



Nómadas

ISSN: 1578-6730

nomadas@cps.ucm.es

Universidad Complutense de Madrid  
España

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Podcast and wikis as generation and management tools of knowledge  
Nómadas, vol. 49, 2016  
Universidad Complutense de Madrid  
Madrid, España

Available in: <http://www.redalyc.org/articulo.oa?id=18153282012>

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# PODCAST AND WIKIS AS GENERATION AND MANAGEMENT TOOLS OF KNOWLEDGE

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[http://dx.doi.org/10.5209/rev\\_NOMA.2013.v40.n4.48339](http://dx.doi.org/10.5209/rev_NOMA.2013.v40.n4.48339)

**Abstract.-** The generalization of the Information Society has brought the popularization of technological tools that enable the creation of new knowledge and its rapid transmission to different sectors and groups interested in accessing them. Tools that allow interaction, easy to learn and use, have become powerful transmitters of a culture increasingly democratized and with lower entry barriers. Among these technology platforms and tools is include podcasts and wikis, whose complexity is somewhat less than the massively used social networking but have become firmly established in the collaborative web ecosystem to allow a substantial change in access, creation and transmission of contents of knowledge societies.

This paper analyzes the podcasts and wikis and the possibilities offered to organizations and groups to improve their interactions and the new ways of working that open within the social web using this technology.

**Keywords:** *Web 2.0, Podcast, Wikis, SocialWeb, Social Media*

## 1. Introduction

The change in philosophy of the Web, since 2004, accelerated after 2006 and massive since 2010, has been a struggle between the individual tools vs. group. The syndication services, content aggregation and distribution, as well as the emergence of a complex application environment and repositories are shaping a new ecosystem in which the user faces starring various forms of communication, participation and publication. To the classic content creation tools individually and based in plaintext is opposed today a large number of platforms that allow the group creation of such content, editing them and with back up made continuously. Similarly, the audio content created by the users themselves, offer the possibility to be transferred to various devices, show a great ability to increase the strength of any message to communicate. Used initially by individuals, podcasts and wikis have become tools increasingly used by organizations as important part of knowledge management as well as for dissemination. Democratized information, ubiquitous access to it and the ease of developing new services that offer value to these applications, especially in the field of Internet browsing using mobile devices, podcasting and wikis becomes into powerful social interaction platforms.

## 2. Podcasting

The origins of podcasting date back to 2001 but the published references on this form of expression begin to appear on the Internet in 2004, growing in number to the present, in the moment that Google offers to search for the word "podcast" more 192 million entries. One of the first references to podcasting is the article by Ben Hammersley in The Guardian entitled "Audible Revolution". At that time it pointed terms like audioblogging and podcasting. The listener could

listen to audio broadcasts, after downloading, where he wants and when he wants.

Dave Winner, creator of RSS format, worked on developing a system that would include in the RSS format audio files and in 2003, under BloggerCon Conference, organized by Dave Winner, Adam Curry, one of the first creators recognized podcasts, presented a code developed for the Apple company that allowed automate sound bites from RadioUserLand, a program that also had been created by Dave Winner, the Apple player, iTunes, allowing synchronization with iPod devices (Sella, 2009). From 2004 started to use the term podcaster to define creators of this type of content in audio format. Although initially it was thought that the art of podcasting will focus primarily on audio content, soon it covered the video content and it was renamed, in this case vodcast or videocast.

## **2.1. The origin of the podcast term**

There are differences on the etymology of the term podcast. On the one hand we can see that is a neologism that comes from the mixture of the words iPod and "Broadcasting", ie, the mixture of the player and the signal transmission and broadcasting of audio and video. However, sometimes it is referring to the term "pod" as pod or capsule. Thus, the concept would reference podcasting-broadcasting content in encapsulated form. On the other hand, the word POD can be understood as an acronym for the term "Personal On Demand", so it can be used by other manufacturers players MP3 files without problem.

