

SMILE-SMC: A Contractor Development Initiative – with Benefits for All of Us

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IDENTIFYING THE NEEDS – for improved Teamworking and Information Management

Few would argue that the construction industry is critical to Hong Kong's economy. A healthy, efficient and better-performing construction industry will therefore benefit the whole region, while the increased competitiveness of all organisations involved, including contractors, consultants and their clients, could directly benefit the readers of this Newsletter who are presumably involved with this industry.

Industry Reports worldwide have been recommending various measures for performance improvements in construction for many years. While many of these recommendations are country-specific, there are common elements in the proposed improvement agendas in a few countries, such as Australia, Hong Kong, the Netherlands, Singapore and the UK (Kumaraswamy et al., 2005). Some of the recent thrusts and trends are to aim for value for money (VfM) through significantly improved teamworking. For example: (a) the Construction Industry Review Committee in Hong Kong recommended a 'changed culture', 'partnering' and 'process re-engineering to achieve better integration' (CIRC 2001), (b) The UK Office of Government Commerce advocated **Teamworking** to ensure VfM (OGC 2003). The potential for developing '**integrated project teams**' and improved relationships has been recently tested in a multi-country survey launched from Hong Kong, with valuable feedback from Australia, Hong Kong, the Netherlands, Singapore and the UK. The results indicate the readiness and indeed enthusiasm for such initiatives (Kumaraswamy et al., 2005, Rahman et al., 2005).

Meanwhile, rapid developments in 'Information & Communication Technologies' and 'Knowledge Management' have highlighted the tremendous advantages that can be harnessed by construction organisations through significantly improved **IKM** (Information & Knowledge Management' (Kumaraswamy et al., in print).

However, the relevant literature suggests that the above measures are at present mostly focused on large contractors, as for example, for developing partnering and alliancing mechanisms with big clients. The crucial role of Small and Medium sized Contractors (SMCs) in the project teams is frequently ignored. This is a serious oversight since no industry improvement initiative can succeed without addressing SMC problems and empowering their own development. They carry out the largest share of the actual construction work in most countries - working as main contractors on small projects and subcontractors or suppliers on large projects. Also, they form the largest number of business organisations in the construction supply chain, create the highest number of job opportunities and employ a significant part of the younger work force of most nations (Rahman et al. 2004).



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In Hong Kong, there are over 23,500 registered construction organisations of which more than 98% are Small and Medium Contractors (SMCs). As elsewhere, SMCs ultimately carry out most of the actual construction works. However, they often suffer from a lack of continuous work and tough price competition. On the other hand, they also suffer from insufficient 'information', inadequate (or nil) knowledge management frameworks and tools, lack of time and resources for self-improvement and technological upgrading. Without sound information & knowledge management (IKM) it is difficult to improve their competitiveness and performance levels. These shortfalls spotlight the urgent needs for an SMC-friendly system for improved IKM.

ADDRESSING THE NEEDS – through a RD&D initiative and a Web-based System

Overview

RD&D (Research, Development & Dissemination) to address the above problems, was planned by a team from the Faculties of Engineering and Architecture and the eBusiness Technology Institute of The University of Hong Kong. The Small and Medium Enterprises Development Fund of the Trade and Industry Department of the HKSAR, accepted the project proposal to identify & develop a system to help in the 'Strategic Management with Information Leveraged Excellence' (SMILE) for 'Small and Medium Contractors' (SMCs), i.e. SMILE-SMC.

The primary aim of the SMILE-SMC project was to empower the continuous improvement of construction companies in general and SMCs in particular, by providing an SMC-friendly information & knowledge portal, framework and useful tools for continuous improvement in boosting productivity, quality and image, through strategic information & knowledge management.

For example, efficiencies and savings are envisaged through faster and easier access to (a) important information, (b) a wider range of potential business partners (e.g. suppliers, specialists, subcontractors, etc.), and (c) formats and guides to assist in some basic work processes, such as purchasing and materials management, permit applications, as well as for performance improvements through benchmarking. Although the primary focus is on contractors, and particularly SMCs, SMILE-SMC is expected to also benefit (and therefore be widely used by) construction clients, consultants, and suppliers.

The system disseminates services through six major 'zones': Member Zone, Wanted Zone, Available Zone, Information Library, Discussion Forum and Performance Improvement Zone. These zones include SMC-friendly information & knowledge management (IKM) platforms and tools e.g. for efficient information access, materials management and 'electronic information exchange' for boosting their operational processes.

Basic Summary of R&D elements in System Development

The basic system and above 'zones' were developed on the basis of findings from intensive and extensive Research, including an initial pilot 'needs analysis' survey conducted with a cluster of partner contractors (PCs), followed by a structured questionnaire survey across the industry, 'workflow analyses' with the site staff and senior management of PCs, monthly brainstorming 'Team Meetings' arranged with industry partners, and a series of well-attended Workshops open to the whole industry (including a Development Workshop, three Dissemination Workshops and a Training Workshop). All these exercises elicited many diverse needs, but enabled prioritisation of areas of particular concern, that fed into the Development of the SMILE-SMC system. The funded R&D project for SMILE-SMC development was thereby successfully completed in Feb. 2006. Trialling is in progress and will be completed in May 2006.



