

ENHANCING THE MALAYSIAN CONSTRUCTION INDUSTRY THROUGH TRANSFER OF BEST PRACTICES

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ABSTRACT

Lack of awareness on sustainable construction, low quality finish on building and infrastructure, poor performance by contractors, the need to improve on procurement strategy, benchmarking the Malaysian construction industry and lack of knowledge on Private Finance Initiatives are some of the frequently issues raised in meeting, conference, workshop and seminar by clients and stakeholders. Some had even expressed their concern on the deteriorating quality of works produced by Malaysian builders. There are also evidences suggesting the quality of works produced today is of lower standard as compared to twenty years ago. Despite the poor images portrayed, some builders have shown significant quality in their work and practice best project management techniques to deliver quality and excellent construction project. Their achievements are showcased during the Malaysian Construction Industry Excellence Award (MCIEA) host annually by CIDB since 2001. It is important that their experiences and knowledge to success captured and shared by other players to gain mutual benefit for the betterment of the construction industry.

This paper aims to highlight the initiatives need to be taken on board by the Malaysian construction industry as the way forward to enhance the Malaysian construction industry through transfer of best practices as the agent of change. The focus of change will be driven by the industry with the government agencies act as the facilitator and driver. The author explored the content of *Rethinking Construction* document and mapped out its implementation mechanism in the UK construction scene and to see how it could fit and practice in Malaysia.

Keywords: *Rethinking Construction, Construction Industry Master Plan (CIMP), Transfer of best practices, Malaysian Construction Industry Excellence Award (MCIEA)*

INTRODUCTION

The cultural shift in the UK construction industry was driven by the industry who took the lead through various initiatives such as Construction Best Practice Program. It is timely that the Malaysian Construction Industry examines the initiatives taken by the UK construction industry and to learn their experiences. The movement for reform in the UK construction industry during period 1993-2003 may well prove to have been one of the more successful examples of what happens when government, irrespective of its political approach, seeks to work substantially together with an important industry in the economy, to effect major change, and adapt that industry to new and modern processes and procedures (Adamson and Pollington, 2006). The concept of partnering exhibits the strength that drives the construction industry forward. The construction industry in U.K. has come a long way since the publication of the Latham's Report (1994) and the Egan's Report (1998) through *Rethinking Construction* that called for industry improvement. These reports were the mileage used to improve the construction industry under the following themes: reducing construction wastage and improve on quality and in adopting partnering and collaborative approach to the entire construction value chain respectively. The implementation of their recommendations discussed in the reports had delivered sets of construction best practices and have proven to improve the construction process hence produce better quality and sustainable construction in the UK's perspectives. Some of the Best Practices are applicable to be used in Malaysia.

The UK's construction industry strategies in benchmarking, performance measurements, determination of indicators and the mechanism to monitor the development of construction activities as deliberated in Egan's report documented in *Rethinking Construction*, served as the key objective of this paper.

RETHINKING CONSTRUCTION IN UNITED KINGDOM PERSPECTIVE

Rethinking Construction (Thirwall *et.al*, 2002) is the term used to summarise an industry wide initiative to improve the performance of the construction industry in United Kingdom. Far reaching changes to design, construction and procurement affect. It is about to inculcate engineering best practice as well as cultural and management issues in the industry. The gist of the document highlighted measures taken to improve the industry through collaborative and partnering initiatives.

The snapshot of Rethinking Construction (DTI, 1998) mentioned in the document had discussed the following results;

- What the UK construction achieved so far,
- What the UK construction do over the next two years, and
- How UK construction stakeholders and organisations can join the challenge.

In order to see the effectiveness of the strategy the content of Rethinking Construction limited their debate on the following key principles, which include the followings:

- Client leadership,
- Integrated teams throughout the delivery chain, and
- Respect for people.

Lastly, what the industry wanted to achieve through the objectives are to achieve radical improvements in the design, quality, customer satisfaction and sustainability of UK construction and to be able to recruit and retain a skilled workforce at all levels by improving its employment practices and health and safety performance.

MECHANISM AND PROCESS

A task force was established to look into ways of delivering the objectives. The task force proposed seven targets for improvement, which underpin Rethinking Construction initiatives that shall focus into the following targets (Thirwall *et.al*, 2002).

- Reduced capital cost
- Reduced construction time
- Better predictability
- Fewer defects
- Fewer accidents
- Increased productivity
- Increased turnover and profit.

