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Privacy Awareness Among The Academic Social Network Users

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Abstract:

- Purpose: The study aims to find out the level of privacy awareness among the users of the Academic Social Networks (ASNs).

- Methodology: To accomplish the study some relevant literatures were studied and an online survey was conducted.

- Findings: The study showed that most of the academicians were not aware of their online privacy.

- Research limitations: The study was conducted on the basis of responses collected from 457 respondents only.

- Social implications: Depending on the findings of the online survey a framework of guidelines was proposed for the social media service providers and the academicians to ensure better online privacy and thus promote the trustworthiness of the ASNS.

- Originality: There are very few studies available on the ASNs and till now no studies have been conducted to gauge the privacy awareness of the ASN users. This study not only measured privacy awareness of the users but also suggested some guidelines for the ASN service providers and users to maintain better privacy and data security.

Keyword: Online privacy, academicians, academic social networking sites, libraries.

Article classification: Research paper

1 Introduction:

At present, the social media play a very significant role in dissemination of information. Social Media is a group of technologies which helps in information sharing and gathering. Social networking websites serve as an effective medium for communication among the people of the same profession. The academicians now rely upon the social media for sharing their research. Besides the conference, seminars and alike traditional way of sharing research information, the academicians share their progress through academic social media to ensure a wider audience. The academic social networking sites (ASNs) help the academicians to communicate, collaborate, share their research data and measure the impact of their study.

2 Review of related literatures:

Kroski (2008) described the basic features of social networking software in general. Present and probable implications of social networking software in library services were described briefly. Suraweera (2010) tried to highlight the value of social network. The article suggested two categories of social networking websites. Srinivasann (2012) focused on the user perceptions regarding the online privacy and he has also suggested some best practices to safeguard online data of the users. Vasquez (2015) presented a comparative analysis of the features and tools of the academic social networking sites. Burnham (2015, April 27) compared Facebook, Twitter, LinkedIn and Google+ on the basis of their privacy settings. Bosman (2016) classified web 2.0 tools which were used for academic purpose and grouped academic social networking sites according to their functionality. Cotter (2016) has discussed the use of social media by the libraries for communicating with the patrons and the issues related to the privacy of the patrons.

There are plenty of studies conducted on the use and other concerns related to the social networking sites. But, a few studies were conducted on the academic social networking sites among which the studies concerning online privacy are very few. Therefore, this study was conducted to fill up the gap in the knowledge domain of the concerned theme.

3 Research questions:

In the present study an attempt has been made to examine the online privacy related issues corresponding to the ASNs. The pertinent questions in this regard are as follows-

- Are the users aware of different privacy and data security threats associated with shared data?
- Are the users aware of different privacy settings provided by the ASNs?
- Is there any framework available to guide the ASN service providers for designing privacy policies capable of satisfying the privacy needs of the users?

4 Statement of the problem:

Academicians often share their research data, articles and alike intellectual contents along with their personal information. If proper privacy is not maintained by the ASNs then these shared data may be misused by anyone at any moment. But no studies are available regarding the privacy awareness of the ASN users.

5 Objectives of study:

The main objectives of the study are:
- ○ to find out the privacy awareness of the academic social network users regarding the privacy and security of their personal information; and
- ○ to propose a framework for designing privacy policies especially for the academic social networking sites.

6 Scope and coverage:

According to the global survey conducted by Bosman and Kramer during May 10, 2015 to February 10, 2016, total 600 web2.0 tools were identified for academic usage online. Further the study produced a list of 27 academic social networking sites namely: Epernicus Network, Academic Room, Methodspace, ScholarBridge, Sciforum, AuthorAID, My Science Work, LabRoots, Academia.edu, ResearchGate, Profology, Biowebspin, Research Connection, Piirus, Humanities Commons, MLA Commons, Crastina, AcademiaNet, ORCID, INCEND, Vivo, ResearcherID, SelectedWorks, Google Scholar Citations, LOOP, Linkedin, OpenVivo

and INCEND. The 27 academic social networking sites were sorted according to their Alexa global rank (The rank was calculated using a combination of average daily visitors to a website and page views on a particular website over the past 3 months, i.e. November, 2017-January, 2018) and top 5 academic social networking sites were selected for this study. The academic social networking sites thus selected were- Google scholar, LinkedIn, ResearchGate, Academia.edu and LOOP.frontiersin. Altogether 457 responses were recorded from the members of 5 selected ASNs and 2 very popular OSNs (i.e. Facebook and WhatsApp) through the online survey during the time frame of March, 2018-August, 2018.

7 Methods used:

In order to investigate the problem of the proposed research and to achieve the objectives stated earlier, a questionnaire was prepared with the help of Google Forms application and the same was shared with the users of the 5 selected ASNs and 2 very popular OSNs (i.e. Facebook and WhatsApp). The responses hence collected were analyzed with the help of MS. Excel.

8 Findings:

The feedback received from the respondents during the online survey has been analyzed and presented graphically in the following 20 diagrams.

1. The respondents were asked whether they knew that providing their personal information while creating profile on the ASNs was mandatory or not and they were grouped according to their responses.
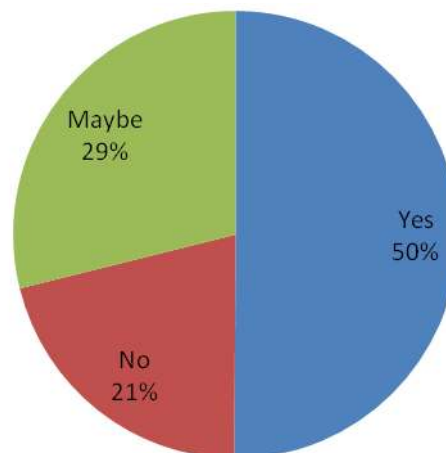

Diagram-1

As shown in diagram-1 among all the respondents 50% thought providing personal information was mandatory, 29% were not sure and 21% denied.

