Web 2.0 for Maintenance Professionals: Part 1

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<u>Introduction</u>

In the mid-1990s I started using the internet and bulletin boards to research issues and to obtain knowledge from others. The information I was able to gather was minimal with primarily university researchers, students and others hobbiests as well as a few others who had email. A few years later and businesses had complete marketing strategies built around using the World Wide Web (web) to post their marketing messages and information, bulletin boards became easier to use, and the population on the web exploded. There was a definite culture change as even those who you would expect to embrace the technology change fought against it. Compare that to our present level of communication through the web and email, smart phones and texting, and other devices and even the die-hard hobbiests could not have predicted where we are now.

A few months ago I was on site reviewing a potential project and needed information. I pulled out my iPhone, took a picture and a movie to capture the issue, equipment nameplate, and sounds, used the email feature to send the information to a customer service rep who then researched the equipment with a Google search and sent an email to the manufacturer. Before I was finished at the site an hour later I had complete information and pricing for a solution to present to a worried equipment owner. I got into my vehicle and checked my emails, saw that an associate was looking for some specific information on an issue they were having that had brought a portion of their plant off-line, went onto one of my websites, identified the link to an article with a solution, and emailed the link back to him. I got a thank you phone call a few minutes later. When I arrived back at the shop there was a problem with the reassembly of a component. I used an application (App) on the same phone to check the level of one component to the next and determined they were cocked. Made the adjustment and the assembly was completed. Later that evening I received a text from Saudi Arabia concerning an issue with an electric motor we designed, requested data, and was able to assist in the problem related to alignment within a few hours.

In the meantime, there were a few other issues related to equipment faults that I had not seen before. I logged into LinkedIn and found an associated group, joined it, asked a few questions related to the problem and received multiple answers. Rejected a few that did not make sense or were straight marketing and was able to piece together a solution. While logged in I was looking for information on someone that I had not yet met but who knew me, checked out his profile which provided me with some background before we met the next day. Always important to know who you are talking to otherwise there can be misunderstandings. Also, had to find a lead for a subcontractor for a project and get some information on their capabilities and responses from references and posted a question about whether or not anyone else had worked with them. Posted a quick blog on a subject I had been receiving multiple questions on and sent out a Twitter message that also posted to my Facebook, LinkedIn, MySpace, and a few other twitter accounts that were then forwarded to others, the result was a call for work on a related topic. My responses for the subcontractor came back and I was ready to move forward. Answered a few more email and web questions while on the shop floor checking on the status of a few other jobs. A few issues related to book sales for my publishing company came up which I forwarded to my

staff and a few others related to SMRP and IEEE related topics, which I answered or forwarded to the appropriate people.

Even when I was a teenager I was not able to be as productive as I am now. The questions are: how can these tools be used in our industry? And, can they be effective without increasing our stress load and degrading our lifestyle outside of work? I, for one, object to the idea that airplanes should allow WiFi or cell capabilities and support the effort to stop texting/email while driving for the simple reason that it provides a break, in addition to all the safety issues.

In this article, I am going to discuss how you, as a maintenance professional, can use Web 2.0, or social networking, to accomplish more and actually reduce your workload. We will briefly discuss the tools, but instead the mechanics and concepts behind the use of the tools, as that is what all of these websites and applications are. They make up a new toolbox that our predecessors did not have access to. The next article will work through several scenarios on how to use this new toolbox.

Overview of Web 2.0 as a Tool

Most of the articles I have seen on the topic of Web 2.0 or social networking relate to the functions, or systems, used on the web, and less how to use the selection of tools to make things much easier, especially when things get hairy and standard channels do not produce what you need. For instance, we needed information on the operation and specifics of a small generator that had just been rebuilt and did not appear to be operating properly. The information was obsolete and the manufacturer could, or would, not provide the information we were looking for and we were not able to obtain an owner and maintenance manual through standard channels. Within an hour of online research I found a copy of the manual buried in a railroad maintenance manual that had been posted online. The details gave the technicians the last pieces of the puzzle, we were off and running, and we were able to provide the owner with a copy of the manual to use to prevent the problem that caused the failure in the first place.

In another instance, we were dealing with a repetitive failure issue with a customer. The cause of failure was obvious but the mechanics of how the failure occurred were not. We could have figured it out over time, but instead utilized a few discussion groups and Wikipedia, and within a few hours, including a YouTube video on the topic, we had a much deeper grasp of the particular issue and a few solutions that we had not considered before.

The concept of Web 2.0 and the hype around it relate to internet and related tools, such as smart phones, is to provide a level of communication that has never before been considered. The first time it truly struck me is when I was watching one of my sons play video games online. He was collaborating and building a strategy with one team against another and I heard a few interesting accents. In addition to a few of his friends from school, he was working with kids, men and women of all ages from Australia to France and Canada to Brazil. He was not only meeting but working closely with people, ideas and concepts, as were the people on the other team, that he would never have been able to otherwise. The game was completely fascinating as they adjusted their strategy and tactics on the fly across a few wires and computers.

Marketing and sales professionals dove into the idea of Web 2.0 as a means to get their message out, post information on their products, and service departments provide details to assist their customers and lessen their workload. All of this information, all of this power to obtain information and solutions, and a majority of it at no cost other than a connection to the web and/or smart phone.

Different tools are better than others for certain things and some have specific agenda in mind. Personally, I pick and choose the tools that I need based upon my experiences with those tools and get involved in those that provide the more significant return.

