

# Social Networking in Australia: Opportunities and Risks

Tomayess Issa

**Abstract** Social Networking (SN) and its associated applications have their opportunities and risks; however, if the implementation of this tool is appropriately planned and is adopted in higher education, students will obtain the necessary benefits to enhance their personal and professional skills. In this chapter, the author employed an online survey with 153 respondents from Australia to examine students' attitudes and behaviors towards Social Networking usage. The survey results produced four new opportunities and three risks associated with students' use of Social Networking in Australia. Further research will be carried out in future to examine more varied groups of students to reinforce the research findings.

**Keywords** Social networking • Opportunities • Risks • Australia

## 1 Introduction

Social Networking (SN) is a tool that simplifies universal interaction among people and individuals world-wide. SN is a virtual and mass communication media whereby individuals connected to this tool can view information and knowledge from other individuals as well as their contributions. The aims of this interaction are: to develop communication, cooperation, collaboration and connection in order to exchange information and ideas; and to give users the opportunity to interact with and learn about each other's cultures, particularly in view of the fact that usage is widespread among individuals living in various countries. This situation will lead to a two-way communication between individuals, who in many cases may not have met personally. Thus, it is reasonable to state that SN increases an individual's circle of associates on a worldwide scale.

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T. Issa et al. (eds.), *Social Networking and Education*,

Lecture Notes in Social Networks, DOI 10.1007/978-3-319-17716-8\_2

In today's world where information is measured as an indispensable foundation of wealth, SN (such as Wiki, Blogs, Forums, Discussion Board, Blackboard, Moodle etc.) plays the role of mass media whereby even the public can communicate their views to the whole world that is waiting to listen.

The simplicity and affordability of Internet access to the general masses has increased the use of SN locally and globally. The amount of knowledge and information made available to large proportions of the population has risen exponentially with the general public taking advantage of the convenience of the Internet, and the obtainability of devices such as mobile phones and tablet computers in the market at affordable prices.

SN has plenty of applications in every sector, including the business and education sectors, as this tool can be used as a source of knowledge management. Currently, the education sector has begun to integrate it in their curriculum to improve students' personal skills (such as motivation, leadership, negotiation, communication, problem solving, time management, and reflection) and professional skills (such as reading, writing, research, information gathering, critical thinking, decision making, digital oral presentation, drawing (i.e. concept maps) and teamwork) to enhance students' learning in their current studies and prepare them for the workplace in the future. The use of SN in higher education is intended to encourage critical thinking, debate and discussion among students and between students and lecturer, and to ascertain whether students have acquired a thorough understanding of the topics. SN can assist students to reduce printing costs and travel costs, and it creates more independent learners who can delve more deeply into the topics presented by their teachers. Furthermore, SN use has revolutionized the educational system and transformed the classroom into an interactive podium where students question what is taught and strive to contribute information to the discussion by adding their comments, documents, concept maps or power point slides.

In general, SN in higher education can improve students' personal and professional skills such as writing, speaking, listening, discussion, and debating via the Internet. Furthermore, it encourages students to respect and acknowledge the views of their colleagues and lecturers. This tool can encourage weak students to better understand the topics discussed in class through the weekly activities, with the lecturer and colleagues helping to answer their queries and dispel their doubts.

Notwithstanding the opportunities of using SN in higher education, this tool can bring some risks from four perspectives: (1) Cognitive Development, (2) Social Development, (3) Physical Development and (4) Security. This chapter aims to examine and inspect SN usage among students in Australian high education. This chapter is organized as follows: (1) Introduction; (2) Social Network; (3) Research Method and Questions; Survey Design; (4) Participants; (5) Results, Discussion and Significance.

## 2 Social Networking

Social Networking is a web-based interface intended to establish and facilitate interaction, communication, collaboration and connection between individuals and groups by utilizing numerous tools such as emails, blogs, wiki, tweets, instant messaging, to enable the sharing of digital information [20, 36, 56]. The SN interface is easy to use, and learn, and each user is able create an account in order to share information and interact with family and peers to obtain knowledge and new ideas; moreover, it gives them the freedom to choose with whom s/he will correspond and share information. Currently, Social Networking applications are becoming a common tool among people world-wide, such as Myspace, Facebook, YouTube, LinkedIn, Twitter, Wikis, Blogs and Podcasts, to interact, explore, share, communicate, and provide view and arguments and ideas based on the topics. Furthermore, this tool is changing how sectors, including business and education, interact with customers, employees, and students and teachers now and in future.

The SN tool can have a significant influence on the education and learning sectors, since it offers a pioneering means of involving students in the learning process. Currently, universities recognize that SN tool will assist students to communicate and engage with their peers and lecturers to enhance their learning and their personal and professional skills [7, 16, 37, 52]. Therefore, the majority of universities, especially in developed countries, have introduced SN in the syllabus to enhance students' knowledge and learning and to foster students' independent learning in their tertiary studies, their future workplace, and life in general [31, 32]. Figures 1 and 2 identify the SN opportunities based on the current literature [9, 32, 33, 35, 37, 38, 46, 47, 55, 57]. These opportunities are: cutting edge knowledge, collaboration, inter-crossing relationships, communication skills; environment-friendly and provides opportunities to acquire new acquaintances. Figure 2 depicts the SN opportunities in further detail.