IMPLEMENTING THE STRATEGY

Rethinking Construction agenda has been taken forward through a dynamic partnership between government, clients and industry (DTI, 1998). This has been given a further boost by the creation in 2001 of the Strategic Forum for Construction that brings together all the key industry representatives in pursuit of improvement. At the heart of the Rethinking Construction initiative is the Demonstration Projects Programme. This provides the opportunity for leading edge organisations to promote projects that

demonstrate innovation and Best Practice Club change which can be measured and evaluated. These are either site-based projects or organisational change projects. To date there are more than 400 of these projects in the programme, which taken together outperform the average of the UK industry against the key indicators (Thirwall *et.al*, 2002).

WORKING TOGETHER

A single company, Rethinking Construction Ltd, acts as the main point of co-ordination and liaison between the various streams. The chairs of the Housing Forum, M⁴I, the Local Government Construction Task Force and the director of the Construction Best Practice Programme serve on the Board. The Department of Trade and Industry (DTI) attend as observers (Thirwall *et.al*, 2002). The company also acts as the main vehicle for the executive support of the initiative, and receiver of sponsorship, subscriptions and funding. The Construction Best Practice Programme is funded through a separate DTI contract with BRE. The modus operandi of the Rethinking Construction initiative is depicted in Figure 1.

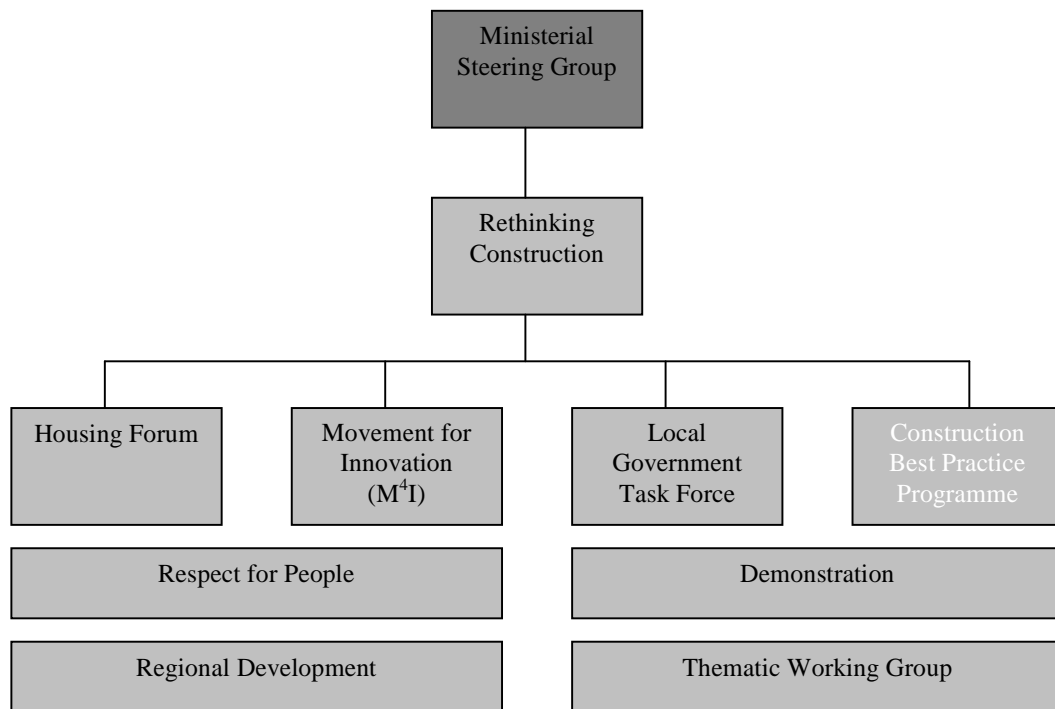


Figure 1: Working Together Initiatives (Thirwall *et.al*, 2002)

Housing Forum

The Housing Forum was set up to bring together everyone in the house building chain in a movement for change and innovation in dealing with new construction and renovation of the existing stock (Thirwall *et.al*, 2002). The Housing Forum embraces leading edge suppliers, house builders, social landlords, local authorities, designers, contractors, consultants, housing trade bodies and professional institutions, who are seeking continuous improvement in quality, efficiency, sustainability and value for money.