2. The respondents were asked whether their personal information were visible to others or not and they were grouped according to their response.
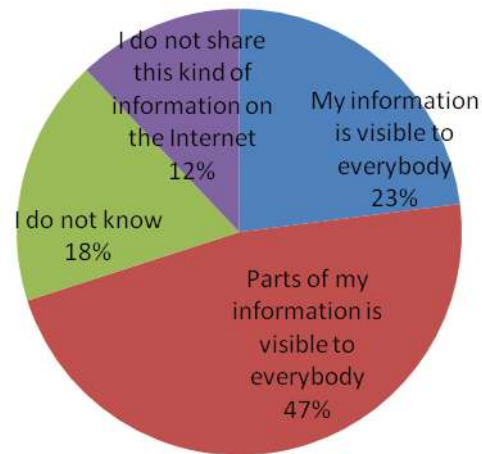
Diagram-2

Diagram-2 shows that among all the respondents 47% admitted that some of their personal information were visible to everybody, 23% admitted that all of their personal information were visible to all, 18% admitted they did not know and 12% admitted that they did not share personal information over the internet.

3. The respondents were asked whether they knew or not about the visibility settings and they were grouped according to their response.
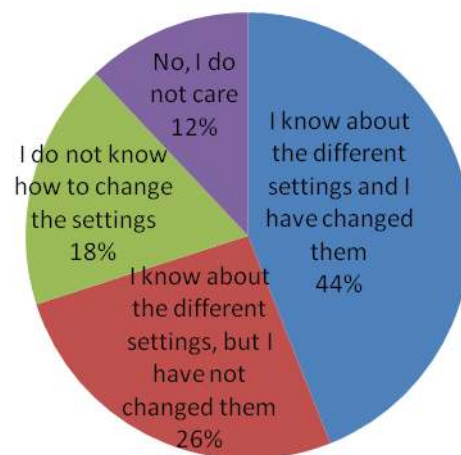

Diagram-3

As per diagram-3 among all the respondents 44% knew different visibility settings and have changed them, 26% knew about the settings but did not change them, 18% did not know how to change the settings and 12% did not care about the visibility settings.

4. The respondents were asked whether they knew or not who could send them friend requests or follow their activities and they were grouped according to their response.
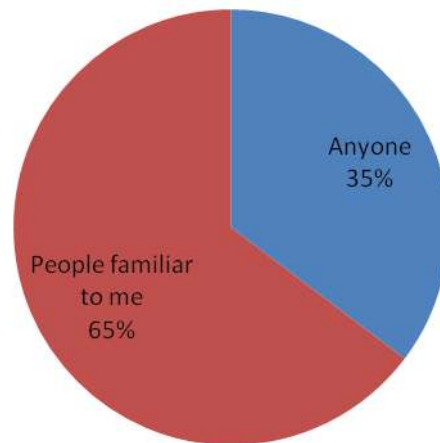
Diagram-4

Diagram-4 shows among the all the respondents 65% replied that only people familiar to them might send friend request or follow their activities and 35% replied that anyone might send friend requests or follow them.

5. The respondents were asked whether they have linked other search engines to their profile or not and they were grouped according to their response.
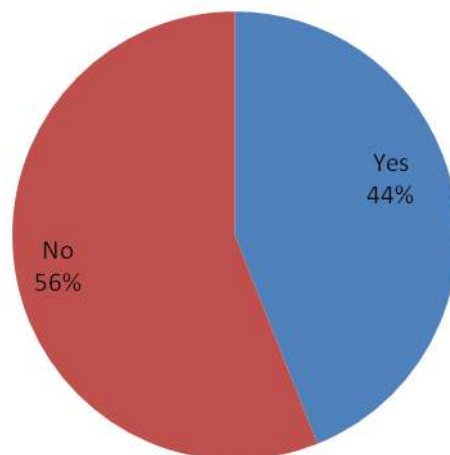

Diagram-5

As per diagram-5 among all the respondents 56% did not link other search engines to their profile and 44% linked other search engines to their profile.

6. The respondents were asked whether they knew or not which security setting their academic social networking sites were following and they were grouped according to their response.
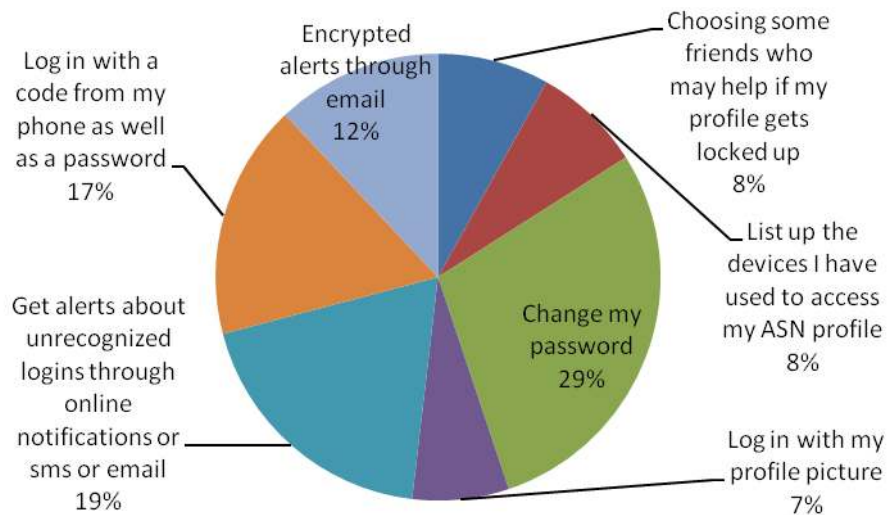
Diagram-6

Diagram-6 shows among all the respondents 29% knew that their academic social networking site allowed them to change their password, 19% knew about getting alerts about unrecognized logins through online notifications or SMS or email, 17% knew about Log in with a code received on their registered phone numbers as well as a password, 12% knew about Encrypted alerts through email, 8% knew about choosing some friends who may help if their profile gets locked up and listing up the devices they have used to access their profiles and 7% knew about log in with their profile picture.

