SHARING BEST PRACTICE; THE CHANGING ROLE OF THE PROFESSIONAL JOURNAL

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Abstract
Good practice develops piece-by-piece in many different places. Sharing this experience enables 'best practice' to be identified for the benefits of communities everywhere.

Web based information is seen as a key tool for information exchange and communication but the very success of the web in providing access to enormous amounts of information poses problems for the municipal professional. Not only does an engineer need assistance to identify best practice from the mass of information on the web but help is required to brief them upon the misinformation that communities use when they oppose a project.

The engineering community needs to address this situation and it is through their professional journals that this can best be managed. The editorial function, ethical standards and peer review process enables information to be sifted, selected and tested for the benefit of practitioners everywhere. But this implies a changing role for the journal if it is to meet this challenge.

To successfully manage this situation municipal engineers, around the world, should pool their resources and offer their time to ensure that practitioners receive the support they need. The experience of Municipal Engineer and the Institution of Civil Engineers is used to illustrate this process.

Key Words: Best Practice, Professional Journals, Municipal Engineer, online resources, ethics

Introduction

The experience of practitioners, all around the world, in a variety of circumstances contribute to the development of knowledge and good practice develops piece-by-piece in many different places. Through sharing this experience and by discussion with practitioners in many other locations 'best practice' can be identified and developed. Municipal engineers who are up to date with best practice can be confident that the limited resources at their disposal are used to best effect for the benefit of the communities they serve.

Web based information is seen as being crucial in sharing experiences and facilitating knowledge exchange around the world. It has also greatly increased the speed of our traditional networking practices. People in the most remote places can now access information on the web, communicate with colleagues and make contact with 'strangers' found through networking all around the planet.

However, the very success of the web in providing immediate access to almost unlimited amounts of information poses problems for the municipal professional. While information is unlimited the engineer's time is not. Not only does the engineer need assistance to identify best practice from the mass of information on the web but help is required to brief them upon the misinformation that communities frequently focus upon when they oppose a project.

Where is information sought?

It is increasingly the case that information, of all sorts, is searched for on-line. A recent survey by Pew Research found that 40% of all Americans now use the web as their main source of news, amongst those under 29 years of age it is 59%. This behaviour is repeated by professionals seeking information. The Institution of Mechanical Engineers reported (2009) that 93% of their members had used Google and 64% had used Wikipedia in the previous week.

It appears that for many people of all occupations and backgrounds research starts and, more worryingly, stops with online resources.

Information overload online

A search in May 2009 on Google for a range of issues that municipal practitioners typically need information about generated millions of hits: traffic calming measures over 400 thousand; sustainable development 28 million; alternative energy 48 million. A search for the same topics a month later generated even more hits.

Is online information reliable?

Some of the hits resulted in reliable and accurate information being found. Others were less useful and potentially misleading. If it is difficult for a professional practitioner to identify the most useful information how much more difficult is it for the amateur? Plainly many 'amateurs' are as capable as the 'professional' and through the web they also have access to the same information. Like the municipal engineer they are keen to make their case for, or more usually against, a development that affects their community. When an engineer addresses the concerns of a community it is difficult enough to overcome the amount of wrong information that is often circulated. It is even more difficult to overcome information that is 'correct' but only in very specific circumstances.

A Google search for 'energy-from-waste' resulted in 32 million hits. Many of the hits give factual information. But a very large number of hits are biased either for or against one of the technologies. Sorting the reliable from the unreliable, the specific from the general is not an easy or quick process. Many of the pages merely repeat information from other pages and little has any independent evaluation.

It is worth noting that Google produces a hierarchy of finds with the most 'popular' sites being listed first, the least viewed sites last. This has the implication that a web site which attracts the largest audience, irrespective of whether it contains reliable or biased information, is likely to be the quickest found, most viewed and hence likely to be ranked even higher on the next search. Unfortunately serious and well reasoned web sites are less likely to attract as many hits as a populist and less authoritative site; thus misinformation starts to become the most viewed information and hence its status is reinforced.

Google is aware of these difficulties and has areas that cater for the specialist, (Google Scholar). While that may help the professional to identify information, albeit still generating many thousands of hits, it does not necessarily help with the misinformation that communities focus upon.

