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# ICPMA Knowledge Management Centre – Sharing Knowledge in the International Construction Project Management Community

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# **ICPMA Knowledge Management Centre – Sharing Knowledge in the International Construction Project Management Community**

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## **Abstract**

In 2007, The International Construction Project Management Association (ICPMA) established a Knowledge Management Centre (KMC) the objective of which is to share experiences of construction project management amongst academics and practitioners across the globe. A strategy for the KMC was developed and a number of areas were identified as being relevant to the members of the international construction project management community. This paper examines the development of the KMC to date and establishes the achievements to date. The difficulties encountered in the development of the KMC are identified and the causes of these difficulties established. The plan for the future development of the KMC is outlined.

**KEYWORDS: Knowledge Management, ICPMA.**

## **INTRODUCTION**

The objective purpose of this paper is to inform the global construction research community of the development of a knowledge management project amongst construction project management professionals. The paper begins with some background information which led to the initiation (Phase 1) of the project. This is followed by an account of the work that has been carried out to date, the milestones that have been achieved, the problems that have been encountered and an assessment of the status of the project at the end of Phase 1. The planning and development of Phase 2 is then addressed and an account of the current progress of this Phase is presented. The paper concludes with an identification of emerging factors that must now be addressed if the project is to be brought to a successful outcome.

## **BACKGROUND**

The International Construction Project Management Association (ICPMA) developed from the International Construction Project Management Forum (ICPMF), which met for its first Congress in Cannes in 2001 to discuss best practice in current regulations and applied project management practices with representatives of International construction project management organisations and suppliers. The participants in the Cannes Congress represented leading professional associations from Germany, Great Britain, Spain and the USA as well as enterprises and universities from Germany, the Netherlands, Switzerland and the Czech

Republic. The Forum formed a number of working groups, which would concentrate their efforts on topics such as:

- Forms of contracts;
- Training and further education;
- Certification
- Knowledge Management within the construction project management.

The Forum held a further Congress in London in 2002 to develop these objectives. At the 2003 Congress in Berlin, a formal structure was adopted and the name of the organisation was changed to the ICPMA. This new structure based its membership on countries and by now seven countries were represented. By 2004, at the Madrid Congress, clear working groups were beginning to emerge in:

- Forms of Contract
- Knowledge Management
- The Development and Promotion of the Association

In the area of Knowledge Management, structures were to be developed to gather knowledge using the following means:

- Clear definition of topics for the annual forum, ensuring that the articles and presentations delivered were defined into distinct knowledge areas;
- Presentations to concentrate on case studies and examples to give a better idea of structure and problems in projects in member countries;
- Invitation of speakers and delegates beyond the membership of the ICPMA;
- Each country member now required to identify specific experts that would contribute to the knowledge of the Association;
- CVs of all ICPMA members, outlining their areas of expertise, to be available on the internet.

The dissemination of knowledge would be facilitated through the annual forum and the services of a webmaster would be employed to ensure that the structure and continuous administration of a website would be maintained.

The 2005 Congress, held in Prague, concentrated on gathering knowledge in the areas of Risk Management and Legal Issues. However, it was now becoming apparent that the Knowledge Management structure was not fulfilling its objectives. Further change was introduced at the 2006 Congress in Bern, at a wide ranging gathering of views which saw all of the relevant material being gathered and made available on the web. However, it was the formal establishment of the Knowledge Commission (whose name was subsequently changed to the Knowledge Management Committee) at the seventh Congress in New York (2007) that finally led to the development of a workable structure for Knowledge Management in the ICPMA.

### **Work to Date – Phase 1**

The Knowledge Management Committee initially comprised three individuals who set out a work plan for developing and delivering the structure. The Knowledge Management Centre (KMC) was established as a web based platform for the collection and dissemination of CPM knowledge as shown in Figure 1.

