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Evaluating the Use of Invisible Web Based On Max Weber's Ideal Type Model (Case Study: Scientific Staff Members of Shahid Bahonar University of Kerman)

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Abstract

The main purpose of present study is to figure out the web usage rate with emphasize on the invisible web, with using Max Weber's ideal type among faculty members of Science College of Bahonar University of Kerman. The present study is a survey, and the statistical population is 109 full-time faculty members of the Science college of Shahid Bahonar University of Kerman, the sample size how was 36 calculated using Cochran method. For data collection, the researchers made questionnaire were used which assessed its validity and reliability. Cronbach's alpha coefficient of .76 indicates the validity of the questionnaire. Data were analyzed using required descriptive tests, such as frequency, frequency percent, mean and standard deviation. Finally, in order to assess the practical usage and attitudes of staff members of the invisible Web, Bahonar University of Max Weber's model has been fitted, use and based on the model for analysis of Web users, four loaders, loaders, ideal type model.The findings of the study show that the main aim of searching for information by faculty were research, educational and upgrading their knowledge base in the field of their specialty. Most Web usage of faculty members in the visible web was using search engines, and in the invisible web was using databases. Google search engine and the sharing databases of university (especially science direct) have been most used tools to meet information needs of statistical society. They use advanced methods for searching and also use operators in their search strategy. Our findings showed that the faculty members use both parts of the Web to access scientific information and resources. They have been distributed in every four ideal type. 62.2% of faculty members use visible web regularly, but only 8 percent of them use invisible web regularly because of the lack of familiarity with the invisible web and lack of requiring trainings.

Keywords: Invisible Web, Shahid Bahonar University of Kerman, Typology, Visible Web, Max Weber's Ideal Type Model

Introduction and problem statement

Internet can be one of the greatest inventions of mankind. It is quitely penetrated in all aspects of our lives, especially in the areas of research and became the primary means of notification in our era so common people to Researchers prefer getting their information sources through databases and digital libraries, rather than traditional methods (visiting information centers and libraries). The World Wide Web was created in late 1960, but until

1990 there was not a tool to explore the information contained therein. (Koosha, 2002). In 1992, Tim Berners-Lee created the Web. Web environment can be studied from different aspects. From one perspective, the web can be divided into two parts: the visible web and the invisible web. Visible web are static Web pages that are freely accessible. On the contrary, the invisible web are dynamic pages with restricted access (e.g. through password) or some are freely accessible. From using aspect, the Web can also be divided into two categories, visible and invisible web. A set of search tools, such as search engines (e.g. Google) Meta Searchers (e.g. WebCrawler) and subject directories (like Yahoo) only indexing and searching the web shallowly and do not have the strength in depth search. In other words, they only have access to the visible web or their search powers are limited to this area of the web. (Cheshmeh Sohrabi, 2008). The Invisible Web is important in two aspects:

1. The amount of information available on the invisible web is manifold of the visible web.

2. Normally scientific credibility of the information contained in the invisible web are more than resources that retrieved by search engines.

Because of the importance of faculty members and researchers in scientific advancement of societies, their access to the world's scientific output is very important. In fact, this group, needing to upgrade their knowledge and keep up to date knowledge through access to the latest scientific findings and researches in the world, according to their needs. Nowadays the most important medium to transport and quick access to information is the web. The Invisible Web is important in terms of quantity and quality, but this portion of the web is still unknown even among the faculty members. So it is necessary to research in this area of the web. So after considering the importance and size of the invisible web, we decided to review web usage of professors of the Shahid Bahonar University of Kerman especially the invisible part of the web. Since the Internet widely used in scientific communities researches on Internet use among faculty members performed and Internet search strategies of faculty members have been conducted.

In this research, in order to assess the faculty board’s attitude and the amount of their usage from two parts of the web, the Max model is being used; and according to this model in order to analyse the web users, four ideal types will be created.

Ideal type

The ideal of type or the ideal type is a model that although belongs to the Max’s methodology and has been used so much, it should be considered that it has been used by some other sociologists such as Karl Marx (1862) and Émile Durkheim (1893). Weber’s idea type which has been brought in the book of *the Spirit of Capitalism* is not a hypothesis but a guide to discuss the theories and a collection of essential coherent concepts for revealing the truth. In many sources and references, ideal type has been mentioned as a research method or analysis tools; and in the qualitative researches in the sociology, history, and economic fileds this method has been used very well (Cheshmeh Sohrabi, 2008).