7. The respondents were asked whether they read the privacy policy of any academic social networking site and they were grouped according to their response.
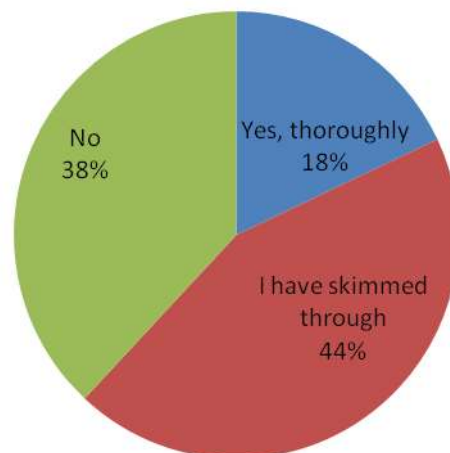

Diagram-7

According to diagram-7 among the all the respondents 44% only skimmed through the privacy policy, 38% did not read the privacy policy and 18% read the privacy policies thoroughly.

8. The respondents were asked whether they knew or not if they share anything with general public then could that be re-shared or downloaded and they were grouped according to their response.
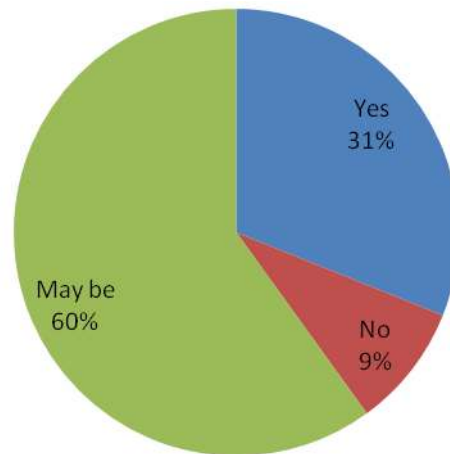
Diagram-8

As diagram-8 among the all the respondents 60% were not sure about the fact that if they shared anything with the general public then could that be re-shared or downloaded or not, 31% replied that anything shared by them could be re-shared or downloaded and 9% replied anything shared could not be re-shared or downloaded.

9. The respondents were asked whether they wanted or not their valuable research data or report to be easily available to all using the academic social network and they were grouped according to their response.
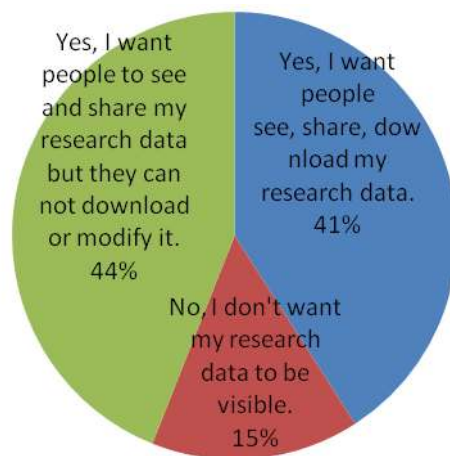

Diagram-9

Diagram-9 shows among all the respondents 44% wanted people to see and share their research data but did not allow anyone to download or edit or modify or tamper with their reports and data, 41% wanted people to see, share and download their research data and 15% did not want their research data to be visible.

10. The respondents were asked whether they knew or not the purpose of the academic social networking sites behind using different mechanisms to collect information about their users before selling this information to third-parties and they were grouped according to their response.
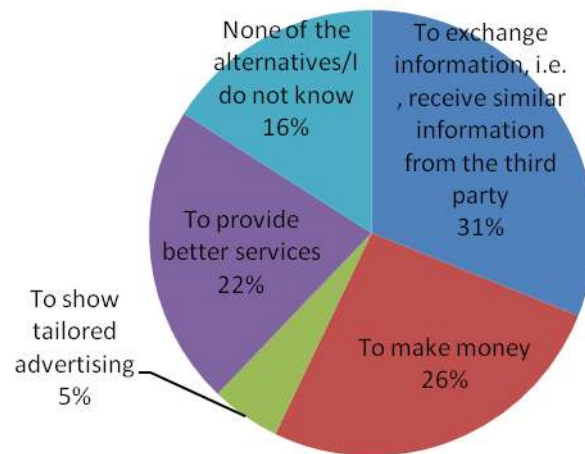
Diagram-10

Diagram-10 shows among all the respondents 31% believed the main purpose of the academic social networking sites behind using different mechanisms to collect information about their users before selling this information to third-parties was to exchange information with them, 26% believed the main purpose was to make money, 22% believed the main purpose was to provide better services, 16% did not know the purpose and 5% believed the main purpose was to show tailored advertising.

11. The respondents were asked whether they knew what information the third parties collect and they were grouped according to their response.
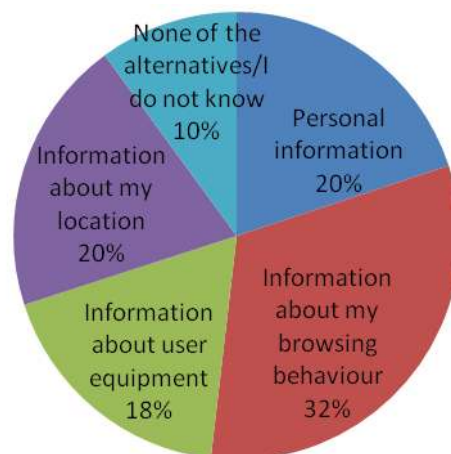

Diagram-11

Diagram-11 depicts that among all the respondents 32% knew that the third parties collect information about their browsing behavior, 20% knew that the third parties collect personal information and information on location, 18% knew that the third parties collect information about user equipments like browser type, mobile, PC, etc. and 10% did not know what information the third parties collect.