On the other hand, using SN in higher education can create several risks in terms of: (1) Cognitive Development, (2) Social Development, (3) Physical Development and (4) Security. Figures 3 and 4 explain the risks of SN based on the current literature [2, 4–6, 20, 21, 37, 39, 41, 42]. Figure 4 explains the risks in detail.

Generally speaking, using SN in higher education provides students with an outstanding opportunity to since it improve their learning process and their skills. However, this tool should be implemented by using specific models for SN in order to minimize risks and increase the opportunities available to both students and lecturers.

## 3 Research Method and Questions; Survey Design

This study aims to address and examine the two questions, namely: “what are the opportunities and risks associated with social networking usage by students in Australia? “What is the relationship between the Social Networking use and the



**Fig. 1** SN opportunities—Prepared by the author

notion of sustainability awareness among the students in Australia?” and “What is the relationship between Social Networking and the development of a professional attitude among students in Australia?” To examine these questions, the researcher devised an online survey to assess the opportunities and risks of Social Networking. The online survey was generated and developed based on a review of the current literature. Online surveys are designed to provide interaction between participant and survey via online or face-to-face modes. The beauty of using this tool is that data downloaded from it are ready for immediate analysis using SPSS or other statistical programs; while the findings can be presented in numerous formats such as tables, figures, calculations of mean and standard deviation based on the researcher’s requirements [8, 14, 15, 18, 19, 23, 50]. Via the online survey, participants can provide rich and historical information which the researcher can utilize for the research objectives and aims. An online survey is a “pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives.” In addition, “online surveys are an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest” [49, 236].

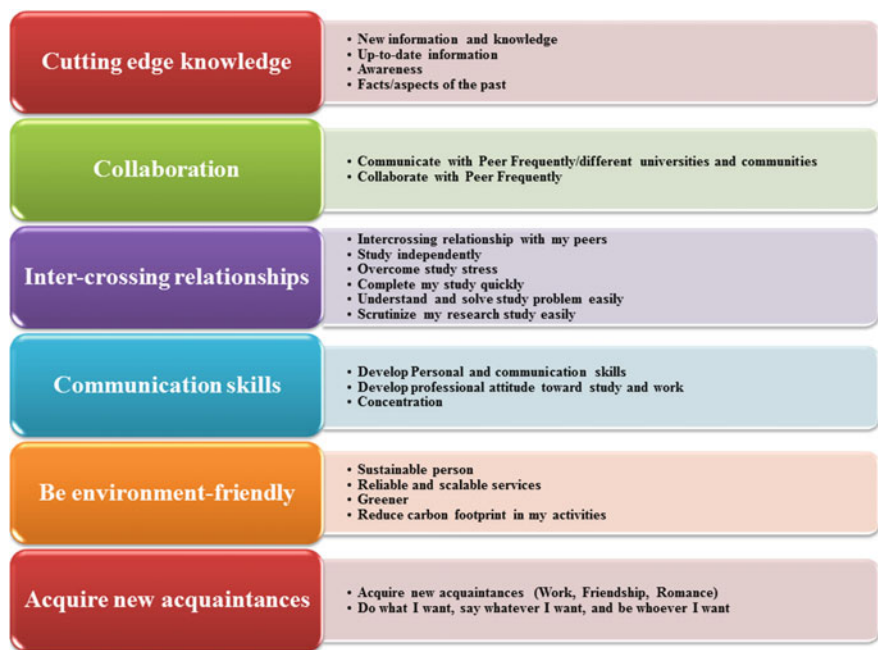
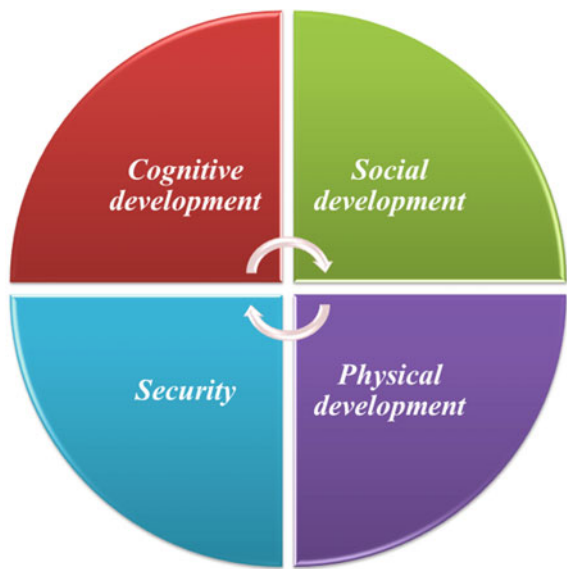


