JOURNAL OF OPTOELECTRONICS LASER ISSN: 1005-0086

Volume 41 Issue 8, 2022

International Research is at Its Most Effective When It Makes Use of Established Networks in Certain Respects

Firdose Jahan*[1]

[1]Senior Lecturer in Computer Science, Govt Polytechnic, Nizamabad.

ABSTRACT

The Internet has evolved into a useful platform for collaborative research and knowledge sharing between teams of different sizes and from all over the world. This article provides an overview of various prominent online services among scientists, including Research Gates, Google Scholar, LinkedIn, and Viadeo, and discusses some of the causes that have contributed to their meteoric rise in popularity. One successful example of international cooperation, sharing of expertise, and cooperative collaboration and research is the International Research Network (IRNet; www.irnet.us.edu.pl), which relies on Internet network services to function effectively.

Keywords: Internet, Online services, Scientists, Research networks.

I. INTRODUCTION

A recent study highlighted the dramatic increase in international scientific cooperation over the last several decades. The annual growth rate of scientific papers with multiple authors from different countries is 14%. In order to improve the quality of scientific research, networking is increasingly crucial. This paper presents the results of an econometric analysis of interaction patterns demonstrating that the "spatial pattern of scientific collaboration" is shaped by factors including the size of collaborating scientific environments, transportation efforts, language similarity, and political collaboration institutions. Ann RegSci (1993) 27:11. Anderson, E., and O. Persson. We produced around 5 Exabyte's of data prior to 2003. This much material can be created in little over two days for us now! With the proliferation of social media platforms like Twitter, Face book, and Google+, as well as niche platforms like LinkedIn and Viadeo, people are able to regularly exchange views on a wide range of topics. Luca Greco, Francesco Solace, and Massimo De Santo (2013).

Review of definitions and classifications of networks and networking

The Great Internet Dictionary of Polish defines "net" as both "the global information system consisting of linked computers" and "all actions or relationships aimed at capturing someone or seizing control over someone" (The Great Dictionary of Polish).Several meanings and examples of use of the word "network" may be found at the Oxford Dictionaries website (http://www.oxforddictionaries.com/definition/english/network):1.A configuration of horizontal and vertical lines that cross each other; a spider spins an intricate web out of several distinct types of thread.A gathering of individuals who share knowledge and resources for social or business reasons (2.2): a system of helpersA group of computers, equipment, or processes that are linked together to form a network.Used as a verb:The first [object] to form or function as a network; the canals were poorly networked in comparison to the railroads.

(Object 2) (Often as noun networking) Communicate with people to learn new things and make new friends or business relationships; this includes networking, haggling, and negotiating. (Smyrnova-Trybulska&eBook, 2015 the phenomena of networking is increasingly drawing attention from the public. The number of organizations, communities, and networks engaged in political, economic, and educational endeavors seems to be growing rapidly (mijski In: Elsner 2013: 29). The idea that a group can do more than an individual can alone led to the rise of this phenomenon, which consists of uniting individuals in a more or less formal fashion (synergy is often mentioned). Today's media and the right ICTs allow for these effects to be produced. Although self-awareness and well-defined goals and tactics are essential for successful networking, the time and energy spent on establishing and maintaining a network is well worth it since, through collaboration, projects may be accomplished that would otherwise be impossible. (Smyrnova-Trybulska, eBook, 2015).

The goal of networking is to meet new people, learn new things, and work together effectively to achieve mutual goals. It facilitates working toward shared goals in a steady, methodical manner that is founded on mutual trust and respect. The network's self-organization and self-regulation lead to its relatively flat organizational structure. There is no traditional hierarchy, and instead everyone works together as equals. There also doesn't seem to be any of the usual academic hierarchy (Elsner 2013: 49).Online learning places more responsibility on the student and emphasizes individual growth and development. Given that today's anticipated results are delivered via teamwork—often including individuals of various nations, professions, and cultures—and that tackling complex challenges is only achievable thanks to well-organized group work (eBook 2014: 115), these solutions seem irreversible. Keep in mind that organization in the network has to start at the ground level. Here is a definition of teachcommunities (PLC - Professional Learning Communities) that is worth mentioning in full: Learning-from-experience is the focus of PLCs, which are networks that provide the conditions for this kind of learning. In PLCs, sessions are held often and are focused on the students' projects and how they are learning (DuFour 2004: 6-11).

