

**Abstract:**

Today, academic institutions in Kuwait and around the world live in the information technology age. The comprehensive library has become a prerequisite for all educational institutions. As a result, the role and function of a librarian has changed to the function of an information specialist as she has various efficacies and skills in the field of information systems and educational technology.

The present research aims at exploring the use of the three main web 2.0 tools, i.e. Blogs, Wikis and RSS, by specialists and qualified persons working at academic libraries, located in both Kuwait University and the Public Authority for Applied Education and Training (PAAET). Therefore, the researchers of this paper designed a questionnaire consisting of 103 items divided into three main sections. The first section includes general information and has two items about the extent to which librarians use the three mentioned Web 2.0 tools.

The second section deals with the uses of the three Web 2.0 tools, Blogs, Wikis and RSS, and consists of 52 items. The third section revolves around the challenges that constrain the use of these tools. This section covers three domains. The first domain is awareness of the importance of web technology. The second domain deals with administrative and political aspects and library

management strategies. The third domain consists of 49 items that deal with personal aspects such as polishing indexing skills, mastering the English language and self-confidence.

Results indicated that the most frequently used web 2.0 technology tool is blogs, and the least frequently used one is RSS. As for Wikis, library specialists confirm that it reinforces learning and updates it continuously, but from the users' point of view, it requires experience in updating and direct handling.

As for Blogs, the sample subjects reported that they use it to download files from the links of the library webpage and that they do not prefer to sign in when logging in these sites and do not accept other readers and users' reactions.

As regards the topics published about the use of RSS, although the library has this tool, they do not use it because it does not meet their personal needs such as polishing indexing skills and mastering the English language.

**Key Words:**

Web 2.0, Blogs, Wikis, RSS, Kuwait, Library professionals, Academic Libraries, PAAET, and Kuwait University.

## **2-Introduction:**

Academic libraries are part of academic institutions and activities, where libraries are being forced to develop a more advanced service to meet different users and different requirements related to research in higher education and in the library services itself. Therefore, many have seen that the developments in computer mediated communication (CMC) such as Web 2.0 can develop and improve library services to their users (Currie, 2010; Aharony, 2008; Joint, 2009; King, 2007). It is also argued that Web 2.0 technologies can increase content development by facilitating communication and knowledge sharing in organizations as it is much more dynamic internet computing where people in an organization can connect their ideas (Levy, 2007). Blogs, Wikis and RSS are terms that belong to the second-generation development of the Web 2.0 technologies. Web 2.0 tools were developed to facilitate the sharing and disseminating of information among friends or other professional groups (Tripathi & Kumar, 2010). Furthermore, it allows users to add and edit content, which creates a social networked web environment (Anderson, 2007; Cook, 2008).

Therefore, many researchers in recent years have been discussing the features, abilities and usage of Web 2.0 applications or as many researchers call it Library 2.0 (Miller, 2006; Kim & Abbas, 2010) that could assist in the development of the academic

libraries (Han & Lu 2010; Harinarayana & Vasantha Raju, 2010; Garoufallou & Charitopoulou, 2011; Balaji & Kumar 2011). Besides the previous point, web 2.0 technologies in the recent years are being a part of any academic library infrastructure in most high ranked universities (Linh, 2008, Tripathi & Kumar; 2010). Therefore, the researchers decided to explore the use of three major web 2.0 tools and services (Blogs, Wikis, RSS) by library professionals in their academic institution. All Higher education libraries in Kuwait were chosen in this paper.

### **3-Significance of the Study:**

The significance of this research has stemmed from the increasing interest in the use of Web 2.0 technologies and tools in academic libraries (Tripathi & Kumar, 2010; Han & Lu 2010; Harinarayana, Vasantha, & Raju, 2010; Garoufallou & Charitopoulou, 2011; Balaji & Kumar, 2011). However, few attempts have been conducted in Kuwait related to Web 2.0 technologies in academic libraries (Al-Daihani, 2009). Therefore, the researchers were encouraged to explore more about the usage of Blogs, Wikis and RSS as they were most popular usage in public academic libraries in the state of Kuwait.

- *Use In Academic Libraries*

With the development of ICT and the changing work environment in education and research, libraries in general and, more precisely, academic libraries are being forced to meet new challenges in developing their services. Librarians also need to be equipped with the relevant skills and competencies that will fit in this changing environment in order to achieve their libraries' goal to provide better services for users and researchers. Additionally, academic libraries are part of the educational system that supports colleges in terms of research and services. Therefore, academic libraries and the higher educational institutes they serve have the potential to use Web 2.0 technologies in learning, research, training, communication and for enhancing the quality of their services (Currie, 2010; Mahmood & Richardson, 2011). Moreover, when Dickson and Holley (2010) examined the use of the major social networking tools in academic libraries in the USA, they found that social networking could be an effective form of student outreach in academic libraries if libraries take care to respect student privacy and provide equal coverage for all subject areas (Dickson & Holley, 2010). Virkus (2008) proposed that Library of Information System (LIS) educators should take advantage of new developments in ICT and consider the learning preferences of digital natives as well as digital immigrants.

Furthermore, Currie (2010) pointed out that Web 2.0 tools can improve training and communication within the reference service departments of libraries. In this regard, many researchers have pointed out the possibilities for improving library services for users by using Web 2.0 (Aharony, 2008; Joint, 2009; King, 2007). Joint (2009) stressed that all libraries need to evolve a Web 2.0 strategy to promote their services. King (2007, p.1) declared that "browser, Web 2.0 applications, and connectivity lead to featured OPAC. Library users should be able to craft and modify library provides services" and librarians must "continue to examine and improve services and be willing to replace them at any time with newer and better services". In addition, in digital libraries, Wikis can be considered as a knowledge tool, a content management tool and a tool to empower interactive finding aids (Frumkin, 2005). Therefore, libraries need to develop a Web 2.0 strategy while considering the many issues and challenges that are associated with this diversity such as workload and authentication (Joint, 2008), as well as the amount of time and effort required to create or maintain a blog (Schrecker, 2008). Moreover, computer expertise, motivation, resistance to change by librarians can affect the use of web 2.0 in libraries (Aharony, 2009), However, librarians can still use Web 2.0 tools for several purposes, such as using blogs to market libraries to users and using Wikis for library instructions, book recommendations and

tagging (Aharony, 2008). However, Balaji, and Kumar (2011) acknowledged that *"The implementation of web technology could be realised only when the library personnel are skilled, and passionate to re-create the libraries mission. Given the parent organisation support, technological university libraries can build robust information architectures if combined with training collaboration and continuous feedback from all the stakeholders-faculty, staff and above all end-users"* (Balaji & Kumar, 2011, p. 488).