Weber has used the idealization sample method for surveying the history and social phenomena. The ideal sample is also created according to both experience and reasoning. The ideal type is a sorting device for Weber and it can be used to adjust and systematic ornament

for various subjects in which every one of them is put on a group according to all of the quantitative and qualitative observations which is fitted in its descriptive format (Navabakhsh, 2007). The ideal sample is an analytical structure. It diagnoses similarities and detours. A fundamental method for compare is the combination of abstract and concrete phenomena. The ideal sample arms us to a cognitive device and supervises all the cognitive concepts which the humanistic expert makes them in order to use them in the research only. The ideal sample is not a theory or a hypothesis; but a guide for making theories and hypothesis. From the Weber's point of view, the ideal sample is nothing else but a part of devices and exploring instruments for clarity and uniformity to the subject of research. They are merely experimental methods that scientists impose arbitrarily according to the research requisites and if they are not useful practically, they are abandoned in linage. Therefore, the ideal sample values are merely determined by their efficiencies and performances. Whenever the created ideal sample is not proportionate with the current research, the sociologist is permitted to create other proper ideal samples. Therefore, the ideal samples are neither true nor false by themselves; however, like any other technical tools they are either useful or useless. It should be considered that the ideal types are not such concepts which can be compared to the reality, but they are such ideals which the reality can be judged in a thought-out way.

The ideal type fills the gaps between the current theories and experimental researches because it is the joint point of various branches of the researcher's thoughts. Therefore, in order to comprehend the social realities better, it is necessary to utilize it in the social studies as a tool which has got both the theoretical infrastructure and observational one.

The method of utilization of the model is as following. Two axes are defined. The first axis is the horizontal axis and represents the use of the visible web and the second axis is vertical axis and represents the use of the invisible web by researchers. Points of intersection of the these two axis created four ideal types which are called type I, type II, type III, type IV (Cheshmeh sohrabi, 2008). Typically in two or three-dimensional tests that modeling is done in them, the horizontal axis is always focused on the use amplitude and the vertical axis is always focused on effectiveness. In this study, too, to indicate the position of each individual in these groups, the three criteria for the horizontal axis and five criteria for the vertical axis have been considered. Three criteria of horizontal axis (indicating the use of the visible web) actually are the usual web search tools and are: Search engines, Meta search engines, and subject directories. Five criteria of vertical axis (indicating the use of the invisible web) are ways to access the Invisible Web information and are: Databases, Specialist search engines, Deep web search engines, scientific portals, and web 2.

Then for each criterion three levels are used; and for each level a particular rating is considered (Cheshmeh sohrabi, 2008):

- Regular and effective use two points
- Weak use one point
- Not using or non-recognition zero point

At this stage scores are given to each faculty member, based on their responses and their usage level of the web. Then individual scores for both horizontal and vertical axis are collected, and the average for each axis is calculated. In the end, it becomes clear that where

the position of each person is in the axis and based on this his type is determined.

1- Type I - includes people that use both the visible and the invisible webs.
2- Type II - includes people who use the visible webs more.
3- Type III - includes people who use the invisible webs more.
4- Type IV - includes people who use both the visible and invisible webs less.

Finally, this research tries to determine the usage situation of Bahonar University of Kerman faculty members of Web services and based on the results determines the typology of professors individually.

However, most of these studies have been limited to the visible web and in the invisible web less research has been done. Here are a few examples of these histories:

Cheshmeh Sohrabi (cheshmeh sohrabi, 2008) in a study analyzed the use of the Web based on Max Weber type ideal model and came to the conclusion that researchers use three ways to search for information: Search based on the visible web, invisible web search and hybrid search. But researchers have sparse knowledge about the invisible web. Norouz, Talkhabi, Alipour Hafezi (norouzi, talkhabi & alipour hafezi, 2010) in a study titled "Arak University faculty members information seeking behavior in the use of the Internet" have done their research and their findings show that main purposes of faculty members for searching information was for researching, training and updating professional knowledge and the greatest use is using of electronic journals and databases. Alizadeh Jadidi (alizadeh jadidi, 2010) carried out a study entitled 'information seeking behavior of faculty members of Islamic Azad University of Babol" and concluded that the use of the Internet and continuous online databases in the faculty members are at an average level. Kumar (kumar, 2010) in a study on the faculty members of the College of Agriculture and Technology, concluded that a large number of respondents use the Internet for research purposes and quick access to information. Email and web are mostly used forms of internet services in libraries. Most users prefer to use the Google search engine to search internet.

