Change Management Research in Construction: A Critical Review

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Abstract

Change creates opportunities for businesses and change management has therefore been touted to be the next strategic weapon for organisations to remain competitive in a business environment. Over the past decades, many studies have been conducted to investigate change management in construction. However, it appears that the concept of change management is not well-understood and that there is a lack of systematic review of existing research efforts and achievements. A comprehensive review and analysis of past research in change management indicates that previous studies have mainly focused on two perspectives of change management: (1) organisational perspective; and (2) project perspective. It is also identified that between these two perspectives, little emphasis has been placed to investigate the dimensionality of changes in construction and how different factors collectively shape the implementation of change management.

Keyword: Change management, Construction, Competitive business environment

1.   INTRODUCTION

In today's business environment, changes are increasing at a rapid pace taking the form of different types, scales and quantities. According to Burnes (1992), effective change management is a critical process for firms' continued existence. However, managing changes is not an easy task. The status quo of change management implementation is not as successful as people expected; especially in construction due to its multi-layered contracting nature.

The objectives of this paper are to critically review past studies done in construction change management and then identify knowledge gaps for further explorations. This paper attempts to inform researchers about the current state of the arts on construction change management.

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2.   METHODOLOGY

This research adopted a literature survey design and categorised discussions along three themes: 1) the concept of change management; 2) research methodologies and analytical techniques; and 3) research contexts and variables. These endeavours attempt to identify the keywords towards defining change management, and the types of research methodologies, techniques and variables adopted by previous studies. Information was sourced from several electronic databases via the online library gateway. These databases include Science Direct, Emerald, Ecospecifier, Compendex, etc. Also, hardcopies (such as books, journals and proceedings), stored in libraries were used.

3.   CONCEPT OF CHANGE MANAGEMENT

The review of literature reveals that change management has been widely defined by researchers. Table 1 summarizes a list of definitions found in previous studies. It is however acknowledged that this list of definitions is not exhaustive given the vast number of existing definition of change management. The definitions have been categorised along three contexts: (i) general business; (ii) organisational level; and (iii) project level.

Table 1 Summary of definitions

Author	Location	Research context	Definition
Abbs (2012) p.2	Pakistan	General business	A whole organized procedure of planning, initiating, realizing, controlling, stabilizing and sustaining new and altered work activities at the corporate, group and individual level.
Blake and Bush (2009) p.3	Global	General business	The process, tools and techniques to manage the people side of business change to achieve the most successful business outcome.
Filicetti (2007)	Global	Project level	A structured approach to shifting/transitioning individuals, teams, and organizations from a current state to a desired future state.
Yarberry (2005) p.12	USA	General business	A control system that ensures programs, systems, and infrastructure modifications are authorized, tested, documented, and monitored on its most basic level.
Hiatt and Creasey (2003)	Global	Project level	A process used by project teams to manage the people side of system, process and organizational changes to achieve the desired business results.
			A competency applied by managers and supervisors to help employees through the transition from the current state to the future state, and
			A strategic capability to increase the organizational change capacity and to accelerate changes within an organization.
Mitchell et al.	Australia	Organizati	A strategic activity which aimed to get the best

(2002)p.6		onal level	outcomes from the change process. It is about managing the changes that are part of or a consequence of that strategy in such a way to suit the particular organization's context and the type of change required. It is a sub-set of strategy making.
Moran and Brightman (2001)	USA	Organizational level	The process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers.
Voropajev (1998) p.17	Global	Project level	An integral process related to: all project internal and external factors, influencing project changes; possible change forecast, to identification of already occurred changes; planning preventive impacts; and to coordination of changes across the entire project.
Kudray and Kleiner (1997) p.18	USA	Organizational level	Continuous process of aligning an organization with its marketplace and doing so more responsively and effectively than competitors
(Whelehan, 1995) p.1	Global	Organizational level	A holistic approach to implementing large-scale change that integrates an organization's strategy and processes with its people and culture.
Kramer and Magee (1990) p.1294	Global	General business	It provides facilities for controlling change such that application consistency is preserved both while the change is applied and subsequent to the change.