Fig. 2 SN opportunities in details– Prepared by the author

Fig. 3 SN risks—Prepared by the author



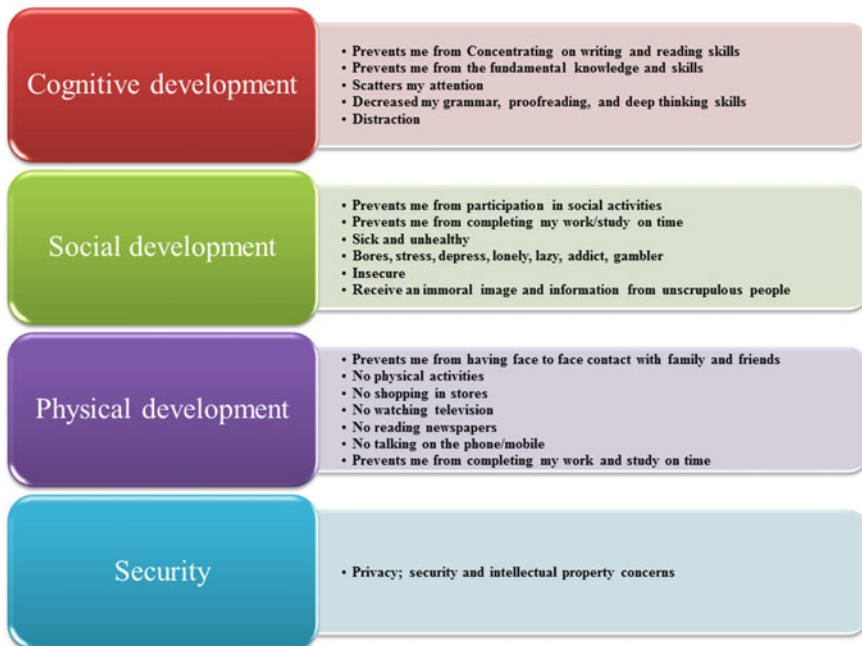


Fig. 4 SN risks in details– Prepared by the author

The online survey has many strengths as it is less expensive, provides greater anonymity, it is easy to manage and accessible, less error-prone, and reduces paper usage compared to the paper and pencil survey, thereby confirming that online surveys are more sustainable compared with the traditional survey methods [27, 43–45]. However, the online survey has several weaknesses in relation to technical failure including computer viruses and hacking which can decrease the response rate according to Fan and Yan [18]. The online survey design offers self-motivated interaction between the respondent and the survey than can be achieved via email or paper surveys [13, 14].

The online survey is divided into three parts namely: background, opportunities and risks components. The researcher set seven questions for the background to obtain the participants' background as well as some information related to social networking usage. As for the opportunities; the researchers developed twenty-five [29] statements pertaining to cutting edge knowledge, coloration, inter-crossing relationships, communication skills, being environment-friendly and acquiring new acquaintance. The thirty (30) statements for the risks focus mainly on cognitive development, social development, physical development and security. Also, a comment section for the last parts is provided where participants can offer additional opinions. A five-point Likert scale is used in each part of the online survey to "examine how strongly subjects agree or disagree with statements" [49, 197]. The five-point Likert scale ranges: Strongly disagree, Disagree, Neutral, Agree, and

Strongly Agree. The online survey contained clear instructions at the top of the page and a progress bar along the bottom to offer feedback to users about their proximity to the finishing point. Furthermore, three questions per page presented to minimize scrolling and the concluding page thanked participants for their participation. The survey was created online using Qualtrics software. Qualtrics website ([www.qualtrics.com](http://www.qualtrics.com)) distributed the online survey to 153 participants in Australia. Qualtrics is an online survey tool with an outstanding reputation since it is used to develop and summarize the survey results to allow the researchers to accomplish data collection and analysis [34, 40]. The response validity was 100 % for this study.

4 Participants

The participants for this study were 153 from across Australia. 41 % are male, while 59 % are female. The participants’ ages ranged from 18 to 52 years, and the highest response rate for 42–52 was 30, 29 % for 22–32, 27 % for 32–42, and finally 14 % for the 18–22 age group (see Table 1).

The participants’ fields of study comprised Information Technology (10 %), Management (11 %), Health Sciences (12 %), and Accounting (7 %) while the rest (24 %) from Business Law, Economics and Finance, Information Systems, Computer Science, Marketing, Humanities, Science and Engineering and Art and Design. As for the others (35 %) studied various related fields such as Construction, Education, Building, Manufacturing, Payroll, Real Estate, and Human Resources (see Table 2).

Table 3 shows that the majority of participants (37 %) are Higher/Secondary/ Pre-University, and 24 % have a Bachelor’s degree.