Wikipedia

There are alternatives to Google; Wikipedia is one attempt to create a more balanced source of information. It actively encourages a review of its pages and provides web links to major sites for additional information. The promoters and their many contributors are to be congratulated on their approach. However this site is not without its problems. The identity and motives of its contributors is unknown. While much of the information about commonplace topics is excellent it can be less reliable on technical topics. It is frequently too brief to be of real value and often does not have links to the most useful sites. For example a search for 'waste-to-energy' in May 2009 gave interesting information but incineration was dealt with in less than 150 words only 19 of which supported the process in 'modern plants' the remainder were critical of the process.

Threats and help for the engineer

The municipal professional needs help in these circumstances and their engineering institutions and professional networks need to address the situation. If institutions and networks do not engage in this area there is a risk that practitioners will increasingly find that they cannot keep up to date with the information they need and be subject to the vagrancies of opinions generated on the web. Worse and more worryingly there appears to be a trend developing for the younger engineer to uncritically accept information found on the web.

Champion, Robinson and Buchan (2008) have discussed the issues facing municipal engineers globally and have highlighted the threat of de-professionalisation and stated that 'There has been a tendency in modern society, and particularly in public works agencies, towards diminished regard for the

advice of qualified professionals'. The developments referred to above will increase this tendency to the detriment of society as a whole.
Fortunately the engineering community has at its disposal a number of tools to assist the engineer. In particular many institutions produce highly respected, ethical, professional journals which through their various editorial processes are able to assist in the identification and distillation of important information.

Is the professional journal still relevant in an electronic age?
While it may appear that journals have outlived their usefulness in an electronic age it is precisely the editorial process of paper selection, peer review and discussion that enables the professional engineer to find reliable information to ensure that they are applying best practice in their field of work. The key role of any journal is to attract new research, best practice reports, policy updates and opinion pieces. By exposing draft papers to peer review published information can be relied upon to be up-to-date, error free and ethical. With debate encouraged both within the journal and through the formal presentation of papers at seminars ideas can be challenged and tested.

The changing role of a professional journal
To take an active role in the online medium journals will have to change to meet new circumstances. This is nothing new professional journals have undergone significant change over the years. To take one example Municipal Engineer www.municipalengineer.com has undergone many changes during its 136 year history. In the last decade it has attempted to address the needs of the practitioner by producing issues that are themed around current topics of interest (Appendix A).
This approach has been welcomed by readers and authors alike and Municipal Engineer now attracts more international papers than ever before (Appendix B). In 2008 it produced 3 editions consisting entirely of international papers, one sourced entirely from China.

Virtual Library
Because the number of journals and books in circulation increases every year it can be difficult to locate the essential content that a practitioners needs to work effectively. Municipal Engineer, in conjunction with its sister journals (Appendix C), has placed its archives online (www.icevirtualibrary.com). This gives the reader access to a sophisticated search engine of a wide database of journals, books and publications including 'ahead-of-print' papers and ebooks. This publishing and library infrastructure is a huge asset for the profession internationally but its creation has placed a heavy burden upon the resources of the Institution of Civil Engineers (www.ice.org.uk) and Thomas Telford (www.thomastelford.com) to bring it into being.

What about Web 2.0?
The majority of content on the web and the various search engines are primarily Web 1.0 technology but the world is increasingly moving towards Web 2.0. Interactivity is fast becoming the most sought after feature on the web. On-line discussion groups are not just places for social networking they have a relevance for technology and management as well.
Scott-Jackson, Edney and Rushent (2008) in a major piece of research for the Chartered Institute of Management found that 28% of all managers consider that Web 2.0 technologies have the potential to transform management and leadership development activities. Amongst managers under 40 years of age this grew to 37%.
These findings and developments are equally relevant for municipal engineers. It is not hard to imagine how such an interactive resource could be used to conduct peer review and develop best practice. If the municipal engineering community could develop such a facility we could truly create an international resource for professional engineers wherever they are based on the planet.

How do we move forward?
To take such a step requires resources, funding of course, but probably the most important resource required will be the time and energy of municipal professionals. Jenkinson (2009) has pointed out that a key

lesson from the development of Municipal Engineer (and this equally applies to all other journals and Web 2.0 developments) is that they must 'ensure that sufficient people, from all areas of municipal engineering, offer their services as prospective peer reviewers and panel members'.
This is not an idle observation the resources required to produce Municipal Engineer requires a panel of over 200 practitioners being available to review and assess the papers received.