From Table 1, several keywords have been identified, as shown below:

- D1: planning, initiating, realizing, controlling, stabilizing and sustaining

- D2: process, tools and techniques, and outcomes

- D3: shifting/transitioning and desired future state

- D4: control system, authorized, tested, documented and monitored

- D5: desired business results, competency, transition, strategic capability, increase change capacity, and accelerate changes

- D6: strategic activity and best outcome

- D7: renewing direction, structure, capabilities, and serve customers

- D8: integral process, forecast, identification, preventive, and coordination

- D9: continuous process, aligning, responsively, effectively, and competitor

- D10: holistic approach, implementing, large-scale change, integration, strategy, people, and culture

- D11: facilities, controlling, change, consistency, and preserving

From the review, it is noted that the terms 'integrative', 'process' and 'system' are often used by researchers to describing change management. This may imply that an integrative and systemic process is the key factors driving people and other organisational resources for effective change management. Thus, in this study, a definition of change management has been proposed as follows:

'An integrative and systematic process that involves continuously managing and aligning the needs of an organisation and its employees for effective transition and hence better performance'.

4. RESEARCH METHODOLOGIES

Many studies had attempted to identify the current state of the arts on change management research in the general business management domain. For example, Todnem (2005) provided a comprehensive review on a global context in an attempt to critically analyse the current research and implement situations of organizational change management and found the urgency for a new and pragmatic framework for change management. Apart from reviewing the literature, Oakland and Tanner (2007) adopted a survey design and conducted questionnaire survey via face-to-face interview with 34 senior management to ascertain the key factors driving successful change management. Similarly, Raineri (2011) conducted a survey in 90 organizations in Chile with the attempts to (i) investigate the perceptions of change strategists and change receptors on the implementation of change management practices between change strategists and receptors, and (ii) determine the influence of different practices on the change management implementation process and hence, the organisational performance. Gareis (2010), however, pointed out that the solitary use of a data collection approach is no longer sufficient to capture the multi-dimensionality of change management and thus had used multiple approaches to globally investigate cultural and structural clarity for the management of changes. The methods used include documentation analysis, interviews, workshops and focus groups, communities of practice.

In construction, Bröchner and Badenfelt (2011) face to face interviewed 32 practitioners and surveyed four construction contractors in Sweden in an attempt to explore the relationships between construction change management and information technology. They found that errors in original documentation is the main reason of changes in construction, which is followed by understanding of client needs, technology change, and understanding of original state. Using a questionnaire survey approach, Hwang and Low (2011) have attempted to explore the implementation of project change management process in Singapore's construction industry and found that the implementation of change management is relatively low in the industry. Park (2002) recognised the dynamics of change management process and thus adopted a case study approach to examine ways to address changes in fast-tracking construction projects. Similarly, through an exploratory case study design, Price and Chahal (2006) interviewed

managers from British Telecom, Aluminium Company of America, and Crown House Engineering, and thereafter developed a strategic framework for change management aligning organizational culture. Through the review of literature, Motawa et al. (2007) classified different dimensions of changes and thereafter developed a change management model, which is underpinned by the fuzzy logic-based theory and Dynamic Planning and Control Methodology (DPM) approaches. Likewise, Sun et al. (2005) and Ibbs et al. (2001) have provided a comprehensive literature review on change management in UK and the US respectively. The former developed a toolkit which captures both soft and hard issues relevant to construction projects, and the latter introduced a systematic change management system. Table 2 summarized the methodologies adopted by precedent studies.

Table 2 research methodologies

Research methodologies	authors	Research field
Literature review	Todnem (2005), Oakland and Tanner (2007), Gareis (2010)	General business
Questionnaire	Oakland and Tanner (2007), Gareis (2010)	
Interview	Raineri (2011), Gareis (2010)	
Questionnaire	Bröchner and Badenfelt (2011), Hwang and Low (2011)	Construction industry
Interview	Bröchner and Badenfelt (2011), Price and Chahal (2006)	
Case study	Park (2002), Price and Chahal (2006)	
Literature review	Hwang and Low (2011), Sun et al. (2005), Ibbs et al. (2001)	
Dynamic Planning and control Methodology	Motawa et al. (2007)	

5.   RESEARCH CONTEXTS AND VARIABLES

This section discusses the plausible enablers of and implementation process of change management from: (i) the project perspective; (ii) organisational perspectives; and (iii) change management models.