Furthermore, the online survey examined the participants’ daily use of social networking. From the survey results (see Table 4), it was noted that the majority (53 %) of the participants spend on social networking (not including email) less

Table 1 Gender—Prepared by the author

Gender		
	Response	%
Male	63	41
Female	90	59
Total	153	100
Age		
18–22	21	14
22–32	44	29
32–42	42	27
42–52	46	30
Total	153	100

**Table 2** Field of study—  
Prepared by the author

Field of study		
	Response	%
Accounting	10	7
Business law	5	3
Economics and finance	5	3
Information systems	1	1
Information technology	16	10
Computer science	3	2
Management	17	11
Marketing	2	1
Health sciences	19	12
Humanities	9	6
Science and engineering	5	3
Art and design	7	5
Others—Please specify	54	35
Total	153	100

**Table 3** Highest education  
level—Prepared by the author

Highest education level		
	Response	%
Primary Education	8	5
Higher Secondary/Pre-University	57	37
Professional Certificate	13	8
Diploma	18	12
Advanced/Higher/Graduate Diploma	6	4
Bachelor's Degree	36	24
Post Graduate Diploma	4	3
Master's Degree	11	7
Total	153	100

**Table 4** Number of hours  
spent on social networking  
daily, not including email?  
(Per day)

How many hours do you spend on the social networking daily, not including email? (Per day)		
	Response	%
Less than an hour	81	53 %
Up to five hours	52	34 %
Five to ten hours	11	7 %
Ten to twenty hours	7	5 %
Over twenty hours	2	1 %
Total	153	100 %



**Table 5** Number of hours spent on the Internet for email (per day?)

How many hours do you spend on the internet for email? (Per day)		
	Response	%
Less than an hour	82	54
Up to five hours	53	35
Five to ten hours	14	9
Ten to Twenty hours	1	1
Over twenty hours	3	2
Total	153	100

than an hour daily; on the other hand, 34 % of the participants spend 34 % daily on the social networking.

Moreover, from the survey results we noted that participants spend the same time on the Internet as they do on social networking; this means that users are spending the same amount of time using these tools to interact, communicate, and chat (Table 5).

Table 6 shows that 91 % of the participants are using the Internet for Email, 67 % for banking online; 63 % for shopping online; 51 % for buying goods or services, 42 % for study, work, and researching hobbies, 36 % for making or researching travel information or reservations; 35 % for playing or chatting, 9 % for investment and 5 % for using Skype, Facebook or listening to music.

**Table 6** Internet usage—Prepared by the author

Do you <b>prefer</b> using the internet for: (you can choose more than one option)?		
	Response	%
Email	139	91
Play Games	54	35
Study	65	42
Work	65	42
Shop Online	96	63
Chat	54	35
Researching hobbies	64	42
Banking online	102	67
Buying goods or services	78	51
Buying stocks or investing online	14	9
Making or researching travel information or reservations	55	36
Others—Please specify	7	5
Total	153	100

## 5 Results, Discussion and New Significance

A total of 153 participants from Australia responded to the questionnaire. There was no missing data, resulting in all 153 cases being valid responses for Australia for the following Factor Analysis, where the analysis was conducted separately for responses from Opportunities Group and Risks Group. The Opportunities group consisted of 25 questions and Risks group consisted of 30 questions. Based on the Mean and STD Deviation results, it was confirmed that the majority of the respondents agreed on the opportunities of SN usage, while there was a mixture reaction to the SN risks (see Tables 7 and 8).

The researcher examined the online survey results for the opportunities and risks sections. The researcher employed principal axis factoring for factor extraction, and to allow the variable to correlate, oblique rotation (rather than orthogonal rotation) was applied using the promax method [11, 12, 58]. To measure the sampling

**Table 7** Descriptive statistics—Opportunities

Descriptive Statistics		
	Mean	Std. Deviation
Q 9_1 Learn new information and knowledge	3.59	1.017
Q9_2 Gain up-to-date information	3.74	0.849
Q9_3 Be more aware of global issues/local issues	3.68	0.878
Q9_4 To remember facts/aspects of the past	3.58	0.886
Q9_5 Communicate with my peers frequently	3.79	0.886
Q 9_6 Collaborate with my peers frequently	3.63	0.834
Q9_7 Communicate with my peers from different universities	3.35	0.990
Q9_8 Communicate with my different communities	3.58	0.871
Q9_9 Develop intercrossing relationships with my peers	3.42	0.964
Q9_10 Study independently	3.22	1.051
Q9_11 Overcome study stress	3.12	1.057
Q9_12 Complete my study more quickly	3.12	1.088
Q9_13 Understand and solve study problems easily	3.32	1.049
Q9_14 Scrutinize my research study more easily	3.27	1.027
Q9_15 Develop my personal and communication skills	3.39	0.967
Q9_16 Concentrate more on my reading and writing skills	3.16	0.976
Q9_17 To prepare my professional attitude toward study and work	3.14	1.013
Q9_18 Be more sustainable person	3.19	0.944
Q9_19 Provide reliable and scalable services	3.20	0.948
Q9_20 Become more “Greener” in my acuities	3.05	1.062
Q9_21 Reduce carbon footprint in my activities	2.98	1.103
Q9_22 Acquire new acquaintances—work related	3.44	0.965
Q9_23 Acquire new acquaintances—friendship relationship	3.54	0.966
Q9_24 Acquire new acquaintances—romance relationship	3.12	1.106
Q9_25 Do whatever I want, say whatever I want, and be whoever I want	3.42	0.998