Figure 1 shows several concepts that use the internet and networking as metaphors, and the categorization is shown by the differentiation between economic, virtual, and social networks. Networks of various types were discussed in further depth in Smyrnova-Trybulska, eBook (2015).

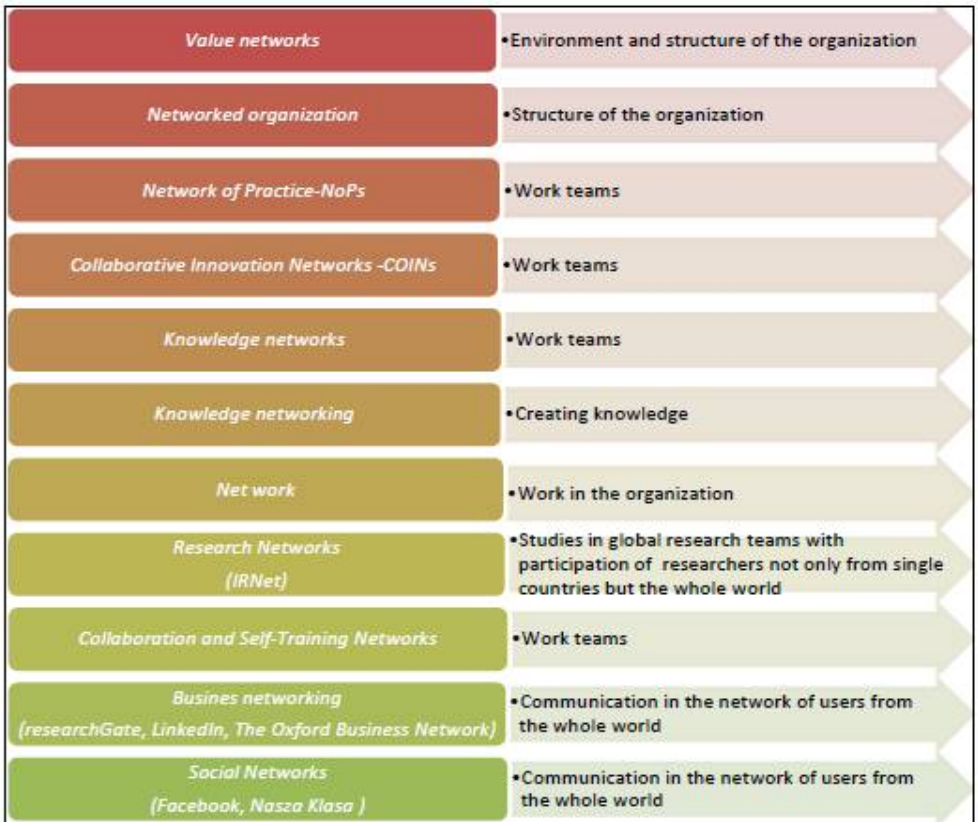

Fig. 1. Some examples of notions referring to the metaphor of the net and networking (notion and aspect)
Source: Smyrnova-Trybulska, Żebrok, 2015
Mapping and visualization of „Network“category presented on the Figure 2.