12. The respondents were asked whether the third party service providers were allowed to or not allowed to disclose their personal information to any other agency and they were grouped according to their response.
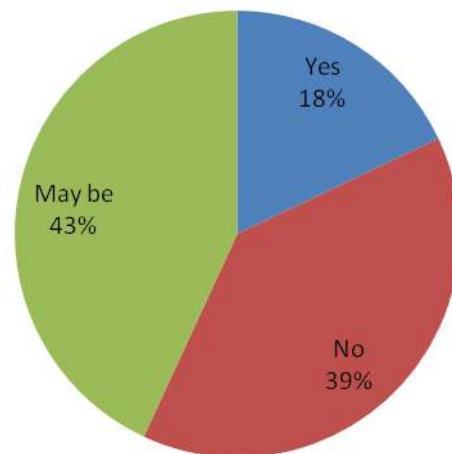
Diagram-12

According to diagram-12 among the all the respondents 43% were not sure, 39% replied the third parties were not allowed to disclose their personal information to any other agency and 18% replied the third parties were allowed to disclose their personal information to any other agency.

13. The respondents were asked whether they have read the cookie policy or not and they were grouped according to their response.

Diagram-13
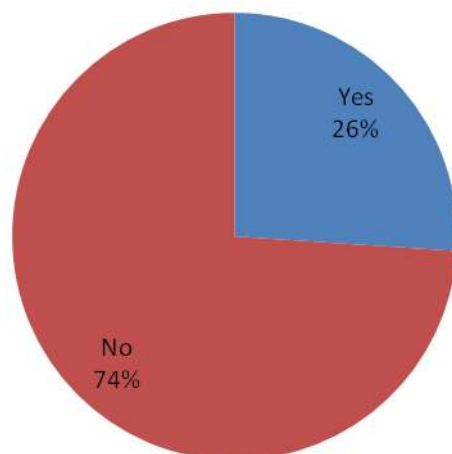
Diagram-13 shows among all the respondents 74% have not read any cookie policy of any academic social networking site and 26% have read the cookie policy of some academic social networking site.

14. The respondents were asked whether they knew or not the company to which their personal information could be sent for processing or storage and they were grouped according to their response.
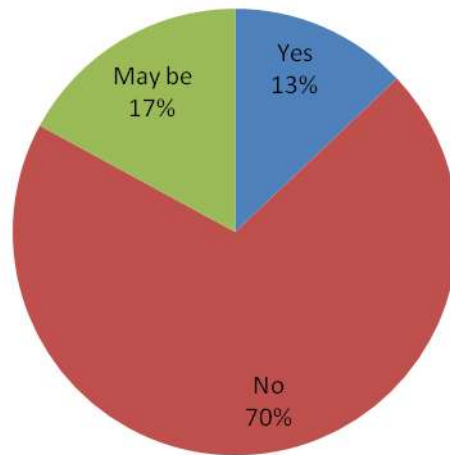
Diagram-14

Diagram-14 shows among all the respondents 70% did not know the company to which their personal information could be sent for processing or storage, 17% were not sure and 13% knew the company to which their personal information could be sent for processing or storage.

15. The respondents were asked whether they knew or not that the data and content shared by them would be deleted automatically if they delete their account and they were grouped according to their response.
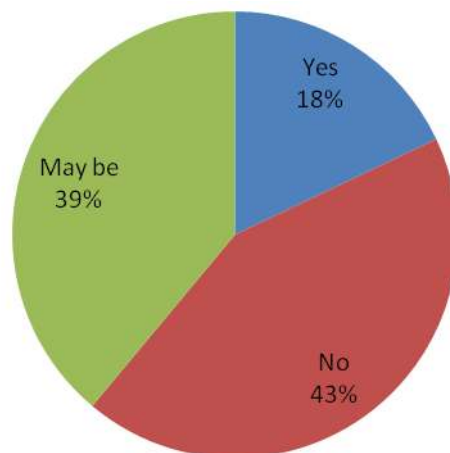
Diagram-15

Diagram-15 shows among all the respondents 43% knew that their shared content would not be deleted automatically after deleting their account, 39% were not sure and 18% knew their share content would be deleted automatically after deleting their account.

16. The respondents were asked whether they knew or not the organization which would retain their data even if they close their account and they were grouped according to their response.
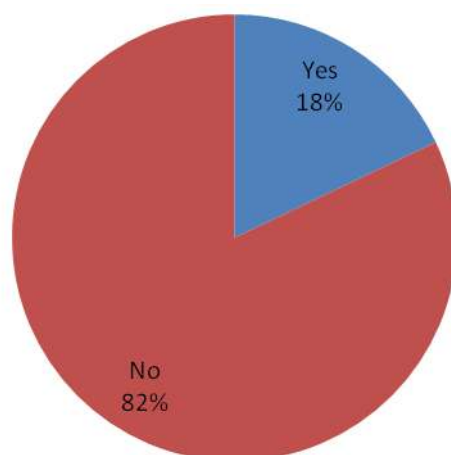
Diagram-16

Diagram-16 shows among all the respondents 82% did not know the organization which would retain their data even after they closed their account and 18% knew the organization which would retain their data.

17. The respondents were asked whether they knew or not the rights they have regarding their shared research data on the academic social networks and they were grouped according to their response.
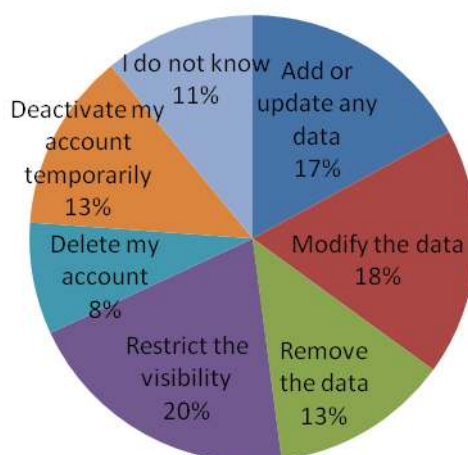
Diagram-17

Diagram-17 depicts among all the respondents 20% knew the right of restricting the visibility, 18% knew the right of modifying the data, 17% knew the right of adding or updating any data, 13% knew the right of deactivating the account temporarily and removing any data, 11% did not know about the rights and 8% knew the right of deleting their account.