**Table 8** Descriptive statistics—Risks

Descriptive Statistics		
	Mean	Std. deviation
Q11_1 Prevents me from concentrating more on writing and reading skills	3.09	1.035
Q11_2 Presents me from remembering the fundamental knowledge and skills	2.90	.978
Q11_3 Scatters my attention	3.29	1.038
Q11_4 Decreases my grammar and proof reading skills	3.08	1.076
Q11_5 Decreases my deep thinking	3.05	1.031
Q11_6 Distracts me easily	3.31	1.065
Q11_7 Prevents me from participating in social activities	2.84	1.033
Q11_8 Presents me from completing my work it study on time	2.91	1.047
Q11_9 Makes me sick and unhealthy	2.57	1.024
Q11_10 Bores me	2.80	.974
Q11_11 Stresses me	2.58	.971
Q11_12 Depresses me	2.58	.984
Q11_13 Makes me feel lonely	2.63	1.063
Q11_14- Make me lazy	2.97	1.066
Q11_15 Makes me addict	2.85	1.012
Q11_16 Makes me more gambler	2.35	.996
Q11_17 Makes me insecure to release my personal details from the theft of personal information	3.03	1.063
Q11_18 Makes me receive an immoral images and information from unscrupulous people and it is difficult to act against them at present	2.84	1.029
Q11_19 Prevents me from having face to face contact with my family	2.74	1.081
Q11_20 Prevents me from having face to face contact with my friends	2.81	1.075
Q11_21 Prevents me from participating in phvsical activities	2.90	1.101
Q11_22 Prevents me from shopping in stores	2.68	1.055
Q11_23 Prevents me from watching television	2.75	1.072
Q11_24 Prevents me from reading the newspapers	2.75	1.065
Q11_25 Prevents me from talking on the phone/mobile	2.63	1.025
Q11_26 Prevents me from completing my work on time	2.74	.998
Q11_27 Prevents me from completing my study on time	2.80	1.026
Q11_28 Increase privacy concerns	3.31	1.003
Q11_29 Increase securitv concerns	3.29	1.069
Q11_30 Increase intellectual property concerns	3.08	1.026

adequacy for the Opportunities and Risks, researcher carried out specific testing using Cronbach's Alpha, Kaiser-Meyer-Olkin and Bartlett's test.

For the Opportunities section, the Cronbach's Alpha for all 25 variables was 0.961 indicates an excellent internal consistency of the items in the scale [10, 53]. Moreover, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.920; this

measure indicates that a good sample size is obtained from the analysis [24]. Finally, The Bartlett's test of sphericity is highly significant,  $\chi^2 = 3420.299$ ,  $df = 300$ ,  $p < 0.000$ , indicating that the items of the scale are sufficiently correlated to factors to be found [3, 48].

For the Risks section, The Cronbach's Alpha for all 30 variables was 0.970, indicating an excellent internal consistency of the items in the scale [22]. A Kaiser-Meyer-Olkin measure of sampling adequacy of 0.924 indicates a good sample size is obtained from the analysis [24]. Finally, the Bartlett's test of sphericity is highly significant,  $\chi^2 = 4498.143$ ,  $df = 435$ ,  $p < 0.000$ , indicating that the items of the scale are sufficiently correlated to factors to be found [17, 54] Lastly, the communalities for the Opportunities and Risks statements were over 0.5 (see Tables 9 and 10) only the last statement "Do whatever I want, say whatever I want, and be whoever I want" in the opportunities section is less than 0.5, indicates to the

**Table 9** Communalities –Opportunities

Communalities		
	Initial	Extraction
Q9_1 Learn new information and knowledge	0.741	0.753
Q9_2 Gain up-to-date information	0.769	0.820
Q9_3 Be more aware of global issues/local issues	0.628	0.619
Q9_4 To remember facts/aspects of the past	0.622	0.539
Q9_5 Communicate with my peers frequently	0.732	0.520
Q9_6 Collaborate with my peers frequently	0.713	0.620
Q9_7 Communicate with my peers from different universities	0.654	0.651
Q9_8 Communicate with my different communities	0.779	0.743
Q9_9 Develop intercrossing relationships with my peers	0.721	0.642
Q9_10 Study independently	0.737	0.714
Q9_11 Overcome study stress	0.719	0.648
Q9_12 Complete my study more quickly	0.852	0.923
Q9_13 Understand and solve study problems easily	0.800	0.725
Q9_14 Scrutinize my research study more easily	0.827	0.728
Q9_15 Develop my personal and communication skills	0.692	0.524
Q9_16 Concentrate more on my reading and writing skills	0.760	0.636
Q9_17 To prepare my professional attitude toward study and work	0.814	0.754
Q9_18 Be more sustainable person	0.824	0.792
Q9_19 Provide reliable and scalable services	0.788	0.696
Q9_20 Become more "Greener" in my activities	0.821	0.732
Q9_21 Reduce carbon footprint in my activities	0.858	0.755
Q9_22 Acquire new acquaintances—work related	0.726	0.629
Q9_23 Acquire new acquaintances—friendship relationship	0.725	0.629
Q9_24 Acquire new acquaintances—romance relationship	0.555	0.528
Q9_25 Do whatever I want, say whatever I want, and be whoever I want	0.416	0.285