Tripathi and Kumar (2010, p. 205) stressed the importance of the use of Web 2.0 tools by library professionals *"to offer traditional services in an innovative manner and address the information requirements of the techno-savvy users"*. For this reason, many investigations have been conducted in this area with some researchers, such as Clyde (2004), who analyzed individual tools in the Web 2.0 technologies. Clyde's study, in which she chose to analyze the content of 55 library Blogs from the USA, was one of the earliest in the area of Web 2.0 technology. She found that the majority of Blogs were issued to provide news or information for library users. On the other hand, as illustrated below, other researchers have analyzed and investigated more than individual tools.

Researchers such as Harinarayanna and Vasantha Raju (2010, p.68-88); for example, explored Web 2.0 applications and library 2.0 features such as blogs, RSS, instant messaging, Wikis and the like, in 57 universities around the world. The researchers found that 37 university libraries used RSS feeds for library events, announcements and news. The results also showed that 15 university libraries provided a blog space for users while Wikis were the least used application in the web sites of the selected university libraries (Harinarayanna, Vasantha, & Raju, 2010). Mahmood and Richardson(2011) also conducted a study concerning the adoption of Web 2.0 technologies. They surveyed 100 web sites in academic libraries of the Association of Research Libraries (USA) and found that all the surveyed libraries were widely using various tools of Web 2.0. These included blogs, microblogs, RSS, IM, social networking, mashups, podcasts and vodcasts; however, wikis, photo sharing, presentation sharing, virtual worlds, customized webpages and vertical search engines were used less widely (Mahmood & Richardson, 2011). The results of Mahmood and Richardson's (2011) study showed that the libraries were using the Web 2.0 tools for marketing their services, sharing news, providing literacy instruction, providing information about print and digital resources, and for soliciting feedback from users (Mahmood and Richardson Jr, 2011, p. 365).



Another two studies were conducted in China by Han and Lu (2010) and Ruoyao, Shi, and Chen (2011). Using an online survey, Han and Lu (2010) explored the status and construction patterns of Web 2.0 technologies employed in the websites of 38 top Chinese university libraries. They found that more than two-thirds of those libraries were applying one or more types of Web 2.0 technologies: RSS was the most widely used application, while blogs, IM, SNS and wikis were used less. Similar results were found in the study conducted by Ruoyao, Shi, and Chen (2011). They studied 30 Chinese university libraries to obtain an overall picture of what types of application of Web 2.0 technologies were used in such libraries. They found that two-thirds of the Chinese university libraries deployed one or more Web 2.0 technologies while only one-tenth of the libraries had adopted more than four Web 2.0 tools. Tripathi and Kumar(2010) use Web 2.0 tools in academic libraries. Using checklist questions, Linh (2008) conducted a study in Australia to provide an overall picture of the Web 2.0 technologies applied in 47. Australian university libraries. He found that two-thirds of Australian university libraries used one or more Web 2.0 technologies while four Web 2.0 technologies were used for specific purposes with basic features (Linh, 2008, p. 630). A large-scale investigation was conducted by Tripathi and Kumar (2010), using a survey method for collecting data, to examine the use of Web 2.0 in

277 major academic libraries in Australia, Canada, the UK and the US. The results revealed that RSS, IM and blogs were popular in academic libraries; the power of Web 2.0 tools in improving library services for users was also recognized (Tripathi & Kumar, 2010, p.195). The five studies of Harinarayanna and Vasantha Raju (2010), Han and Lu (2010), Tripathi and Kumar (2010), Ruoyao, Shi, and Chen (2011) and Mahmood and Richardson (2011) showed similar results regarding the usage of Web 2.0 tools in academic libraries as the RSS was the most widely used application while Wikis were the least used in most of the research studies presented in this paper. Thus, it can be concluded that that RSS, Blogs and IM are the most commonly used Web 2.0 tools in libraries; Wikis are less popular and/or less frequently employed

El-Naggar (2013) prepared a suggested strategy based on Web 0.2 to develop programming skills in preparatory school computer teachers relying on web 0.2 tools RSS, Blog, and Wiki. The researcher came to the conclusion that RSS, Blog and Wiki are important to trainees and that ongoing technical support is necessary for remedying any shortcomings when using these websites.

The use of the local area network and the world wide web is important in that it achieves three main types of interaction that are required in education, such as learner-content interaction, teacher-learner interaction, and learner-learner interaction.

The second generation of World Wide Web technologies is one of the most significant developments that the history of the web has ever witnessed (El-Naggar, 2013). Its most important features are as follows:

- Allows the construction of virtual applications by forming data and functions from numerous sources.
- Allows participation among learners and between learners and the teacher.
- Facilitates communication between communities.
- Satisfies learners' needs for knowledge and its types.
- One of the modern educational theories, known as the elaboration theory or the top-down method which moves from the simple to the complex and from the general to the particular (Wilson Cole, 1998).

#### **4. Purpose of the Study:**

The aim of this research work is to explore the use of Web 2.0 tools by library professionals in various public academic libraries in Kuwait.

#### **Objectives:**

1) Identify the current use of Web 2.0 technologies (i.e., Blogs, Wikis, and RSS) by library professionals in Kuwaiti academic institutions;

- 2) Identify the factors that impede or facilitate the use of Web 2.0 technologies (Blogs, Wikis, and RSS) in academic institutions;
- 3) Provide recommendations for academic institutions for the effective use of Wikis in educational settings.

**Research Main Question:**

The current research attempts to answer the following research question:

**What are the Web 2.0 tools used by library professionals?**

To answer this question, the following sub-questions were derived:

**Question 1:** What is the level of awareness of Web 2.0 tools such as Blogs, Wiki, and RSS?

**Question 2:** What are areas in which library professionals use Web 2.0 tools (Blogs, Wiki, and RSS) in their work?

**Question 3:** What are challenges that limit the use of web 2.0 tools and technology by specialized librarians in the State of Kuwait?

These challenges can be summed up as follows:

- 3.1. Awareness of the importance of using Web 2.0 technology by librarians in the State of Kuwait.
- 3.2. Administrative policies and support for Web 2.0 technology on the part of librarians in the State of Kuwait.
- 3.3. Personal factors which limit the use of Web 2.0 technology by librarians in the State of Kuwait.

