UNDERSTANDING WEB 2.0

Web 2.0, the second phase in Web’s evolution, is attracting the attention of IT professionals, business and the web users. Web 2.0 is also called the wisdom web, people-centric web, participative web, and read/write web. Web 2.0 harness the web in a more interactive and collaborative manner, emphasizing peer’s social interaction and collective intelligence and presents new opportunities for leveraging the web and engaging its users more effectively. Within the last two to three years, web 2.0, ignited by successful web2.0 based social applications such as MySpace, Flicker, and You Tube, has been forging new applications that were previously unimaginable.

Many enterprises are reaping significant benefits from web 2.0, in a recent McKinsey global survey, more than three-fourths of senior executives participating in the study said that Web 2.0 technologies are strategic and that they plan to increase their investments in Web 2.0 applications.

The advent of the concept ‘Web 2.0’

According to O‟Reilly (2003, 2005a, 2005b), the concept of „Web 2.0‟ germinated during a conference session between O‟Reilly and MediaLive International, after the collapse of the “dot-com” fever in the fall of 2001, which signalled a turning point for the WWW. The term was made popular by Dale Doherty, a web pioneer and Vice President (VP) of the publishing and consulting firm, O‟Reilly Media Inc. (the company famous for its technology-related conferences and high-quality books). Doherty noted that the Web was now far “[…] more important than ever before, with new and exciting applications and sites popping up with surprising regularity” O‟Reilly (2005a: 1). As noted by O‟Reilly (2005a), “Could it be that the dot-com collapse marked some kind of new turning point for the web, such that a call to action such as Web 2.0 might make sense?” (p. 1). It is from this session that the Web 2.0 Conference emerged. Anderson (2007) pointed out that the team wanted to capture the feeling that despite the rise and subsequent collapse of „dot-com‟, there was still hope for the Web to survive. It has been noted that since the coining of the Web 2.0 term, it has firmly taken root in the world of technology, with more than „9.5 million citations in Google‟ (O‟Reilly, 2005a; Anderson, 2007).

 Defining Web 2.0

Web 1.0 and Web 2.0 are different versions of world wide web (www). Web 1.0 refers to the first stage in the World Wide **Web**, which was entirely made up of **web** pages connected by [hyperlinks](hyper%20link.docx). Although the exact definition of **Web 1.0** is a source of debate, it is generally believed to refer to the **web** when it was a set of static websites that were not yet providing interactive content.

While Web 2.0 originally came into existence, outside of the educational context, the term has taken root in pedagogical vocabularies for online instruction. Web 2.0 refers to a new version or generation of web technology which came about due to cumulative changes in how the web is used and designed (O‟Reilly, 2005a, 2005b; Anderson, 2007). Unlike the static pages of earlier systems, Web 2.0 functions as a platform for the sharing and networking of interactive and user-generated content (O‟Reilly, 2006a). Anderson (2007: 4) establishes that “Web 2.0 is a more socially connected web where everyone is able to add to and edit the information space”. Web 2.0 offer a novel, more social, and engaging, collaborative approach to interaction. It is the new response to its previous version, Web 1.0, which only offered limited communication. Gaffar and Singh (2013: 66) reveal that “Ever since, Internet users have come to rely heavily on this „new web‟ for their communication and social needs. Web 1.0, previous „version‟ of the web, provided largely a „one-way‟ communication channel between authors and consumers

of web content”.

The advent of Web 2.0 has resulted in a new dimension of the WWW. Internet users have now become quite active in the online world (Collins, 2009). As noted by O‟Reilly (2005a), Web 2.0 does not mean the same thing for everyone; in fact, depending on individual interpretation, it can either be used to bolster personal and professional development, or it can be used mainly as a tool for socialisation purposes. Some authors even postulate that Web 2.0 caters for interaction and interactivity, while allowing users to control their own data and information (Madden & Fox, 2006; Maloney, 2007). Others authors see Web 2.0 as a set of tools that demand active participation from its users (Pence, 2007; Collins, 2009; Mason & Rennie, 2010). Notions like „sharing‟, „collaborating‟, and „socialising‟ have emerged from the Web 2.0 concept and have taken priority in its discourse. From the above, it is not unjust to assume, from the recognition and attention that Web 2.0 is receiving, that it will be the defining technology to lead us into this century and beyond.