5.1   Organizational perspective of change management

In US, Porras and Hoffer (1986) surveyed 42 leading organizational development and change management scholars and practitioners, and identified several critical factors for successful change management. These include: open communication, information flow, teamwork and collaboration, shared vision and responsibility, leadership, effective solutions, respect, support and developing other team members, participation and strategic management. Similarly, in an attempt to explore the implementation and forces of changes, Oakland and Tanner (2007)

surveyed senior managers from 28 organizations including public sectors and a variety of industries, and found that the alignment of strategic objectives and operational improvement is the key for effective change management. They reinforced that, in order to gain employees' behaviour commitment to changes, the employees should be clearly informed of their organisational needs and directions, and be involved in the decision-making process. This is consistent with the findings of Kotter (1996) and Duck (1993), who identified the open communication and learning cultures are the key enablers of effective change management. Similarly, Hirschfield (1999) and Hardy (1997) shared the view that, for effective communication, management should clearly set out, articulate and contextualise a clear purpose to the 'right' group of audience. If not, employees will become anxious and resistance to changes (Bruegman 1994; Haas and Chris 1999).

According to Kosson (1994), offering logical reasons is a means of managing employees' resistance to changes. This could take the forms of: (i) discussion and negotiation (DuBrin 1996; White and Chapman 1997); (ii) education (Kotter and Schlesinger 2008); (iii) participation (Lines 2004); (iv) facilitation (Kotter and Schlesinger 2008); and (v) coercion (Dent and Goldberg 1999). Reinforcing these, Myers (1998) and Benziger (2000) pointed out that stable procedures only are not enough to address resistance, it is important for managers to consider the different personality types of employees.

In construction, Price and Chahal (2006) emphasised that aligning the organisational culture with change management is a critical factor. Walker and Loosemore (2003) and Lim e t al. (2011) shared the view that fostering learning culture and creating an open communication environment could enhance employees' responsiveness to unexpected changes.

5.2 Change management in project perspectives

Ibbs et al. (2001) introduced some systematic approaches to manage project change, which have five principles: a balanced change culture, recognition, evaluation, implementation, and continual improvement from experiences. Love et al. (2002) analysed how changes affected the project management system. Hao et al. (2008) suggested that changes are common and inevitable in construction projects due to incomplete information, assumptions and personal experiences and proposed a change process model that contains five stages: identify, evaluate & propose, approve, implement and review. Different change iteration cycles are involved in fast-tracking construction and their characteristics and behaviour patterns were identified by Park (2002).

Hwang and Low (2011) conducted a status, importance and impact assessment on 384 projects from 32 construction companies in Singapore. They found that the implementation status in the Singapore construction industry is relatively low, and that those contractors who have implemented change management in their business strategy are better performers than their counterparts, in terms of project cost, time and quality. In the context of Saudi Arabia, Al-Sedairy (2001) highlighted the fall of oil price had created a huge turmoil in the country. Due to

the decrease of the oil price, the government shifted its dependence on the private sector to pursue economic objectives, thus the financial pressure had been transferred into industries including construction. He then developed an exclusive model of managing changes for the Saudi construction industry which including four different change actions (crisis management; efficiency drives; strategic planning; and corporate re-structuring) for changes in different depth.