Aqil (aqil, 2011) studied researchers and graduate students at the University of Lygar done. The research shows that most respondents use the Internet for research, becoming familiar with the latest developments, communications, and to obtain the latest information. Printed information resources using Web-based information services preferred. Thanuskodi and Ravi (thanuskodi & ravi, 2011) in a study on the faculty members of Faculty of Social Sciences of Annamalainagar of India concluded that most respondents use the Internet to research or for educational goals. Most use of internet was in emails and online database.

Joginder Singh & Satya (2013) had done a study titled “Usage of internet by faculty members of Mahrshi Dayanand University, Rohtak” and the results of this study shows that a large majority of faculty members with 84.2% use Internet for their teaching purpose and about 80% faculty preferred E-mail service for their academic purpose. Majority of faculty members (96.5%) use Google search engine. Maximum faculty members opined that Internet improved their professional competency, whereas 60.8% of them encountered the problem of slow speed of Internet connection. More than 50% faculty members were fully satisfied with the use of Internet.

Kumar & Parmar (2014) had done a research with title “Use of Internet by the Research

Scholars & Faculty Members: A Survey Study of Kurukshetra University Kurukshetra in the Disciplines of Science" The findings of the survey reveal useful facts about the use of Internet by faculty members of University kurukshetra.74.63% of the respondents were always use the Internet daily, 4.87% were used it sometimes. Only less than 14.63% respondents were always using the Internet once in a week and also 5.85% twice in a week. In Science 87.80% respondents were always use the internet for research works, 12.19% used it sometimes. Majority of them 73.17% education and 58.53% entertainment purpose use the internet their always and 36.58% sometimes.

Kumar, Singh & Kumar (2014) in a study with title "Use of Internet by the Student and Faculty Members of Prannath Parnami Institute of Management and Technology (PPIMT), Hisar" concluded that the Internet had become a vital instrument for teaching, research and learning process of these respondents. This study also highlights some suggestions made by faculty members and students of the institute to make the service more beneficial for the academic community of the institute under study.

Bhatti, Ahmad & Khan (2014) had done a research titled "Trends Towards Internet Usage Among College Teachers of Lodhran District, South Punjab, Pakistan" The results revealed that college teachers frequently used internet facilities to improve their knowledge and information related to their subject. Respondents used internet for literature search, email, sometimes for the preparation of lectures and updating the information. Results shows load shedding, slow speed, insufficient awareness of internet usage techniques were major problems. There is need to improve IT infrastructure in the colleges of district Lodhran including internet access in college libraries for teachers as well as students and provide adequate training to the teachers for internet using.

Ismail, Subhpoto and Idrees (2015) in a study with title" An Evaluative Study of Internet Use by faculty Members of the Public Sector Universities in Peshawar" concluded that the overall response rate was 91.27%. The study concludes that the internet is a best resource for study and teaching and the university faculty members very often utilized it for academic purposes.

Arya (2015) had done a research titled "Internet and Its Use in the Engineering Colleges of Udaipur, Rajasthan, India: A Case Study" It was found that the Internet was inseparable part and plays a very important role for teaching, learning and research purpose. Some suggestions have been coup up to make the service more beneficial for the academic community of the engineering colleges.

Islam & Habiba (2015) in a study with title "Using Pattern of Internet and E-resources by Students and Faculty Members of a Private University in Bangladesh" concluded that students and faculty members are generally satisfied with the current level of internet and e-resources. They identified limited number of titles, difficulty in finding information, limited access to computers and slow download speed as major constraints. These constraints do affect internet and e-resources use in a private university. However, these constraints are mainly related to the poor IT infrastructure and limited access to internet and e-resources, which may also lead to other constraints such as an unwillingness to use the internet and e-resources regularly and consequently low satisfaction with such resources.

Chakravarty and Jain (2015) had done a research titled "Use of internet by the faculty

members & students: A case study of Swami Devi Dyal Institute of Engineering ". It was found that the Internet had become a helpful tool in the hands of students and faculty members and the online resources are acknowledged as vital instrument for teaching, research and learning process of these respondents.

With reviewing the literature we found that most of the research that has been done already was in the area of Visible Web and Invisible Web despite its enormous scientific reputation and volume of its information lack consideration. Therefore, we decided to investigate Bahonar University of Kerman professor's use of web especially the invisible web, thus needs, obstacles, and problems have been found and finally suggestions for the use of invisible web (which is a strange phenomenon, even among professors) presented. Perhaps as a result of this research, the scientific community somewhat has been familiar with the invisible web and use it in their teaching and research activities.

The main objective

Identify the extent to which faculty members of Kerman University use web, with emphasis on the invisible web, based on Max Weber's ideal type model.