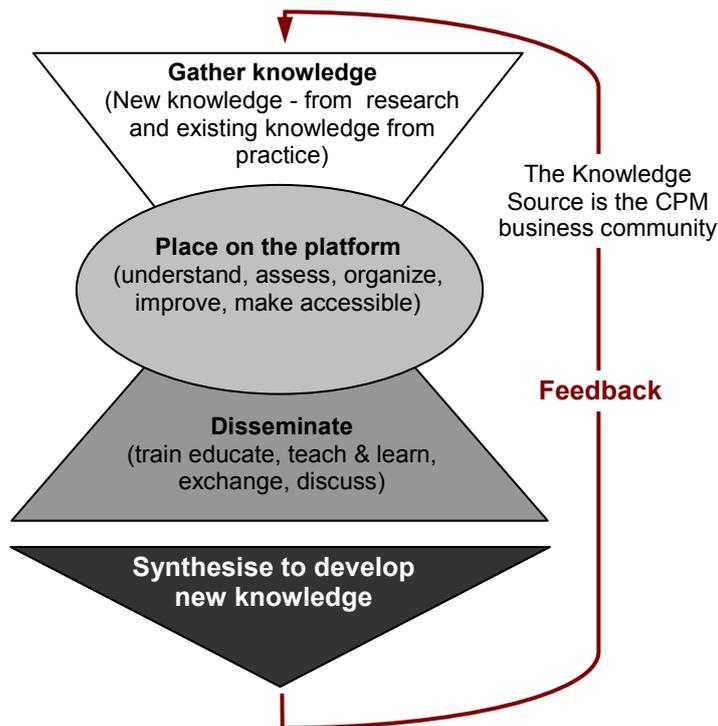


Figure 1. KMC Platform

The knowledge gathered would address specific CPM scenarios. Within each scenario it would be necessary to address the CPM issues that would arise under the modified PESTEL or SLEEPT headings as:

- Managerial;
- Technical;
- Legal/Contractual;
- Economical/Financial;
- Environmental/Sustainable;
- Political;
- Social/Cultural.

The knowledge gathered under all of these headings would be expected to be inter-related as illustrated in Figure 2. As there are numerous types and sizes of construction projects, it was decided that existing CPM knowledge would be classified as:

- National – applicable only to the country in which it had been gathered;
- Continental / International Region – applicable to a group of countries e.g the EU, Pacific Rim, etc;
- Global – applicable anywhere in the globe.

This would insure that those seeking knowledge of a particular size of project would quickly establish whether or not the KMC could cater for their specific needs.

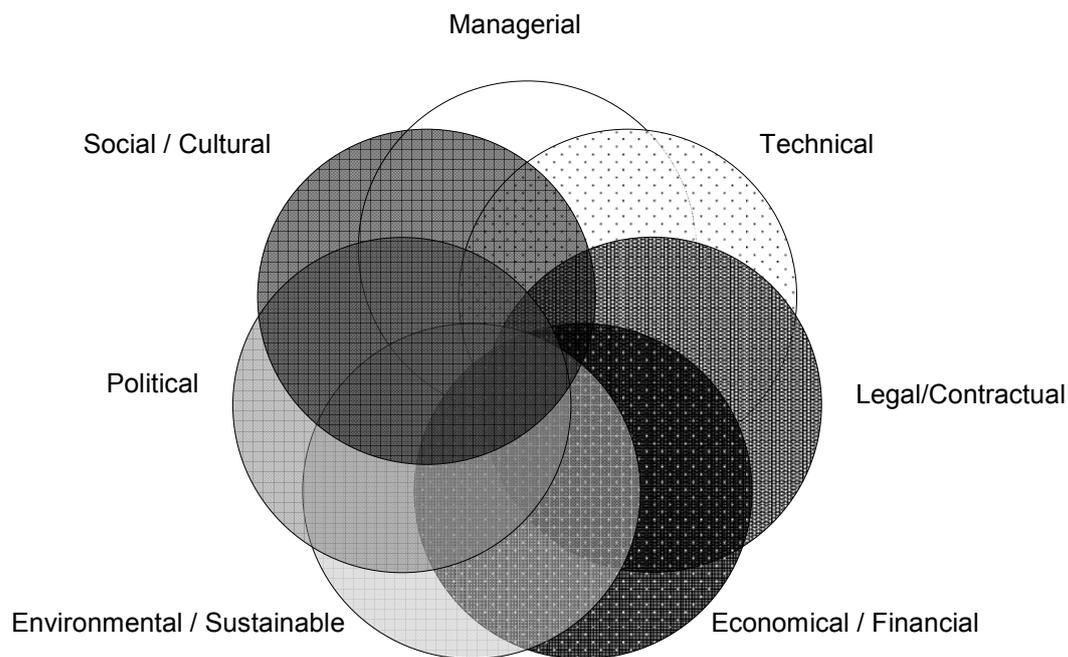


Figure 2. Headings under which CPM Knowledge would be gathered

The process knowledge gathering and knowledge dissemination was debated and three options were considered. The first of these options - outlined in Figure 3 - was an open model, based of the Wikipedia approach, where numerous contributors could independently add and edit information to the database. This approach had the advantage of being inexpensive and easy to establish. It would also be attractive to users as the knowledge would be freely available. However, as ICPMA required the security that all of the knowledge on its database was accurate and factually correct, the open model was considered as a means of meeting the requirements of ICPMA. Nevertheless the proposition that at least some of the knowledge would be freely available was considered attractive as a means of promoting ICPMA and it was therefore envisaged that some parts of the knowledge management database would be open access.