As of June 2005, with the release of version 4.9 of iTunes there was the opportunity to begin to syndicate the content of the podcasts, popularized since then as a audio content publishing. It is the aspect of making syndication the differentiator from other audio files on the Internet. Listeners can also go to the website and download the file directly or listen via streaming with player installed on their computer or embedded in the web. Thus, the fact that an audio file attached to a feed is a key feature of the podcasts, but it is not necessarily have to subscribe to it to hear it.

The typology of podcasts is as diverse as imaginable. This diversity is one of the features that make it popular. The shaft, as with all the tools of Web 2.0, is in the user, who is choosing between what he wants and how is the best to access it and play it. The podcasts offer users new possibilities of communication. Through its audio content creation becomes a Social Media. This is why radio stations have begun to take this into account and most of them have incorporated the new tool. The format reinforces and helps radio stations by adding to its content the syndication content. It also offers the ability to meet new demands of the audience. The contents may specialize breaking the popularity criteria, for audience size and schedules. It also favors the broadcast and makes available to listeners the audio files. The podcast reappears as an example of content located in "the long tail", which may not be very popular or mass but with some audience interested, which they can, in this way, pay attention (Postman, 2006).

The independent podcasts are characterized by the lack of a definite style and the reasons for starting a podcast can be varied, but one of the main reasons for independent podcasts is the desire to express and communicate. "The podcast becomes a micromedia" (Sella, 2008). As such it has its own rules among which are those that support editing the files just a bit and focus the importance in the content. On the other hand, the podcaster is very close to his audience and thus can establish a peer relationship with their listeners. Similarly, for companies creating a podcast offers the possibility of achieving greater visibility inside and outside the network, offering differences from the usual content shown on corporate websites, jumping borders and improving the advertising support capabilities with a significant cost reduction, both in regard to the creation or editing as message distribution virally.

## **2.2. Corporate and organizational uses**

The commissioning of a podcast as a communication tool organizational means carrying content creation to a special level, as being able to be heard at any time, makes the strength of the message breaks the usual boundaries of the Web. From all organization it can be observed some options and possibilities for application (Cangialosi, 2008).

- Informing customers about products and services. More comprehensive than using texts and achieving greater persuasion and a language much closer.
- Support and FAQ attention. Improving the classic space located on the website, and including answers to questions that may arise through the comments, answering them by referring the client who make the question, thus improving personalized communication.
- Industry news. A podcast can become a point of reference on what happens in any sector. Talk of the industry, competitors, advances and improvements in business from a broader perspective, can enhance the reputation of the organization as expert participants in the market.
- Success stories. A company that wants to show a product can use the podcast to publicize best practice, more attractive and persuasive than a text published on the corporate website.
- Make public the awards received by the organization. From the point of view of public relations is critical that these reach the stakeholders and podcasting provides a good way to overcome difficulties to reach the mainstream media.
- Distribution of documents and press releases. An audio file is much easier to be distributed or at least, to be taken into account in a world in which the avalanche of written messages is overwhelming.
- Promoting news. As with information on products and services, in an organization the news happens permanently. In an environment of constant change these changes should arrive as soon as possible to potential targets.

- Show nearest friendly face, away from the classic little formal corporate communication, according to new uses of communication 2.0.

### 2.3. Types of podcasts

As noted earlier, the cornerstone that makes podcasting in an environment inside in Web 2.0 is the ability to syndicate using RSS feeds. As an extension of blogging, podcasting has reached in a few years becoming very popular micromedia one of the most used by organizations and individuals. The possibility of receiving feedback simply means it can be multiple styles or formats, depending on the characteristics of the issuer. Among these we can highlight the following formats:

- Format with multiple narrators or single narrator. In this style one or more voices is narrating the desired message with direct style, focusing on content and with few extra resources. What matters is the channeled message in the voice of the protagonists.
- Interview. The classic format used in conventional radio maintains its freshness in the environment of the podcast because is a known reference. In order to carry on with certain quality is required a prior production, which prepare the questions to ask the interviewee as well as the additional technology to record it.
- Discussion. Make the podcast as an informal conversation between experts can be very interesting for the listener. In this case the content is displayed as a debate or an interview, talking several people at the same time. It offers different views but can cause problems if the manager's podcast has no experience in moderating and generate interrupts that create excessive noise.
- Sonic Tour. Especially suitable to support the making or participation in events, it shows the audio of the environment, what is happening in certain environments. It becomes a piece that moves the listener to the emotion of the situation experienced.
- Live Presentation. Allows transmission of events and makes these acts reach people who cannot go to them. Generates high proximity to the listener and helps in building strong links related to digital identity.