Secondary objectives

1. Identify the extent to which faculty members of Kerman University use visible web based on Max Weber's ideal type model.
2. Identify the extent to which faculty members of Kerman University use invisible web based on Max Weber's ideal type model.

Methodology

The present study is a descriptive – survey research. Method of data collection is questionnaire consisted of 48 questions designed by the researchers. The survey was carried out on Research Proceedings of Bahonar University and result indicated that the faculty members of the university have the highest science production. Therefore, assuming that in the preparation and writing of these researches greater use of the Internet has been done, professors of the college were selected as the study population of this research. Professor's disciplines include geology, biology, chemistry, physics and mathematics, and their numbers were 15, 21, 21, 20 and 30 respectively. The sample size is 36 and was calculated using Cochran method for this reason; researchers presented 40 questionnaires to teachers and tried to respond in person to their uncertainties. He/she was able to collect 37 questionnaires. To assess the validity of questionnaire we asked supervisor and advisor professors and some department of librarianship professors of Martyr Bahonar University about relevance of the questions to the objectives of the study and then changes to the questionnaire was applied accordingly. The reliability of the questionnaire was assessed using Cronbach's and Cronbach's alpha coefficient of 0.76 indicates that the questionnaire was reliable. In this study to measure the amplitude of using of invisible web by faculty members of Bahonar University and their attitude Max Weber's model used. That is to analyze the use of the web, ideal types built.

Note that the selection criteria for the selected search tools (such as Search engine, Meta

Search engine and subject directories) in this study were their ranking in scientific websites such as Alexa. But in the case of databases, those databases were reviewed who purchased by the University and disposed to the professors. For social media and web portals it is also tried to select the media and portals that are mostly scientific and used by teachers in the promotion of research and training. For example for Social Media selected cases are whom that exist in all social networks as the media or for another example a digital library accounted as part of Web portals because in the present study we don't intend to count a digital library as selected library, but we point out some portals in every website that role as digital libraries. Furthermore distinction point between scientific portals and Web portals in the present study is that in present study the scientific portals are more special than the portals and cover specific areas, so the nature of the portals is purely scientific. After collecting the questionnaires for data analysis statistical descriptive techniques such as frequency, frequency percent, mean and standard deviation were used. It is worth mentioning that, for extracting and data analysis we use SPSS statistical software, Eighteenth Edition and to test the hypothesis significance level of $\alpha = 0.05$ was considered.

The findings

Description of using Priorities in the visible web variables

Table 1
Description of using Priorities in the Meta search engines

profusion	Qbsearch	Dogpile	Mamma	Search. com	Info	Ixquick	WebCrawler	Meta Search Engine
4	3	6	5.666	7.727	8	6.25	3.66	Average

Among proposed Meta search engines highest priority is belong to Info Meta search[1] with average of 8, then Seach.com[2], WebCrawler[3], ixquick[4], Dogpile[5], Mamma[6], profusion[7], Qbsearch are consecutively.

Table 2
Description of using Priorities in the Search engines

Google	AltaVista	Excite	Hot bot	info seek	Lycos	Engines
6	4.8	3.6	3.25	3	2	Average

Among proposed search engines highest priority is belong to Google[8] with average of 6, and then altavista[9], Excite[10], Hotbot[11], infoseek[12], Lycos[13] are consecutively.

Table 3
Description of using Priorities in the subject directories

Yahoo	Dmoz	Librarian index	Look smart	Open directory	Subjective Guiders
4.592	2.4	3.8	2.3	4.125	Average

Among proposed subject directories highest priority is belong to Yahoo[14] with average of

4.592 and then Open directory, Librarian index, Dmoz[15] and Look smart[16] are consecutively.
How much faculty members of Bahonar university use search engines, Meta search **engines** and subject directories?

Table 4
The faculty members use of search engines, meta search engines and subject directories

Subjective Guiders		Hyper Search Engine		Search Engine		
Percentage	Plenty	Percentage	Plenty	Percentage	Plenty	
18.9	7	51.4	19	0	0	Non Use
43.2	16	37.8	14	54.1	20	Weak Use
37.8	14	10.8	4	45.9	17	Regular Use
100	37	100	37	100	37	Total

As seen in the table above, the extent to which faculty members of Bahonar University use the search engines is as follows: 20 participants (54/1%) have sparse use and 17 (45/9%) have regular use. The extent to which faculty members of Bahonar University use the Meta search engines is as follows: 19 participants (51/4 percent) lack of use, 14 participants (37/8 percent) sparse use and 4 participants (10.8%) regular use. The extent to which faculty members of Bahonar University use the subject directories is as follows: 7 (18.9%) lack of use, 16 (43/2 percent) sparse use and 14 (37/8%) regular use.
Description of priority of use among variables of invisible web

