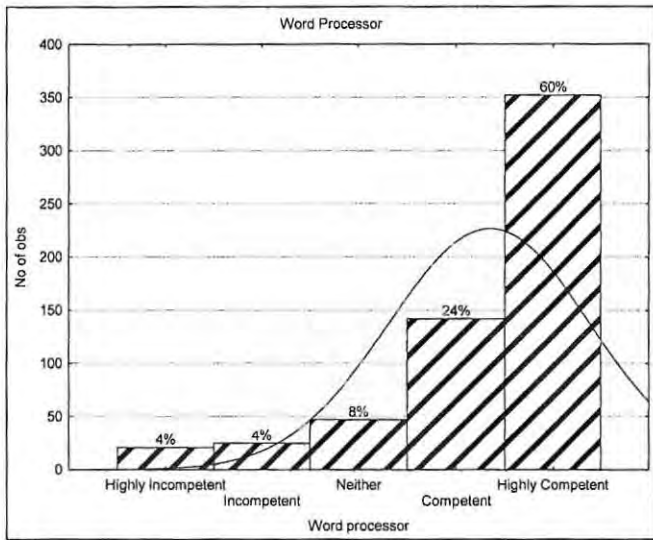
I have customised my contact information

Appendix G: Individual Application Competency



Email

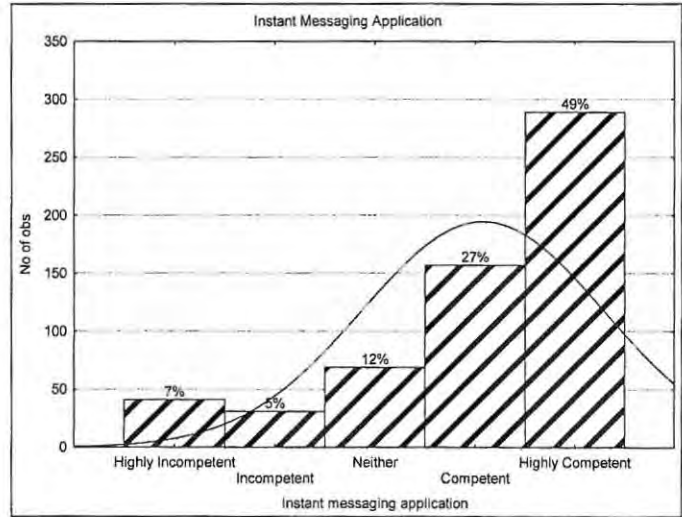
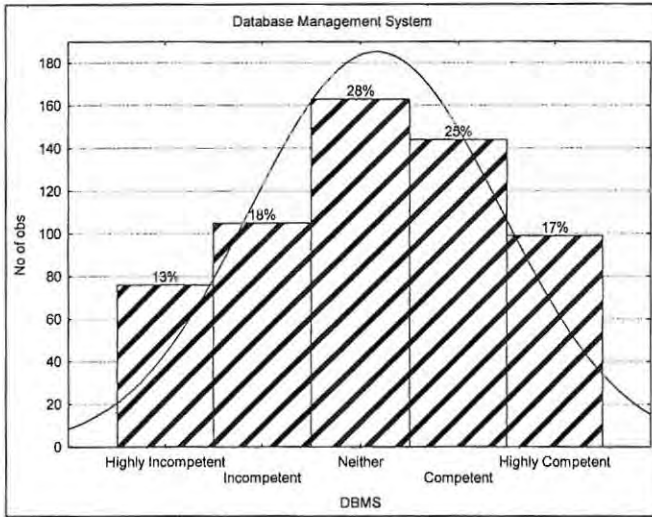
Internet