### **Literature Review:**

A lot of research has been conducted to investigate the use of web 0.2 technologies in educational institutions. Cirit, Nazli, and Ceren (2015) conducted a study to investigate the perceptions of ELT pre-service teachers toward traditional, alternative, and online assessment methods and examine whether the participants' attitudes change toward the types of assessment after the tasks via Web 2.0 tools are implemented. The study was conducted with 40-second grade ELT pre-service teachers at a state university in the fall semester of the 2013-2014 academic years. The study was conducted in a fourteen-week period in which 6 different tasks with 7 different Web 2.0 tools were implemented. The data for this study were collected through a pre-survey before the implementation, reflection papers during the implementation, and a post-survey and semi structured in-depth interviews after the implementation of the tasks. The findings of the study indicated that the perceptions of the participants toward alternative assessment via Web 2.0 tools were positive before the tasks were implemented, and they got more positive after the task implementation process. In general, the participants preferred alternative assessment to online or traditional assessment since they believed alternative assessment is motivating, enhances learning, provides continuous assessment of student

progress, increases interaction, gives more detailed and practical feedback, and improves critical thinking skills. The results of both qualitative and quantitative data supported each other.

Pritchett and others (2015) designed a research study to determine the degree of use of Web 2.0 technology applications by certified education professionals and examine differences among various groups as well as reasons for these differences. A quantitative survey instrument was developed to gather demographic information and data. Participants reported that they would be more likely to use technology with training/professional development. The highest reported barriers preventing the use of Web 2.0 technology applications were lack of time, lack of necessary knowledge and skills, and budget constraints. Professional development is needed for certified educators; it should address how to use and implement technology.

Del Barrio-Garcia, Arquero, and Romero-Frias, (2015) conducted a study which aims to analyze the factors e-learning satisfaction and students' perceptions that determine the intention of use of a PLE 2.0 initiative. The study, in addition, analyzes the moderating role of the Need for Cognition (NFC) in the model. Results indicate that the model proposed has a high explanatory power of the intention to use a PLE 2.0 and gives support to the moderating role of NFC. The study discusses how this analysis can

help to improve course designs by teachers. The researchers came to the conclusion that as long as students use Web 2.0 tools extensively for social purposes, there is an opportunity to improve students' engagement in higher education by using these tools for academic purposes under a Personal Learning Environment approach (PLE 2.0). The success of these attempts depends upon the reactions and acceptance of users towards e-learning using Web 2.0.

Luo-Franklin's (2015) paper reports on an exploratory study that employed Twitter and Blogs as instructional Web 2.0 tools to support student learning in an undergraduate-level class. Case study methodology entailing a usage survey, an exit survey, and 12 in-depth semi-structured interviews was employed to examine patterns and characteristics of students' usage of social media and to elicit their perceptions on how the incorporation of Twitter and Blogs facilitated their learning. Findings indicate that as advanced users of social media, the students highly embraced the incorporation of Twitter and Blogs in the class. Not only were the students motivated to utilize social media, but they also employed a high degree of self-discipline and self-exploration in using those social tools for learning. Overall, they perceived the incorporation positively, but critically pointed out the perceived challenges. Discrepancies in their usage patterns and learners' characteristics indicate that instructors should distinguish advanced users from novice users and

develop strategies accordingly when introducing social media in varying educational settings.

Sawetrattanasatian (2014) investigated the implementation of Web 2.0 technology for ILI in Thai university libraries, in terms of information literacy skills being taught, types of Web 2.0 technology that were implemented, ways of implementing Web 2.0 technology, and problems in implementing Web 2.0 technology. As for the university libraries, which did not apply Web 2.0 technology to their ILI, the research also explored their reasons, implementation plan, and the factors important to their decisions on the implementation of Web 2.0 technology. Despite the research limitation in the context of Thai higher education, the research should be helpful to fulfill the research gap, and, particularly, to provide other university libraries with interesting suggestions on the implementation of Web 2.0 technology for ILI, including the reinforcement of the implementation.

Under the title "What Are the Usage Conditions of Web 2.0 Tools Faculty of Education Students?" Agir(2014) examined Faculty of Education students' usage condition of Web 2.0 tools in terms of various variables. This is a descriptive study with a survey model that aimed to present faculty of education students' the usage condition of Web 2.0 tools. The population of research composed of 359 students who study at first grade of Faculty of Education in



Istanbul University in the academic year 2008-2009. These students were randomly drawn from eight different departments. The data collection tool used in this research was a questionnaire that was developed by researcher with 18 items. One-way ANOVA and t-test were used to determine whether there was a significant difference between averages according to the varieties about individual properties. Analysis of the results indicates that faculty of education students' usage condition of Web 2.0 tools varies in terms of departments, gender, high school from which students graduated, the year of Internet and computer usage, and average weekly duration of Internet and computer usage. It can be generally said that faculty of education students don't use Web 2.0 applications in the expected level. It is very important that pre-service teachers should learn how to use these tools and that they should receive education of computer literacy at the faculty of education which trains teachers. The other suggestion is that these tools should be integrated with courses which pre-service teachers receive in the prevocational training. Different samples can be chosen or the sample can be enlarged in future research. As comparisons can be made between students of different faculties, analyses can be thoroughly made by benefited from the qualitative research method.

According to James (2014), interest has recently sparked in collaboration and networking within and between universities, industry, government and the wider populace. Knowledge transfer has gradually become a strategic issue, so that many governments and funding bodies now use economic-based incentives to mandate collaboration in hope of stimulating innovation, improving efficiency and promoting inclusion. Web 2.0 has been heralded as an enabler of collaboration. Powerful new tools abound to enhance collaborative initiatives. James (2014) investigated the uptake of these tools and their impact on collaboration in the Australian context. Although research is scant, the literature provided a preliminary picture of Web 2.0 usage patterns among Australian academics, researchers and professionals. Adoption of virtual collaboration tools for work activities is lower than expected. Connectivity, accessibility and availability do not seem to be major deterrents to Web 2.0 use, suggesting appropriation is the problem. It remains unclear whether these technologies have encouraged further collaboration; at present, these are primarily social devices and tools, their beneficial work applications yet to be fully unmasked. It is argued that further research and broader professional learning opportunities would support greater Web 2.0 appropriation.

According to Hyman, Moser, and Segala(2014), mobile information technology is changing the education landscape by offering learners the opportunity to engage in asynchronous, ubiquitous instruction. While there is a proliferation of mobile content management systems being developed for the mobile Web and stand-alone mobile applications, few studies have addressed learner expectations and usage intent in consuming digital documents from online content providers and digital libraries with specific emphasis on formal instruction. Understanding usage intent and actual usage of a mobile learning agent as a result of ease of use and usefulness of mobile devices are addressed. In their study, a framework for instructional technology usage is proposed to help better articulate critical success factors in implementing formal learning using a mobile device, specifically an electronic reader or a tablet computer.