Table 5
Description of priority of use of social media and databases

Average	Database	Average	Social Media
6.2229	science direct	4.75	Blogs
4.529	Web of science	5.18	Social networks
5.5	Scopus	5.894	Wikis
3.214	Ebsco	3.5	Video
2.2	Chemical abstract	4.33	Discussion forums
		6	Photo sharing

Table 6
Description of priority of use of the invisible web search engines and subject directories

Average	Subjective Search Engine	Average	Invisible Web Search Engine
4	Hemcupid	2.5	Clusty
3.03	BioOne	3	Surfwax
3	Mathguide Chemexper NovoSeek GopubMed	1.375	Scirus
2.66	Q and A ZentralblattMATH	3	USA.gov
2.5	Physic Searchengine	5	Incywincy
2.25	Searchgeo.com	4	Turbo 10

Average	Subjective Search Engine	Average	Invisible Web Search Engine
2.375	Science.gov	7	Northern Light Search
2	Merck Index	4.5	Deep Dyve
1.66	GEOindex CERN Documen server	2.8	Multiple Search
1.5	Geology.com	3.66	Direct search
1.33	BioinformaticHarvester	4	Internet Archive

The extent faculty members of Bahonar University use databases, scientific portals, social media, specialized search engines and Invisible Web search engines?

Table 7
Use of faculty members of Bahonar University of invisible web search tools

Invisible Web Search Engine		Expert search Engine		Social Media		Gateway Science		Database		
Percent	Plenty	Percent	Plenty	Percent	Plenty	Percent	Plenty	Percent	Plenty	
73	27	9.18	7	10.8	4	18.9	7	2.7	1	Non Use
10.8	4	43.2	16	32.4	12	64.9	24	5.4	2	Weak Use
16.2	6	37.8	14	56.8	21	16.2	6	91.9	34	Regular Use
100	37	100	37	100	37	100	37	100	37	Total

As seen in the table above, the extent to which faculty members of Bahonar University use the full-text databases is as follows: 1 (2.7%) did not use, 2 (5.4 percent) sparse use and 34 participants (91.9 percent) have regular use. The extent to which faculty members of Bahonar University use the scientific portals is as follows: 7 (18.9%) did not use, 24 (64.9 percent) sparse use and 6 participants (16.2%) have regular use. The extent to which faculty members of Bahonar University use the WEB2 is as follows: 4 (10.8%) did not use, 12 (32.4 percent) sparse use and 21 (56.8%) have regular use. The extent to which faculty members of Bahonar University use the Specialized search engines is as follows: 7 (18.9%) did not use, 16 (43.2 percent) sparse use and 14 (37.8%) have regular use. The extent to which faculty members of Bahonar University use the Invisible web search engines is as follows: 27 patients (73%) did not use, 4 (10.8%) sparse use and 6 participants (16.2%) have regular use.

The extent Faculty members of Bahonar University use the visible and the invisible web?

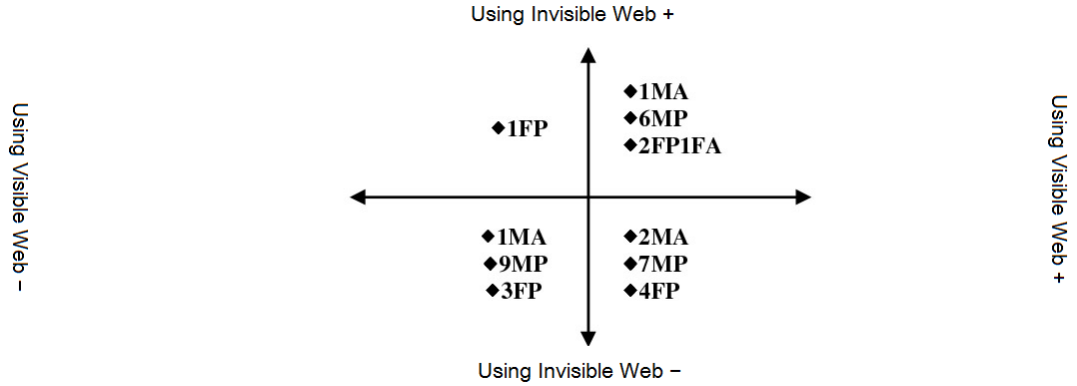
Table 8
Use of faculty members of Bahonar University of visible and invisible web