18. The respondents were asked whether they knew or not the Grievance officer/authority of their academic social networks and they were grouped according to their response.
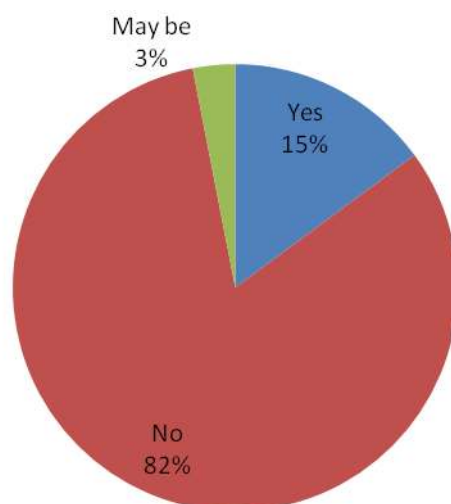
Diagram-18

Diagram-18 shows among all the respondents 82% did not know the Grievance officer/authority of their academic social networks, 15% knew the Grievance officer/authority and 3% were not sure.

19. The respondents were asked whether their academic social network had developed any information security policy of its own or not and they were grouped according to their response.
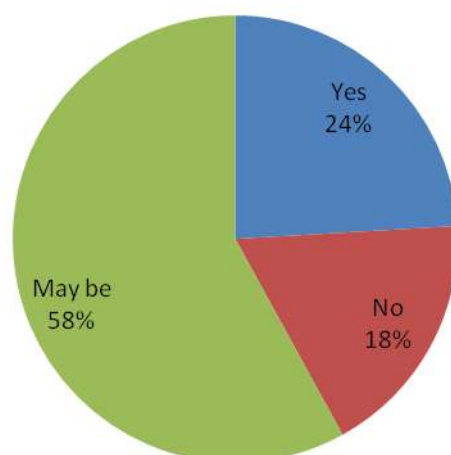
Diagram-19

Diagram-19 shows among all the respondents 58% were not sure, 24% knew that their academic social network had developed information security policy of its own, 18% knew that their academic social network had not developed any information security policy of its own.

20. The respondents were asked if their academic social network had its own information security policy then was that regularly updated or not and they were grouped according to their response.
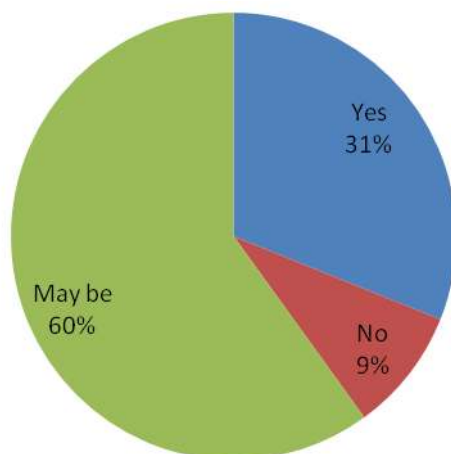
Diagram-20

Diagram-20 shows among all the respondents 60% were not sure, 31% knew that the information security policy of their academic social network got updated regularly and 9% knew that the information security policy of their academic social network did not get update regularly.

21. The respondents were asked if they were allowed to access their ASN accounts through their library web-portal or not.
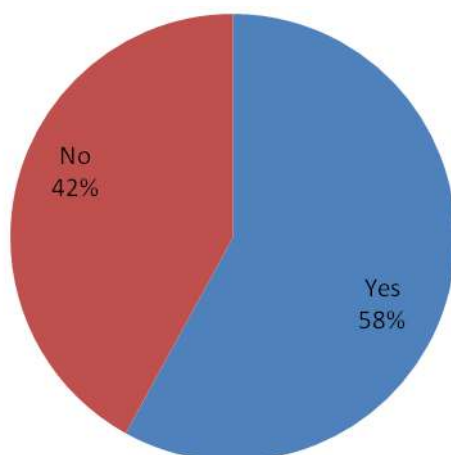
Diagram-21

Diagram-21 depicts among all respondents 58% have accessed their ASN accounts through their library web-portal.

22. The respondents were asked if their libraries have organized any awareness program to make them aware of the online privacy on ASNs.
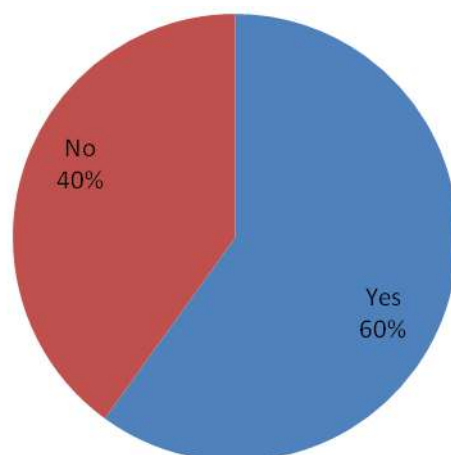
Diagram-22

Diagram-22 depicts among all respondents 60% reported that their libraries have organized awareness programs to make them aware of the online privacy on ASNs and 40% reported negative reply.

23. The respondents were asked what kind of initiatives their library took to make them aware of their privacy while using ASNs.
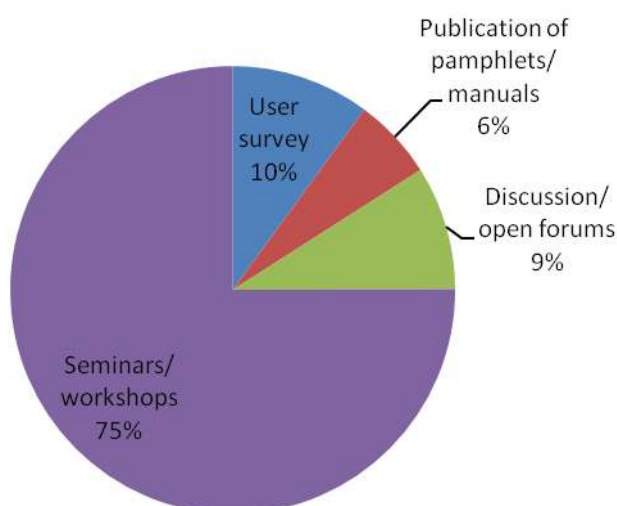
Diagram-23

Diagram-23 depicts among all respondents 75% attended seminar/workshops, 10% attended user survey, 9% participated in discussions/open forums and only 6% reported that their libraries published pamphlets/manuals to make them aware of their privacy while using ASNs.