Extraction method: maximum likelihood

**Table 10** Communalities—Risks

Communalities		
	Initial	Extraction
Q11_1 Prevents me from, concentrating more on writing and reading skills	0.760	0.676
Q11_2 Prevents me from remembering the fundamental knowledge and skills	0.830	0.669
Q11_3 Scatters my attention	0.775	0.743
Q11_4 Decreases my grammar and proofreading skills	0.717	0.547
Q11_5 Decreases my deep thinking	0.778	0.665
Q11_6 Distracts me easily	0.664	0.576
Q11_7 Presents me from participating in social activities	0.772	0.582
Q11_8 Prevents me from completing my work/study on time	0.779	0.706
Q11_9 Makes me sick and unhealthy	0.769	0.645
Q11_10 Bores me	0.606	0.435
Q11_11 Stresses me	0.830	0.708
Q11_12 Depresses me	0.823	0.881
Q11_13 Makes me fed lonely	0.797	0.719
Q11_14 Makes me lazy	0.557	0.349
Q11_15 Makes me addict	0.691	0.500
Q11_16 Makes me more rambler	0.732	0.557
Q11_17 Makes me insecure to release my personal details from the theft of personal information	0.575	0.393
Q11_18 Makes me receive an immoral images and information from unscrupulous people and it is difficult to act against them at present	0.736	0.633
Q11_19 Prevents me from having face to face contact with my family	0.828	0.651
Q11_20 Prevents me from having face to face contact with my friends	0.861	0.699
Q11_21 Prevents me from participating in physical activities	0.857	0.708
Q11_22 Prevents me from shopping in stores	0.731	0.634
Q11_23 Prevents me from watching television	0.779	0.695
Q11_24 Prevents me from reading the newspapers	0.808	0.787
Q11_25 Prevents me from talking on the phone mobile	0.745	0.645
Q11_26 Prevents me from completing my work on time	0.892	0.776
Q11_27 Prevents me from completing my study on time	0.883	0.773
Q11_28 Increase privacy concerns	0.870	0.881
Q11_29 Increase security concerns	0.856	0.899
Q11_30 Increase intellectual property concerns	0.786	0.704

Extraction method: maximum likelihood

researcher that participants are taking into account the type of information that they need to post via social networking, especially for studies and work.

Furthermore, the researchers used principle components analysis to estimate the factor loading matrix for the factor analysis model as well the standard correlation

**Table 11** Total variance explained—Opportunities

Total variance explained							
	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings <sup>a</sup>
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.796	53.616	53.616	11.357	51.623	51.623	8.990
2	2.228	10.127	63.743	1.970	8.954	60.576	8.606
3	1.444	6.562	70.305	1.052	4.784	65.360	8.663
4	1.003	4.558	74.863	0.878	3.989	69.349	6.984

**Table 12** Total variance explained—Risks

Total variance explained							
	Initial Eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings <sup>a</sup>
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.738	55.384	55.384	12.069	52.472	52.472	11.495
2	2.011	8.745	64.128	1.841	8.005	60.477	9.274
3	1.466	6.504	70.633	1.408	6.120	66.597	7.035

matrix. The Eigen values for the opportunities were assessed to determine the number of factors accounting for the correlations amongst the variables.

As demonstrated in Table (11), this model of four factors accounts for a total of 69.349 % of the variation. The Eigen values and the amount of variances explained by each of these factors are presented below (after rotation).

As for the Risks section, as demonstrated in Table (12), this model of two factors accounts for a total of 66.597 % of the variation. The Eigen values and the amount of variances explained by each of these factors are presented below (after rotation).

Furthermore, to measure the regression coefficients (i.e. slopes), the researchers carried out the factor loadings. The factor loadings for the Opportunities and Risks are high enough and the one with the cleanest fact structured to be considered as important [11], and to exclude several items under each factors where the factor loading below 0.5 based on the rule of thumb of Stevens [51] for a sample size above 100.