Word Processor

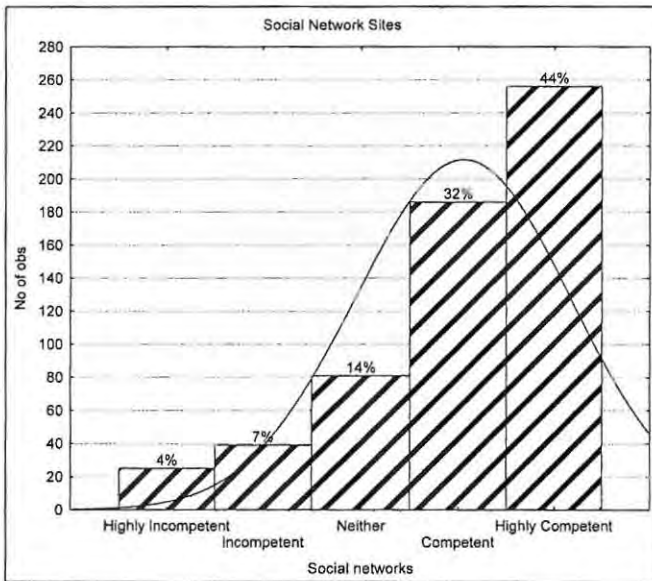
Spreadsheet

Appendices



Database Management System

Instant Messaging Application



Social Network Sites

Appendices

Appendix H: Factor Analysis Data for Independent Factors

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
Total friends	-0.252683	0.070024	-0.070966	0.025519	0.292666	0.042865	0.123342	0.033995	0.503552	0.096085	-0.109085	0.123732	0.242483
Weekend hours	0.071076	-0.024140	-0.002639	0.062327	0.720847	0.083548	0.082752	0.119875	0.028181	0.010639	-0.117491	0.045608	0.052432
Week hours	0.062779	-0.014032	0.037206	-0.029337	0.742669	0.080978	0.042016	0.104827	0.011119	0.008274	-0.119985	0.056030	0.021545
Contact details	0.180789	0.077709	0.070585	0.169771	0.091403	0.004129	0.085686	0.095583	0.128891	-0.072692	0.129609	0.048850	0.478337
Sexual orientation	0.035327	0.061035	0.046175	0.254624	0.040118	-0.043518	0.029924	-0.076457	0.245716	-0.047703	0.251520	0.250412	0.419772
High school	0.030993	0.139711	-0.029240	0.538953	-0.029935	-0.072473	0.029298	0.010529	0.046032	-0.127409	0.118524	0.406278	0.128422
Classes	0.103690	0.027753	0.017089	0.660505	0.061599	0.130206	-0.098546	-0.030118	0.023551	0.017845	0.039982	0.056456	-0.022741
Likes and dislikes	0.121821	0.044943	0.071609	0.670038	0.027572	0.009025	0.142749	0.110753	-0.104861	0.016385	0.058778	0.159477	-0.062450
Work information	0.146773	0.006363	0.086093	0.693535	0.125285	0.110801	-0.023520	0.122041	0.145011	0.026701	-0.027342	-0.091086	0.095241
Photos	-0.073913	0.129835	-0.011823	0.258798	0.189571	-0.069351	0.237440	0.060951	-0.002019	-0.022983	-0.018501	0.508773	0.157089
Relationship status	-0.052675	0.091444	0.089051	0.333916	0.055439	-0.035565	0.132348	0.021289	0.103862	0.114110	0.086371	0.163862	0.265712
Birthday	-0.041702	0.096831	-0.023108	0.342462	0.158789	-0.075876	0.232274	-0.015393	-0.024044	-0.076153	0.002100	0.449849	0.232642
Sport information	0.092173	-0.033919	0.141078	0.594846	-0.069613	0.022434	0.094877	0.013354	0.107381	-0.048119	-0.057883	0.077187	-0.112460
Friends (Profile viewers)	0.041857	0.138569	-0.024008	0.110008	-0.008245	-0.093510	0.185356	0.008370	-0.044799	0.054301	0.033840	0.701592	-0.015746
Family	-0.155385	0.144041	-0.037201	0.098133	0.020222	0.248925	0.042127	0.086042	0.073213	0.291454	0.023179	0.287203	0.080288
Friends-of-friends	0.199313	0.060340	0.364568	0.041579	0.033902	0.238661	0.145880	0.050668	-0.070101	-0.179242	-0.025613	0.397956	-0.273530
Strangers	0.146663	-0.016694	0.373842	0.103543	0.015937	0.375395	0.071997	0.002604	0.023274	-0.209811	-0.200113	0.131419	-0.249970