The second option considered adopted the approach of limited access with all of the knowledge contributions being filtered and reviewed before being made available. This is outlined in Figure 4.

Effectively, all contributions of knowledge would be subjected to a peer reviewing exercise. This would require a much wider professional membership within ICPMA than already existed and would result in considerable set-up costs to ICPMA. To offset this, those requiring the use of the database would be required to pay a contribution for use of the facility. On reflection, it was decided that this option may be considered for some specific knowledge in the future, but it was not a suitable option at this time.

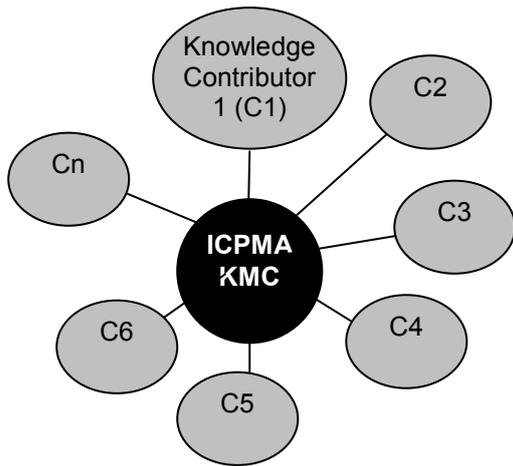


Figure 3. Open Source Model

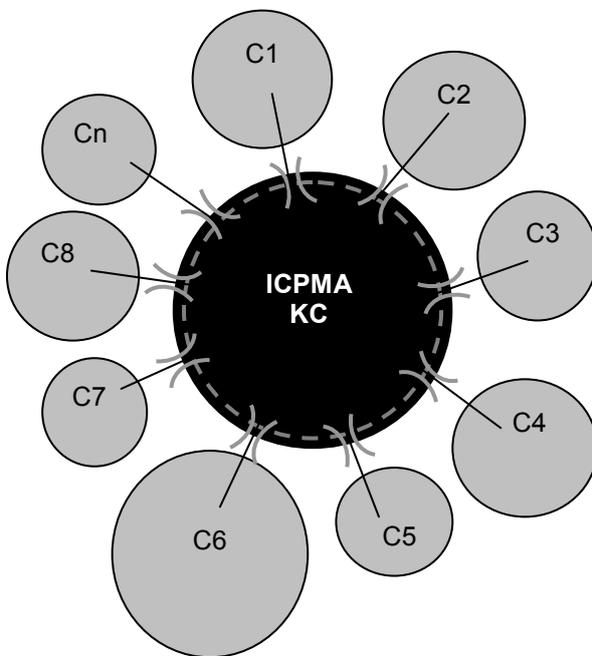


Figure 4. Limited Access Model

The third option needed to provide a means of ensuring that the knowledge placed on the database was factual whilst avoiding the high cost that would be incurred in option 2. Option 3, illustrated in Figure 5, therefore concentrated on a series of knowledge domains for which individual members of the Association would take development responsibility as domain leader.