What else makes Web 2.0 a powerful knowledge toolbox? Simply put, you can determine which methodology fits your personality the best. You can be passive and watch, be anonymous, or jump straight in and be one of the problem solvers. If you do not want to expose your questions, Google (or other search engines) searches for specific key words or phrases will point you in possibly the right direction (more on that later). On the other hand, getting actively involved in such discussions will provide a different type of information. The challenge is in selecting the right tools to fit the job because, as we all know, the best screw driver is a hammer.

The Search Engine Tool

For the purpose of this article we will use the Google search engine as the example, although many other excellent search tools exist. The key with such tools is to select the right key words, and they are not always the same as what you would expect. Also, you can use such capabilities as entering in phrases related to the topic you are looking for, such as, "induction motor winding shorts," to get a response.

The search engine can be a very powerful tool when used properly. The software that searches pages are referred to as robots or crawlers in which the software looks for specific, unique words related to a web page and places it in a database. Most web designers include 'meta tags' in their web pages that provide the very specific list of words that the website owner wishes to be found by.

Another powerful use of the tool is to look up a specific individual or company plus anything said about that individual or company. This can be a fun way of getting started, just by 'Googling' yourself or someone that you know. Sometimes there will be a limited response, but if the person is well published, has been included in web pages or articles, or uses social media, they may be found easily.

In the meantime, perhaps we are working on a project and we need to obtain information on BG-20 grease and its compatibility. So, we enter BG-20 Grease into the Google engine and we get 21,020 responses to the request with the very first response (at the time of this article) being the Dow Corning site for BG-20 Molykote grease. Or, perhaps we get a request for a 'Reliance Motor date code WW?' This directs us to a number of responses that do not appear to be what we want until we get to the third listing which provides us with a date code chart, in which we find that the motor was manufactured in September of 1994.

Remember, when you are searching on a term, regardless of the search engine, that you can continue to alter the search terms until you get to a response that is close to what you require.

The Forum Tools

Forums and groups can be an interesting and intimidating place depending on how well they are moderated. For one thing, you can post a question on a topic and receive responses that are directly related to your concern. However, you must remember that the responses are often the opinion of the respondents, hearsay or the propagation of myths related to the topic.

The best approach, should you determine that a forum or group is of interest to your topic, either for your own contribution or research, is to join and then observe the forum. When disagreements occur and begin to get out of hand, is there a voice of authority that quickly brings the disagreement to an end or back on course? Do the members stay at a professional level when disagreements occur? Are there dominant personalities that 'shout down' any opinion that disagrees with their own? If this is the case, then the value of the forum is not as great. However, if the forum or group appears to have good discussion and you see good ideas shared and discussed, especially where responses are made based upon the successful application of the suggestions, then the forum is of greater value.

There are a number of areas where forums can be found. At the time of this article, a number of good groups and forums exist in such sites as LinkedIn.com as well as technical and publishing websites.

Wikipedia (Wiki)

The concept of a 'Wiki,' popularized by the first use in an online system called Wikipedia, is a community development of information. The assumption is that an open community, editable by that community, will provide accurate information on a variety of topics. The better Wiki's have the information evaluated with references required before changes or entries are accepted.

When looking for information, a Wiki will have a search associated with it or will be found through search engines. Usually there are links within each article that will take the reader to additional discussion or information related to the topic.

Social Sites – Facebook and MySpace

While many of the social sites, such as Facebook and MySpace have traditionally been for personal entertainment, at the time of this article there has been a steady increase in business and technical related communication and discussion in these communities. While limited in usefulness, at this time, these sites should be considered as methods for obtaining some information as well as maintaining contact with others with similar interests.

Blogs

The concept of a blog is that individuals can post information and others can comment on those posts. A significant number of blogs exist related to maintenance and reliability with useful information. It should be remembered that blogs, as with many other social networking tools, are often not reviewed and can be considered the direct reflection of the individual(s) posting. Therefore, it is important to confirm and review the information prior to implementing any of the ideas and suggestions posted on a blog. The use of other social networking tools can be used to confirm data.

Twitter

Sites like Twitter send information in short bursts up to 140 characters including links to sites. There is also a method built into the Twitter site that allows you to search for existing previously posted topics. Our research indicates that this concept continues to increase at an exponential rate. At the time of this article, there appears to be a significant number of technical organizations utilizing Twitter to broadcast information and articles as they are produced.

The YouTube Concept

Unfortunately tools such as YouTube.com are blocked in many organizations. The number of professional, training and technical videos available are significant, from MIT free training classes, to safety videos, to reliability and maintenance technical training, to how-to videos. The good news is that there are a growing number of technical and professional society sites that are posting similar videos and information.

Often the reason for blocking this type of site is related to concerns about viewing entertainment instead of business-related information. However, the reason may also be the bandwidth requirement of the amount of traffic required. Basically, trying to send too much information through a relatively small pipeline will cause the entire internal network to slow down. If you need access to the information on such websites it is often a good idea to discuss the requirement with your IT department.

Conclusion

The concept of Web 2.0, or social networking, for the maintenance and reliability professional is relatively new. However, it provides a selection of powerful tools and information that can make the maintenance professional more effective. The key is understanding and selecting the right tools for the job.

It is also important to remember that just because it is in writing does not necessarily make it true. Always use at least one source to confirm any information you find on Web 2.0 sites.

About the Author

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