Movement for Innovation (M⁴I)

The Movement for Innovation (M⁴I) takes the lead in promoting Rethinking Construction among the non-housing sectors of the UK Construction Industry and related trade and professional organisations. The Board of Management is responsible for the performance and learning outputs from the M⁴I demonstration Projects, and has led the development of the Key Performance Indicators and the Environmental Performance Indicators. M⁴I is developing the regional network for Rethinking Construction, through its Demonstration Projects cluster programme (Thirwall *et.al*, 2002). These clusters are now expanding to embrace the Housing Forum Demonstration Projects. M⁴I is promoting Rethinking Construction badged events, such as Off-site Fabrication, Knowledge Management and Lean Construction via seminar and conference.

Respect for People

Respect for People (RfP) is fundamental to achieving world class performance in the UK construction. It is a crosscutting theme throughout the strands of Rethinking Construction (Thirwall *et.al*, 2002). The first ever set of industry Respect for People KPIs have been produced and were launched in May 2002. RfP toolkits are available from Rethinking Construction as the Term of Reference for the industry to follow (Thirwall *et.al*, 2002). The work involved over 100 companies across the UK representing every sector of the industry, and covers seven themes:

- Diversity in the workplace,
- On-site working environment,
- Health,
- Safety,
- Working conditions off-site,
- Career development & lifelong learning, and
- Behaviour.

Respect for People (RfP) aimed at line management they are unique within the construction environment and can be used to underpin progress towards the Investors in People standard or European Foundation for Quality Management Business Excellence approaches.

Local Government Task Force

The LGTF established in March 2000 to encourage and assist local authorities to adopt the principles of Rethinking Construction (Centre of Excellence East Midlands, 2006). As one of the biggest spending clients in the country on construction, maintenance and repair works, it is vital that councils achieve the improvements and savings that Rethinking Construction can bring. By focusing on the whole-life costs of a project, rather than cheapest initial tender costs, local authorities can ensure that they meet their Best Value obligations, and deliver high quality services to the people they serve. LGTF focuses attention on their Demonstration Projects, and the very real improvements that these bring to the construction process.

Construction Best Practice Programme

The Construction Best Practice Programme (CBPP) is an integral part of the Rethinking Construction initiative (DTI, 2007; DTI, 1998). A recent survey showed that more than 90% of users acknowledged that the programme has brought financial benefits to their company. The main drive has been to improve the business management of construction through the delivery of services to the sector and the dissemination of best practice information. The CBPP plays a specific role in continuous business improvement, providing opportunities for individuals, business teams, entire companies and supply

teams to engage in best practice. CBPP is about raising awareness, gaining commitment and facilitating the sharing of knowledge. Its publications include case studies, profiles, guides, and more than 150 director's briefings and information on the learning by doing workshops. Users will benefit from the recent establishment of a team of 40 best practice advisers.

RETHINKING CONSTRUCTION IN THE MALAYSIAN PERSPECTIVE

Malaysian Construction Industry Master Plan (CIMP) 2006-2015 as shown in Appendix 1 is the blueprint to transform the Malaysian construction industry into a professional, productive, knowledge based and progressive contributor to the country GDP (CIDB 2007). The step-by-step implementation strategies for Construction Industry Master Plan 2006-2015 for Malaysia tries to seek and possibly gathers the experienced from UK on executing Egan's Report mentioned in *Rethinking Construction* Document. Interestingly in the Rethinking Construction document suggested that the Construction Best Practice Programme (CBPP) is an integral part of the initiative another interesting area to be explored and learned by the Malaysian construction industry that looks into the transfer of best practices. Though there are many areas could be tapped from the Rethinking Construction initiatives, this paper will focus on the transfer of best practices mechanism.

MALAYSIAN CONSTRUCTION INDUSTRY EXCELLENCE (MCIEA) AWARDS

Every year Construction Industry Development Board (CIDB) Malaysia calls for participation from the industry to vie for the Malaysian Construction Industry Excellence Awards (MCIEA) as an effort to recognise their achievements in the industry. The award is intended to be the Malaysian premier accolades for all round excellence.

This year, the Malaysian Construction Industry Award 2008 (MCIEA 2008) will again be presented for the following categories as shown in Figure 2.