Four factors are revealed by the Pattern Matrix for the Opportunities Group:

1. Factor 1: Be a “green” and “economical” user, use to improve professionalism and literacy skill; operational benefits
2. Factor 2: Teamwork-building instrument, channel for professional and personal networking

3. Factor 3: As tool for study or work independently
4. Factor 4: As alternative channel to gain knowledge or information (Table 13)

Three factors have been revealed by the Pattern Matrix for Risks Group:

1. Factor 1: Impediment to traditional information source, changes to regular daily activity, anxiety trigger, inhibitor of sociability, leads to sedentary lifestyle

**Table 13** Pattern matrix—Opportunities

Pattern Matrix <sup>a</sup>				
	Factor			
	1	2	3	4
Q9_18 Be more sustainable person	0.903			0.188
Q9_21 Reduce carbon footprint in my activities	0.823		0.120	−0.127
Q9_20 Become more “Greener” in my activities	0.750		0.184	
Q9_17 To prepare my professional attitude toward study and work	0.660		0.163	0.115
Q9_19 Provide reliable and scalable services	0.614		0.137	0.119
Q9_16 Concentrate more on my reading and writing skills	0.578		0.157	
Q9_7 Communicate with my peers from different universities	−0.236	0.795	0.302	
Q9_8 Communicate with my different communities	−0.141	0.756		0.217
Q9_23 Acquire new acquaintances—friendship relationship	0.223	0.746	−0.289	
Q9_24 Acquire new acquaintances—romance relationship	0.258	0.740		−0.384
Q9_9 Develop intercrossing relationships with my peers	0.177	0.661		
Q9_22 Acquire new acquaintances—weak related	0.300	0.648	−0.109	
Q9_6 Collaborate with my peers frequently		0.628		0.273
Q9_5 Communicate with my peers frequently	−0.219	0.559		0.321
Q9_12 Complete my study more quickly		−0.153	10.001	
Q9_13 Understand and solve study problems easily	0.134		0.685	
Q9_10 Study independently	0.162		0.675	0.124
Q9_11 Overcome study stress			0.652	
Q9_14 Scrutinize my research study more easily	0.171	0.183	0.650	
Q9_2 Gain up-to-date information		0.141		0.820
Q9_1 Learn new information and knowledge	0.173			0.817
Q9_3 Be more aware of global issues/local issues				0.731

Extraction method: maximum likelihood. rotation method promax with kaiser normalization

<sup>a</sup>Rotation converged in 10 iterations

2. Factor 2: Inhibitor of developing literacy and fundamental skills, reduction of further thinking capability and inability to focus on one matter for any length of time
3. Factor 3: Cynicism regarding data security (Table 14)

A score was calculated for each factor by averaging across each individual item. The mean and standard deviation of each factor average for the Opportunities group are presented below (see Table 15):

The mean and standard deviation of each factor average for the Risks group is presented in Table 16:

The Australian results indicated that social networking can offer several opportunities to Australian students since this tool will improve their personal and

**Table 14** Pattern matrix—Risks

Pattern Matrix <sup>a</sup>	Factor		
	1	2	3
Q11_24 Prevents me from reading the newspapers	0.867	−0.111	0.114
Q11_22 Prevents me from shopping in stores	0.856	−0.199	0.120
Q11_23 Prevents me from watching television	0.836		
Q11_16 Makes me mere gambler	0.836		−0.208
Q11_25 Prevents me from talking on the phone/mobile	0.788		
Q11_12 Depresses me	0.776	0.163	−0.242
Q11_9 Makes me side and unhealthy	0.769		
Q11_13 Makes me feel lonely	0.733		
Q11_20 Prevents me from having face to face contact with mv friends	0.726		0.108
Q11_11 Stresses me	0.721	0.189	
Q11_21 Prevents me from participating in physical activities	0.691		0.226
Q11_19 Prevent me from having face to face contact with mv family	0.673		0.169
Q11_27 Prevents me from completing my study on time	0.657	0.253	
Q11_7 Prevents me from participating in social	0.584	0.267	
Q11_1 Prevents me from concentrating more on		0.827	
Q11_3 Scatters my attention		0.811	0.160
Q11_5 Decreases my deep thinking		0.790	
Q11_6 Distracts me easily		0.751	
Q11_2 Prevents me from remembering the	0.197	0.727	
Q11_4 Decreases my grammar and proofreading skills		0.686	
Q11_29 Increase security concerns			0.962
Q11_28 Increase privacy concerns			0.955
Q11_30 Increase intellectual property concerns		0.189	0.668

Extraction method maximum likelihood. rotation method: Promax with Kaiser Normalization

<sup>a</sup>Rotation convened in 6 iterations



**Table 15** Factors—Opportunities

Factors	Mean	Std. Deviation
Factor 1: Be a “Green” and “economical” user, use to improve professionalism and literacy skill	3.1209	1.0080
Factor 2: Teamwork building instrument, channel for professional and personal networking	3.484	0.948
Factor 3: As tool for study or work independently	3.209	1.05
Factor 4: As alternative channel to gain knowledge or information	3.669	0.915

**Table 16** Factors—Risks

Factors	Mean	Std. Deviation
Factor 1: Impediment to traditional information source, changes to regular daily activity, anxiety trigger, inhibitor of sociability, leads to sedentary lifestyle	2.69	1.04
Factor 2: Inhibitor of developing literacy and fundamental skills, reduction of further thinking capability and inability to focus on one matter for any length of time	3.12	1.04
Factor 3: Cynicism regarding data security	3.23	1.03

professional skills, especially reading and writing. Using this tool will encourage students to develop teamwork skills by facilitating collaboration, communication, debate, activities and oral presentation. These skills will assist students in their studies as well as the workforce in the future. These skills are required by organizations locally and globally; therefore, higher education institutions have begun to integrate and adopt these tools in their assessments and class activities to promote students’ professional and personal skills.