Wardens	0.184232	-0.078633	0.096340	0.048649	0.075998	0.740834	-0.032954	0.062340	-0.056317	0.071616	0.028959	-0.029912	0.013805
Lecturers	0.061941	-0.059224	0.107009	-0.029520	0.055291	0.839810	-0.091032	0.059317	-0.043946	-0.023183	0.036138	-0.114794	0.013570
Employers	0.026243	0.048383	0.101874	0.071910	0.044370	0.752913	-0.006999	0.018814	0.096801	-0.060811	-0.050913	0.003467	-0.003761
Police	-0.027480	-0.071441	0.018398	0.043076	0.076099	0.748292	-0.054667	0.075844	-0.044920	-0.101861	0.094415	-0.105797	-0.083035
Check out someone I met socially	0.455067	0.178506	0.062430	0.130631	0.188313	0.028492	0.152589	0.142626	0.224760	-0.029469	-0.060744	0.370214	0.061314
Meet new people	0.632693	0.013981	0.226618	0.091022	0.065803	0.042787	0.116673	0.171930	-0.169113	-0.040114	0.105866	-0.035844	-0.185584
People in classes	0.739633	0.022968	0.090383	0.130090	0.173525	0.092253	0.070069	0.150598	-0.023023	0.082726	0.067402	-0.059872	0.075849
People living near me	0.763874	0.013903	0.137106	0.128101	0.112675	0.130015	0.094508	0.172149	-0.094273	0.046809	0.077968	0.002254	-0.022984
Old friends	0.089501	0.138175	0.016454	0.093261	-0.030122	-0.153995	0.182918	0.011077	0.023949	0.169001	-0.102836	0.669729	0.069222
Interested in	0.572391	0.086786	0.094507	0.102263	0.185802	-0.019010	0.064596	0.031854	0.230088	-0.089248	-0.080537	0.215435	-0.009790
Learn about lecturers	0.444000	-0.111972	0.075354	0.096510	0.000051	0.373518	-0.096994	0.177305	0.157690	0.122593	0.142946	-0.197293	0.043899
University assignments	0.388449	0.019573	0.008938	-0.002119	-0.065103	0.207073	0.015497	0.382115	0.404148	0.132817	-0.003396	-0.007119	0.045534
Organise team meetings	0.256347	0.006748	-0.028849	0.094300	-0.010066	0.212527	0.029719	0.369928	0.494694	0.151831	-0.018871	0.111044	0.111627
Only friends (Security measures)	0.072354	0.066289	-0.540846	-0.031261	-0.065216	-0.003146	-0.051087	0.056889	-0.019169	0.184144	0.226376	0.316547	-0.194293
Friends-of-friends	0.094809	0.018997	0.737110	0.011465	-0.017369	0.064940	-0.065944	0.016507	0.019967	0.062919	0.122089	0.119024	-0.020239
People in networks	0.069149	-0.025253	0.752584	0.026069	-0.018605	0.082640	-0.032758	-0.020947	0.116277	0.071362	0.064703	0.147483	0.013071
People in groups	0.182247	-0.057375	0.749086	-0.036118	-0.075507	0.088435	-0.003546	0.090982	-0.000705	-0.005681	0.045977	0.089215	-0.047951
Anyone	0.023639	-0.033803	0.737037	0.177731	0.055172	0.045079	0.049101	0.010475	-0.100051	-0.095331	-0.036512	-0.196039	0.024451
Friends-of-friends contact information	0.088076	0.037802	0.676961	0.138949	0.110977	0.051901	-0.036203	0.080537	-0.034211	-0.082404	0.054368	-0.176643	0.033455