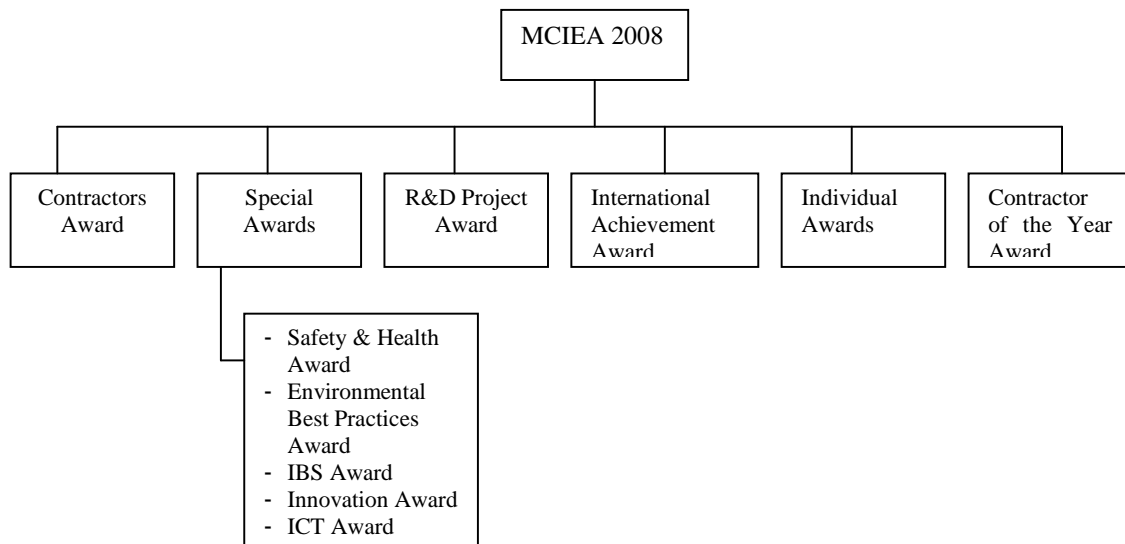


Figure 2: Malaysian Construction Industry Excellence Award (MCIEA) Categories

The Objectives of MCEIA are as follows

- To recognise individuals or/and organisation; who have contributed and demonstrated excellence in enhancing image, performance and improvement of the construction industry.
- To provide a platform for healthy competition amongst industry players in the quest for excellence by showcasing best practice in project implementation

Every year a number of ten awards will be awarded to high achievers and performance in the industry that remarkably showcase their product and management style. Their experiences should be learned by others and shared. A mechanism for the dissemination and transfer of knowledge and technology must be established in a continuous and strategic approach. It will a task bear to CIDB to put it in a right perspective for the transfer process.

TECHNOLOGY TRANSFER OF BEST PRACTICES IN CONSTRUCTION TO MALAYSIAN CONSTRUCTION INDUSTRY

Transfer is “identifying and learning from best practices and applying them in a new configuration or new location” (O’Dell and Grayson, 1997). The process of technology transfer and applying best practices from MCIEA is discussed in stage 1 to stage 6 of this paper.

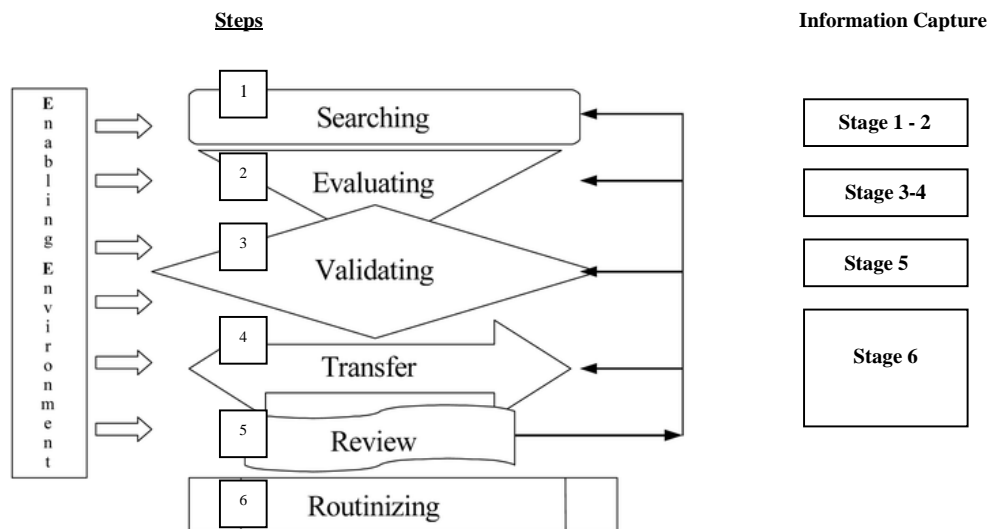


Figure 3. The best practice process for transfer of best practices (Jarrar and Zairi, 2000)