5.3   Models of change management

A great number of change management models, procedures and frameworks have emerged over the past decade in an attempt to help organisations towards improving their responsiveness to sudden disturbances. Figure 1 summarizes the evolution of change management models from 1952 to 2010.
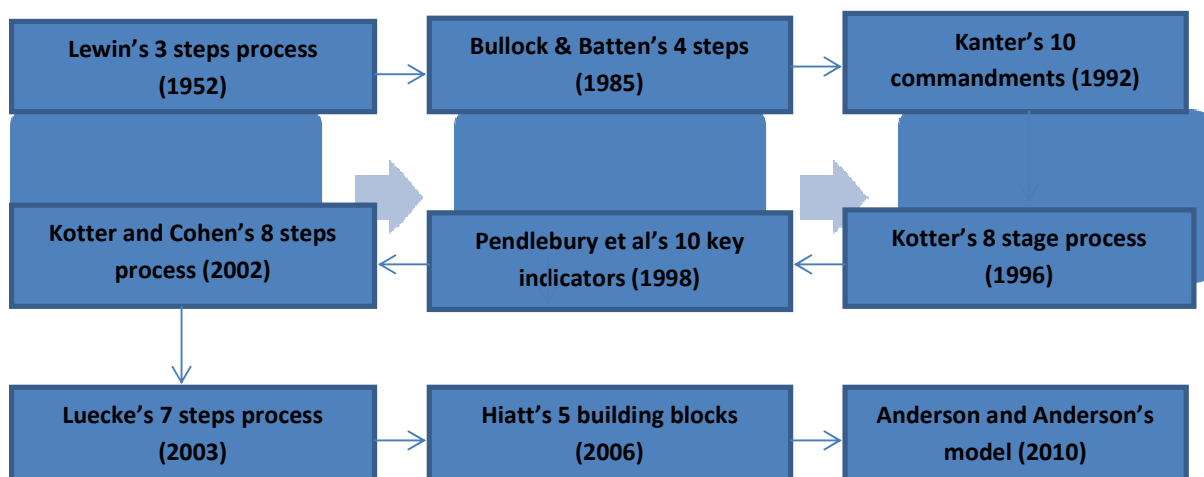

Figure 1 Change management models

Lewin's (1952) three-step model has been recognised as one of the most influential approaches in change management discipline, and has been used by many other researchers such as Todnem (2005) and Holbeche (2006). The model comprises three steps: (i) unfreezing the current state; (ii) moving towards the expected state by evolving and engaging employees and groups; and (iii) refreezing and stabilising the new state by new rules, standards and reward systems. This three-step process has been extended by Bullock and Batten (1985), who included the 4th step, i.e., exploration planning, action and integration.

Kanter et al. (1992) proposed ten commandments for change execution. These are: i) analyse the organization and its need for change; ii) create a vision and common direction; iii) separate from the past; iv) create a sense of urgency; v) support a strong leadership role; vi) line up

political sponsorship; vii) craft an implementation plan; viii) develop enabling structures; ix) communicate; and x) involve people and be honest, and reinforce and institutionalise change.

As shown in Figure 1, Kotter's (1996) eight-stage process is the fourth generation of change management model. The processes include: i) projecting a vision and strategy; ii) inducing a sense of urgency; iii) creating a guiding coalition; iv) empowering broad-based action; v) communicating the change vision; vi) anchor new approaches in the culture; vii) generating short-term wins; and viii) consolidating gains and producing more change.

Pendlebury et al. (1998) identified ten key indicators for successful change management: i) defining the vision; ii) mobilising; iii) catalysing; iv) steering; v) delivering; vi) obtaining participation; vii) handing the emotional dimension; viii) handing the power issues; ix) training and coaching; and x) communicating actively are included in the ten indicators.

Kotter and Cohen (2002) identified eight steps for successful large-scale change management, which includes: i) increasing urgency; ii) building the guiding team; iii) getting the right vision; iv) communicating; v) empowering people; vi) creating short term wins; vii) not to letting up; and viii) making change stick.

Luecke (2003) argued that change management should be a seven-step process in managing changes and transitions. The seven steps are: i) systematize energy and commitment through joint identification of business problems and their resolutions; ii) develop a shared vision on organizing and managing for competitiveness; iii) identify the leadership; iv) institutionalise success through formal policies, systems, and structures; v) put focuses on outcomes but activities; vi) change at the periphery at the beginning, then let it spread to other units without pushing it from the top; and vii) monitor and adjust strategies from feedbacks of problems in the change process.

Hiatt (2006) investigated the change patterns of more than 700 companies and developed the ADKAR model, which originally intended to understand change on individual level. It has five building blocks or objectives: i) awareness of the need to change; ii) desire to participate and support change; iii) knowledge on how to change; iv) ability to implement required skills and behaviours; and v) reinforcement to sustain the change. He then proposed the Prosci's change process, which has three main parts: i) preparing for change; ii) managing change and iii) reinforcing change. The first part contains defining change management strategy, preparing a change management team, and developing a sponsorship model. Developing change management plans, taking actions and implementing plans constitute the 'managing change' part. The third so called 'reinforcing change' part contains three subparts: collect and analyse feedback, diagnose gaps, manage resistance and implement corrective actions and celebrate successes.