Dhamdhare Sangeeta Namdev (2012) maintains that the academic environment is changing from formal education to distance and online learning mode because of ICT. Web technology and mobile technology has made great impact on education sector. The role of Open Access, institutional repositories, opens archives and e-publishing trends indicates the shift towards new way of communication on an increasing scale in the students and researchers. E-learning is more popular day by day. The students are

more prone towards the use of technology. Users of Web 2.0 tools (Students 2.0) are self-learner, self-searcher, fast communicators, self-publishers, self-motivated. There is rapid growth of students using internet and web tools in India. Their expectations from the teachers, libraries, and administrative staff of academic institutes has changed and increased. In developed countries, use of Web 2.0, cloud computing technology, and its use in educational, library websites are normally used to provide best services with blogs, RSS, instant messaging, social networking services, wikis, and social tagging applications. Use of web technology in education sector has some advantages and disadvantages too. In short, education and library services are now based on digital resources, customized, user based, and web based and internet based information services. The present paper highlights innovation in education sector and libraries and impact of Web 2.0 on students, teaching learning process, educational policies.

Al-Sadek (2001) conducted a study on second-generation webraries. This study aimed at investigating the intellectual output trends of second-generation webraries and identifying the applications, technologies and tools of Web 2.0. Three research methods were used in this study, the historical method, the field study method, and the bibliographical method, to study intellectual output in this field of specialization. A questionnaire was

administered to researchers and specialists in the topic of this research. The questionnaire was based on a list of exploratory references to analyze the content of international webraries. Another questionnaire was administered to the students of the Arabic departments of libraries and information on Facebook, followed by a content analysis. The results of this study indicated differences in views on the emergence of the third generation of Web 3.0 tools. The researcher also proposed sciences for establishing the principles of second-generation webraries.

In a workshop paper Viner, Lucas, Ricchini, and Ri (2010) explore the Web 2.0 journey of the MLC Libraries' teacher-librarians, librarians, library and audio visual technicians. The journey was initially inspired by Will Richardson and supported by the School Library Association of Victoria (SLAV) Web 2.0 professional development program. The 12 week technological skills program "23 things" assisted in motivating the MLC Libraries' team to adopt Web 2.0 technologies into their daily work with students and staff.

### **Summary of the review of the related literature:**

The above-mentioned Arabic and foreign research and studies have addressed the influence of the technological progress accompanying the emergence of the internet and computer software, and the rapid change brought about Web 2.0 applications in the 21<sup>st</sup>

century that has made easy to access documents, pictures, audios, and cartoons, and exchange information to obtain various data and information covering all types of knowledge of previous and later ages represented in science fiction, augmentation of microscopic samples, ant utilization of visual linguistics in intellectual and research innovations and the virtual world.

On the other hand, previous research has indicated the difficulties and challenges facing the use of Web 2.0 tools and focused on the importance of motivating learners and facilitating economic systems which help the possession and spread of such tools.

Among the most important web applications in education are the facilitation of distance learning, elimination of technological illiteracy, and enhancement of life skills. Web applications also reinforced collaboration in the educational virtual world and performed the role of electronic activities and publications. Incorporation of Twitter and Blogs into the class had far-reaching social effects.

Web 2.0 tools have been used widely in cooperative learning due to their influence on students, academicians and teachers. A new leading role of the teacher has emerged as a guide and a motivator according to the latest international learning strategies in the light of technological developments.

The use of cloud computing, e.g. RSS, Blogs, instant messages, and social networking services (i.e. Wiki) has become one of the best services, and the educational sector, libraries, and administrative staff have begun to depend greatly on them in preparation for using 0.3 web tools in the near future.

#### **6- Study Terms : *Web 2.0 technologies*:**

Web 2.0 is operationally defined as one of the international social programs that provide web services through a set of sites that provide as much interaction with content as possible by using some online learning strategies and modern tools such as RSS, Podcast, Wiki, and Blogs.

#### **Blogs:**

A "Blog" can be defined as a list of journal entries posted on a Web page. Anybody who knows how to create and publish a Web page can publish their own blog. Some Web hosts have made it even easier by creating an interface where users can simply type a text entry and hit "publish" to publish their blo.

A Blog (a truncation of the expression weblog) is a discussion or informational site published on the World Wide Web and consisting of discrete entries "posts" typically displayed in reverse chronological order with the most recent post appearing first. Until 2009 blogs were usually the work of a single individual,

occasionally of a small group, and often covered a single subject. More recently "multi-author blogs" have developed.

The researchers adopt the definition advanced by Waters (2007) who defines a blog as website where users post journal-like entries that are displayed in reverse chronological order, with the most recent posting at the top of the page. Blogs can take the form of online diaries, personal chronicles, travel logs, newsy columns and reports from special events. They can include graphics, pictures, and even music and video clips. Blog postings often contain links to other blogs or websites. Blogs can be publicly viewable, or tucked safely behind the company firewall. Both public and internal blogs are often focused on a particular topic or issue. Virtually all blogs provide a vehicle for comments from readers, and the best ones—those that are most popular with readers, and therefore generate the most traffic—develop into a kind of conversation. Good blogs are frequently updated.

#### **Wikis:**

A "Wiki" is a website comprising text-based content that can be edited collectively by users at will. Unlike a blog, in which the authored posts remain unaltered, wiki documents can be modified by anyone with access to the website. It's a shared-authorship model; users can add, delete or modify content.



Wikis can also be defined as a collaborative Web site that comprises the perpetual collective work of many authors. Similar to a blog in structure and logic, a wiki allows anyone to edit, delete or modify content that has been placed on the Web site using a browser interface, including the work of previous authors. In contrast, a blog, typically authored by an individual, does not allow visitors to change the original posted material; only add comments to the original content.

The term wiki refers to either the Web site or the software used to create the site.

Wiki wiki means "quick" in Hawaiian. The first wiki was created by Ward Cunningham in 1995.

Typical Wikis are based on a Web server, which can be left open to public access via the Internet, or restricted on a company's local area network. One of the largest and best-known examples of a Wiki is the Wikipedia free online encyclopedia. In business, wikis are increasingly employed as a new type of collaboration tool (Waters, 2007).

Cook (2008, p.16) defined wikis as "a collection of websites that, linked together, create a knowledge repository. The wiki allows collaborative editing whereby any user can add or amend content and do so with a web browser". Current research studies state that wikis will dominate academic institutions because they can be easily

set up and operated by teachers and course designers to allow students to upload content.

It might be said that wikis are rooted in the theory of constructivism, as described by Vygotsky (date??) who said that knowledge is constructed by learners, not by those who deliver the teaching. Wikiing also allows peers to collaborate and create knowledge in a cost-effective and user-friendly environment.