Collaboration of all practitioners
It is beyond the resources of a single organisation to develop a best practice facility for municipal professionals everywhere. But if the journals, expert panels and networks of all municipal practitioners were to combine their efforts they could form the core of a resource that could begin to undertake and develop a web presence for the municipal engineering community internationally.
It is not hard to grow a web presence when it is sufficiently promoted. Hansford (2009) reported that the web site of New Civil Engineer had grown from 10 thousand users per month to 78 thousand after its relaunch 18 months earlier. However this implies that if a significant web presence is to be developed then careful planning is required so as not to be overwhelmed.
Municipal professionals, internationally, need to engage in a conversation about what sort facility they need and the practicalities of creating it.

Conclusion
The world of information and communications is changing rapidly. This poses a challenge to the professional engineer but also offers significant opportunities. The municipal engineering community should take advantage of this situation by pooling its resources to develop an online presence to support practitioners everywhere.
The skeleton of such a presence already exists through the online archives of journal papers but this skeleton needs development through the active participation of engineers and municipal professionals throughout the world.
The future is in our hands, we have the knowledge and tools but we need to develop the resource to ensure that we can both support engineers and provide reliable information to the communities we serve. Creating such a resource will enable municipal professionals to develop best practice and ensure that local solutions rise to the global challenges we face.

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Appendix A
Municipal Engineer, index of themed issues, 2000 to 2010

Date	Volume, Issue	Theme of the issue
2000 Mar	V139, 1	General papers
2000 June	V139, 2	General papers (Best Value)
2000 Sept	V139, 3	Waste Management
2000	V139, 4	Regeneration & Conservation

Dec		
2001 Mar	V145, 1	Can we make transport policies work?
2001 June	V145, 2	Community involvement and the politician's role
2001 Sept	V145, 3	Managing for excellence
2001 Dec	V145, 4	International Development
2002 Mar	V151, 1	Sustainable transport policy
2002 June	V151, 2	Urban Design
2002 Sept	V151, 3	Sustainable engineering in the rural environment
2002 Dec	V151, 4	The municipal engineers role in flooding and emergency planning
2003 Mar	V156, 1	Infrastructure
2003 June	V156, 2	Social Inclusion
2003 Sept	V156, 3	Safety
2003 Dec	V156, 4	Ethics
2004 Mar	V157, 1	The bus reborn
2004 June	V157, 2	Leisure
2004 Sept	V157, 3	General papers
2004 Dec	V157, 4	Housing
2005 Mar	V158, 1	Participation
2005 June	V158, 2	General papers
2005 Sept	V158, 3	Culture, creativity and engineering
2005 Dec	V158, 4	Intelligent Cities
2006 Mar	V159, 1	Public Health
2006 June	V159, 2	Highways
2006 Sept	V159, 3	Best Value from Infrastructure
2006 Dec	V159, 4	Climate Change
2007 Mar	V160, 1	Partnering
2007	V160, 2	A child in the city

June		
2007 Sept	V160, 3	General papers
2007 Dec	V160, 4	Major Sporting Events: Lessons and Legacies
2008 Mar	V161, 1	Municipal Engineering in China
2008 June	V161, 2	Safety and the Community
2008 Sept	V161, 3	Engineering International Development: Part 1
2008 Dec	V161, 4	Global Experience of Municipal Engineering: Part 2
2009 Mar	V162, 1	General papers
2009 June	V162, 2	General papers (25th Anniversary issue)
2009 Sept	V162, 3	Governance
2009 Dec	V162, 4	Green spaces
2010 Mar	V163, 1	General papers
2010 June	V163, 2	Historic cities

Appendix B

An invitation to submit a paper and work with the editorial panel of Municipal Engineer

While themed issues are central to the editorial strategy of Municipal Engineer general papers are always welcomed. Research papers, best practice reports, policy updates and opinion pieces are continually sought. Authors are invited to submit proposals to www.municipalengineer.com where a link to a dedicated Editorial Manager site is available to receive submissions.

The Editorial Advisory Panel is looking for new members to serve on the reviewer and advisory panels. Anyone interested in joining this international group of practicing engineers and academics should submit a recent CV to the Journals Manager, Ben Ramster (ben.ramster@ice.org.uk).

Municipal Engineer has a global scope; papers have been drawn from more than 50 countries and regions. It covers the whole life cycle of municipal services to communities. The journal addresses technical issues, the political interface and community participation; the sustainability agenda, cultural context and the key dimensions of procurement, management and finance.

Appendix C

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