A study by the European Centre for TQM (Jarrar and Zairi, 2000) suggested that the best practice process for the “effective transfer of best practices” is made up of six major steps as in Figure 3. Each step captures the crucial elements and information from the research stages that are relevant in the transfer process of best practices.

The requirement of best practices from MCIEA by the construction industry will be captured via this process and modified to suit the Malaysian scene. A model for transfer of best practices shall be developed and proposed to management of CIDB for validation.

STAGE 1

The strategy to implement the transfer of Best Practices from MCIEA in Malaysian construction industry is captured from literature search, document review in CIMP and Rethinking Construction Document. This paper shall also streamline with current Malaysian need in developing the industry.

STAGE 2

The transfer of Best Practices has been explored in literature search. Outstanding strategic issues related to transfer of best practices will be discussed with MCIEA award winners

STAGE 3

Facts search via minutes of meetings from panel of judges, interviews with the with the MCIEA award winners will further validate and strengthen the validation process.

STAGE 4

The validation exercise is then expanded to provide the basic input for strategic transfer of best practices functions, activities, process and its future applications. Through iteration process via workshops a strategic transfer of best practices model will be developed in stage 5.

STAGE 5

The model will be prepared in an iterative and systematic manner. The proposal on the transfer of best practices model will be reviewed.

STAGE 6

Technology transfer requires CIDB to be the leading agency and coordinate with all relevant government agencies and other stakeholders in ensuring that the mechanism adopted is a practical process. The model on transfer of technology developed from this paper shall be validated with the management of CIDB via interviews and workshop.

Three dominant issues namely corporate culture, relationships within an organization and high level of technology use within an organization as a strategic part of any facilities management organization are pertinent to the transfer of best practices in stage 6 of this paper (APQC,1998).

WAY FORWARD: ESTABLISHING SPECIFIC INTEREST GROUP (SIG)

Active G4 to G7 contractors are a good exemplars to be selected as a Specific Interest Group (SIG) on Best Practices that is to be established. The aim of this SIG is to act as enabler to enhance and transfer the knowledge on current best practices among contractors and cascading them to the entire construction value chain. Ideally, Malaysian Construction Industry Excellence Award (MCIEA) winners are the best candidates to be chosen to be part of the members of this SIG.

The objectives of the SIG are as follows:

1. To instill best practices in construction to Malaysian contractors and other stakeholders,
2. To transfer the knowledge from MCIEA (Malaysian Construction Industry Excellence Award) award winning recipients to other contractors,
3. To transmit lessons learned from best practices in UK, Singapore, Japan and EU to Malaysian contractors,
4. To promote SIG as a catalyst to transfer construction best practices to enhance and promote the construction industry,

5. To make a proposal to perform a collaborative working approach to the entire construction value chain,
6. To create a mechanism where the cultural change in construction is led by the industry.

TRANSFER OF BEST PRACTICES INITIATIVES

The best practice process for transfer of best practices model by Jarrar and Zairi (2000) as mentioned in Figure 3 is taken as the referral to develop the transfer model proposed in this paper. The establishment of SIG is crucial to look into the latest development in construction and how to create values to our construction players to be competitive locally and globally. The modus operandi of the SIG will work upon several themes that deemed to be suitable to be adopted by the Malaysian construction industry. It is a proactive strategy introduced by CIDB and CREAM to assist and expedite the implementation of CIMP 2006-2015. This strategy will then operate and manage by the industry and the secretariat role will be handled by CIDB-CREAM. Several SIG will operate simultaneously looking at various aspects of the agreed themes. The themes selected reflect the need of the Malaysian construction industry for the next 10 years. The key element to be discussed by SIG is to capture the best practices and how these practices could be transferred and applied. These best practices do not only confine to local experiences but also consider international experiences and expertise as well.