### **Really Simple Syndication (RSS):**

RSS is a new service that enables you to get the latest news as soon as it is published on the site to which you have subscribed. Instead of browsing the site and looking for new topics, RSS updates you on the news and topics as soon as they are published on the site. Thus, RSS allows news producers to deliver their "latest" news directly to the recipient without the recipient's need to visit their websites. The simplest forms of the news received in this ways include headlines, a summary of the text of the news. RSS is frequently used in forums and news websites like BBC (<https://susegeek.wordpress.com/2004/12/12>).

RSS solves a problem for people who regularly use the web. It allows you to easily stay informed by retrieving the latest content from the sites you are interested in. You save time by not needing to visit each site individually. You ensure your privacy, by not needing to join each site's email newsletter. The number of sites offering

RSS feeds is growing rapidly and includes big names like Yahoo News(<http://www.whatissrss.com/>).

### **7- Methodology:**

This research is an exploratory study which investigates the uses and factors influencing the use of Web 2.0 technologies (Blogs, Wikis and RSS) by library professionals in public academic institutions (Kuwait University and PAAET). This research is also descriptive, as the researchers have used descriptive analysis to give an overview of librarians' usage to Blogs, Wikis, and RSS in their institution.

### **8- Procedure:**

The study was carried out during the fall semester of the 2012/2013. Research assistants have applied the data collection procedure in a one-week time. 90 questionnaires were distributed and the return rate was 79.6%, which was a good response rate.

### **9- Instrument:**

A questionnaire survey was developed as the means to obtain a descriptive overall picture of respondents' views over a large population and to answer the research questions. The questions and statements in the survey were developed from the literature and from Tripathi and Kumar (2010) and Aharony (2009) checklist and questionnaire. This contains questions about the uses of web 2.0 tools and specific effects that could hinder the use of web 2.0 tools.

The questionnaire is divided into three main sections. The first section includes general information about the extent to which librarians use the three main Web 2.0 tools (Blogs, Wikis, and RSS). The second section has 49 items about the extent to which librarians use the three main Web 2.0 tools. These items are close-ended questions using the 3-point rating system. The third section deals with the challenges that reduce librarians' use of the three main Web 2.0 tools. This section has 51 items in the form of close-ended questions using the 3-point rating system.

**Research Limitations:**

1. Spatial Limitations: Kuwait has only two governmental academic institutions Kuwait University and PAAET.
2. Temporal Limitations: 2013-2014.
3. Topical Limitations: Web 2.0 Technologies Usage in Kuwaiti Academic Libraries and the Challenges Facing Them.

**Statistical Analysis:**

Data are statistically analyzed using EXCEL to calculate frequencies and percentages.

**Research Population:**

The research population includes the librarians working at the libraries of Kuwait University and PAAET.

## Procedures:

### Sample:

Kuwait has only two governmental academic institutions (Kuwait University and PAAET) that serve undergraduate and postgraduate students. Kuwait University has total of 8 academic libraries: Arts Women Library, College for Women Library, Education College Library, Engineering & Petroleum Library, Jabber Al-Ahmad Library, Science College Library, Sharea & Islamic Studies College Library, and Law College Library. On the Other hand, PAAET (Public authority of Applied Education & Training) Has 19 Libraries that are separated under 11 college and institute: Basic Education Library (4 libraries), Business studies Library (2 Libraries), College of Technological studies library ( 2 Libraries), Nursing institute library, College of Nursing Library, College of health science library( 2 libraries), Water andElectrical Institute library, Industrial Training library (2 libraries), Constructional Institute, Telecommunication library (2 libraries). Table1.1 shows the numbers of libraries and number of staff in each academic library.

The researchers decided to cover all Library professionals in the public academic libraries. As they were kindly requested to complete the questionnaire that was sent to each college through on line.

Table (1):shows the description of the sample

Series	Statistical		ResponseCount(n)	Response Percent(0/0)
	Variable			
1	Gender	Male	24	34.8
		Female	45	65.2
2	Type library	Kuwait University Academy	35	50.7
		Paaet Academy	31	44.9
		Other	3	4.3
3	Academic qualification	B.S.C	55	79.7
		M.S.C	9	13.0
		P.H.D	2	2.9
		Other	13	4.3
4	Age	20-29	14	20.6
		30-39	31	45.6
		40-49	17	25.0
		50-59	5	7.4
		More 60	1	1.5
5	Experience	Less than 5 year	2	2.9
		1-5 years	20	29
		6-10 years	24	34.8
		11-15 years	9	13.5
		16-20 years	12	17.0
		More than 20	2	2.9

Table (1) Sample description (Cont.)

Series	Statistical statement		Response Count(n)	Response Percent
	Variable			
6	Academic staff	Full time	54	78.3
		Part time	14	20.3
		Other	1	1.4
7	Nationality	Kuwaiti	58	84.1
		Non-Kuwaiti	11	15.9

As shown in table (1), the number of the subjects to whom the questionnaire was administered was 90. Only 69 of them (79.66%) responded to the questionnaire.

### **1. Gender:**

The number of male librarians who responded to the questionnaire was 24 (34.8%), whereas the number of female librarians was 45 (65.2%).

### **2. Type of Library:**

The number of male and female librarians working at Kuwait University library who responded to the questionnaire was 35 (50.7%), whereas the number of those working at the PAAET library was 31 (44.9%), and the number of those working at other libraries was 3 (4.4%).

### **3. Academic Qualification:**

The number of respondents holding a B.A. degree was 55 (79.7), whereas the number of those holding an M.A. degree was 9 (13.9%), and the number of those holding a Ph.D. degree was 3 (4.3%).

### **4. Age:**

The percentage of respondents aged 30-39 was 45.6%, followed by those aged 40-49 (25%).

## **5. Experience:**

The number of respondents who had 6-10 years' experience in the field of libraries was 24 with a percentage of 34.8%, while the number of those with less than 5 years' experience (1-5 years) was 20 with a percentage of 29%.—**6-66-Academic Staff.**

The number of respondents working full-time was 54 (78.3%), while the number of those working part-time was 14 (20.3%).

## **7. Nationality:**

The number of Kuwaiti respondents was 58 (84.1%), while the number of non-Kuwaiti respondents was 11 (15.9%).

## **Test Reliability:**

The researchers used the test-retest method, as they administered the test to the pilot sample twice with a time interval of 21 days. The reliability coefficient was reasonable.

## **Test Validity:**

The questionnaire was presented in its initial format to a jury of specialists experienced in the field of libraries (e.g., librarians, faculty members in the Department of Libraries and Educational Technology at Kuwait University and the College of Basic Education, PAAET) to make sure that the questionnaire can achieve the research objectives and that the the questions are properly and correctly formulated and clear. The researchers were asked to omit



some items that were not appropriate and, acting on the jury's opinions, they made necessary modifications.