Lastly, Anderson and Anderson (2010) structured a change process model, which consists of nine phases of activity. There are: i) preparing to lead the change; ii) Creating organizational

vision; iii) commitment and capacity follows behind; iv) assessing the situation to determine design requirements; v) design the desired state, analyse the impact; vi) plan and organize for implementation; vii) implement the change; viii) celebrate and integrate the new state; ix) and learn and course correct.

6.   LIMITATIONS AND DILEMMAS

The review of literature reveals that there are limitations in the previous research, which are discussed below.

6.1   Regional limitation

From Table 1, it can be noted that only one out of the 11 definitions are proposed in the context of a developing country, i.e. Pakistan. Also, the literature review shows that most studies have been conducted by researchers from the developed western countries. Evidence also could be found in the research on project change management. (e.g. the studies of Al-Sedairy (2001)). These findings revealed that the quantity and quality of change management implementation and research in developing countries are falling behind US, Europe and Australasian countries in developing countries.

6.2   Industrial limitation

It appears that most of those definitions of change management have been proposed in the general business context. Instead of analysing the different characters among different fields, studies on organizational change management focused on developing a general and universal solution which could cover most of the industries. Kotter (1996) developed his model and focused on general business change management, while Haas and Chris (1999) and Bruegman (1994) investigated change management in the fire-fighting industry. Hitherto, it appears that little has been done on organisational change management in construction; apart from Price and Chahal's (2006) work.

6.3   Lack of alignments between project management and organizational management

The literature reviews reveal the knowledge gap between organisational and project contexts of change management in construction Researchers from these two fields have different perspectives and focused on various research objectives. Most researchers focusing on project change management were trying to optimize workflow and process of management strategies and developing prediction toolkits. (e.g. Love et al (2002) and Hao et al (2008)). On the other hand, studies that focuses on organizational context attempted to identify the plausible resource-based factors driving effective change management.

6.4 Lack of flexibility

The frequently changing pace of the world keeps introducing a great amount of new technologies, strategies and frameworks to industries. Thus, there will be no 'best' ways of managing changes except a more flexible manner. Instead of those existing frameworks (identified in 5.3), a more flexible framework needs to be structured to facilitate the management process and improve the organizational culture and structure.

6.5 Lack of implementation

As discussed in Section 5.3, there exists many change management models but there is no adequate evidence to suggest if they are practical. There are two main reasons for this: 1) change management has been in existence for less than thirty years, the time span is not adequate for identifying whether a model or framework is effective or not; and 2) the feedback system is under-researched; previous studies had placed less emphasis on validating and improving their models.

7. CONCLUSION

In this prevailing business environment, characterised by fast pace of changes and increased level of uncertainty, the ability for organisations to manage changes effectively is the key for their continued existence. However, the performance of these change management practices did not meet the expectation. In order to find out the reasons underlying in this phenomenon and then improve the overall quality of change management implementation, the authors conducted a critical literature review on change management along three dimensions: concepts of change management; research methodologies; research contexts and variables. Under the first dimension, the definitions of change management, definition context, definition location, and key words had been highlighted and thereafter an exclusive definition of change management for the construction industry had been imposed.

The methodologies which adopted by change management researchers were also reviewed and classified. The review demonstrated that literature review, interview and questionnaire are the most common measures to explore change management issues.

Research contexts and variables were reviewed on three perspectives: organizational perspective; project perspective; and change management models. The research location, variables, and findings of these researches were marked to analysis the research limitations and dilemmas.

Five limitations of existing researches were identified in this paper, they are: regional limitation; industrial limitation; lack of alignments between project management and organizational management; lack of flexibility; and lack of implementation. This paper attempts to inform researchers about the further research directions in change management.

REFERENCES

ABBS, M. 2012. Change management. *Pakistan and Gulf Economist,* January**,** 1-3.