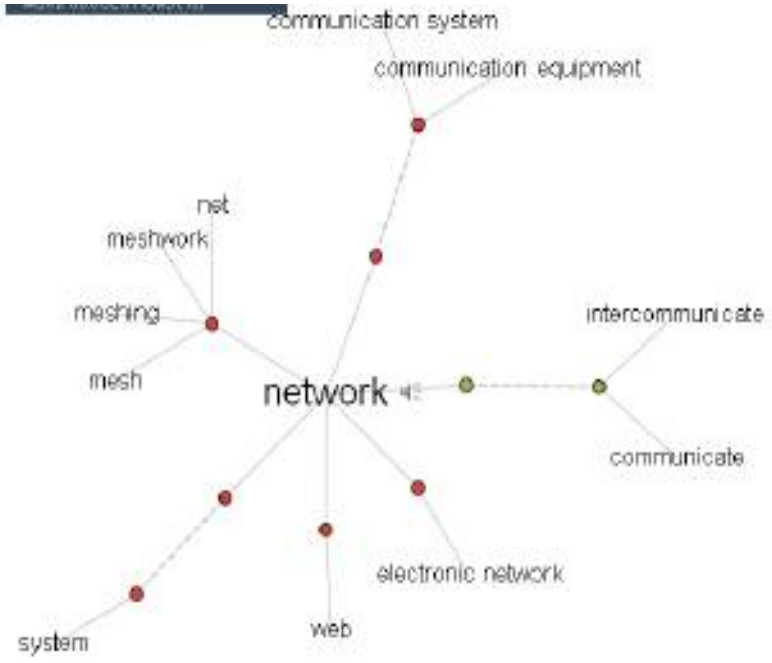

Fig. 2. Mapping and visualization of „Network“category

One of the writers of this paper serves as the coordinator of the research network IRNet (www.irnet.us.edu.pl), which serves as a real-world example of a network. The European Commission's 7th Framework Programmed, Marie Curie Actions International Research Staff Exchange Scheme, funds the IRNet - International Research Network for Study and Development of New Tools and Methods for Advanced Pedagogical Science in the Field of ICT Instruments, E-Learning, and Intercultural Competences (www.irnet.us.edu.pl). PIRSES-GA-2013-612536 is the grant agreement number. The project will take 48 months to complete. 1/01/2014 - 31/12/2017. The goal of the IRNet project is to establish a thematic multidisciplinary joint exchange programmed for the purpose of researching and developing new tools for advanced pedagogical science in the areas of ICT instruments, distance learning, and intercultural competencies in both European Union (EU) and non-European Union (NE) countries (Australia, Russia, and Ukraine). By facilitating the exchange of scientists, this initiative will help to further develop the current partnership while also opening the door to new avenues of inquiry. Two of the project's primary goals are the analysis and evaluation of social, economic, and legal conditions, as well as methodologies and e-learning techniques being developed in Europe and the third-world countries involved, and the sharing of best practices in the field of innovative pedagogical approaches between the EU and these countries. In Figure 3, we see one way in which the institutions making up the IRNet consortium have integrated their prior knowledge and scientific ties to provide novel results for the network as a whole.

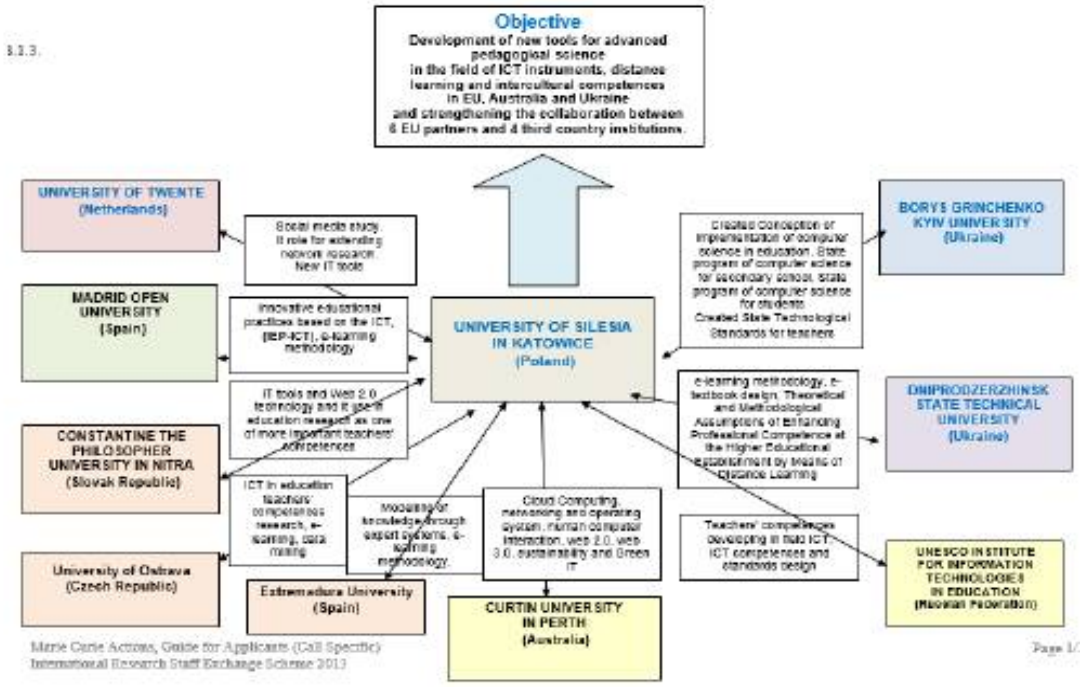

Fig. 3. Example of integration of the experience and scientific relation between IRNet consortium institutions for new network consortium achievements