Standard deviation	Mode	Middle	Average	
0.456	1	1	1.08	Invisible Web
0.577	2	2	1.1888	Visible Web

Invisible Web		Visible Web		
Percent	plenty	Percent	plenty	
8.1	3	24.3	9	Non Use
35.1	13	62.2	23	Weak Use
8.1	3	13.5	5	Regular Use
48.6	18	100	37	Total

As seen in the table above, the extent to which faculty members of Bahonar University use the invisible web is as follows: 3 (8.1%) did not use, 13 (35.1 percent) sparse use and 3 participants (8.1 percent) have regular use. the extent to which faculty members of Bahonar University use the visible web is as follows: 9 (24.3%) have sparse use and 23 participants (62.2 percent) have regular use.

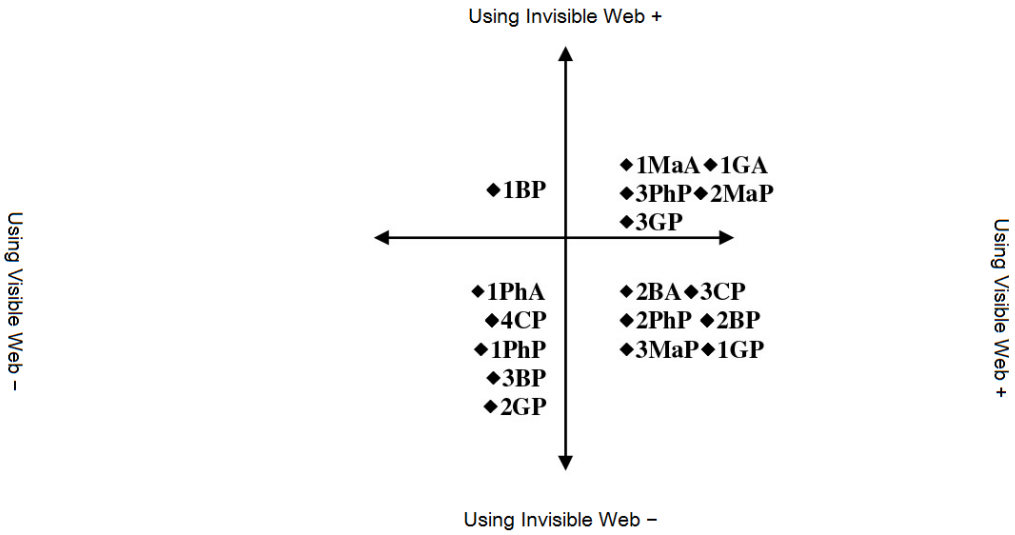
Studying the purpose of this study: a study on faculty member's use of visible and invisible web based on Max Weber's ideal type



Axis guide: M = male, F = female, P = Ph.D. and A = MA

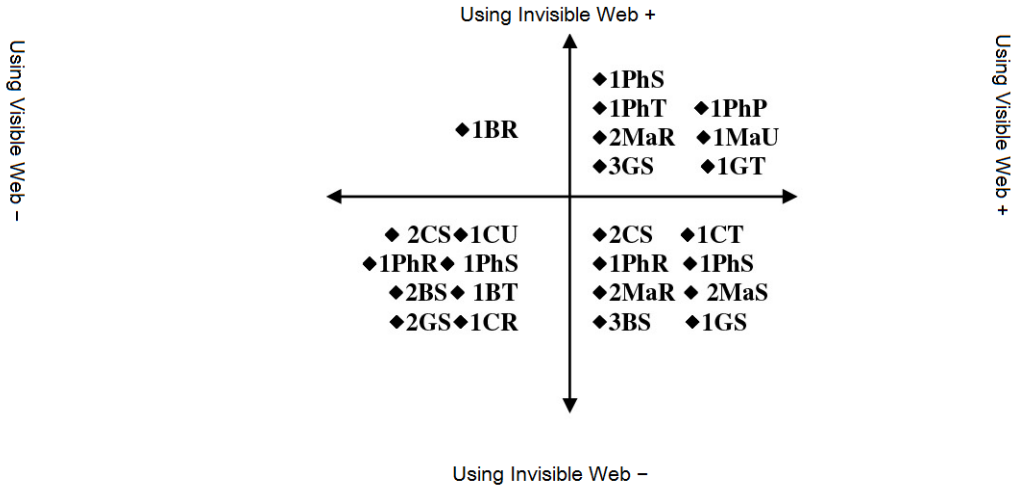
The numbers before letters indicate number of persons e.g. 2FP: Two women with Ph.D. degree