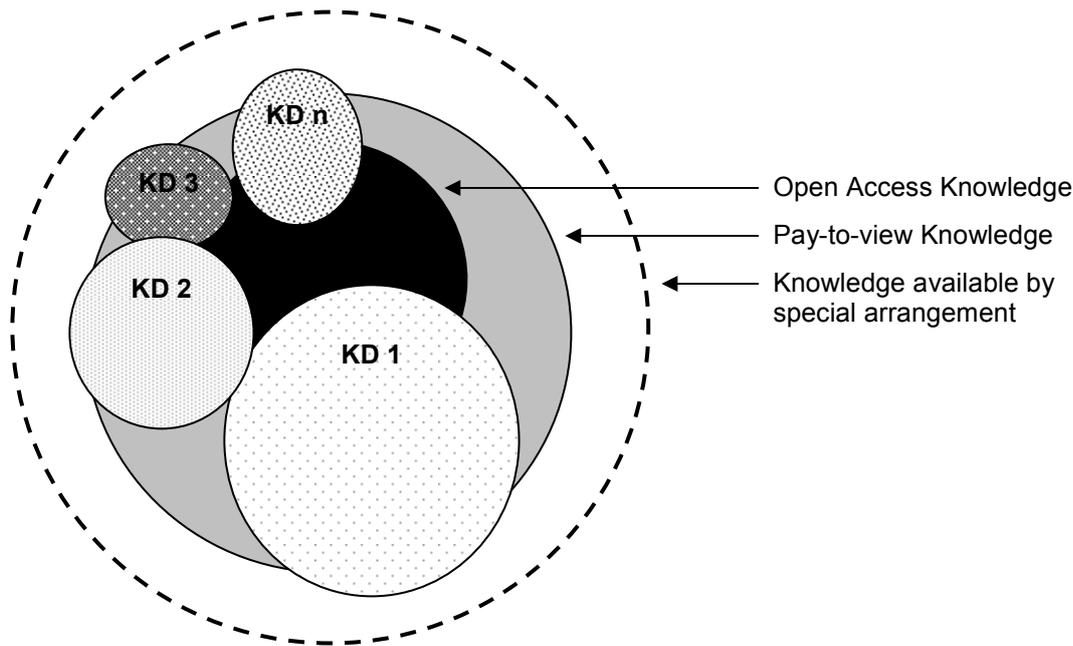


Figure 5. Preferred KMC model

This model comprised three levels of knowledge, namely:

- Open-access – that which is already in the public domain and is freely available to everyone;
- Pay to view – peer-reviewed knowledge stored elsewhere where links would be provided to a portal through which potential users could individually arrange to pay for access;
- By special arrangement – whereby those seeking the information would be freely given the contact details of a 3<sup>rd</sup> party who would have specific terms under which the information could be arranged to view.

It was anticipated that some, if not all of the domains would contain all three levels of knowledge. All knowledge would be fed through the domain leader and placed on the database.

The KMC section of the ICPMA website would operate as a portal for accessing the knowledge placed on the database. Where possible, the open source knowledge would be provided through direct weblinks to the relevant websites. Further knowledge would be submitted by ICPMA members and stored online. Initially, three knowledge domains were proposed:

- CPM of Urban Transport systems;
- Public Private Partnerships;
- Sustainable/Life Cycle Construction.

The CPM of Urban Transport Systems would be developed as a pilot to establish the issues that would arise in further developing the KMC.

All of these decisions were taken in series of meetings that took place between July 2007 and June 2008 during which the structure of the web portal was designed and developed. The portal went live in July 2008 and the development of the first domain (Phase 2) commenced.

### **Problems Encountered and Assessment of Phase 1**

The difficulties that emerged during Phase 1 were concerned more with the structure of ICPMA in general rather than the project in particular. ICPMA was an association of CPM organisations, University level institutes and Professional bodies. During the early phases of this project, ICPMA had no individual members. Consequently, organisations allowed their employees to give time to the project but the priority allocated to this time invariably was lower than that allocated to the business of the organisations themselves. Progress therefore occurred in short, intense bursts, with long periods of inactivity in between. In addition, those not specifically involved in the development of the structures of the KMC did not respond to calls for input. Despite this, Phase 1 was completed within 12 months and had produced a credible working structure for the KMC. It was obvious however by July 2008 that the structure of ICPMA would require review, as the membership numbers had remained static and some of the larger organisations were beginning to question their future in the Association.

### **Phase 2 – The development of the First Knowledge Domain**

Following the 8<sup>th</sup> Annual Congress in Dublin in May 2008, the focus of the KMC moved from development of the Knowledge Management Platform to the development of the Urban Infrastructure Knowledge domain. This domain would be structured to reflect the elements shown in figure 6.