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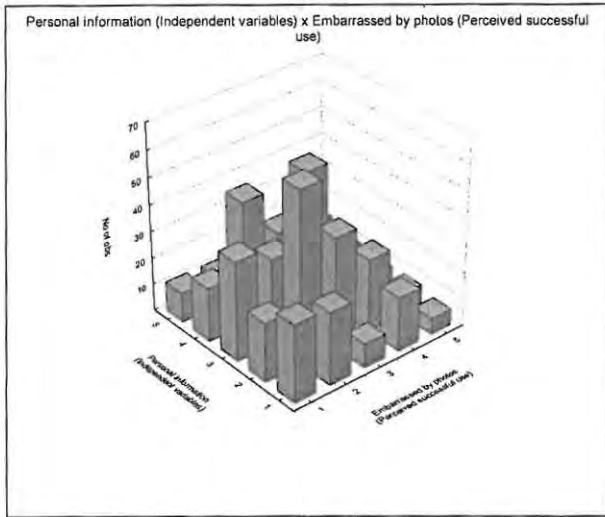
Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
Only friends contact information	0.033403	0.018520	-0.238263	-0.053619	-0.113832	0.047620	0.104525	-0.030600	0.157972	0.101351	0.363591	0.359290	-0.029841
No one	-0.055583	-0.055466	0.088268	0.121366	-0.039745	0.024144	-0.200308	0.086613	0.130511	0.220828	-0.022522	-0.208393	-0.468774
Customised	0.065390	-0.013083	-0.080407	0.001020	-0.053883	0.064308	-0.080502	0.033854	0.146961	0.233983	0.287603	-0.047316	-0.511135
Email (Application competency)	0.010310	0.837473	0.039309	-0.034428	-0.025549	-0.096342	-0.100801	0.016557	-0.029166	0.094475	0.001118	0.226461	0.077429
Internet	0.005585	0.852099	0.036509	-0.012289	-0.003496	-0.090605	-0.043874	0.003683	-0.020368	0.051170	0.030364	0.183777	0.039773
Word processor	0.026243	0.854324	-0.012743	0.035004	-0.092260	-0.030406	-0.003697	-0.067936	0.062303	0.108898	-0.024506	0.076741	0.106620
Spreadsheet	0.043832	0.749788	-0.072826	0.051279	-0.153619	0.055326	0.221789	-0.099448	0.011850	0.055986	0.020607	-0.092879	0.000421
DBMS	0.118932	0.534232	-0.075825	0.101060	-0.131938	0.057003	0.335578	-0.044656	-0.027364	-0.052365	0.077303	-0.201267	-0.133710
Instant messaging application	-0.023946	0.799998	-0.048731	0.014339	0.058429	-0.008701	0.065207	0.035041	0.077745	0.058706	0.007544	0.071599	-0.007400
Social networks	0.028137	0.745574	0.008441	0.097178	0.151731	-0.038784	0.149637	0.119893	0.021973	0.002789	-0.020725	0.165303	0.022766
Personal information	-0.012549	0.044512	0.020727	0.072328	0.207264	-0.062348	0.191285	0.105884	-0.130840	0.312982	0.397310	0.053778	0.156963
Effects	-0.009171	0.102290	-0.057496	-0.043902	0.007728	-0.041017	0.223030	-0.017743	0.019239	0.696076	-0.008389	0.107644	-0.072457
Check my info	0.113121	0.102383	-0.077321	-0.103017	-0.038025	-0.082194	0.126353	0.011021	-0.120302	0.700580	0.018242	0.163616	-0.159527
Check everything	0.084998	0.087764	-0.019282	0.066822	0.076203	-0.024929	0.230981	0.087838	-0.093088	0.515301	0.041007	-0.160575	-0.179288
Not necessary to check	0.053994	-0.040937	0.197033	-0.050555	0.065259	0.074000	-0.067151	0.004357	-0.062493	-0.294744	0.586132	0.003300	-0.028874
Personal and academic contacts	0.109911	0.036195	0.026939	0.093833	0.060224	0.039317	0.084233	0.117689	0.041418	0.113281	0.519203	-0.058655	-0.029054
Work hours	0.131380	0.073067	0.023923	0.010915	0.430911	-0.021442	0.100338	0.082634	0.349450	0.044961	0.023650	0.167424	0.067981
Change to suit personality	0.301065	0.053092	0.008196	0.036544	0.110376	-0.039088	0.102589	0.130563	0.123360	0.080285	0.014527	0.183873	-0.278358
Cultural version	0.265159	-0.022500	0.063110	0.124082	0.209425	-0.009472	0.046077	0.170872	0.008332	-0.036591	0.123227	0.064149	-0.500360
Swear	-0.002800	0.047599	0.036772	0.090352	0.213429	-0.085277	0.012019	0.026707	0.622770	-0.192036	0.003428	-0.137771	-0.168908
Post bad behaviour	0.044104	-0.021700	0.006219	0.105022	0.231045	-0.061000	0.215027	0.016507	0.562460	-0.213416	0.113410	0.022928	-0.086270
Comfortable using all applications	-0.093029	0.226637	0.041273	0.001799	0.091678	-0.029738	0.483141	0.047996	0.179103	0.021888	0.223262	0.039516	-0.018840
Fun	0.197047	0.005192	-0.047286	-0.001582	0.209206	-0.052075	0.584768	0.139794	0.064272	0.157437	0.045458	0.280494	0.145987
Exciting	0.287543	-0.023695	0.022624	-0.014650	0.253902	-0.038959	0.555982	0.101490	0.047685	0.094895	0.149385	0.224417	0.060502
Large part of week	0.193905	-0.041958	0.070710	0.006739	0.776134	0.059872	0.080667	0.089378	0.147812	-0.021085	0.152457	-0.104842	-0.003209
Large part of weekend	0.176729	-0.096734	0.005354	0.047699	0.752177	0.051930	0.081518	0.122531	0.124333	0.012545	0.237612	-0.043942	-0.070460
Fast connection	-0.056928	0.076767	-0.026473	0.137600	0.061867	-0.047177	0.192490	-0.067060	0.198286	0.186050	0.168007	-0.037662	0.100436
Upload and download	0.000911	-0.011741	-0.033979	0.141197	0.485134	0.037994	0.169872	0.107116	0.151171	0.021986	0.275404	0.071833	-0.066645
Easy to use	-0.026176	0.053057	0.011861	0.051779	0.123440	-0.082216	0.639706	0.035842	0.070789	0.151033	0.012152	0.191040	0.028498
Short time to learn	0.006172	0.102653	-0.008166	0.065440	-0.026579	-0.087010	0.642540	0.018787	0.120187	0.121853	-0.050119	0.233653	0.034053
New and useful features	0.122813	0.030804	-0.051301	0.035022	0.146064	0.006469	0.690432	0.192987	-0.087726	0.083232	0.069651	0.045646	0.005767
Easy to reach people	0.079295	0.040803	0.007969	0.041817	-0.038222	0.038695	0.646777	0.147359	0.029121	0.050384	-0.081357	-0.005066	0.043969
Current issues	0.166538	-0.018633	0.006513	0.007224	0.100575	0.073893	0.176701	0.778545	0.049904	0.008475	0.034919	0.060448	-0.056544
Discover news	0.114701	0.029726	0.028223	0.028525	0.158935	0.073865	0.155168	0.807378	0.077819	0.016438	0.041187	-0.006586	0.012070
Controversial issues	0.107349	-0.030434	0.062225	0.098718	0.152259	0.045380	0.120419	0.867492	0.017142	-0.000604	0.051971	0.001200	-0.061454
Discover updates	0.168701	0.001735	0.064724	0.055491	0.175499	0.030880	0.083179	0.849111	0.006993	0.026675	0.073905	0.030432	-0.094522