Diagram 1: Diagram of the usage extent of faculty members from visible and invisible web based on Max Weber's ideal type and based on gender and education level



C = chemistry, Ph = physics, Ma = math, B = Biology, G = Geological P = Ph, A = MA
The numbers before letters indicate number of persons e.g. 2BP: Two Ph.D. of Biology

Diagram 2: Diagram of the usage extent of faculty members from visible and invisible web based on Max Weber's ideal type and based on the discipline and level of education—



C = Chemistry, Ph = Physics, Ma = Math, B = Biology, G = Geology, R = Instructor, S = Assistant Professor, T = Associate Professor, U = Professor
The numbers before letters indicate number of persons e.g. 2MaS: Two Assistant professor of mathematics

Diagram 3: Diagram of the usage extent of faculty members from visible and invisible web based on Max Weber's ideal type and based on the discipline and scientific level

Typology

Type I: type I, which included 10 participants, 3 of whom are women and 7 are men. 8 people have PhD and two have MA. In terms of academic level 2 are instructor, 4 are assistant professor, 2 are associate professors and 2 are full professors. Chemistry and biology teachers are not seen in this type. Of these 10 participants, 3 are in physics, 3 are in mathematics, and 4 are from the Geology department. Type I members in visible use mostly web search engines,

and 80% of them regularly use search engines. Among the search engines members all use Google. 40% of type I members use Meta search engines regularly and their favorite Meta search is Search.com. 80% of them use subject directories regularly and all of them use Yahoo regularly in subjective search. After the Google search engine, Yahoo subject directory is most applicable to the members of this type. In the case of the invisible web, type 1 teachers use full-text databases most, and in databases Science Direct is of greater use. After databases, subject directories use by members of this type mostly. These people use also social media, but use portals and invisible web search engines less. They benefit from both of the web (invisible and visible) and use both relatively much but findings show that tendency to the visible part of the web is more.

Type II: type II, included 13 participants. Of them 4 are females and 9 of them are men. Of these 13, 11 of them holds doctorate and 2 holds master degree. 2 are instructors, 10 are assistant professors, and one is associate professor. Faculty members with Ph.D. degree are not in this type. According to discipline of this type members 3 are in Chemistry, 2 are in Physics, 4 are in math, 3 are in biology, and one is in geology. All members of this type are used search engines, and any members of this type have been not deprived of public search engines. Among the search engines, Google used by all teachers on a regular basis, and members of this type are not used other general search engines. After Google, Yahoo! Subject directory has been used more. However, only 3 of the 13 participants have used Meta search engines so among search engines, type II members do not use Meta searches on the visible web. They don't use invisible web much, and the only source of invisible web that they regularly use is databases. After databases, social media can be used to some extent. But the members of this type use other parts of the invisible web poorly, for example, more than 50 percent of them did not know the invisible web search engines.

Type III: only one member of the faculty is in this type. She is a woman with master's degree, with the rank of instructor, specializing in the field of biology. This faculty member, only use Google search engine, Yahoo subject directory and Open Direct for the visible web. She don't use other search engines and subject directories and are not familiar with any of Meta search engines. Therefore, this type is the only type that its member have not used any of Meta search engines. For the invisible web, this member of type III use databases, scientific portals, Web2 and subjective search engines completely regular but use invisible web search engine poorly. So she used all of the invisible web indicators and is familiar with them.

Type IV: According to the findings of study, 13 faculty members are members of this type. Among them, 3 are women and 10 are men. 12 of them have a doctorate and one have a master's degree. The academic level of this type is: 1 instructor, 7 assistant professors, 4 associate professors, and one full professor. Participant disciplines are: 4 Chemistry, 2 Physics, 2 biology, and 3 geology and 2 from Mathematics Department. On visible web 38% of them use search engines regularly. Like other types Google search engine used by all members of this type regularly. Only 7% of this type use Meta searches regularly, and 23 percent of them use subject directories regularly. For using invisible web type IV members use full-text databases and consequently social media, and specialized search engines. No one in this type used invisible web search engines. So members of this type only use databases

regularly and largely and use other parts of invisible web limitedly. We could say that the only tools that they use on a regular basis, are general search engines and full-text databases. Type 4 members use Google for their general searches and to find specialized and scientific articles use databases and do not see any need to use the rest of the visible and invisible web. These type members were the only ones that were completely unfamiliar with the invisible web search engines.