AL-SEDAIRY, S. T. 2001. A change management model for Saudi construction industry. *International Journal of Project Management,* 19**,** 161-169.

ANDERSON, D. 2010. *Beyond Change Management: Advanced Strategies for Today's Transformational Leaders*, John Wiley & Sons.

ANDERSON, D. & ANDERSON, L. A. 2010. *Beyond Change Management: How to Achieve Breakthrough Results Through Conscious Change Leadership*, Wiley.

BENZIGER, K. 2000. *Thriving in Mind: The Art and Science of Using Your Whole Brain*, K B A Pub.

BLAKE, I. & BUSH, C. 2009. *Project Managing Change: Practical Tools and Techniques to Make Change Happen*, Pearson Education Canada.

BRÖCHNER, J. & BADENFELT, U. 2011. Changes and change management in construction and IT projects. *Automation in Construction,* 20**,** 767-775.

BRUEGMAN, R. R. 1994. Breaking the Rules: The Transformational Leader. *Fire Chief,* April**,** 38.

BULLOCK, R. J. & BATTEN, D. 1985. It's Just a Phase We're Going Through: A Review and Synthesis of OD Phase Analysis. *Group and Organization Studies,* December**,** 383-412.

BURNES, B. 1992. *Managing change*, Pitman.

DENT, E. B. and Goldberg, S. G. 1999. Challenging 'Resistance to Change'. Journal of Applied Behavioral Science. Vol. 35, Iss. 1, pp. 25-41.

DUBRIN, A. J. 1996. *Reengineering survival guide: managing and succeeding in the changing workplace*, Thomson Executive Press.

DUCK, J. D. 1993. Managing change: The art of balancing. . *Harvard Business Review,* 71**,** 109-118.

DYER, W. G. 1985. The cycle of cultural evolution in organizations. *In:* KILMANN, R. H., SAXTON, M. J. & SERPA, R. (eds.) *Gaining Control of the Corporate Culture.* San Francisco: Jossey-Bass.

FILICETTI, J. 2007. Project Management Dictionary.

GAREIS, R. 2010. Changes of organizations by projects. *International Journal of Project Management,* 28**,** 314-327.

HAAS & CHRIS 1999. Communication During Organizational Change-The Good, The Bad, and The Ugly. *American Fire Journal,* March**,** 20.

HAO, Q., SHEN, W., NEELAMKAVIL, J. & THOMAS, R. 2008. Change Management in Construction Projects. *CIB International Conference On Information Technology in Construction.* Santiago, Chile.

HARDY, G. 1997. *Successfully Managing Change*, Barron's.

LUECKE R. 2003. *Managing Change and Transition*, Harvard Business Press.

HIATT, J. 2006. *ADKAR: A Model for Change in Business, Government and Our Community,* USA, Prosci Research.

HIATT, J. & CREASEY, T. J. 2003. *Change Management: The People Side of Change*, Prosci Research.

HIRSCHFIELD, R. 1999. *Strategies for managing change*.

HOLBECHE, L. 2006. *Understanding Change: Theory, Implementation and Success.,* Oxford, Butterworth-Heinemann.

HWANG, B.-G. & LOW, L. K. 2011. Construction project change management in Singapore: Status, importance and impact. *International Journal of Project Management*.

IBBS, C. W., WONG, C. K. & KWAK, Y. H. 2001. Project change management system. *Journal of Management in Engineering,* 17**,** 159-165.

KANTER, R. M., STEIN, B. & JICK, T. 1992. *The Challenge of organizational change: how companies experience it and leaders guide it*, Free Press.

KOSSON, S. 1994. *The Human Side of Organizations (3rd ed.),* New York, NY: HarpersCollins College Publishers.

KOTTER, J. P. 1996. *Leading change,* Boston, Mass., Harvard Business School Press.

KOTTER, J. P. & COHEN, D. S. 2002. *The Heart of Change: Real life stories of how people change their organizations,* Boston, Harvard Business School.

KOTTER, J. P. & SCHLESINGER, L. A. 2008. Choosing Strategies for Change. *Harvard Business Review,* 86**,** 130-139.