Connections of many kinds also contribute to the network:
Interactions with Real People
Relationships in the scientific community
Networking opportunities
Joint Conferences
-Cooperative endeavors, etc.
More than 180 publications, more than 50 conferences, workshops, seminars, and more than 300 presentations and lectures were all produced in the first 44 months of the project's operation. Important Outcomes and Successes thoroughly examined, with results given in a variety of studies and articles. In this article, we'll take a look at a few free social networking sites and discuss how they might aid in the promotion of scientific collaboration and the dissemination of network findings.

Review of the free social networking site. ResearchGate (RG)
Internet resource for scientists of all stripes.IjadMadisch and SörenHofmayer, two medical students, launched ResearchGate in 2008 and have already attracted more than 11 million visitors to their website. The main office of the corporation is located in the German capital of Berlin. There are 81,000,000 papers available on the service.
Primitive features:
Specific details on each researcher,

Opportunity to host whole works the practice of saving one's own copies of documents (Self-Archiving)
-the option to include your accomplishments in a bibliography,
-the opportunity to see how other researchers work,
-bibliometric monitoring,
-information on areas of study,
Information for future endeavours,
-means of interaction (conversation);
-Metrics on how often certain texts are read or downloaded.
-The context of global cooperation:
–Groups

Users in themed groups on the site benefit from a one-of-a-kind Engaging conversation between individuals who share scientific interests. The team has access to both a private discussion board and a suite of useful software. Share papers, schedule meetings, and design experiments using this handy collaborative tool (http://www.ptchem.lodz.pl/pdf/rg1.pdf). And the sharing of research findings. It's possible that researchers from many fields participated in the group.

-Reading materials for professionals and scientistsMore than a thousand free resources, such as Pubmed, ArXiv, IEEE, and CiteSeer, are made available via the ResearchGate website. Figures 4 and 5 demonstrate the author's RG profile.

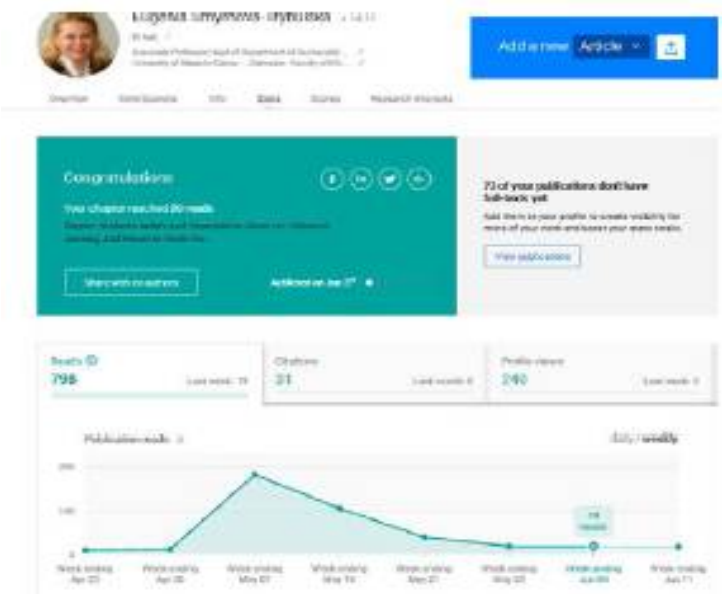

Fig. 4. Profile of the Eugenia Smyrnova-Trybulska in RG

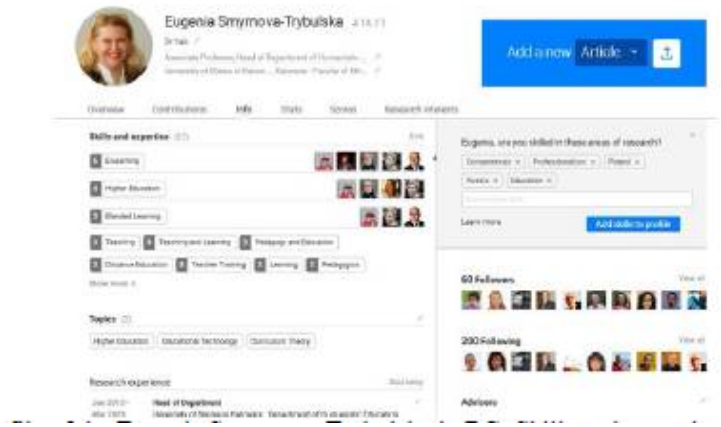

Fig. 5.Profile of the Eugenia Smyrnova-Trybulska in RG.Skills and expertise.Research and scientific connection with other researchers.