Appendices

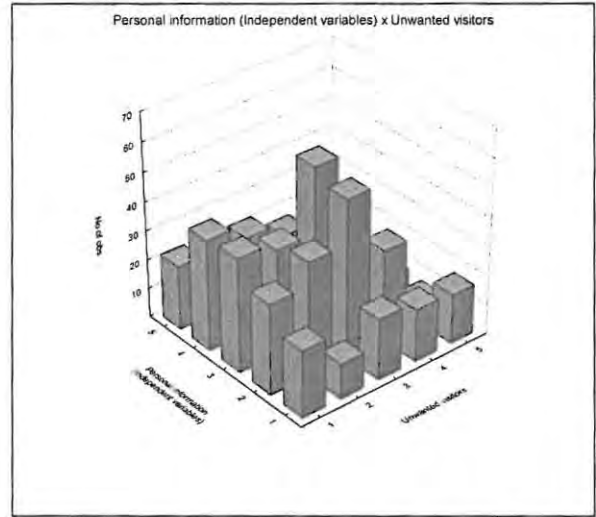
Appendix I: Factor Analysis Data for the Dependent Factor (Perceived Successful Use of Social Network Sites)

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12
Embarrassed by photos (Perceived successful use)	0.059372	0.044380	0.066968	-0.004117	0.066900	-0.030946	0.062241	0.056739	-0.020105	0.195074	0.042486	0.844111
Reprimanded for content	0.023754	0.013169	0.307048	0.057232	0.362897	-0.085026	-0.078370	0.512339	-0.067732	0.015661	-0.145633	0.257740
Variety of content	0.220613	0.139864	0.030993	0.061167	0.012309	0.099603	0.157583	0.718982	0.020861	0.118994	0.155117	0.008841
Prospective employers	-0.027608	0.181383	0.044163	-0.110084	0.047721	0.019076	0.059109	0.213084	-0.006245	0.634578	0.003608	0.303628
Interested in	0.169113	0.177220	0.262119	-0.009611	0.030545	0.316620	0.091165	-0.029660	0.166999	0.571590	-0.067430	0.050378
De-friended	0.098292	-0.063176	0.640740	0.144114	-0.013834	-0.038848	0.240696	-0.115393	-0.036940	-0.031399	0.077632	0.183246
Stalk for fun	-0.003819	0.100544	0.679909	0.039570	0.218986	-0.015735	0.146920	0.193679	-0.030980	-0.025318	-0.045599	-0.008693
Remove friends	0.036425	0.024031	0.035721	0.136043	0.028663	0.053499	0.005830	0.074542	0.057527	-0.080356	0.825300	-0.016898
Unwanted visitors	-0.085980	-0.001720	0.447253	-0.082977	0.060638	0.020166	0.038444	-0.044994	-0.057875	0.207407	0.477959	0.193645
Strangers' profiles	0.184835	0.146231	0.640597	-0.115654	0.043364	-0.000852	0.002441	0.036565	-0.010810	0.141655	0.130759	-0.080457
Know about "ToU"	0.008654	0.101387	0.020001	0.884619	0.129258	0.073597	-0.072748	-0.009720	0.006495	0.003317	0.043923	0.051322
Follow "ToU"	0.067926	0.111689	0.012868	0.857019	-0.073886	0.099526	-0.032565	0.091278	0.061781	-0.094269	0.071765	-0.059144
Believe everything	0.072833	-0.018394	0.468121	0.039177	0.500363	0.010229	0.031918	0.327270	0.010034	-0.012686	-0.158008	-0.018137
Misled by information	0.028182	0.004058	0.295981	0.058838	0.442624	0.058420	0.451636	0.091369	-0.130457	0.106704	-0.154138	-0.002299
Distracts from work	0.020296	0.156624	0.181680	-0.088474	0.082896	0.015399	0.786143	0.068379	-0.013198	0.070505	-0.036443	-0.015208
Procrastinate	0.067474	0.178697	0.093296	-0.066895	-0.122641	0.155929	0.762842	0.006782	0.151993	0.040597	0.102246	0.099186
Suits personality and culture	0.015093	0.378994	0.044849	0.045469	-0.022950	0.353061	0.364831	0.069077	0.134171	-0.277660	0.038779	0.300981
Same reasons as friends	0.064546	0.164929	0.027366	0.057326	0.036262	0.379838	0.194788	0.038969	0.688734	-0.116389	-0.017741	0.181963
Different to friends	0.134049	-0.037157	0.122846	-0.043391	0.129692	0.215542	0.030124	0.036248	-0.789801	-0.161134	-0.060302	0.152453
Contact team members	0.221119	-0.014748	-0.047652	0.045134	0.255895	0.578446	0.265796	0.234052	0.023101	0.084752	0.118772	-0.081249
Easy to reach people	0.125987	0.095480	-0.052530	0.123047	-0.137332	0.722668	0.076486	-0.148118	0.109521	0.096632	-0.023720	-0.019791
Informal exchanges	0.193213	0.380062	0.024264	0.057577	0.112887	0.605005	-0.065856	0.090167	-0.188018	0.035849	0.017486	0.025689
Offer many opinions	0.172298	0.278999	0.011671	0.038657	0.334113	0.436698	0.004384	0.268830	-0.230835	-0.000968	0.262914	-0.033238
Out of touch	0.156532	0.654713	0.095442	0.041823	0.053976	0.156926	0.313224	0.147326	0.151348	0.109936	-0.032817	0.034880
Part of community	0.220355	0.771542	0.034528	0.096578	0.054570	0.182460	0.113295	0.015439	0.007345	0.118401	0.045103	-0.046104
Satisfied with life	0.206817	0.743969	0.077379	0.111223	0.247782	0.041828	0.073495	0.004519	0.069168	0.057190	-0.025527	0.085158
Abstract thinking and problem solving	0.266142	0.474548	0.013112	0.084741	0.540034	0.049076	-0.026069	0.090689	-0.040089	0.044358	0.181109	0.045937
Concentrate carefully	0.161645	0.260294	0.148780	0.001356	0.772080	0.018073	-0.058807	0.083009	-0.067719	0.017238	0.061618	0.006062
Easier to participate	0.453441	0.045280	0.036988	-0.015660	0.687399	0.077861	0.074614	-0.117765	0.022603	-0.021458	0.063305	0.107438
Easier to interact with classmates	0.605241	0.066008	-0.080547	0.012780	0.220188	0.102381	0.197526	-0.193960	-0.104761	0.108244	0.124579	0.061514
Convenient library messages	0.781591	0.148384	-0.033100	0.092643	0.100851	0.127638	0.173042	0.141835	-0.073784	0.119670	0.041194	-0.009040
Use library more	0.769078	0.156361	0.016377	0.086377	0.105494	0.089328	0.166343	0.189883	-0.073547	0.127741	0.006929	-0.038601
Comfortable approaching lecturer	0.759037	0.181060	0.150723	-0.037838	0.178777	0.074536	-0.066731	0.152656	0.077254	-0.125847	-0.018902	0.063471
Lecturers view information	0.573571	0.109685	0.253702	0.013418	0.114609	0.065196	-0.191984	0.095541	0.047107	-0.402714	-0.087999	0.062237
Better advisors	0.618025	0.171283	0.233656	-0.043288	0.008668	0.171549	-0.283292	-0.048764	0.034142	-0.037534	-0.083104	-0.015564