Web 2.0 and the Social Web

Since the emergence of Web 2.0, the use of online social networks has intensified, allowing users newer and efficient ways to maintain contact with family, friends, and work, among other things. A phenomenal growth in the number of online networks has been evidenced, with more than 200 such tools that are quickly becoming popular, particularly among the younger generation. As noted by Mazman and Usluel (2010), the use of these social sites is more ubiquitous than ever; in fact, users are extremely diverse, coming from different educational and social backgrounds, and from extremely diversified demographics. Given the features that the social web possesses, young people are continually being attracted to it. In the educational context, based on research done, social networking systems (SNS) have been proven to be very useful, based on sound pedagogical practices and proper supervision by teachers The fact that social networks seem to have taken over the world by storm, and its increasing use in educational contexts is indicative of the fact that it does have potential for success in learning and teaching.

Examples of these SNS include Facebook, Twitter, My Space, Tagged, Google Plus, and Hi5, among others. All these networks are as a result of the advent of Web 2.0 technologies. These sites possess a number of features including walls, instant messaging, groups, photo uploads, online profiles and news feeds. Facebook seems to have dominated the social web, having some 2.7 billion active users as of March 2019. YouTube, Skype, Twitter and Instant Messaging are also quickly gaining momentum. Bearing this in mind, it would not be unfair to say that these social networks have the potential to be very useful for executing educational purposes and for supporting learning and teaching, by facilitating high levels of student-teacher interaction. This is an avenue that needs to be further explored.

It is important to note that Web 2.0 cannot be separated from the social web. The social web and SNS exist only because of the advent of Web 2.0 technologies. Web 2.0, as has been established, has the primary objective of fostering interaction and interactivity through social networks and connections that were not possible before. It would not be unfair to say that without Web 2.0, there would be no social web, since Web 1.0, as has already been highlighted, was mainly for one-way communication between users.

Web 2.0 Tools

Web 2.0 also presents a number of tools that can be used in the learning-teaching process. Online tools and resources greatly facilitate the instructional process since they allow for interaction and collaboration between learners, content, and teacher. These tools take up very little space on the computer; in fact, since some of these applications are Internet-based, learners can access them from any computer, anytime and anywhere, at their own convenience. A study report (OEDb Staff Writers - 2003) present 101 Web 2.0 teaching tools, divided into various classes. Examples of some of these different classes of tools, along with some examples of tools from each class, are as follows:

(1) **Aggregators help you to stay up- (**An aggregator isa website or program that collects related items of content and displays them or links to them.)

Up-to-date with latest news and events: Blog lines, Feed Reader, and Wiki News, among others

(2) **Bookmark Managers** allow for the construction of personal directories where information can be saved, accessed, and shared: Facebook, Flickr, Tagged, Google Plus, LinkedIn, Twitter, Hi5, and My Space, among others;

 (3) **Collaboration Tools**, as the name suggests, aid collaboration, interaction and communication: Edmondo, Skype, Chat, and Instant Messaging, among others;

(4) **Course Management Tools** are those that allow for a multiplicity of functions in the pedagogical process: ATutor, Merlot, and Moodle, among others;

(5) **Office Suites** are free, commercial applications: Google Docs, Apache Open Office, and ZOHO, among others;

(6) **Office Tools** include file converters, presentations tools, file managers, and so on: Cute PDF, Email, and Document Converter eXpress, among others;

 (7) **Public Content Management Tools** are blogs used to teach, to build classroom community, to create class projects, and more: EduBlog, Geeklog, and WordPress, among others;

 (8) **Storage Tools** are those used for backing up files and documents for subsequent retrieval: 4Shared, Flip Drive, and Scribd, among others.

To further establish the importance of these tools in the learning-teaching process, Anderson (2007) highlights the “Key Web 2.0 services/applications”. These are

 (1) Blogs; (2) Wikis; (3) Tagging and Social Bookmarking; (4) Multimedia Sharing; (5) Audio Blogging and Podcasting; (6) Rich Site Summary (RSS) and Syndication; (7) Newer Web 2.0 Services and Applications which include Social Networking, Aggregation Services, Data „Mash-ups‟, Tracking and Filtering Content, Collaborating, Replicating Office-Style Software in the Browser, and Source Ideas or Work from the Crowd.