24. The respondents were asked if their libraries guide them regarding legal actions in case of any privacy breach.
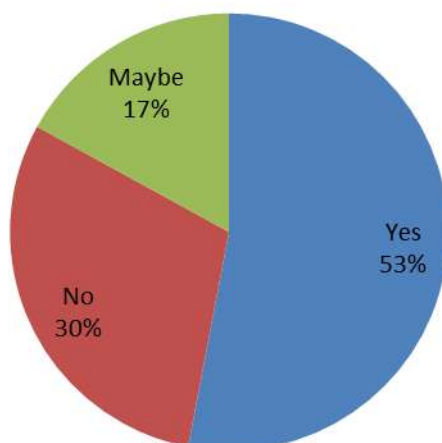
Diagram-24

Diagram-24 depicts among all respondents 53% reported that their libraries guide them regarding legal actions/RTIs in case of any privacy breach, 30% reported negative reply and 17% were not sure.

25. The respondents were asked how much are the library staff members helpful/resourceful to guide them regarding online privacy on ASNs.
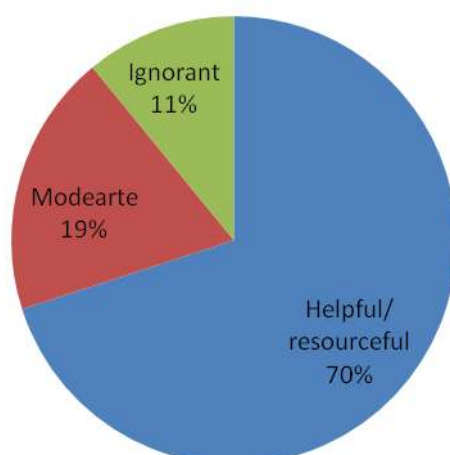
Diagram-25

Diagram-25 depicts among all respondents 70% reported that their library staff members were helpful/resourceful enough to guide them regarding online privacy on ASNs, 19% replied library staff members were of moderate nature and 11% reported that their library staff members were ignorant.

9 Proposed Framework:
As per the findings of the study a framework can be proposed which may help the ASN service providers to formulate effective privacy policies and guide the academicians while sharing their personally identifiable information online.
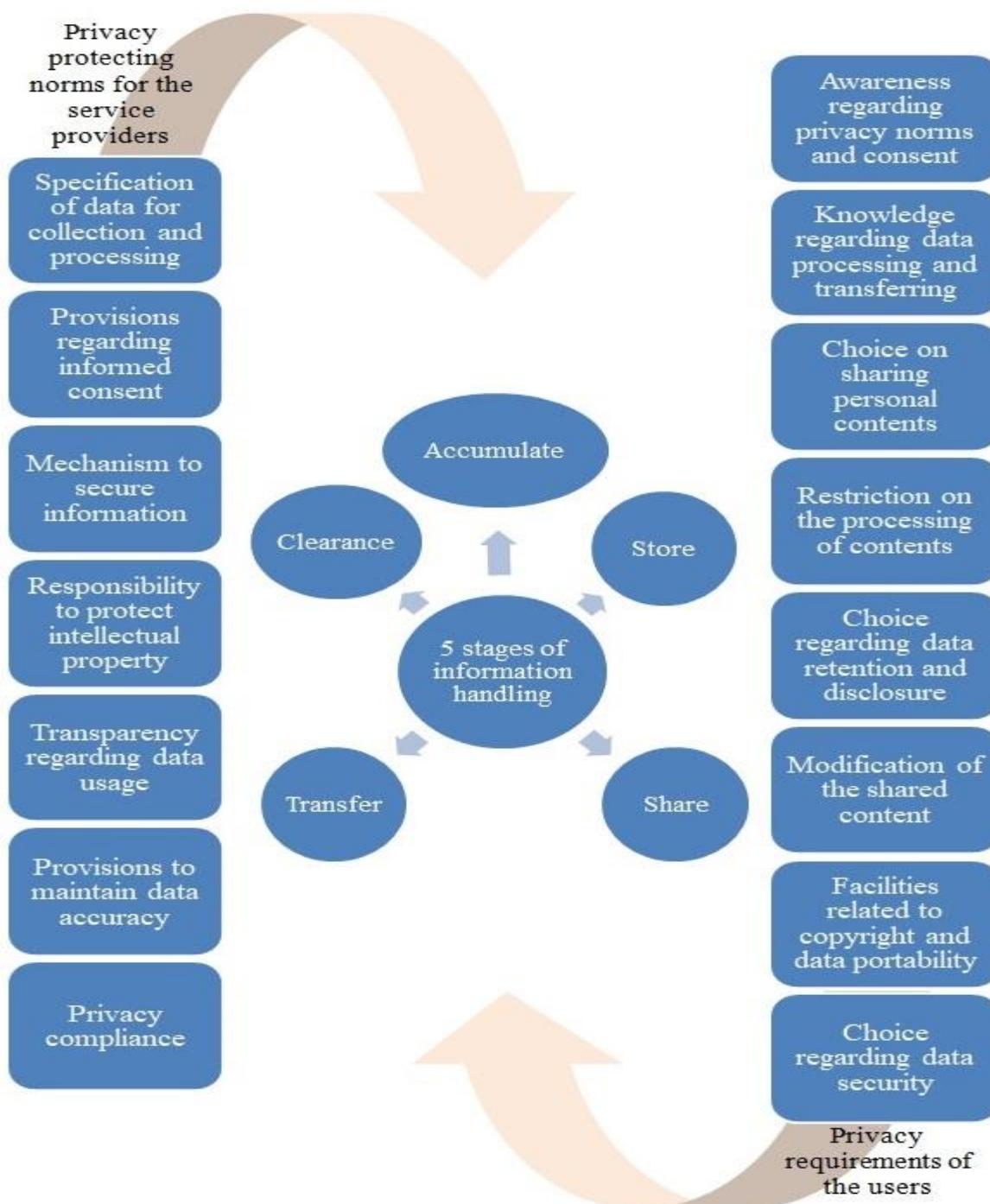
9.1 Privacy protecting norms for the service providers:

Provisions regarding informed consent: The privacy policy of the ASNs must reflect the intention and objective behind collecting the personal information by the service provider. (ref. Diagram-10)

Specification of data for collection and processing: The ASN shall notify the type of personal data to be collected from the academicians and the listing shall comply with the prevailing legal norms. After attaining personal information from the academicians the ASN shall allow the data processors to access only those data which are essential for observing their functions and nothing more than that. (ref. Diagram-1)

Provisions to maintain data accuracy: The ASN shall maintain a mechanism to check and validate the stored data to assure authenticity. Any incorrect or misleading information shall

be rectified by the concerned academician and the same rectification shall be done by the data controller at an earliest date. (ref. Diagram-2)

Transparency regarding data usage: The policy shall be easily available on the website of the ASNs and its access shall be free of any charge. There shall be a list of the authorized third party service providers and the academicians shall follow the same before sharing any personal or research data. There shall be the facility to restrict the visibility of any personal data provided already to the ASNs. The ASN shall allow the academicians to lock their shared data in case of data retention. Thus the data may get archived and secured but not processed further by the ASN. (ref. Diagram-11 & 12)

Responsibility to protect intellectual property: The ASNs shall respond to any copyright infringement notice at an earliest date. Whenever the ASNs come to know of copyright infringement of any scholarly content, the concerned academician shall be notified immediately. The name and contacts of the user, who has reported copyright infringement against sharing of any specific content, shall be sent by the ASNs to the academician who has shared the content at the first instance. There shall be a provision for the ASN to terminate the account of any member who has been alleged of copyright infringement repeatedly. There shall be one person designated by the ASNs to receive and respond to the copyright claims. The name and contacts of the copyright agent shall be clearly visible on the website of the concerned ASNs. (ref. Diagram-18)

Mechanism to secure information: The ASN shall assure that the companies receiving the data trans-border for processing are following the privacy rules and security norms equivalent to the concerned ASN. The academician shall be notified if a device other than his/her regular one is used for log in to his/her ASN account. The ASNs shall inform the concerned academician if any unauthorized person access, destroy, store or disclose his/her personal information provided to the ASN. The ASN shall assure that the third party service providers and data processors follow privacy and security norms equivalent to the concerned ASN. (ref. Diagram-19)

Privacy compliance: The ASNs shall periodically review their information processing mechanism to find out any discrepancy with their approved privacy policy. During the privacy assessment if any shortfall gets noticed then the concerned ASN shall try to wipe out the same at the earliest to achieve perfect compliance with its stipulated privacy norms. (ref. Diagram-20)

9.2 Privacy requirements of the users:
Awareness regarding privacy norms and consent: The academicians shall go through the privacy policy of the ASNs carefully, understand the connotations and confirm their consent accordingly. The academician shall have the right to determine the use of his/her personal data by the service provider. The academicians should be able to determine the use of their personal data by the ASNs. (ref. Diagram-9)

Knowledge regarding data processing and transferring: The academicians shall learn the objectives behind the transfer of their personal data and the name and contacts of the company that will process it trans-border. (ref. Diagram-14)

Choice on sharing personal contents: The ASNs may use the submitted contents to promote, operate or develop their services. Therefore, there should be a way for the academicians to decide whether or not to provide any personal data to the ASNs. The academicians shall be able to hide any shared content from appearing on their ASN profile page. (ref. Diagram-3)

Restriction on the processing of contents: The academicians shall also be allowed to limit the utilization of their intellectual property by the ASNs in promoting or developing their services. The academicians may object to the use of their personal data, e.g. contacts, for direct marketing. Academicians shall be able to restrict the re-sharing or re-using of their shared content. (ref. Diagram-8)

Choice regarding data retention and disclosure: The academician must know for how much time his/her personal data will be stored with the ASN. The academicians shall also know the details of the company that will store their personal data and duration of storage. The academicians shall understand the cookie policy, terms of use and disclosure terms of the concerned ASN before registering their ASN account. (ref. Diagram-13 & 16)

Modification of the shared content: The academicians shall have the right to add, update, delete and review the personal data they have already provided to the ASNs. The ASN shall allow the academicians to access their own data for modification as and when they need. (ref. Diagram-17)

Facilities related to copyright claims: The academicians shall know contact details of the person to whom they need to address in case of any privacy breach and within how much time the request will be worked upon. (ref. Diagram-18)

Choice regarding data security: The academician may restrict unknown people from sending irrelevant messages or alerts. The academician may restrict unknown people from connecting with them through ASNs. Academicians shall opt out of being tagged unnecessarily through customizing ASN settings. The academicians shall have the facility to opt out of indexing of their ASN profile by other search engines. (ref. Diagram-4 & 5)

9.3 Five stages of information handling

Accumulate: The service providers shall notify the academicians about their intentions behind collecting the personal information. The academicians on the other hand shall provide their consent for data collection after thorough understanding of the purpose of data collection. (ref. Diagram-9 & 10)

Store: The service providers shall assure better and secure storage of the collected data. Though the service providers may consult third parties for storing the collected data, they shall bear the responsibility of misuse or loss of any data. The academicians shall know the data storage location so that they may easily identify and question the service providers in case of any misuse of data. (ref. Diagram-14)

Share: At present various divisions of a single organization may hold different classified data regarding an individual for processing purpose. The service providers shall trace all the usage of the collected data to determine the access rights. The service providers shall also ensure the legitimate use of the collected data by the people with specific access rights. (ref. Diagram-19)