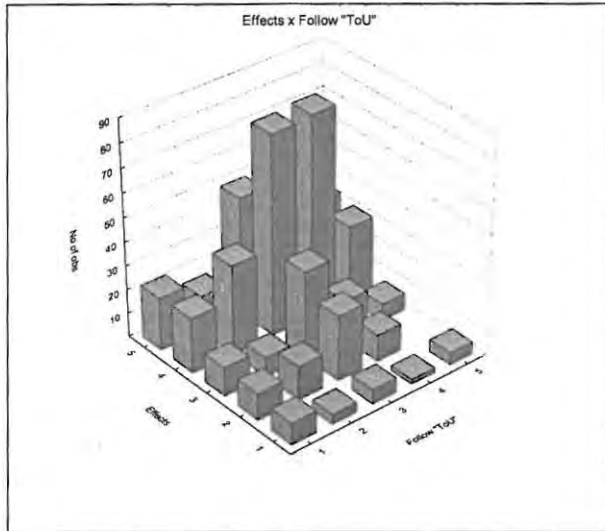
Appendix J: 3D Histograms of Relationships between Categorical Variables



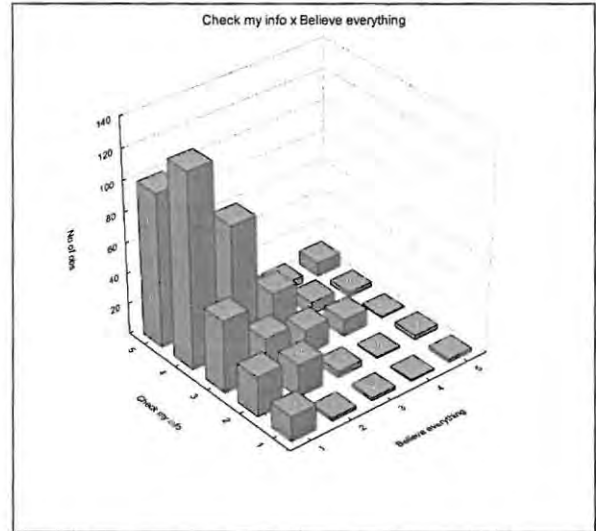
Personal information x Embarrassed by photos