"ResearchGate (RG) is a scholarly social network that boasts an outstanding variety of reputational indicators and has the potential to supersede publishers as the principal deliverer of academic reputation," the study's authors said. We analyse 400 RG members and do desk research to determine the effectiveness of its 10 reputational systems. The key takeaways are that (1) RG provides a rich but bewildering amount of reputational data; (2) RG struggles with the deployment of alternative, engagement metrics like Q&A and follower data, which can lead to reputational anomalies; (3) RG makes particularly good use of usage data; and (4) RG is at the forefront of the field in its approach to engaging the scholar. As reported by (Nicholas, Clark, & Herman, 2017)
"With the rise in popularity of ASNSs, research of their use for academics and assessments of their efficacy are essential. However, the actual online interactions of academics on these platforms remain unexplored, therefore it is not known if contemporary ASNSs have achieved their intended purpose. In order to close this knowledge gap, a new study using data culled from ResearchGate has been presented (Jeng, DesAutels, DesAutels, Spencer, 2017). Adopting a mixed-method design, we analyse 1,128 posts collected from ResearchGate Q&A through both qualitative content analysis and statistical analysis to learn about scholarly information exchange and the ways in which it varies across three fields: library and information services; the history of art; and astrophysics. A recent study supports this theory (Jeng, DesAutels, DesAutels, Spencer, 2017).

Look it up on Google Scholar. Google Scholar (GS) is a free, academic-focused search engine developed by Google Inc. in the United States. Used for doing searches on a repository of scholarly articles across various disciplines. This service's beta version debuted in the month of November 2004. The most extensively read online scientific publications from the world's top publishers are all accessible in Google Scholar's database. Similar services to GS include Scirus (Elsevier), CiteSeer, and get CITED, all of which are free, and the subscription databases Scopus (Elsevier) and Web of Science, all of which cost money (Thomson ISI). Google Scholar, on the other hand, brags that it has more scientific publications available in more languages than any other database. (https://pl.wikipedia.org/wiki/Google Scholar). Some scholars argue that Google Scholar should be seen as a viable substitute for the Web of Science. Hanna Celoch performed a comparison of the two citation analysis methods (2010). Many academic papers and reports have investigated Google Scholar. In one theoretical study of SME social media marketing, for instanceAccording to (Lopez, Luis Gerardo; Freire, Leonor (2015)), E.Kulczycki's own script presents some technical and methodological recommendations for academics interested in using Google Scholar to disseminate scientific discoveries (2013). Figure 6 provides an example of the author's Google Scholar citations list.