There is a plethora of them from which to choose to enhance the learning-teaching process. Choosing the specific set of tools to use must be done thoughtfully, in conjunction with learners’ needs. Web 2.0 tools are here to stay, so it is wise for all stakeholders to take advantage of them, carefully selecting those that would benefit their respective educational contexts.

The Importance of Web 2.0 Technologies in Education

Web 2.0 was not originally devised for educational contexts. The design of the tools, however, seemed to cater for pedagogical settings. Web 2.0 has been gaining a lot of traction over the past decade, and has made significant strides in educational contexts. Evidence from research is beginning to establish the potential benefits of Web 2.0 to support authentic learning experiences. In educational contexts, stakeholders are beginning to realise the necessity of incorporating Web 2.0 technologies into the didactic process to ensure students of a more emancipatory approach to learning. Further, proponents of this new technology affirm that “[…] the central principle behind Web 2.0 is its power to harness and disseminate collective intelligence through networking, user engagement and blogging”. These technologies allow users to be more socially connected, encouraging active collaboration and greater content creation and contribution. What is highlighted here is that Web 2.0 allows for meaningful interaction and communication with its users where they are allowed to be active participants in learning, rather than passive learners, as in the case of Web 1.0. Such a situation does present promise for educational institutions, teaching faculties and students all across the world. Educational experts debate the role of Web 2.0 in instructional practices and learning strategies. Regarding the role of education in this age of “network society” and “digital culture”, some scholars highlight the value of teaching creativity and innovation through 21st century skills. They agree that some potential benefits of Web 2.0 include the (1) provision of flexible “anytime/anywhere” learning; (2) freedom for students to self-publish and construct knowledge; (3) granting of access to large amounts of information, and (4) extension of learning to traditionally excluded groups. Other advocates affirm that user-generated content and learning networks support constructivist theories of learning. Davis (2011) cites Mason and Rennie (2010) who affirm “Web 2.0 tools provide students with the opportunity to collaboratively negotiate knowledge and to contextualise learning within an emergent situation”. Still, other specialists also agree that Web 2.0 tools support pedagogical models which accentuate learning as an active process of knowledge construction. Web 2.0 is inherently participative and encourages learners to be interactive. From the discussion above, it is quite clear that Web 2.0 hinges heavily on collaboration, interaction, interactivity and social networking. It seems to embrace the social constructivist theory of Vygostky (1978). To further add credence to the constructivist approach, and in support of the relevance of learning networks in the pedagogical process, Rudd et al., (2006) emphasise that learning networks are important in the learning process because:

(1) social, technical and leisure life is increasingly organised around networks;

(2) learning, in most cases, is already about networks, collaboration and connection;

(3) social mobility and social capital are achieved through building and mobilising networks of expertise and,

(4) full personalisation cannot be achieved through schools disconnected from communities.

 In relation to the interaction and interactivity that Web 2.0 affords, there is also slowly increasing research on the experimentation with Mobile Learning (ML) in educational contexts. Since the use of mobile devices is on the increase, this is an area to be further explored, with regard to learning and teaching. Just as there are advocates of Web 2.0, there are also experts who have shown some amount of skepticism to its use in Education. Meyer (2010a, 2010b) conducted a study in which he investigated the use of Web 2.0 with some doctoral students using a number of Web 2.0 tools like Wiki, Blogs and Online Discussions to assist them in writing their research papers. Based on the findings, many students were able to manipulate the tools, confirming that they were able to interact meaningfully with each other. Unfortunately, however, some students did not at all share some of those views as they felt uncomfortable with these new tools. Another study was executed by Kumar (2009), in which students were exposed to blogs, podcasts, sharing, and so forth. The results highlighted that students had difficulties in understanding the use of Web 2.0. Even though they felt that the tools did promote diversified learning and teaching, some of them felt that it should be relegated only to social communication and not be used in educational environments. A study conducted by Levy and Hadar (2008) seem to confirm the tendencies highlighted above. In yet another study, Tzeng, Liu, and Lin (2009) introduced an educational model using Web 2.0 which included „website users, content, virtual community and tools‟. While Tzeng et al. (2009) purport that Web 2.0 will exert a massive, positive influence in the field of Education, they also note some potential challenges that educators may face in technology-based environments, including (1) premature hardware development and (2) deficiency in basic computer skills. They contend that Web 2.0 technologies have proven to be somewhat difficult for juveniles and senior students. The issues raised are not superficial, since teething problems with always arise with any new educational initiative or any new technology software. This does not mean that Web 2.0 is not effective for educational purposes. In fact, many proponents have done research using Web 2.0 tools, as has been earlier established in this discussion, and the results are very encouraging. This success can only come about if it is properly harnessed and channeled to engender significant educational experiences. For this to happen, further research needs to be done to ascertain its full impact and effectiveness in Education.