Personal information x Unwanted visitors

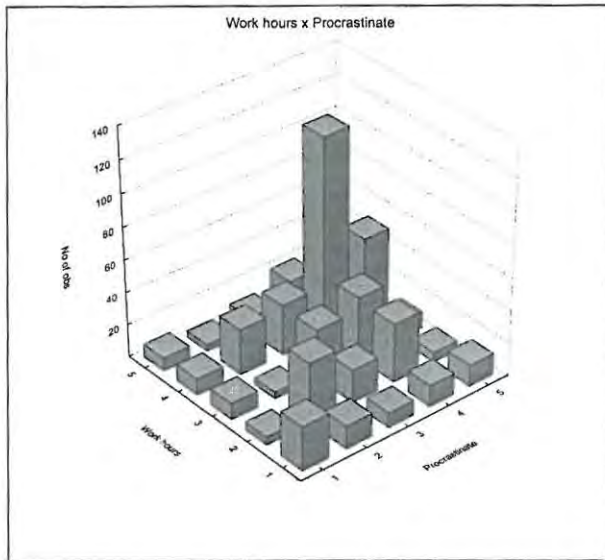


Effects of postings x Follow terms of use

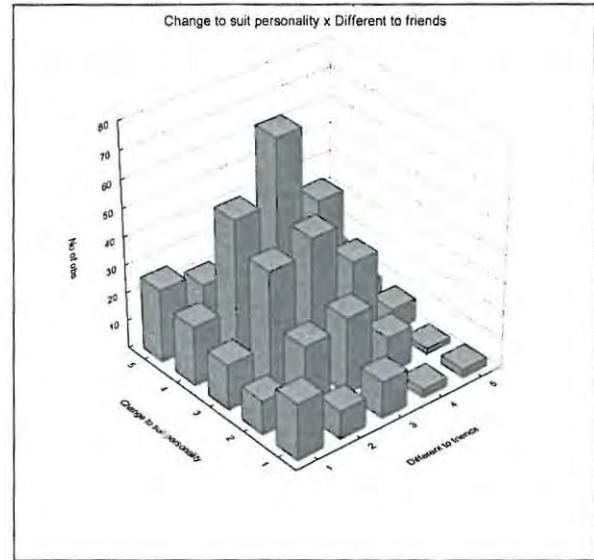


Check my information x Believe everything I read

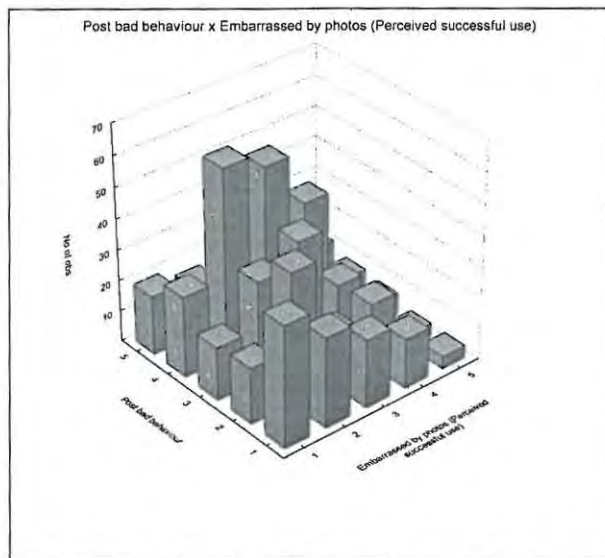
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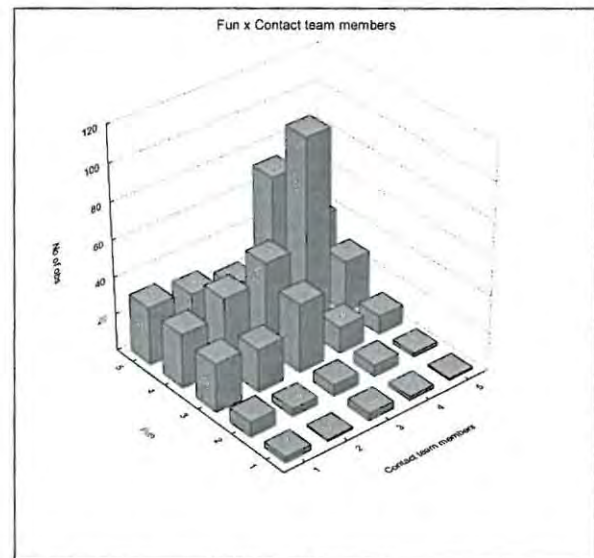
Work hours x Procrastinate