### 2.4. Technological aspects of podcasting

When it starts to use a podcast as a communication tool is important to prepare and plan the production schedule. The frequency of the episodes must be governed inter alia by the time available. In the case of a daily publication time required will be much greater, and it should not be forgotten in no time the audience to prevent the unidirectional communication. The fact publish daily, especially if it is a long-term podcast, can saturate the listeners, but posting without clear and known intervals could affect listeners, and they can do not consider it part of the conversation or relationship.

Secondly, it is important to analyze first whether to use copyrighted material from author to avoid possible problems related to claims in the case that have not been paid the corresponding fees. This is especially important in the case of using music files. It is also necessary to clearly define the terms of access to the service, some of which may be regulated by law. It should also be made clear a description as possible of the type of podcast that is done, as to avoid misunderstandings and help the virality of content. In the event that the required content access restrictions include age, these must be visible before the subscription file download or RSS.

It should also display the podcasters' rules of conduct and aspects of licenses use and copyright. Most podcast publishers publish their creations under Creative Commons licenses, but in the case of corporate podcasts, wanting to keep the copyright thereof, assuming the difficulty of protect the content on the Internet to be used or cited by others, should be clear.

Finally, as the contact information of the podcast editor, it must include a privacy clause, especially if the subscription to the podcast is done from the website of the organization and the process is controlled not by the user but by the issuer.

The process of a podcast syndication using RSS, as in other content, includes the following steps:

- An author creates and publishes online a file containing XML and RSS data feed.
- A user subscribes to the RSS feed using a reader or a management program RSS feeds. Once the subscription is done, the reader is connected to the channel at predetermined intervals to check for available updates.
- Each time it is published a new podcast content on the Web, the RSS feed is updated to reflect the new content.
- The feed reader is connected to the channel and downloads the updates, clearly marked as new, so they are easily recognizable by the user.

As we mentioned above, the contents of a podcast are as varied as the possible creators. In any case there are a number of contents that are usually generic in all of them and allow them simply recognizable to your subscribers, regardless of the application that it has to manage it.

- Title. Assumes initial engagement and is the podcast representative element in question. It is the brand that makes every single podcast special. It can bring also the episode number published.
- Description. Fundamental to future subscribers, the description is the piece of text that allows interested parties choose to subscribe to the podcast.

- Author. Like all Web 2.0 formats, the podcast should not be anonymous. It is the voice of a person. The audience appreciates that kind of attitude. It is therefore highly desirable to be reflected clearly who is the person or organization responsible for the emission.
- URL. It is desirable that the issuer of a podcast creates a website where visitors can find the "repository" of previous episodes and also work as sound file of the editor.

Most bloggers also manifest podcast listening, so it becomes an essential tool that can be analyzed accessing to the audience data.

### 3. WIKIS as collaborative tools

The Wiki concept came when Ward Cunningham developed a type of website that anyone could edit and modify (Evans, 2006). Ward Cunningham developed the first wiki project in 1994. He called WikiWikiWeb and he installed on the server of his company in March 1995. In its name Cunningham joined the conceptual aspect agility editing multiple pages and thematic discussions using the Hawaiian word repetition "wiki", meaning fast. In this first draft, the programmers participants shared ideas and programming models creating a space for discussion that continues to operate today with more than thirty thousand pages incorporated: <http://c2.com/cgi/wiki>

The idea of collaborative innovation in the field of Internet can traced back to the beginning of the construction of the first search engines. The initial concept of a wiki project could also be related to Vannevar Bush's article published in 1945, entitled "As We May Think" (Bush, 1945) in advancing the arrival of hypertext as a system of representation of ideas.

share similar functions: they are based on software platforms that allow ed

Wikis are collaborative platforms that simply allow the development and transfer of knowledge. After the mass popularization of Wikipedia, the most known and visited of wikis, its use has been extended by allowing you to generate a networked distributed work, attract contributors in addition to possibilities of monitoring against vandalism (Ebersbach, 2008).