### Data Analysis:

#### Section 2: General Questions: Part II

What are the web 2.0 tools used by library professional? to answer This question the following sub question general question was derived: Table no: (2)

**-Question 1: (General) Have you ever heard of web 2.0 tools such as Blogs, Wiki, and RSS?**

Table (2)

**The web 2.0 tools used by library professional**

No.	Statement	Answer option		
		Response percent		
		Yes 0/0	No 0/0	I don't Know 0/0
<b>PAVT IT: general question</b>				
8	<b>Have you ever heard?</b>			
	8-1 BLOGS	36	14	9
	8-2 WIKIS	21	23	16
	8-3 RSS	21	25	59
9	<b>To What Extent do?</b>			
	9-1 BROGS	33.3	24	27.5
	9-2 WIKIS	23.3	15.9	44.9
	9-3 RSS	14.4	17.3	49.2

Table (2) shows that all library specialists have heard of web toolsquestion (8). The most frequently used tool is blogs (36%), followed by Wiki (21%) and then RSS (21%).

These results were confirmed by the second question (9), as blogs came first in terms of use with a percentage of 33.3%, followed by Wiki with a percentage of 23.3%, and then RSS with a percentage of 14.4%. RSS came last in terms of use, as 49.2% of the respondents reported that they do not use it (table 2).

The results of the present study are consistent with those of Pritchett and others (2015), Del Barrio-Garcia, Arquero, and Romero-Frias (2015), Al-Daihani (2009), Currie (2010), Aharony (2008), Joint (2009) King (2007).

**Question 2: What are the most important areas in which specialized librarians use the following web 2.0 tools in their work?**

- a) Wiki
- b) Blogs
- c) RSS

To answer this question, the uses of the three web tools are listed in tables (3), (4) and (5).

Table (3): Wiki Uses

Part III: Library professionals use of web 2.0 in their work.

No.	Statement	Answer option		
		Response percent		
		High %	Poor%	Never %
10	Wiki is used in our library as subject guides	34.7	10.9	54.3
11	We set our policy manuals on wikis	39.4	17.4	63.0
12	Putting our library listing of resources on wikis	41.5	15.2	63.0
13	We provide information about writing styles on wikis	37.2	19.6	63.0
14	Instructions given for using wikis	41.5	17.4	60.9
15	Library designs it won wiki	26.1	10.9	63.0
16	Users are allowed to edit the contents of wikis	43.7	8.7	67.4
17	Users can recall earlier pages on wikis	23.8	15.2	60.9
18	In our library, we use wikis for knowledge sharing	15.2	17.4	67.4
19	We allow our clients to develop content relevant to their subject of course	48.1	15.2	56.5
20	We make continuous update of wikis content for our users	27.8	17.4	60.9
21	We sue wikis for collaboration between us, students and academic staff	30.4	10.9	58.7
22	We use wikis to support teaching	26.0	15.2	58.7
23	Our sue focuses on fostering learning by proving adequate content for students	45.5	21.7	52.2
24	We edit content on wikis constantly	26	15.2	58.7
25	Instructors can refine our content by directly sharing ideas through wikis	43.7	10.9	65.2
26	We allow students and teachers to edit our content than with traditional materials	26.1	21.7	52.2

Follow: Table (3)

Wiki Uses

Part III: Library professionals use of web 2.0 in their work.

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
27	Our wikis provides a link to library home page	26	13	60.9
28	We provide information about plagiarism in wikis	41.5	15.2	63
29	Users are required to register	2.9	13	63

Table (3) indicates that the items with the highest percentages for Wiki use were items 19, 23, and 25 (48.1%, 45.5% and 43.7%, respectively). This indicates how useful Wiki is in enhancing learning and continuous update of subject content.

On the other hand, the items with the lowest percentages due to reluctance to use this tool were items 16, 18, and 25, as 67%, 67.4% and 65.2% of the respondents, respectively, reported that they do not agree to use it. This means that users still lack experience in using Wiki in updating directly and continuously.

Table (4):Blog Uses

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
30	Our blog is accessible to all by default	34.9	14	51.2
31	We use blogs to provide general information about our library	32.5	16.3	51.2
32	Users can find research tips in our blogs	32.5	14	53.5
33	We provide list of new books in the library blog	30.3	16.3	53.5
34	We use blogs to view a list of e-resources and databases	28	14	58.1

Follow :Table (4)Blog Uses

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
35	We show down time of services / databases in our blogs	25.6	16.3	58.1
36	Users can find the library hours of operation and holidays	32.6	18.6	38.8
37	Users are able to upload files	37.3	11.6	51.2
38	Our blog provide links to our library catalogue	27.9	16.3	55.8
39	Our blog archival entries are up to 1 year old	28.9	11.6	60.5
40	We provide instructions to use blogs	18.6	25.6	55.8
41	There is a link to the library home page	34.9	14	51.2
42	Users are required to register	21	14	65.1
43	Statement about copyright and content ownership is included	23.3	16.3	60.5
44	We sue blogs to generate feedback from our users	18.8	16.3	65.1

Table (4) shows the percentages of the uses of blogs (n = 15) starting with No. 30 through No. 44. Items 30, 37, and 41 had the highest percentages in terms of use (34.9%, 37.3% and 34.9%, respectively). This shows the most important virtual uses of blogs. They can be used to download files through the library links. As for the items with the highest percentages in terms of non-use were items 39, 42, and 44, as 60.5%, 65.1% and 65.1% of the respondents, respectively, reported that they do not agree to use them. This means that users do not agree to sign in when logging in these programs and do not want to have feedback from readers about what they write.

**Table (5):RSS USE**

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
45	RSS feeds are provided for new and updated information on wikis	26.3	10.5	63.2
46	Social book marking is available	21.1	10.5	68.4
47	We provide instructions to use RSS	21.1	15.8	63.2
48	Library instructions are given in RSS	18.4	18.4	63.2
49	Our library times in RSS are searchable	31.6	10.5	57.9
50	General news/ university news are available	21.1	7.9	71.1
51	Library news and events are shown in RSS	18.4	13.2	68.4
52	We use RSS for listing resources in addition to institutional repository	13.2	18.4	68.4
53	RSS use help for catalog search	18.4	10.5	71.1
54	Instructions are given to use RSS	15.7	15.8	68.4
55	Announcements about workshops and exhibitions are given in RSS	21	13.2	65.8
56	Entries are classified to make access easy at RSS	23.7	7.9	68.4
57	List of e-journals and e-resources databases are given in our RSS	21	13.2	65.8
58	RSS is used for listing new books	16.3	7.9	65.8

If your library is not using any of Web 2.0 tools and technologies, please respond to the following: Table (°) shows the percentages of the uses of blogs (n=14) starting with No. 45 through No. 58. Items 45, 49, and 56 had the highest percentages in terms of use (26.3%, 31.6% and 23.7%, respectively). This indicates that librarians benefit from using it in obtaining new information that is better than the information they obtain from Wiki. RSS is available and is easily accessible in libraries.