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Launch and Dissemination of SMILE-SMC

Dissemination commenced in March 2006, along with the free Trial Period, which is until 31 May 2006. During dissemination (both during and after the Trial period), the front-end and major parts of the web-site will be available to any 'visitor', while some specially developed inner parts will need to be restricted to 'members'. Such members will necessarily need to be recruited on the basis of a nominal annual fee, so as to finance the Operation & Maintenance, essential Up-dating and any possible Upgrading. (note: daily Monitoring and Upgrading is clearly needed for this type of web-site, because of the nature of the rapidly changing information & knowledge and the wide range of users etc.). Nominal membership fees (to enable extra facilities to members) will therefore be targeted to meet such costs (and certainly 'not for profit')! The objective is to fund essential part-time staff and consumables, and if possible (if more time is enabled) to develop useful 'add-ons' to add value to members, if so desired. However, given industry conditions, any membership fee will necessarily be very low, if the web-site is to attract paying members.

Meanwhile, any interested organisation (and its personnel) may take immediate advantage of the free Trial Period to draw on many member benefits from SMILE-SMC as indicated in the following summary.

In fact, **SMILE-SMC can be accessed by anybody** at <http://smile.hku.hk>

While basic information (including about members) is available to any 'visitor', Trial Membership will open the door to many **additional and direct benefits**, such as being able to publicise one's own services and/or needs to all those who visit the web-site.

Examples of benefits

1. **Member Zone:** (a) Members* can publicise company information including descriptions of up to 5 projects; while (b) all who access the web-site can search for potential business 'partners'
2. **Wanted Zone:** (a) will contain messages on services, equipment, materials and people NEEDED by members; since (b) Members* can advertise their own needs in 'wanted' messages
3. **Available Zone:** (a) will have messages on services, equipment, materials and people AVAILABLE with members; since (b) Members* can advertise their own 'available' items
4. **Information Library:** contains valuable construction industry information, collected from various sources (while special information has been stored with specially designed flow-charts, check-lists etc. for later use by Members after May 2006),
5. **Discussion Forum:** Members* can exchange ideas on hot topics and common concerns
6. **Performance Improvement Zone:** contains ideas on how Information & Knowledge Management can improve performance levels (e.g. through special tools and plug-ins, such as for more efficient 'electronic information exchange' with sites and partners, convenient formats for capturing and retrieving operational and business information e.g. in purchasing, materials management etc.; and benchmarking platforms etc.: all of which can be available to Members after May 2006).

** available (free) up to 31 May 2006 to 'Trial Members'*

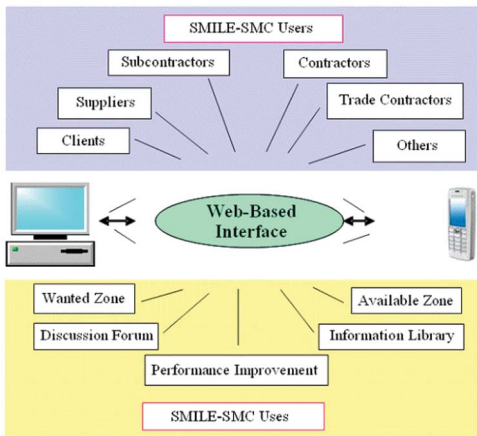


Fig. 1: Users and Uses of SMILE-SMC

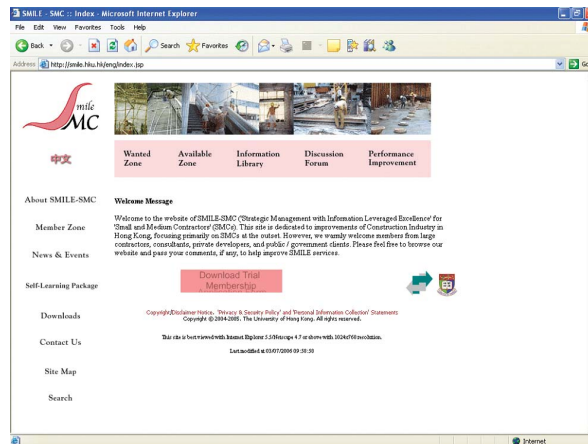


Fig. 2: All may benefit from basic information

So **SMILE-SMC** can now help all of us. Firstly, it can help **Contractors** to improve their competitiveness and performance levels. It will help them to obtain and process important information and 'knowledge'. **SMILE-SMC** is also designed to be used by **Clients** and **Consultants** e.g. when they look for a wider range of nominated sub-contractors, specialist contractors, suppliers and other services. In general it opens up opportunities (a) for sourcing new business partners, and (b) for efficiently accessing useful information and knowledge in what can be a 'one-stop' portal.

Overall, in addressing the industry needs as were identified at the beginning of this article, **SMILE-SMC** can contribute to construction industry development through the various provisions for better Teamworking (e.g. through facilities for sourcing and co-operating more efficiently with new and existing business partners) and improved Information & Knowledge Management (through a 'one-stop' industry information source, special tools, formats, flow-charts and check-lists, benchmarking etc.) as outlined above.

For more information and for downloading a simple application form for **free Trial Membership** (available only up to end May 2006): see <http://smile.hku.hk> (and then you may email your completed application to smilemc@hku.hk, or fax it if more convenient).

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