Most wikis can share similar functions: they are based on software platforms that allow editing and modification of content by registered users. The key to the operation of a wiki is to enable collaboration easily, to access the revision history and often argue about it on pages created for this purpose (Roth, 2007). Thus, work with wiki is based on a source editable templates are not visible in a real-time rendering engine. As an added feature, the most common is that the license of contributions is carried out using Creative Commons licenses, escaping the rigidity offered based on copyright protected by copyright. Even on multiple occasions no license of any kind, leaving the contents available in the area of public domain and totally free use and modification.

Wikis often have several types of use and participation policies, explicit, by usage rules presented in so-called "meta-items", or implied, focusing on

common sense rules and accepted by the netiquette. Within usage policies would stand also the answers to questions such as who can participate, how social interactions are organized? What kind of technical needs exist?

A wiki is a viable community when a mixture of two factors occurs: the group of users that can be more or less active and the number of existing articles pages and control updates. Users participating in a wiki are often motivated by incentives for participation and among them we reflect three fundamental aspects (Roth, 2007):

- Altruism, feeling the need to offer and participate in contributing to a public good.
- Social influence, thanks to sharing, knowledge and interaction with strangers in most cases. Through participation in a wiki, individuals may be able to build and develop your online reputation or move up the social hierarchy generated within the Internet.
- Selfishness, which is favoured by improving certain skills achieved through participation and can be used in the future.

The incentives are especially important at the beginning of work on a wiki environment and are almost crucial to retain users as well as the recruitment of new users. In this sense a wiki is assimilated in many ways to the communities of practice, allowing, among other considerations, improve the skills of each of its members and generate a complex system of exchange and generation of knowledge (Wenger, 1999). Former members act as levers that allow push and improve the relationships between the new users. The differences between administrators and members often be clearly reflected and explicitly shown (Kittur, 2007).

KitturAnniket has demonstrated large qualitative differences between users and administrators of the most known and used wiki the world: Wikipedia. The resolution of conflicts that may appear, vandalism or any breach of the rules referred to the inclusion of Wikipedia, content as false or erroneous items, as well as disputes between editors, are decided by the group administrators. To avoid these problems in a wiki with millions of articles in all languages is vital and crucial in their development that members understand the rules and are able to attend and contribute to the level of conflict resolution.

Wikis have proven to be an interesting solution to support the creation and transfer of common knowledge (Fuchs-Kittowski, 2005). All users can comment, change the content, add and even delete some pages. The provision of knowledge and generation by way of cooperation is especially needed in jobs where the need is knowledge intensive use. Thus, the traditional knowledge management tools should be linked with the tools of community support. This requires some basic requirements should include the following:

1. It is necessary that all users can access simply to all available information



2. Participants must be aware on the idea that knowledge is cooperative and its conservation is done thanks to the community
3. Each of the components of knowledge must be associated with each other to generate a higher level of knowledge and no "islands of knowledge" disaggregated

With a wiki, the dividing line between the participants "active" and "passive" can be eliminated by the emergence of a network of pages or personal spaces that ultimately end up reflecting the assumption of global knowledge.

Wikis can be differentiated according to their objectives, being a personal site or a project that can involve thousands of people simultaneously, as well as their technical possibilities as access control or permissions. It is also possible to make distinctions by type database, its structure WYSIWYG<sup>1</sup> and advanced markup languages, especially XML. In this sense, it could be analyzed the concurrent links, different quality controls built, the ability to monitor recent changes, access the pages of discussion or categorization of content.