KRAMER, J. & MAGEE, J. 1990. The evolving philosophers problem: dynamic change management. *Software Engineering, IEEE Transactions on,* 16**,** 1293-1306.

KUDRAY, L. M. & KLEINER, B. H. 1997. Global trends in managing change. *Industrial Management,* 39**,** 18.

LEWIN, K. 1952. Group Decision and Social Change. *Readings in Social Psychology.* New York: Henry Holt.

LIM, B. T. H. 2010. *Organizational Flexibility Management.* Doctor of Philosophy, National University of Singapore.

LINES, R. 2004. Influence of participation in strategic change: resistance, organizational commitment and change goal achievement, *Journal of Change Management*, Vol. 4, Iss.3

LOVE, P. E. D., HOLT, G. D., SHEN, L. Y., LI, H. & IRANI, Z. 2002. Using systems dynamics to better understand change and rework in construction project management systems. *International Journal of Project Management,* 20**,** 425-436.

LOVE, P. E. D., HOLT, G. D., SHEN, L. Y., LI, H. & IRANI, Z. 2002. Using systems dynamics to better understand change and rework in construction project management systems. *International Journal of Project Management,* 20**,** 425-436.

MITCHELL, J., YOUNG, S., SOUTH AUSTRALIA. DEPARTMENT OF EDUCATION, T. & FUTURE, E. R. T. 2002. Strategic management and change management and the National Training Framework: core ideas. Brisbane: ANTA.

MORAN, J. W. & BRIGHTMAN, B. K. 2001. Leading organizational change. *Career Development International,* 6**,** 111 - 119.

MOTAWA, I. A., ANUMBA, C. J., LEE, S. & PEÑA-MORA, F. 2007. An integrated system for change management in construction. *Automation in Construction,* 16**,** 368-377.

MYERS, I. B. 1998. *MBTI Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*, Consulting Psychologists Press.

OAKLAND, J. S. & TANNER, S. 2007. Successful Change Management. *Total Quality Management & Business Excellence,* 18**,** 1-19.

PARK, M. 2002. Dynamic Change Management for Fast-tracking Construction Projects. *The 19th International Symposium on Automation and Robotics in Construction.* Washington DC. USA.

PENDLEBURY, J., GROUARD, B. & MESTON, F. 1998. *The Ten Keys to Successful Change Management,* Chichester, John Wiley & Sons.

PORRAS, J. I. & HOFFER, S. J. 1986. Common Behavior Changes in Successful Organization Development Efforts. *The Journal of Applied Behavioral Science,* October**,** 477-494.

PRICE, A. D. F. & CHAHAL, K. 2006. A strategic framework for change management. *Construction Management and Economics,* 24**,** 237-251.

RAINERI, A. B. 2011. Change management practices: Impact on perceived change results. *Journal of Business Research,* 64**,** 266-272.

SUN, M., FLEMING, A., SENARATNE, S., MOTAWA, I. & YEOH, M. L. 2006. A Change Management Toolkit for Construction Projects. *Architectural Engineering and Design Management,* 2**,** 261-271.

SUN, M., SEXTON, M., AOUAD, G., FLEMING, A., SENARATNE, S., ANUMBA, C., CHUNG, P., EL-HAMALAWI, A., MOTAWA, I. & YEOH, M. L. 2005. Managing Changes in Construction Projects. Engineering and Physical Sciences Research Council.

TODNEM, R. 2005. Organisational change management: A critical review. *Journal of Change Management,* 5**,** 369-380.

VOROPAJEV, V. 1998. Change management—A key integrative function of PM in transition economies. *International Journal of Project Management,* 16**,** 15-19.

WALKER, D. H. T. & LOOSEMORE, M. 2003. Flexible problem solving in construction projects on the National Museum of Australia project. *Team Performance Management,* 9**,** 5 - 15.

WHELEHAN, S. 1995. Capturing a Moving Target: Change Management. *Consultants News.*

WHITE, K. W. & CHAPMAN, E. N. 1997. *Organizational Communication: An Introduction to Communication and Human Relation Strategies*, Simon and Schuster Custom Publ.

YARBERRY, W. A., JR. 2005. CHANGE MANAGEMENT. *EDPACS,* 33**,** 12-24.