**Advantages of Web 2.0:**

* Available at any time, any place.
* Variety of media.
* Ease of usage.
* Learners can actively be involved in knowledge building.
* Can create dynamic learning communities.
* Everybody is the author and the editor, every edit that has been made can be tracked.
* User friendly.
* Updates in wiki are immediate and it offers more sources for researchers.
* Provides real-time discussion.

**Some basic Tools and Applications**

**Wikis**: A "wiki" is a collection of Web pages designed to enable anyone with access to contribute or modify content, using a simplified markup language, and is often used to create collaborative Websites. (Wiki, 2009). One of the best known wikis is Wikipedia. Wikis can be used in education to facilitate knowledge systems powered by students (Raman, Ryan, & Olfman, 2005).

**Blogs:** A blog (web log) is a type of Website, usually maintained by an individual with regular commentary entries, event descriptions, or other material such as graphics or video. One example of the use of blogs in education is the use of question blogging, a type of blog that answers questions. Moreover, these questions and discussions can be a collaborative endeavor among instructors and students. Wagner (2003) addressed using blogs in education by publishing learning logs.

**Podcasts:** A podcast is a digital media file, usually digital audio or video that is freely available for download from the Internet using software that can handle RSS feeds (Podcast, 2009). The file can then be played on a personal computer or mobile device at the listener's convenience. The digital media file may be audio, audio enhanced with graphics (quite often with slides from a PPT presentation), or full video. YouTube is currently the most popular site to post and see podcasts.

**Social Networks:** A social network is a social structure made of nodes, generally individuals or organizations, which are connected by one or more specific types of interdependency (Social Networks, 2009). Facebook, with more than 200 million active users (Facebook, 2009), and MySpace are the two largest social network. Major 21 Social Media Networks (Journal of Information Systems Education, Vol. 20(2)

1. **Facebook – 2.7 billion MAUs**

Facebook is the biggest social media site around, with more than two billion people using it every month. That’s almost a third of the world’s population! There are 65 million businesses using Facebook Pages and 6 million advertisers actively promoting their business on Facebook. It’s easy to get started on Facebook because almost all content format works great on Facebook — text, images, videos, live videos, and stories.

1. **YouTube – 1.9 billion MAUs**

[YouTube](https://www.youtube.com/) is a video-sharing platform where [users watch a billion hour of videos every day](https://www.youtube.com/yt/about/press/). Besides being the second biggest social media site, YouTube (owned by Google) is also often known as the second largest search engine after Google. Finally, you can also [advertise on YouTube](https://www.youtube.com/yt/advertise/) to increase your reach on the platform. With 265 MAU, India is YouTube’slargest and fastest growing audience

1. **WhatsApp – 1.5 billion MAUs**

[WhatsApp](https://www.whatsapp.com/) is a messaging app used by people in over 180 countries. Initially, WhatsApp was only used by people to communicate with their family and friends. Gradually, people started communicating with businesses via WhatsApp. (Even if I am abroad and I want to purchase a suite, I can communicate and discuss with my tailor through WhatsApp.) 1 billion Daily Active Users for WhatsApp

1. **Messenger – 1.3 billion MAUs**

 [Messenger](https://messengerdevelopers.com/) used to be a messaging feature within Facebook, and since 2011, Facebook has made Messenger into a standalone app by itself and greatly expanded on its features. Businesses can now advertise, create chatbots, send newsletters, and more on Messenger. These features have given businesses a myriad of new ways to engage and connect with their customers.

