

Book Review:

***Nine Transforming Keys to Lowering Costs, Cutting Waste, and Driving Change in a Broken Industry* by Rex Miller, Dean Strombom, Mark Iammarino, and Bill Black**

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The book addresses core issues ingrained as legacy system or conventional wisdom in the AEC industry, which have been eroding the capital cost for owners and draining the efficiency from design and construction processes. Although a radical shift from these issues is still required and widespread breakthroughs have yet to be made, the explanation of prevailing wastes in this book is persuasive and would surely educate the masses; whether students or general practitioners in the industry. Conventional project delivery systems fail to provide desired and potential value to every stakeholder; be it the developer, building users, contractors, or designers. The book presents this theory in the form of some harsh and may be unknown facts, well supported with relevant examples.

The division of book in three parts assists in building a storyline of authors' methodical approach for mindshift revolution, although each part has few pros and cons for a practitioner or a scholar reader. The first part has a surplus coverage on the conventional design bid build (DBB) delivery and the prevailing wastes concerning this approach are well known and have been established and documented before such as silos, sub-trade coordination, etc. If the book targets a major shift from the conventional systems (which it appears it does), then it warrants an explanation of wastes in other project delivery models also such as design-assist GMP, design-build, CM-risk, CM-agency etc. Of course there may be some waste overlap between DBB and other models, but for mass readers involved in other models, this gap may remain unanswered. The book seems to be too loud in chapter 2 while discussing the conventional bid process. With the subject line of "bidding is a waste of time" or "winner's curse", it comes across that the authors may have a biased or over-critical perspective of the bidding process, which may not be intended. Bidding, if conducted timely in project delivery process to allow key players participate early on, can result in the same benefits at a competitive

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or lower cost. It is the way bidding process is constrained in the DBB model which does not allow a trust-based relationship.

Within the model of the Mindshift target, authors should clearly differentiate between Tools and Principles and their purpose in mindshift revolution. The principles can also be regarded as tools or vice versa. For example, integrating project delivery can be perceived as a principle instead of a tool. The chapter of built in sustainability extensively discusses the LEED rating system, which is essentially a tool to measure sustainability.

In part two, the explanation of mindshift creation process is significant for a reader to comprehend a simple yet extremely collaborative process involving interviews, panel discussions, workshops, case studies required to drive a paradigm shift and uncover parallel efforts which could be used as catalyst for the shift (such VBR in this case). Additionally, the authors have fairly presented real time examples of trust based projects along with their implemented strategies and successful results. Except the Fortune 50 Regional Headquarters, the quoted examples still require further explanation on how they achieved results better than conventional counterparts. It seems that the authors have mentioned input (implemented strategies such as BIM, LEED, and Lean) and output (less cost and time) in each example but the process of achieving the results has not been addressed in detail. Nonetheless, the examples help in building the credibility of authors' thesis about conventional systems and reinforce the required paradigm shift.

Part three which is the core of mindshift comes across as a documentation of revolutionary practices and lacks innovation in building a unique solution. The authors mention in the introduction that the book offers a trust based model and a roadmap for improvements in current system. But it may be debatable whether the book delivers the promised model and presents a collective approach for eradicating waste from current system and improving efficiency. The set of nine transforming keys seem to be a mix of new practices/tools/principles which have been addressed as individual solutions by previous authors. The keys certainly address current failures of DBB delivery, but independently and not in an integrated way. Within the description of each key, although the arguments are well supported but there is still a reasonable craving for an innovative solution. The keys seem to be loosely disconnected from each other such as BIM and off-site construction, Lean and IPD etc. This is more noticeable at the end of each key's chapter. In fact, this book discusses Lean Construction and its associated tools (VSM, LPS) as a part of the tool- integrating project delivery (key 6), which is questionable, as Lean Construction advocates few other keys as well, such as trust based relationships, relational contracting, and offsite construction. This exemplifies the disjointed structure of mindshift keys and makes the conclusions weak in the light of discussed wastes. Moreover, the authors should have gone a step further in documenting the key learning and action items that each discipline in this dysfunctional industry (owner, architect, contractor, consultants, supplier etc.) needs to follow for making the shift. Some action items are mentioned in part two for owners, but they should be expanded for all disciplines. Without this, the book falls short on implementation guidelines for the mindshift keys.

The book appears to be intended for general public or students as the gaps pertaining to mindshift keys' integration and innovative solution (as mentioned

above) would be pronounced for experienced practitioners or scholars, particularly the ones with general awareness of Lean Construction and sustainable building practices.

Overall, as the book does not exclusively contribute new knowledge for addressing current problems, it may not be viewed as a ground-breaking theory to provide new and better way of building. The book may leave a reader with a quest for a more definitive solution besides the amalgamation of revolutionary practices. With this view, I would recommend it to students in real estate/design/construction industry for building a deep understanding of the current wasteful culture and the caveats of using DBB approach. The nine keys on new practices may stimulate thinking for further research.