On the other hand, most items related to non-use had high percentages ranging between 57.9% and 71.1%. Responses to these items indicate that librarians are not convinced of using RSS, and this finding may be attributed to librarians' lack of experience.

The results of the present study are consistent with those of Agir (2014), James (2014), Tripathi and Kumar (2010), Anderson (2007), Cook (2008), and Levy (2007).

What are the most important challenges that limit the use of web 2.0 tools and technology by specialized librarians in the State of Kuwait? These challenges can be summed up as follows:

Awareness of the importance of using web 2.0 technology by librarians in the State of Kuwait.

Part VI: obstacles

**Table (6)**

**Awareness of the importance of using web 2.0 technology**

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
<b>Awareness</b>				
59	Web 2.0 tools are not associated to the library	15.8	44.7	39.4
60	Blogs are an important tool to share information in academic (reliability test)	71.1	23.7	5.3
61	Library 2.0 technology can improve library services	71.1	23.7	5.3
62	Wikis provide collaborative activities within the library	44.7	44.7	10.5
63	RSS is essential for keeping users updated with the latest information	55.2	39.5	5.3
64	Blogs could facilitate internal communication in the library	55.2	39.5	5.3
65	Library 2.0 technologies are directly related to the librarians work ( reliability test )	42.1	44.7	13.2
66	Wikis can used for group learning	42.1	55.3	2.5
67	Web 2.0 tools can be used for enhancing our library services	60.5	26.3	13.2
68	Knowledge sharing can be done through wikis	52.6	36.8	10.1
69	My manager is aware of the new ICT developments that better serves our library	70.7	31.6	21.1

Table (6) shows the percentages of the responses to the items of this domain regarding the challenges related to awareness of the importance of web 2.0 technology on the part of librarians in the State of Kuwait. This domain includes 11 items. Items 60, 61 and 96

had the highest response percentages (71.1%, 71.1% and 70%, respectively).

On the other hand, items 59, 65, and 69 had the highest percentages of disagreement (39.4%, 2.5% and 21.1%, respectively). Results indicate librarians' awareness of the importance of web 2.0 tools in terms of the services they provide to develop work at the library to the better.

No.	Statement	Answer option		
		Response percent		
		High%	Poor%	Never%
70	I have a little influence over what's going on in the library (1)	57.9	15.8	26.3

### 1. Administrative policies and support for web 2.0 technology on the part of librarians in the State of Kuwait.

Table (7)

#### Administrative policies and support for web 2.0 technology

Follow :Table (7)

#### Administrative policies and support for web 2.0 technology

No.	Statement	Answer option		
		Response percent		
		High%	Poor%	Never%
71	I am free to make decisions in the library (1)	49.0	5.3	44.4
72	I am sure I can fulfill my job properly (1)	89.5	2.6	7.9
73	I have a lot of influence on what's going on in the library (1)	63.2	7.9	29.0
74	I aware of our libraries policy (2)	78.9	7.9	13.2
75	I am not aware of any web 2.0 policy in our library (2)	26.4	26.3	47.4
76	I have the support from the library management to develop my technological skills (3)	60.5	10.5	28.9
77	our library management provides me with training courses to develop my ICT skills (3)	57.9	21.1	21.1
78	My boss motivates me to learn more about the latest developments related to my work (3)	63.2	18.4	18.4



Table (7) shows the percentages of the responses to the items of this domain regarding the challenges related to administrative policies and their support for web 2.0 technology. This domain includes 9 items. Items 72, 74 and 78 had the highest response percentages (89.5%, 78.9% and 83.29%, respectively). This means that librarians are free to take library decisions and that their leaders are skilled in using the computer.

On the other hand, items 71, 73, and 75 had the highest percentages of disagreement (44.7%, 29.5% and 47.4%, respectively). This indicates that librarian do not share web policies in repairing and indexing their libraries and hope to have more freedom in decision taking.

## **2. Personal factors which limit the use of web 2.0 technology by librarians in the State of Kuwait.**

### **Table (8) Personal factors which limit the use of web 2.0 technology**

On the other hand, items 87, 88, and 92 had the highest percentages of disagreement (77.9%, 70.9% and 64.5%, respectively). This indicates that shifting from the traditional system (old system) to the digital system (modern sophisticated system) is strenuous and they do not sanction it.

Thus, the results regarding this question are consistent with the results of the studies conducted by Cirit (2015), Hyman, Moser, and Segala(2014), Sangeeta Namdev (2012), Linh (2008), and

No.	Statement	Answer option		
		Response percent		
		High %	Poor %	Never %
1.	I have a good English level background	90.3	32	6.5
2.	I am aware of the importance for being skilled with another international language to serve my library	90.4	97	0
3.	I am ready to study new subjects related to web 2.0 (2)	93.6	65	0
4.	Web 2.0 interests me a lot (2)	14.2	16.1	9.7
5.	I am ready to make many efforts to master web 2.0 (2)	90.4	3.2	6.5
6.	I am ready to devote a lot of time to master web 2.0 principles (2)	80.3	6.5	3.2
7.	Understanding web 2.0 is very important to me (2)	80.6	9.7	9.7
8.	I am very happy to know web 2.0 tools in depth (2)	87.1	12.9	0
9.	I generally consider changes to be a negative thing (3)	19.4	3.2	77.2
10.	I'd like to do the same old things rather trying new and different ones (3)	22.6	6.5	70.9
11.	Whenever my life forms a stable routine, I look for ways to change it (3)	93.5	3.2	3.2
12.	When I am informed of a change of plans, I tense up a bit (3)	48.4	9.7	42.0
13.	I will take a routine day over a day full of unexpected events any time (3)	42.2	19.4	48.4
14.	If I were to be informed that there's going to be significant change regarding the ways things were done at the library, I would probably feel stressed (3)	29	6.5	64.5
15.	When someone pressures me to change something, I tend to resist even if I think the change may ultimately benefit me (3)	22.5	6.5	60.9
16.	if my boss change the criteria for evaluating employees, it would probably make me feel uncomfortable even if I thought I'd do just as well without having to do any extra work (3)	32.2	9.7	58.0
17.	I am skilled in Microsoft word (4)	90.3	6.5	3.2
18.	I am skilled in Microsoft power point (4)	70.6	12.9	6.5
19.	I am skilled in Microsoft excel (4)	77.4	16.1	6.4
20.	I am skilled in Microsoft access (4)	64.2	9.7	16.1
21.	I am skilled in searching and using the web (4)	96.8	0.0	3.2

Table (8) shows the percentages of the responses to the items of this domain regarding the challenges related to the personal factors which limit the use of web 2.0 technology. This domain includes 21 items. Items 80, 83 and 89 had the highest response percentages (90.4%, 90.4% and 93.5%, respectively). This shows that librarians have personal administrative motives and awareness regarding the use of web 2.0 technology.