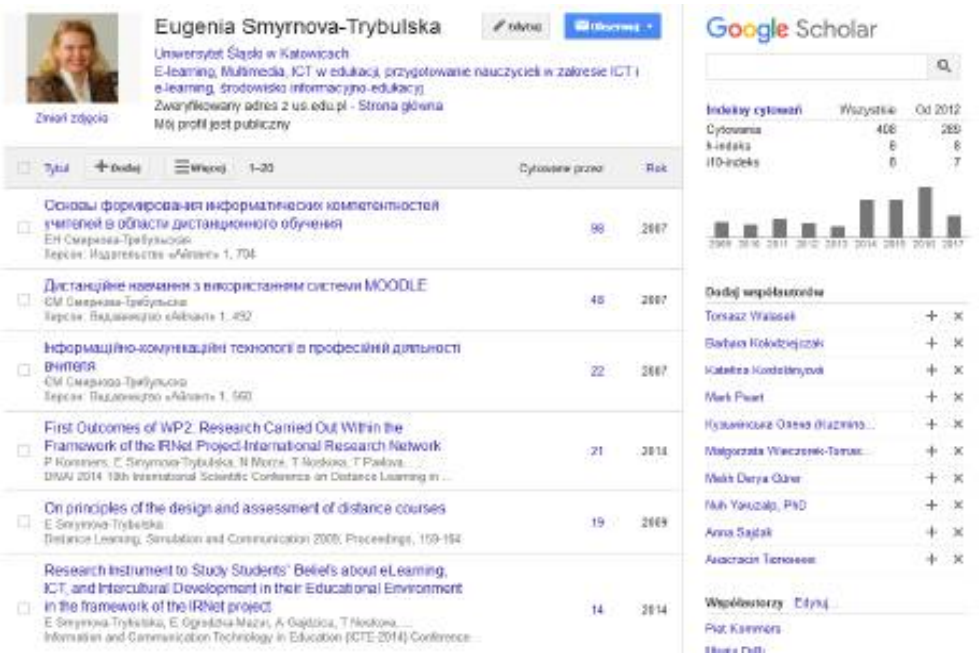

Fig. 6.An example of list of citations of Eugenia Smyrnova-Trybulska publications in Google Scholar.

Source: https://scholar.google.pl/citations?user=o-k9zQkAAAAJ&hl=pl (Accessed 14.08.2017)

LinkedIn.com.
According to studies of academics' use of social media, these platforms are increasingly put to good use to improve the dissemination of knowledge by helping individuals connect with one another, collaborating on research projects, disseminating findings to the public, and debating the most pressing issues in the field. However, there have been few studies examining how researchers throughout the country feel about using social media for scholarly communication. A large sample of Italian university researchers (N=6139) is surveyed about their motivations for engaging in scholarly communication through social media. The

study's authors want to better understand the elements that shape these preferences. This is according to a recent study (Manca&Ranieri, 2017). As one article puts it: "Thirteen years ago, a social networking site that catered only to business relationships" (Wikipedia). This platform may be thought of as the biggest business network in the world or "a "global job board," where job-seekers, recruiters, and employers can all establish profiles (essentially online resumes) to advertise themselves to one another. That's why we're doing it: to make the job-hunting and hiring process more efficient and productive. (https://socjomania.pl/jak-powinien-wygladac-twoj-profil-na-linkedin-krotki-tutorial-krok-po-kroku).
LinkedIn is a global professional networking service that connects businesses and professionals across the world. There was a soft launch in December of 2002, and the full release was in May of 2003 (https://thealarmclock.com/2004/08/06/linkedin hqmou/). (((([date accessed: 30 April, 2014]) Over 135 million people from over 200 different countries were using the site as of November 2011. As of April 2, 2012, the site was made accessible in Polish as one of its many languages. This study (Janakova, 2016) aims to help educators in the field of computational science by providing them with real-world examples supported by hyperlinks from social media platforms like Twitter and LinkedIn. There are several instances of achievement; nonetheless, the issue of educational usefulness remains. Our ultimate goal is to aid in the improvement of research outcomes and the proper placement ofcustomer relationship management (CRM) students in terms of actual work experience. A current dispute arises from the discrepancy between a practical, effective example and an ineffective educational model. The problem is solved using a multi-dimensional strategy, with additional data coming from surveys conducted by students in customer relationship management classes. The findings obtained demonstrate that real-world examples are well backed up by credible references to twitter and LinkedIn studies. As of 2016 (Janakova).

Video. Members of Video, a Web 2.0 professional social network, include company owners, entrepreneurs, and managers. "VideoRaise $32M To Grow Its Business Network In China, Russia, And Beyond"). (From TechCrunch.com, 11 April 2012, retrieved on July 17, 2012) There were 65 million users registered as of 2014. To date, Video has 65 million users throughout the globe, including 25 million users based in China. From Video SA (December 11, 2014) (retrieved February 24, 2015).Although social media use has exploded in recent years, studies still mostly focus on what draws people to various platforms. Members' reasons for posting on social media sites like Facebook, Tumblr, Google+, Skyrock, RenRen.com, etc. have only been the subject of a small number of studies. According to (Grissa, Karim. In addition to the aforementioned services, the most widely used network is undoubtedly made up of social media sites like Facebook, Twitter, etc. Although it is not described in this article, the IRNet project has a presence on many prominent social media websites, including Facebook (https://www.facebook.com/IRNet-1669593856645370/) and Twitter (https://twitter.com/irnet project).