1. **WeChat – 1.06 billion MAUs**

 [WeChat](https://www.wechat.com/en/) grew from a messaging app, just like WhatsApp and Messenger, into an all-in-one platform. Besides messaging and calling, users can now use WeChat to shop online and make payment offline, transfer money, make reservations, book taxis, and more. WeChat is most popular in China and some parts of Asia. If you are doing business in those areas (where social media platforms like Facebook are banned), WeChat could be a good alternative

1. **Instagram – 1 billion MAUs**

 [Instagram](https://www.instagram.com/) is a photo and video sharing social media app. It allows you to share a wide range of content such as photos, videos, Stories, and live videos.

1. **QQ – 861 million MAUs**

 [QQ](http://www.imqq.com/) is an instant messaging platform that is extremely popular among young Chinese. (It is used in 80 countries and also available in many other languages.) Besides its instant messaging features, it also enables users to decorate their avatars, watch movies, play online games, shop online, blog, and make payment. It seems that while QQ, a desktop-native platform, used to be the top social media platform in China, WeChat, a messaging app from the same parent company, has taken over its place.

1. **Tumblr – 642 million MUVs**

 [Tumblr](https://www.tumblr.com/) is a microblogging and social networking site for sharing text, photos, links, videos, audios, and more. People share a wide range of things on Tumblr from cat photos to art to fashion. On the surface, a Tumblr blog can look just like any other websites. So many blogs that you come across online might be using Tumblr!

1. **Qzone – 632 million MAUs**

[Qzone](https://qzone.qq.com/) is another popular social networking platform based in China, where users can upload multimedia, write blogs, play games, and decorate their own virtual spaces. According to several people on Quora, [Qzone seems to be more popular among teenagers](https://www.quora.com/Could-someone-show-me-what-Qzone-and-QQ-look-like-in-2017-for-a-Chinese-user-Is-it-very-popular-in-China-nowadays-compare-to-WeChat-and-sina-Weibo) (while WeChat is more popular among adults). But the rise of mobile-based platforms like WeChat seemed to have caused a decline in popularity of desktop-based platforms like Qzone.

1. **Tik Tok – 500 million MAUs**

 [Tik Tok](https://www.tiktok.com/) (also known as Douyin in China) is a rising music video social network. It was the world’s most downloaded app in the first quarter of 2018, beating Facebook, Instagram, and other social media apps. Users can record videos up to 60 seconds, edit them, and add music and special effects. It is most popular in Asia. It has recently acquired Musical.ly, a similar music video social network.

1. **Sina Weibo – 392 million MAUs**

 [Sina Weibo](https://www.weibo.com/login.php) is often known as Twitter for Chinese users (since Twitter is banned in China). It has features similar to Twitter — 140-character microblogging, uploading of photos and videos, commenting, and verification of accounts. If you would like to learn more about Sina Weibo, What’s on Weibo, a social trends reporting site, wrote [a helpful short introduction to Sina Weibo](https://www.whatsonweibo.com/sinaweibo/).

1. **Twitter – 335 million MAUs**

 [Twitter](https://twitter.com/) is a social media site for news, entertainment, sports, politics, and more. What makes Twitter different from most other social media sites is that it has a strong emphasis on real-time information — things that are happening right now. For example, [one of the defining moments in the Twitter history](https://buffer.com/resources/twitter-turns-10) is when Janis Krums tweeted the image of a plane that landed in the Hudson River when he was on the ferry to pick the passengers up. Another unique characteristic of Twitter is that it only allows 280 characters in a tweet (140 for Japanese, Korean, and Chinese), unlike most social media sites that have a much higher limit.

Twitter is also often used as a customer service channel. According to [advertisers on Twitter](https://blog.twitter.com/marketing/en_us/a/2016/making-customer-service-even-better-on-twitter.html), more than 80 percent of social customer service requests happen on Twitter. And Salesforce calls Twitter “[the New 1-800 Number for Customer Service](https://www.salesforce.com/hub/service/twitter-the-new-customer-service/)“. There are many social media customer service tools, such as [Buffer Reply](https://buffer.com/reply/?utm_source=social-blog&utm_medium=strategize&utm_campaign=social-media-sites), available now to help you manage social customer service conversations.