A global cultural shift in the construction industry is seen to focus on adding values to the entire value chain. A collaborative approach and partnering will create value and trust thus resulting rewards equitably distributed among all construction players. It is timely that the way forward for the Malaysian construction industry is to work in a collaborative approach and partnering as these initiatives have proven to be successful and practiced in UK and the EU. The current popular and debatable topics in construction include sustainable construction, performance-based buildings to deliver integrated design solutions and finally to revalue back the construction performance (CIB, 2005). Other equally important aspects include value management, lean construction, constructability, benchmarking, reengineering and quality management and how to link this individual concept into one that could be integrated and benefited by the stakeholders. The MCIEA awards also include themes that have been identified and addressed in the global platform.

THEMES FOR INITIATIVES

In cognizance to CIMP 2006-2015 and MCIEA award categories the following themes are proposed to be implemented through the SIG initiatives (i.e. transfer of best practices).

1. Accelerating Change in Malaysian Construction Industry
2. Procurement best practice strategy
3. Creating values from Facilities Management
4. Rethinking the Construction Process
5. Benchmarking the Malaysian Construction Industry
6. Integrating Supply Chain in Malaysian Construction Industry
7. Collaboration and partnering as the way forward for the Malaysian construction industry

STRATEGY TO IMPLEMENT THE TRANSFER OF BEST PRACTICES

A strategy is derived from the initiatives to formulate a framework for the implementation. The framework proposed is to be dynamic that fit into the working operation of the intended SIG modus operandi. The results (best practices) obtained will be innovative that will enhance and improve the performance and quality of the construction.