Conclusion

The variety and the growth rate of informational resources and taking advantage of the internet as the most important channel for satisfying the informational needs can be mentioned as the clearest characteristics of the third millennium. Scientific communities and educational systems need to take advantages of internet and its informational resources in order to achieve their educational and research purposes fast and easy. Meanwhile, the faculty board of universities as the pioneers of the scientific communities and educational systems should pay attention not only to the visible part of web, but also to the invisible part of it in the informational environments and utilize it effectively.

The findings of this study suggest that faculty members of Bahonar University tend to use the Internet. Their main aims for searching information on the Internet were research goals, training goals, and upgrading their knowledge based in the field of their specialization, respectively. These results have also been obtained in study of Norouzi and his partners (Norouzi, Talkhabi, Alipour, & Hafezi, 2010); and the results of Joginder Singh & Satya study (Joginder Singh & Satya, 2013) show that a large majority of faculty members with 84.2% use Internet for their teaching purposes. In study of Kumar and Paramar (Kumar and Paramar, 2014) it is expressed that in science 87.80% respondents have always used the internet for research works and 12.19% used it sometimes. Majority of them (73.17% education and 58.53% entertainment purposes) have always used the internet and 36.58% have sometimes used it and in study of Bhatti, Ahmad & Khan (Bhatti, Ahmad & Khan, 2014) results revealed that college teachers frequently used internet facilities to improve their knowledge and information related to their subject.

Faculty members prefer electronic resources to traditional and print resources, Because of the possibility of remote access, updated information, and time saving. Aqil (aqil, 2011) at the University of Lygar reached to the same conclusion. But the results of Alizadeh jadidi study (alizadeh jadidi, 2010) is not consistent with this study. Faculty members seeking information on the Internet use advanced search more than simple search and use operators to limit and specialize their searches. The study results of Norouzi et al (norouzi, talkhabi & alipour hafezi, 2010) is in the same direction with this research but the research results of Kumar (kumar, 2010) is inconsistent with this research.

Faculty members use popular search engines for more information and among search engines use Google, preferably. The results of this part of Study is consistent with "Search Engine Watch" site in January 2003(which indicates that daily 112 million searches in internet uses Google and 42 million searches on use Yahoo subject directory (habibi, 2007). Alizadeh jadidi (Alizadeh jadidi M., 2010) and Kumar (kumar, 2010) reached to similar conclusions in their studies and Joginder Singh & Satya also state in their study (Joginder

Singh & Satya, 2013) that majority of faculty members (96.5%) use Google search engine.

Faculty members after search engines use databases subscribed to university more. Among these databases they prefer science direct. The statistical community of this research use Google search engine among search engine for its search facilities, among Meta search use Info Meta search for its up-to-date information, in the subject directories use Yahoo! directory for its search facilities, among databases use Science Direct its up-to-date information, In the media of Web2 they use photo sharing web sites and Wiki's, Among the subject search engines use Hemcupid search engine, Among the invisible web search engines use Northern Light more than others and are familiar with that.

This research statistical community use some portals such as dictionaries, encyclopedias, non-text resources and web digital libraries averagely. Finally, the faculty members use the visible part of the web and are familiar with it much more than invisible web. Cheshmeh Sohrabi (Cheshmeh Sohrabi, 2008) reached the same conclusion in his study. For this reason, the findings showed that specialized search engines and invisible web search engines are used in the statistical community less than other search methods. In fact, because of inadequate familiarity and lacking needed training, use only the visible web and ignore capabilities and importance of invisible web because cover their need with information via visible web. Although the educational systems, and especially the faculty members, for their respective positions, always are in need of updating their knowledge and use the latest research results and scientific resources. They should use both parts of web as complementary websites, and cover their general and special knowledge needs. It also seems that university do not attempt to train Information seek skills on faculty members.

Now according to the results of research, and according to sparse use of Bahonar University Professors from invisible web, the following suggestions are offered:

1. In-service training courses for teachers to introduce the invisible web and its search tools.
2. Provide the needed infrastructure necessary to provide a suitable ground for using the hidden layer of the web.
3. Information seeks ways in the invisible web.
4. Evaluation of the Invisible Web usage in other societies, for example, in graduate students.

Endnotes

1. http://www.info.com/
2. www.search.com
3. www.webcrawler.com
4. https://ixquick.eu
5. http://www.dogpile.com
6. http://mamma.com/
7. http://profusion.com/
8. https://www.google.com/
9. http://search.yahoo.com/?fr=altavista
10. http://www.excite.com/

11. http://www.hotbot.com/
12. http://www.infoseek.com/
13. http://www.lycos.com/
14. https://en-maktoob.yahoo.com/?p=us
15. http://www.dmoz.org/
16. http://www.looksmart.com/

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