1. **Reddit – 330 million MAUs**

[Reddit](https://www.reddit.com/), also known as the front page of the Internet, is a platform where users can submit questions, links, and images, discuss them, and vote them up or down. There are subreddits (i.e. dedicated forums) for pretty much anything under the sun (and above). Subreddits, however, have different levels of engagement so it’s great to research to see if there are popular subreddits that your brand can be part of. For example, r/socialmedia tends to be pretty quiet so we are rarely on Reddit. Besides submitting your content to Reddit and participating in discussions, you can also [find content ideas](https://buffer.com/resources/reddit-content-ideas) and [advertise on Reddit](https://www.redditinc.com/advertising).

1. **Baidu Tieba – 300 million MAUs**

 [Baidu Tieba](https://tieba.baidu.com/) is a Chinese online forum created by Baidu, the largest Chinese search engine in the world. My interpretation of [Wikipedia’s description](https://en.wikipedia.org/wiki/Baidu_Tieba) is that Baidu Tieba seems to be similar to Reddit, where users can create a forum thread on any topic and interact with one another.

1. **LinkedIn – 294 million MAUs**

 [LinkedIn](https://www.linkedin.com/) is now more than just a resume and job search site. It has [evolved into a professional social media site](https://buffer.com/resources/the-silent-rise-of-linkedin) where industry experts share content, network with one another, and build their personal brand. It has also become a place for businesses to establish their thought leadership and authority in their industry and attract talent to their company. LinkedIn also offers [advertising opportunities](https://business.linkedin.com/marketing-solutions/ads), such as boosting your content, sending personalized ads to LinkedIn inboxes, and displaying ads by the side of the site.

1. **Viber – 260 million MAUs**

On the surface, [Viber](https://www.viber.com/) is quite similar to major social messaging apps such as WhatsApp and Messenger. It allows users to send messages and multimedia, call, share stickers and GIFs, and more. However, Viber presents [many more opportunities for businesses](https://www.viber.com/business/). As a business, you can buy ads, promote your brand through stickers, engage your community, display your products in the shopping section, and provide customer service.

1. **Snapchat – 255 million MAUs**

 [Snapchat](https://www.snapchat.com/) is a social media app that focuses on sharing photos and short videos (as known as snaps) between friends. It made [the Stories format](https://buffer.com/vertical-video) popular, which eventually proliferated on other social media platforms like Instagram

1. **Pinterest – 250 million MAUs**

[Pinterest](https://www.pinterest.com/) is a place where people go to discover new things and be inspired, quite unlike most social media sites where engagement is the primary focus. According to Pinterest, [78 percent of users say that content on Pinterest from brands are useful](https://business.pinterest.com/en/blog/250-million-people-now-use-pinterest-each-month) (much higher than that on other sites). This gives your brand an unique opportunity to shape their purchasing decisions. As Pinterest users want to be inspired to try or buy new things, having a presence on Pinterest could help put your brand on their minds. Here are [some tips on using Pinterest for business](https://buffer.com/library/how-to-use-pinterest).

1. **Line – 203 million MAUs**

[Line](https://line.me/en/) is a multi-purpose social messaging app that allows users to message, share stickers, play games, make payments, request for taxis, and shop online. It is the most popular messaging app in Japan and is also popular in other areas in Asia. Brands can create official accounts on Line to share news and promotions, which will appear on their followers’ timeline.

1. **Telegram – 200 million MAUs**

[Telegram](https://telegram.org/) is similar to most social messaging apps and is often known for how secure it is as a messaging app. There are several ways brands can make use of Telegram, besides providing one-on-one customer support. For example, brands can create chatbots for the Telegram platform or make use of Telegram’s channel feature to broadcast messages to an unlimited number of subscribers.

1. **Medium – 60 million MAUs**

 [Medium](https://medium.com/) is an online publishing platform with a social network element. It’s free to publish on Medium and free to read most articles. Some articles are reserved for only paying members. Besides publishing original content on Medium, it’s quite common for brands to republish their blog posts from their company blog onto Medium to extend their reach.