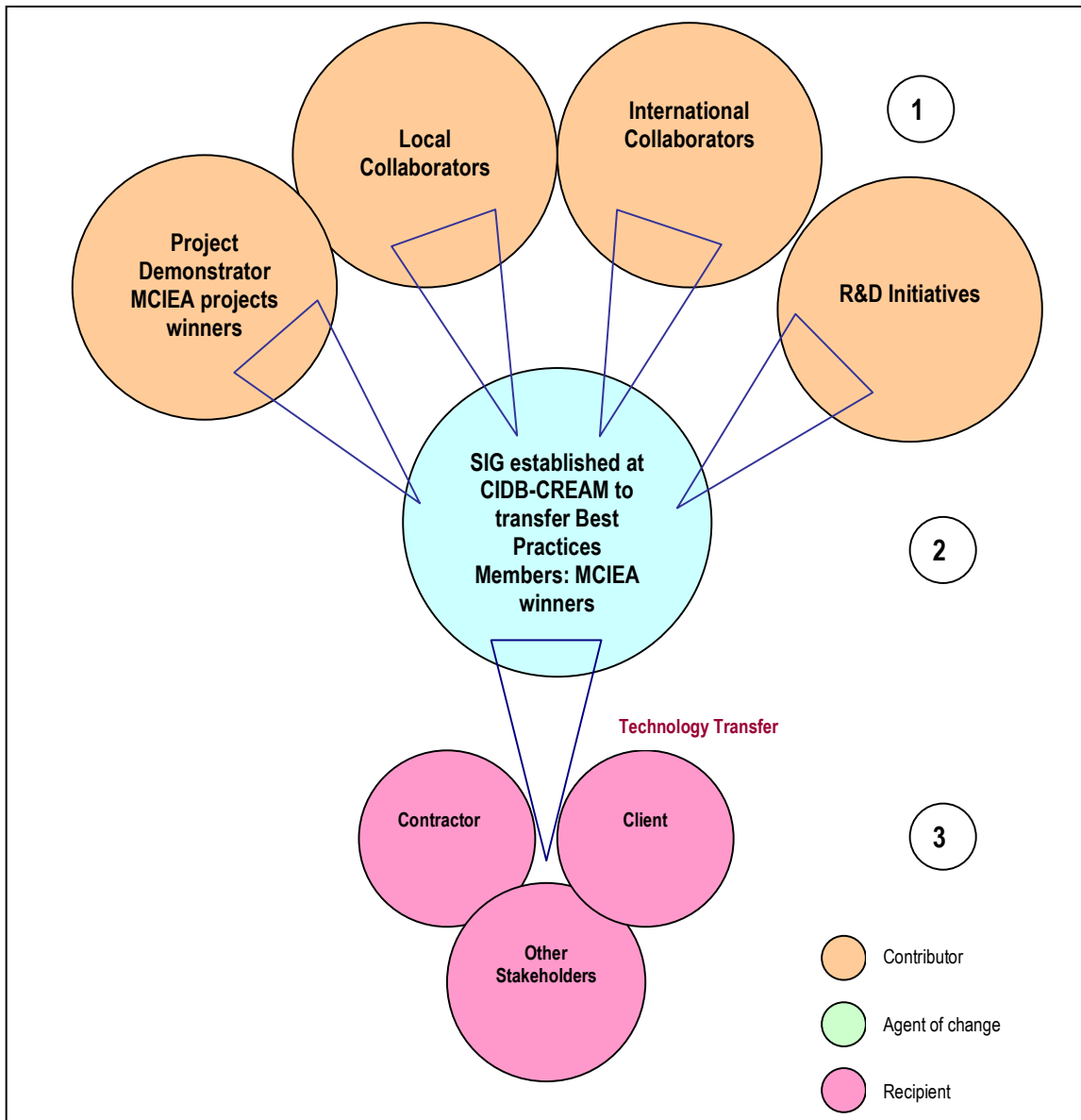


Figure 4: Framework on Strategy to implement the transfer of Best Practices

Figure 4 shows the framework on strategy to implement the transfer of Best Practices. There are three main components involved in the implementing of the framework strategy which include the followings:

1. Contributor (Project Demonstrator MCIEA projects winners, Local Collaborators, International Collaborators, R&D Initiatives)
2. Agent of change (Members in SIG: MCIEA winners. SIG established at CIDB-CREAM to transfer Best Practices. Role of CIDB-CREAM is merely to facilitate and drive by the industry for the industry)
3. Recipient (contractor, client, other stakeholders)

This framework demands the effort and initiatives by the industry players and CIDB-CREAM will act as a facilitator. As mentioned in step 1 to step 3 in Figure 4 all activities are supposedly to be industry led.

Whilst implementing the initiatives mentioned in the framework, local and international collaborators stated below will also play important roles as strategic partners. Their contribution and success factors within their own domain and disciplines are exemplars to be learned.

INTERNATIONAL COLLABORATORS

1. Taylor Woodrow UK
2. Constructing Excellence UK
3. West Midlands Centre for Constructing Excellence UK
4. CIB (International Council for Research and Innovations in Building and Construction) the Netherlands
5. TNO the Netherlands
6. Building Construction Authority (BCA), Singapore
7. VTT Finland
8. University of Salford, UK

LOCAL COLLABORATORS

1. Past award winners of MCiEA (2001-2007)
2. Master Builders Association of Malaysia (MBAM)
3. SMEs
4. Government agencies i.e. JKR, Ministry of Housing, DOSH, NIOSH, local authorities, Nuclear Agency, LGM, SIRIM, DSM, MOF etc.,
5. Local Universities and Research Institutes

MECHANISM FOR DISSEMINATION

SIG will play a major role and act as a transfer agent in collating knowledge on best practices captured from the contributors. It will then disseminate the findings through the following media:

1. Research publication,
2. Journal Publication,
3. Workshop,
4. Seminar,
5. International Conference,
6. Local Group Task Force.

CIDB - CREAM will facilitate and provide editorial roles to publish and later circulate them to the industry stakeholders at large or could act as a transfer agent.

CONCLUSIONS

A combination of Industry effort and R&D results will strengthen and able to identify weaknesses in the implementation process of CIMP. As the master plan is prepared for a period of 10 years, this will enable CIDB-CREAM to further refine and improve the implementation of the CIMP strategy based from both findings (SIG and R&D) via transfer of best practices.

Other supports and advice will be also sought to hasten the transfer of technology implementation process. CIDB-CREAM will also try to foster closer tie with our counterparts in UK as mentioned in the Rethinking Constructing Document for future collaboration.

This paper has highlighted one of the many initiatives that will drive CIMP through transfer of best practices. It is seen as critical as it will inculcate and offer change to mindset and culture of the industry players. Although this will be a lengthy process but it will ensure success as the contributors are from the industry and the recipients are also from the industry that prescribed the need of the industry. Salient points that could also add values to the strategic thrusts are also included in Appendix 1 (printed in blue).