Several studies [1, 26, 28] confirm that using technology in higher education will enhance students’ skills, since technology has become a necessity for tertiary studies and the workforce. These outcomes answered the study research question—question 3—that there is a relationship between social networking and the development of a professional attitude among students in Australia.

Furthermore, the study produced two interesting findings: that social networking will produce more economical and ‘green aware’ students. This result shows an increased awareness among the students in Australia about the relationship between the use of social networking and the notion of sustainability. This result proved to be most interesting and an exceptional achievement since, by means of this tool, students changed their mind-sets and became good stewards of sustainable development for their current studies and in future. Academics and higher education sectors should take a leading role in transforming society’s and students’ critical thinking about using technology tools and raising their awareness of the relationship between technology and sustainability among students to benefit our

community, society and the earth [25, 30]. This result confirmed the research question—question 2—that this tool enables students to become aware, understand and acknowledge the relationship between social networking use and sustainability since the majority of students indicated that using this tool is more sustainable, simple, and with less paper usage; it is less time consuming and more green.

Finally, the survey indicated several opportunities and skills that could be acquired through social networking use by students in Australia (see Fig. 5 and 6); Green aware, Promoting skills (Teamwork; Professional; Personal) Work Independently and New Channels for the acquisition of knowledge or information. From these results, we recognised that the use of Social Networking can bring several opportunities to students in higher education. The aforementioned skills are an example of ways in which SN usage can assist students in their studies and this



**Fig. 5** New SN opportunities for Australia—Prepared by the author



**Fig. 6** New SN risks for Australia—Prepared by the author

may encourage higher education institutions to implement this tool in their curriculum, especially in universities.

On the other hand, using this tool without monitoring and observing can lead to enormous risks namely: impeding traditional information source/media; anxiety and worry; no social life; changes to regular daily activity; lack of foundation skills including literacy and thinking capability; inability to focus on one matter for any length of time and security, especially regarding data storage. These are serious risks for students, and higher education institutions should implement SN tools by using a specific model to minimize or eliminate these risks.

As previously indicated, SN tools can provide excellent opportunities for students to increase their knowledge and experience locally and globally and this will assist them not only in their studies but in the workforce in future. Therefore, higher education institutions should and must take these risks into consideration when implementing SN in the higher education curriculum. This can be achieved by using SN models for higher education and lecturers should track and monitor students' progress via the SN. By using these techniques, these risks should be

minimized. The study outcomes answered the research question by ascertaining the opportunities and risks to students who engage in social networking.

Finally, this study added new significant contributions to the current literature especially regarding Australia as new opportunities and risks emerged associated with SN usage amongst students in higher education. This study will assist students, academics, and researchers to understand and recognize how technology has begun to change students' attitudes and behaviour towards their studies and for the workforce in future.

This study was limited to 153 students from Australia. Its purpose was to examine students' attitudes to SN usage. Through the results of this study there emerged several new opportunities and risks associated with SN usage, especially in higher education. Further research with larger and more diverse groups of students is required in the future to strengthen the research findings.

## 6 Conclusion

The purpose of this study is to examine students' attitudes and behaviours toward Social Networking use in Australia. Social Networking technology in higher education will allow teachers and students to communicate, collaborate, connect and cooperate with each another more effortlessly. This tool is easy to use, easy to learn, inexpensive, and a simple means to promote business, health, school, and university activities and information-sharing. SN has become an essential tool in universities to foster students' professional and personal skills since, currently, lecturers have started to integrate Social Networking (such as Wiki, Blog, Discussion Board... etc.) in assessments and class activities to create productive communication between students and teachers. Current literature indicates that the use of Social Networking in any sector, including the education sector, has numerous opportunities but also and risks. These may differ from country to country and depend on the country's culture, security, privacy policies and ethical issues. This study conducted an online survey with 153 respondents, and based on the online survey, four opportunities and three risks emerged from the Australian perspective. Further research will be carried out in future to examine more varied groups of students in order to reinforce the research findings.

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<http://www.springer.com/978-3-319-17715-1>

Social Networking and Education  
Global Perspectives

Issa, T.; Isaias, P.; Kommers, P. (Eds.)

2016, XI, 356 p., Hardcover

ISBN: 978-3-319-17715-1