Figure 6. Urban Infrastructure Knowledge Domain

It was intended to address an intended project in Dublin with knowledge gained from previous projects in Vienna, London, Berlin, New Delhi and New York. However, loss of the UK and US members early in 2009 and difficulties in establishing the necessary contacts in New Delhi and Berlin meant that the only material collected in the first six months was the initial project brief from Dublin and the existing information from Vienna. The loss of these members subsequently precipitated a major review of the structure of ICPMA, resulting in all of the efforts of the association being diverted to the organisational restructure. This reorganisation was approved at the 2009 AGM in Berlin with the association now having two areas on which it would concentrate, namely; administration and knowledge. As part of the reorganisation, membership would in future be based on individuals, who would be either professional (academics and practitioners) or post-graduate student members. The immediate effect of this was to open entry to membership up to a much wider base and to empower this membership to develop the KMC. In addition, the level of membership fees were set at a very low level but a condition of entry is that all would accept the principle of active membership. In doing so, an applicant is asked to define the contribution in effort that he/she will bring to the association. Renewal of membership will be contingent on achieving the criteria that the individual has set out on application and the setting of new goals for the next year.

From May 2009, therefore, a Knowledge Domain would have a specific defined structure, as illustrated in figure 7.

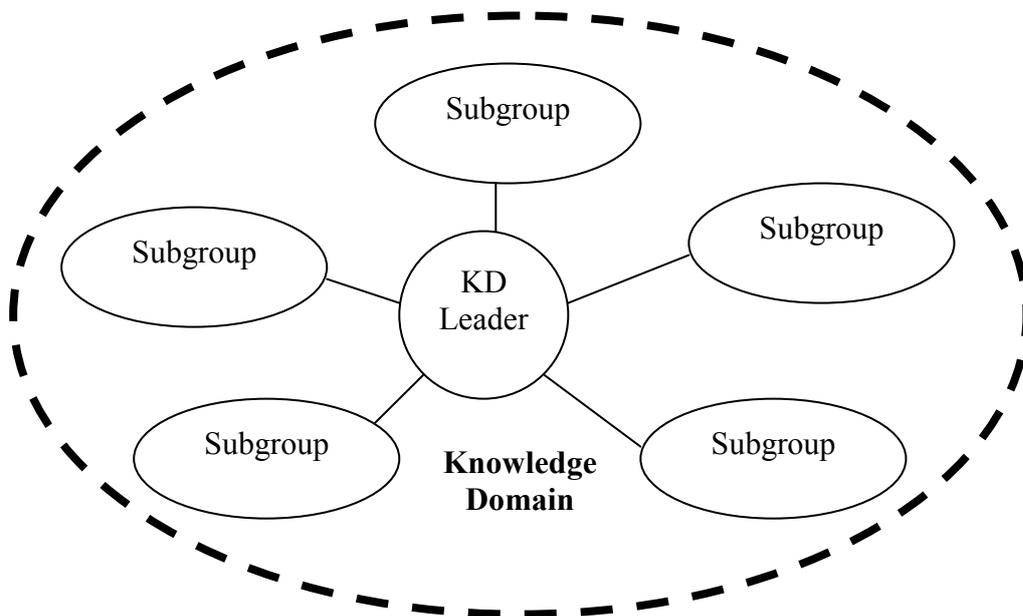


Figure 7. Organisation Structure of a Knowledge Domain

Each Knowledge Domain (KD) would be led by a single individual who would be supported by a KD team of professional members. These professional members would lead subgroups of student and further professional members. The subgroups would concentrate on gathering the knowledge required within the KD. They would be organised on the basis of the knowledge type required - i.e political, technical, economical, legal/contractual,

environmental, social/cultural, etc., - as decided in Munich in October 2007. One subgroup would take responsibility for the webpages for the KD. The KD leader would be responsible for the recruitment of the relevant professional members, the co-ordination/interaction of the subgroups and for the progress of the work of the domain. Each of the subgroup leaders would be responsible for the recruitment of the members (professionals and students) of the subgroup. By mid May 2009, work had recommenced on the development of the Urban Infrastructure Knowledge Domain.

## **CONCLUSION**

The ICPMA is focussed on knowledge sharing, rather than being concerned with power. This philosophical approach has caused difficulty for some of its members in the past, sometimes resulting in these members leaving and concentrating their resources on other organisations more suitable to their individual needs. But in an era of continued closer co-operation between countries, companies and individuals, ICPMA continues to build networks of CPM practitioners around the globe through the sharing of knowledge.

Through the KMC, ICPMA is building a platform for interaction of practitioners, academics and students in a variety of CPM related areas. For a small annual fee – set at a level to cover the running costs of ICPMA – and a commitment to the philosophy of knowledge sharing, individuals can now become members of this network, thereby bringing synergies in knowledge and greater value to the CPM profession through the dissemination of knowledge.

The ICPMA can be contacted through its website at [www.icpma.net](http://www.icpma.net).