ACKNOWLEDGEMENT

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Delegation list:

Tan Sri Dato' Ir Haji Omar bin Ibrahim – CIDB Board Members
YB Senator Datuk Roslan Awang Chik – CIDB Board Members
Ir. Gan Thian Leong - Group Managing Director Brunfield Corporation Sdn. Bhd.
Mr. Abdul Latif bin Hitam – Senior General Manager CIDB
Mr. Megat Kamil Azmi Megat Rus Kamarani - Senior General Manager CIDB
Ir. Dr. Zuhairi Abd. Hamid – Construction Research Institute of Malaysia (CREAM)

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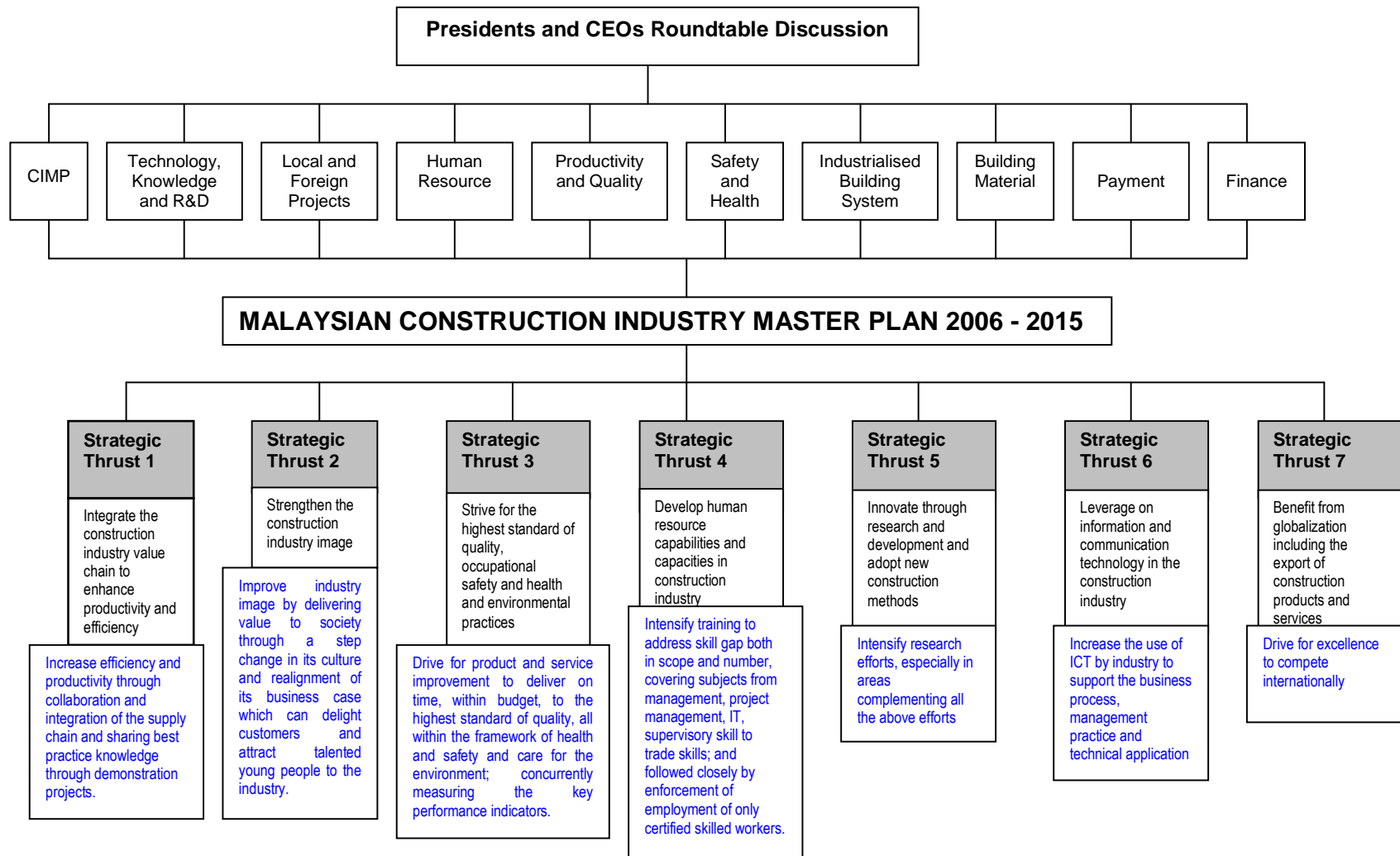
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Appendix 1: Development of Malaysian Construction Industry Master Plan