Change to suit personality x Use differently



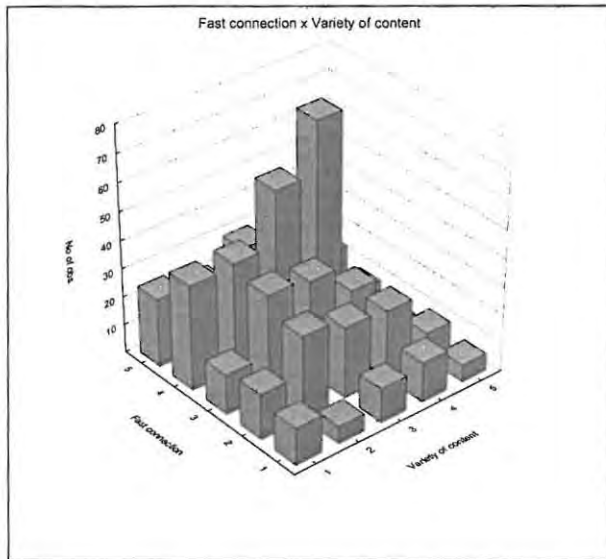
Post bad behaviour x Embarrassed by photos



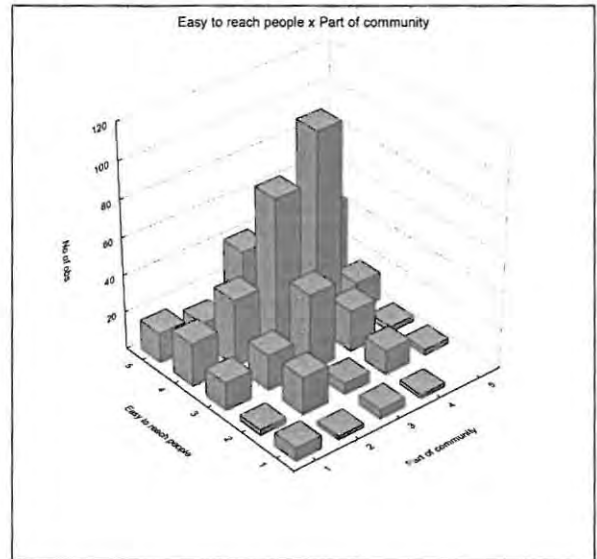
Fun x Contact team members



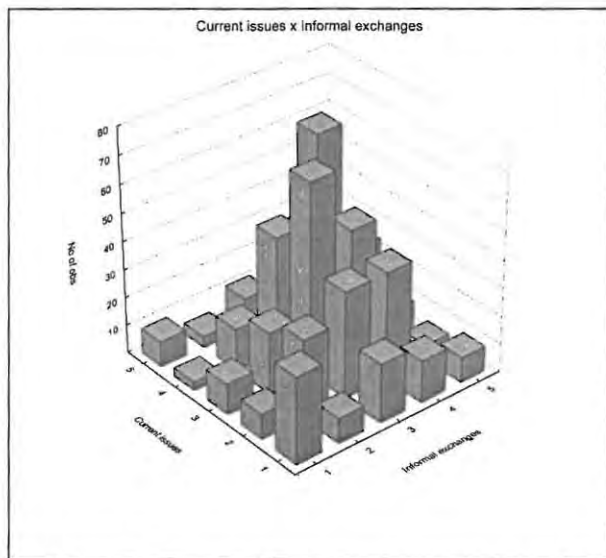
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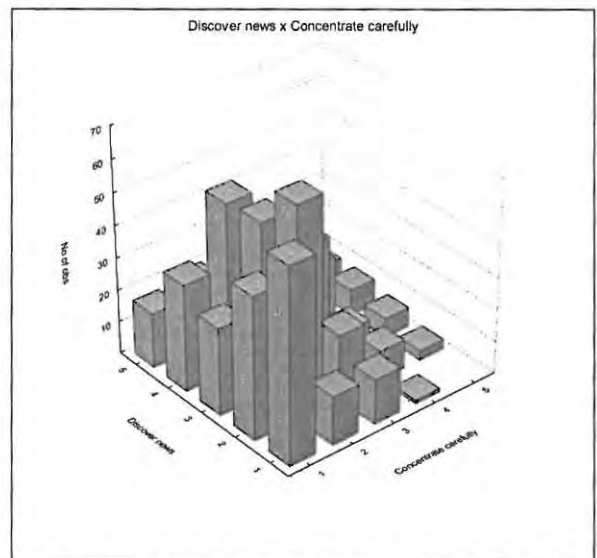
Fast connection x Variety of content



Easy to reach people x Part of community



Current issues x Informal exchanges



Discover news x Concentrate carefully