II. CONCLUSION

There has been a recent uptick in the amount of attention given to the phenomena of networking. The article discusses numerous variables leading to the rise in popularity of major Internet services like ResearchGates, Google Scholar, LinkedIn, and Video among scientists. One successful model of international cooperation, sharing of expertise, and cooperative collaboration and research is IRNet (www.irnet.us.edu.pl), an international research network that relies on the availability and scalability of the Internet to function. The necessity for additional investigation into this matter is, however, something we now believe must be addressed. Publications will then analyze and disseminate the findings from the consortium's research and network operations.

REFERENCES

[1] Andersson, Å.E. &WichmannMatthiessen C. (1993). Øresundsregionen. Kreativitet, Integration, Voekst. Copenhagen, Munksgaard.
[] Andersson, Å.E. &Persson, O. Ann RegSci (1993). The Annals of Regional Science, Networking scientists Vol 27, Issue 1, 11–21 doi:10.1007/BF01581830
[3] Castells, M. (2008). Network Society, PWN, Warszawa .
[4] Celoch, H. (2010). Google Scholar alternative to Web of Science. Attempt to compare both tools for citation analysis. August 14, 2017.
[5] http://eprints.rclis.org/15177/1/katowice.pdf
[6] Colace, F., De Santo, M. & Greco, L. (2013). A probabilistic approach to Tweets' Sentiment Classification Book Group Author(s): IEEEConference: 5th Biannual Conference of the Humaine-Association on Affective Computing and Intelligent Interaction (ACII) Location: Geneva, SWITZERLAND Date: SEP 02-05, 2013 Book Series: International Conference on Affective Computing and Intelligent Interaction, 37-42
[7] Elsner, D. (2013). Collaboration and Self-Training Networks. Theory and Practice/, Wolters Kluwer, Warszawa
[8] Grissa, K. (2016). What makes Opinion Leaders share Brand Content on Professional Networking Sites (e.g LinkedIn, Viadeo, Xing, SkilledAfricans..) Edited by: Chaabouni, RJ; Nasraoui, O; Tobji, MAB; et al. Conference: 1st International Conference on Digital Economy (ICDEc) Location: Carthage, TUNISIA Date: APR 28-30, 2016 Sponsor(s): IEEE; ATEN 2016 International Conference on Digital Economy (ICDEc), 8-15.
[9] Issa T., Isaias P., Kommers P. (eds) (2016). Social Networking and Education Global Perspectives. Springier
[10] Janakova, M. (2016). Education in Computational Science: Do Successful Examples Also Create Success in Education? Book Group Author(s): Soc Digital Informat& Wireless Commun Conference: 3rd International Conference on Computer Science,

Computer Engineering, and Education Technologies (CSCEET) Location: Lodz, POLAND Date: SEP 19-21, 2016 Sponsor(s): CSCEET; SDIWC; Lodz UnivTechnol THIRD INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE, COMPUTER ENGINEERING, AND EDUCATION TECHNOLOGIES (CSCEET2016), 25-31 Published: 2016

[11] Jeng, W., DesAutels, S., He, DQ & Li, L. (2017). Information Exchange on an Academic Social Networking Site: A Multidiscipline Comparison on ResearchGate Q&A JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY, Volume: 68 Issue: 3, 638-652

[12] Kulczycki, E. (2013). How to add work to Google Scholar and increase citations and Hirsch index. August 14, 2017,

[13] http://ekulczycki.pl/warsztat_badacza/poradnik/

[14] Lipovsky, C. (2015). Gender specification and occupational titles: An investigation of French women's CVs SOCIOLINGUISTIC STUDIES, Volume: 9, Issue: 1, 93-113.

[15] Łobejko, S. (2010). Enterprise network conditions change and strategy in the XXI century, OficynaWydawnicza SGH, Warszawa.

[16] Lopez, S., Gerardo, L., Freire, M. & Leonor, E. (2015). Social Networks an Alternative to Marketing in SMEs REVISTA PUBLICANDO Vol. 2, Issue: 4, 111-121.

[17] Manca, S. &Ranieri, M. (2017). Networked Scholarship and Motivations for Social Media use in Scholarly Communication INTERNATIONAL REVIEW OF RESEARCH IN OPEN AND DISTRIBUTED LEARNING, Volume: 18, Issue: 2, 123-138 Published: APR 2017.