### 3.1. Frequently and disruptive uses of wikis

There are different ways of using a wiki environment and its creators are the ones who make at first the features and direction that it should take (Plummer, 2008). Among the most common uses we can see the following two:

- Shared knowledge repository and interactions of virtual communities, which keeps the memory of the achievements of the group.
- Repository of ideas and "artifacts" shared and knowledge management system in organizations. The project documentation can be prepared using a wiki (Raman, 2006) in the same way that the work environment can be exploited for the development of a community of practice.

Wikis have been incorporated increasingly to more organizations, both formal and informal due to several reasons. Among them we can mention the following:

- Limited cost. Currently there are a variety of platforms for building wikis format developed with Open Source, usually built using LAMP technologies (Linux, Apache, MySQL and PHP). The software with which is Wikipedia developed, MediaWiki, shares these characteristics, being possible to free download and install on any server without licensing fees of any kind.
- Low barriers to the incorporation of new contributions. Any new user, after a very simple subscribe process, and depending on the

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<sup>1</sup> "What you see is what you get".

characteristics of the permits created by administrators, can create and edit any material belonging to the wiki without any difficulty.

- Large capacity for Knowledge Management, allowing the creation of knowledge in the wiki space, by providing users the knowledge very quickly and easily, usually through internal searches and providing dynamic updating of knowledge as representative element.
- Ease of access from multiple platforms, because virtually all wiki systems only requires a web browser to access, create or edit content, and can be done from any architecture or device with Internet access.

Within organizations, a wiki can be implemented with different objectives. We note below some of the most widespread possibilities from the point of view of Knowledge Management (Hall, 2007):

- Staff Intranet. Used by managers for sharing best practice documents quickly and easy.
- Collaborative document editing, adding speed and ubiquity to work in them.
- Development of manuals and complex projects in areas with poorly defined Intranets or hard to use.
- Creation of knowledge base, accessible from any environment and constantly updated.

Wikis in corporate deployments are usually installed on the servers of the organization or as part of the intranet. In these cases the aspects related to security and data privacy must become a priority, protected by security measures and consider the following aspects to enable join with other information systems policies:

The Wiki's users can establish trust and reputation systems, whose ties generate differences in behavior depending on whether the interactions are between acquaintances versus others users with which the relationship is mediated exclusively. Like any collaborative system, there are always issues that can cause problems and the example of Wikipedia and its frequent criticism by some ideological or conceptual errors, consciously or not, make that the responsibility that lies with the editors is undeniable (Brown, 2007).

The term wiki has no reference to any particular program but to a generic concept with the characteristics described above. The development and future challenges of technology focus on standardized wiki markup language help structure content through semantic extensions, build relationships, and semantic attributes and ontologies (Kille, 2006).

The commissioning of a wiki does not create a community of practice or a social network automatically. To succeed it needs the good maintenance, a high attention process to the contents published there, and an active community of participants to back it up. And likewise you need to incorporate a number of

mechanisms to carry out effective control of the interactions produced in the wiki space. Among the most common actions for the correct operation of the application requires the following:

- Ability to quickly reverse the changes to erroneous or malicious data.
- Temporary lock of users who provide content that is considered slightly incorrect.
- Denial of content when the editors are not duly registered.
- In some extreme cases, administrators must have the ability to block the wiki temporarily.

#### 4. Conclusion

Podcast and wikis are less used tools today than common social networks for the creation and transmission of knowledge. Its high capacity to reach different sectors as well as ease of use make them excellent for improving projects in any organization, regardless of the purposes. Internet users, through massive use of Wikipedia have increased their learning curve using wikis, but they are still far from becoming wiki editors massively, beyond a more or less sporadic. Similarly, the audio content consumption, increasingly widespread in the media, but still far away in other organizations, can substantially improve the communication possibilities with stakeholders. With intensive use of technology, focused on "soft" technology, which allows user to be incorporated by little versed in technological developments, both platforms can help most and better to the distribution of content that today, finally, are held for users and can break the traditional monopoly over it by hierarchical and established entities.

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