Tripathi and Kumar (2010).

#### **5- General Conclusions:**

The present research aims at exploring the use of the three main web 2.0 tools, i.e. Blogs, Wikis and RSS, by specialists and qualified persons working at academic libraries (Kuwait University, PAAET). Therefore, the researchers designed a questionnaire consisting of 103 items divided into three main sections. The first section includes general information and has two items about the extent to which librarians use the three main web tools.

The second section deals with the uses of the three web 2.0 tools, Blogs, Wikis and RSS, and consists of 52 items. The third section revolves around the challenges that constrain the use of these tools. This section covers three domains. The first domain is awareness of the importance of web technology. The second domain deals with administrative and political aspects and library management strategies. The third domain consists of 49 items that deal with personal aspects such as polishing indexing skills, mastering the English language and self-confidence.

Results have indicated that the most frequently used web 2.0 technology tool is blogs, and the least frequently used one is RSS. As for Wikis, library specialists confirm that it reinforces learning and updates it continuously, but from the users' point of view it requires experience in updating and direct handling.

As for Blogs, the sample subjects reported that they use it to download files from the links of the library webpage and that they do not prefer to sign in when logging in these sites and do not accept other readers and users' reactions.

As regards the topics published about the use of RSS, although the library has this tool, they do not use it because it does not meet their personal needs such as polishing indexing skills and mastering the English language.

Regarding the challenges facing them in using Web 2.0 tools and their importance in developing work and facilitating it for students, librarians stated that the most important challenge is their poor mastery of them and poor awareness of their uses. They emphasized their participation in setting the policies and strategies of Web 2.0 technology for librarians so as to enhance library services and support their documentary work as well. Despite the presence of motivations for development and updating, few of them

continuously resist change and updating. This is one of the most important challenges to development.

### **Recommendations and Suggestions:**

1. Paying attention to the implementation of programming skills in general, especially for information specialists and those working in the field of libraries.
2. Activating the role of librarians in setting the policies related to Web 2.0 tools.
3. Equipping libraries with native cadres qualified for work in the fields of digital information systems.
4. Conducting future research on the development of web tools and their use to polish librarians' skills.
5. Increasing awareness of the importance of librarians' role in developing their work and encouraging them morally and financially.
6. Developing traditional libraries and transforming them gradually into digital libraries having the advantages of advanced technologies.
7. Holding annual contests for distinguished librarians in the field of digital information systems.

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Web 2.0 Technologies Usage in Kuwaiti Academic Libraries

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## المستخلص:

نعيش الان في مجتمع المعلومات وأصبحت المكتبة الشاملة مطلب لجميع المؤسسات التعليمية وتغيرت في ضوء ذلك دور ووظيفة أمين المكتبة إلى وظيفة أخصائي معلومات لامتلاكهم الكفايات والمهارات المتعددة في مجال نظم المعلومات، وتقنية التعليم. يهدف هذا البحث إلى استكشاف استخدام أدوات الويب (٢.٠) الرئيسية الثلاث Blogs. Wikis. RSS من قبل المتخصصين والمؤهلين الذين يعملون في المكتبات الاكاديمية (جامعة الكويت - الهيئة العامة للتعليم التطبيقي والتدريب، ولذلك أعدت أستبانته مكونة من (١٠٣) بند مقسمة الى مجالات ثلاث رئيسية لتجيب على أسئلة البحث. القسم الأول من الاستبانة: بيانات عامة مكون من بندين لمدى استخدام أمناء المكتبات لأدوات الويب (٢.٠) الرئيسية الثلاث.

القسم الثاني: استخدامات أدوات الويب (٢.٠) (Blogs.Wikis.RSS) ويتكون من (٥٢) بند. القسم الثالث: حول التحديات التي تحد من استخدام هذه الادوات تناولت مجال الوعي بأهمية تقنية الويب، المجال الثاني الجوانب الادارية والسياسية واستراتيجيات إدارة المكتبات - المجال الثالث من التحديات الجوانب الشخصية كصقل مهارات الفهرسة، واتقان اللغة الانجليزية، والثقة بالنفس ويتكون من (٤٩) بند.

خلصت نتائج البحث ان أكثر أدوات تقنية الويب ٢.٠ هي **blogs** وأقلها استخداماً هو تقنية **Rss** - بالنسبة لاستخدام **wikis**: يؤكد متخصصوا المكتبات أنهم يقوم بتعزيز التعلم وتحديثه بصفة مستمرة ولكنه من وجهة نظر المستخدمين يحتاج إلى خبرة في التحديث والتعامل المباشر.

- بالنسبة إلى استخدام **Blogs**: أفادت العينة أنه يستفيدون منه في تحميل الملفات بشكل افتراضي من خلال روابط الصفحة الرئيسية للمكتبة ولا يفضلون تسجيل أنفسهم عند الدخول في هذه المواقع ولا يتقبلون ردود أفعال من القراء والمستخدمين الاخرين

- حول الموضوعات المنشورة بالنسبة إلى استخدام **Rss** فبرغم من توفره بالمكتبة إلا أنهم لا يستخدمونه لعدم وفائه باحتياجاتهم الشخصية كصقل مهارات الفهرسة واتقانه اللغة الانجليزية.

- افاد أمناء المكتبات حول التحديات التي تواجههم في استخدام أدوات الويب ٢.٠ ولها أهمية في تطوير العمل وتسهيله لطلاب العلم هو ضعف اتقانهم ووعيهم باستخداماته. ويؤكدون على مشاركتهم في وضع السياسات والاستراتيجيات الخاصة بتقنية الويب ٢.٠ لأمناء المكتبات حتى يعززوا خدمات المكتبة ويدعموا عملهم الوثائقي أيضاً، وبالرغم من توفر الدوافع للتطوير والتحديث إلا أن منهم فئة تقاوم التغيير والتحديث بصفة مستمرة وهي من اهم التحديات التي تواجه التطوير.