Transfer: The service provider may transform the collected data to any other organization in case of merger or ownership change. The service providers may transfer data to third parties for processing or storage purpose. In all the cases of data transfer the primary responsibility of keeping the data safe from unauthorized use or access, shall be on the service providers who have collected the data from the academicians directly. The service providers shall let the academicians know about any transfer of their personal information. (ref. Diagram-14)

Clearance: The service providers shall arrange total disposal of unwanted data. If the third parties have access to the collected data then there shall be a documented obligation over them to ensure complete disposal. The academicians shall know the specific authority to which they may request for deletion of any inapt data. (ref. Diagram-15)

As shown in the proposed framework the privacy protection principles for the service providers and the privacy requirements of the users shall be collaborated to prepare an ideal form of privacy policy. The policy will assure better privacy and security for the academicians using the ASNs by influencing the 5 stages (i.e. accumulate, store, share, transfer and clearance) involved in the handling of shared information.

10 Role of the Libraries:

Libraries shall pay adequate importance to the ASNs as one of the important medium for disseminating academic contents and information.

- The library shall encourage the users to access ASNs by providing links to their profiles through the library web portals. (ref. Diagram-21)
- The library shall organize awareness programs to make the users aware of their online privacy while using ASNs. (ref. Diagram-22)
- The library shall guide the users regarding the legal remedies in case of any privacy breach on ASNs. (ref. Diagram-24)
- The library staff shall be trained and helpful enough to guide the users in case of any privacy breach or data loss on ASNs. (ref. Diagram-25)

11 Conclusion, suggestions and scope for further research:

11.1 Conclusion:

The main benefit behind the profound use of online social networking site is the user friendly environment of information sharing. But when the flow of information becomes uncontrollable then the misuse of the available excessive information starts to haunt the users to safeguard their online presence and creations. While registering, a user needs to share some personal data (like-name, gender, date of birth, etc.) for helping the familiar people to identify him/her distinctly. These shared data may be misused by any member of the concerned social network according to his/her vested interest.

This study was concerned with the privacy and security issues emerging from the use of academic social networking sites. To understand the actual scenario five mostly used ASNs were selected. An online survey was conducted to know the users' awareness regarding online privacy and security of their shared intellectual property. The online survey showed that the users of the ASNs were not aware of their online privacy and security of their shared intellectual inputs. Finally, a framework was proposed to promote the formulation of such a privacy policy by following which the ASN service providers may assure better security for the shared information of the academicians.

The ASNs have revolutionized the scholarly communication among the academicians. Along with many virtues there are some vice associated with this emerging technology. The privacy of the members and the security of their shared content are the most crucial point of consideration while advocating the wide use of the ASNs. But as the ASNs are still evolving, the customization to provide better privacy and data security are in the state of evolution as well. The gradually rising popularity of the ASNs depicts the acceptance of this technology by the academicians apart from the privacy and security concerns.

11.2 Suggestions:

According to the findings, a framework for designing the privacy policies is proposed with an aim to strengthen the privacy and online security of the academicians using the academic social networking sites. The privacy protecting norms shall be followed by the ASN service providers and simultaneously the requirements of the users shall be addressed properly by the privacy policy makers. The privacy policy shall be equally balanced between the norms of the service providers and requirements of the users and the policy thus framed will be able to monitor different stages of information handling and wipe out the risk of privacy breach. The proposed framework may assure better privacy for the users and the trustworthiness of the ASNs may increase in long run.

11.3 Scope for further research:
The findings of this study have been helpful to fill up the knowledge gap on the area. It might help to diagnose the problem and mark the achievements of research in the field of state. Proper planning, implanting, monitoring and evaluation of academic social networking websites might be done based on the findings of the study. The outcome might encourage the academicians to be more aware of their online privacy and thus the use of academic social networks might arise. The suggestions which were proposed at the end of the study might encourage the website administrators to implement more pragmatic security measures.
- Further study may be conducted to understand the ethical requirements of the academicians while using the ASNs.
- The five widely used ASNs were selected for study but there are other ASNs of relatively low popularity which may be incorporated in the future research.

12 References:
Bosman, J. and Kramer, B. (2015), "Innovations in scholarly communication", available at: https://docs.google.com/spreadsheets/d/1KUMSeq_Pzp4KveZ7pb5rddcssk1XBTiL HniD0d3nDqo/edit#gid=1519702055 (accessed 13 February 2018)

Burnham, K. (2015), "How the top social networks compare on privacy -- in one handy chart", available at: https://www.itworld.com/article/2915175/social-networking/how-the-top-social-networks-compare-on-privacy-in-one-handy-chart.html (accessed 13 February 2018)

Cotter, K. and Sasso, M.D. (2016), "Libraries protecting privacy on social media", available at: https://www.palrap.org/ojs/index.php/palrap/article/view/130 (accessed 13 February 2018)

Kroski, E. (2008), Web 2.0 for librarians and information professionals, Neal-Schuman Publishers Inc., New York

Srinivasan, S. (2012), "Lack of Privacy Awareness in Social Networks", available at: https://m.isaca.org/Journal/archives/2012/Volume-6/Documents/12v6-Lack-of-Privacy-Awareness.pdf (accessed 13 February 2018)

Suraweera, S., Razali, N., Chouhan, L.B., Tamang, N., Hubilla, A.M.K.U., Ratnayake, A.R.M.M., Rubosa, N.C., Malik, F.A. and Mahesar, S.N. (2010), "Value of social networking in libraries and information organizations in Asia and Oceania", available at: https://www.ifla.org/past-wlic/2010/145-suraweera-en.pdf (accessed 13 February 2018)

Vasquez, F.K.E. and Bastidas, C.E.C. (2015), "Academic social networking sites: a comparative analysis of their services and tools", available at: https://www.ideals.illinois.edu/bitstream/handle/2142/73715/380_ready.pdf (accessed 13 February 2018)