Screw Business As Usual!

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What’s Wrong With The Construction Industry?

• American construction is the industry that time forgot. Over the last century, the nation's other great industries -- oil, automobiles, computers -- have undergone waves of profound modernization, breeding competitive, innovative companies where on-time, under-budget projects are nothing unusual. But the construction industry, which at $1.2 trillion in annual revenues constitutes 5 percent of the nation's economic output, remains a bastion of waste and inefficiency.
What’s Wrong With The Construction Industry?

- The modern construction business hasn't changed significantly since the first steel-frame skyscrapers began to rise in the early 1900s. Early tall buildings such as the Tribune Tower in Chicago and the Woolworth Building in New York grew too complex to remain under the purview of a single "master builder," the architect who knew and supervised every detail of the project. Instead, each required an assembly of specialists -- electricians, plumbers, heating contractors, excavators. Dozens, then hundreds of companies arose to handle those systems, each a local family-run shop that drove its truck to one project at a time. Today that's still basically how the business works.
What’s Wrong With The Construction Industry?

- Since that time America's other large industries have undergone almost total overhauls, some more than once. A century ago, it took weeks for hundreds of small-scale entrepreneurs to build individual cars in their individual garages. Then Henry Ford and his investors revolutionized the auto industry by consolidating the diverse spectrum of parts suppliers and introducing assembly-line labor. The result was one of the great industries of the 20th century. A handful of powerhouse carmakers competed on price and quality, bringing cars within the reach of millions of American drivers and exporting them around the world.
What’s Wrong With The Construction Industry?

• The construction industry is extraordinarily fragmented, and fragmentation has enormous costs. It guarantees that any building site will be an assembly of strangers, with a high risk of miscommunication. It traps the industry in conservative practices, ensuring that any new learning will spread slowly, if at all. Splintered into so many firms, the construction industry has never developed the economies of scale, financial cushions, or comfort with risk that would allow it to enter a new phase and truly modernize.
What’s Wrong With The Construction Industry?

• As a result, construction ranks lowest of any major industry in productivity. In aggregate, all other U.S. industries have enjoyed increases in productivity per worker of approximately 250 percent since 1964. In construction, over the same period, productivity per worker has dropped approximately 25 percent, according to the U.S. Bureau of Labor Statistics.
What’s Wrong With The Construction Industry?

• To make any significant changes would require large investments in research and technology that current construction firms simply don't have the cash to make. The vast majority of construction firms survive month to month on the few jobs that they can take on at one time.
What’s Wrong With The Construction Industry?

• On the day-to-day level, it's not hard to imagine how such a deeply fragmented industry wastes time and money for the developers and public agencies that depend on it. Picture the site of a new building, or a bridge project. Every day, behind the fenced-off site, labor and materials arrive from numerous distribution points. Hordes of workers employed by separate small companies are expected to mesh seamlessly, delivering and installing materials to meet the owner's critical completion date. When a single delivery of steel or glass or sheetrock is delayed, it can easily have a ripple effect on several different groups of workers, starting with those who need to spend the day waiting around before they can install it.
What’s Wrong With The Construction Industry?

• Staggeringly, up to 50 percent of all money spent on construction labor is wasted because late deliveries and poor coordination leave workers idle, according to a study of the construction industry's productivity published in the Journal of Construction Engineering and Management.
What’s Wrong With The Construction Industry?

• How can such a system persist in a free-market economy, where competition is supposed to weed out companies unable to meet their deadlines or guarantee their work? The answer is surprisingly simple: Nobody forces them to change.
What’s Wrong With The Construction Industry?

• When the owner of a new building accepts a contractor's bid, it essentially gives the contractor monopoly power over the project. The developer or state agency has little choice but to pay all additional costs, since it is extremely difficult to replace a contractor during a project, and too much has already been invested to change course.
What’s Wrong With The Construction Industry?

• And because of the way construction contracts are written, there's no reason for the contractor to stick to the original price. Big construction contracts typically leave huge amounts of room for add-on costs, limit the damages for delays, and call for payments to be made even if the construction team itself has caused delays to the project. When contracting giant Bechtel forgot to include the Fleet Center in its design drawings for the Big Dig, it was taxpayers who footed the $1 million bill.

• Although such a contract might seem unusual in another industry, it's standard in construction, and has deep roots in the fragmented history of the business. Individual contractors and subcontractors are simply too small and far-flung to take on the liabilities for going over budget on a huge project. The party left holding the bag is the owner.
What’s Wrong With The Construction Industry?

• Under a regime of incentives and real accountability, construction companies would begin to transform. The industry would spawn a few winners that, as they prospered, would acquire the capacity to research new techniques, and retain skilled employees through down periods.
What’s Wrong With The Construction Industry?

• The financial markets, too, may force their own transformations. Although the low profit margins and cyclical nature of the industry have discouraged deep-pocketed private equity interests, the potential for steady profits could begin to attract the private capital needed to build a cadre of truly national construction powerhouses.

— (Emerging alternate energy model)
What’s Wrong With The Construction Industry?

• With even basic technology improvements, the construction site of the future could be a surprisingly efficient place. New software would take an architect's design from the computer directly to the fabricator and on to installation in the field. Wireless devices would track deliveries and issue prompt payment. Simple robots, already common in manufacturing, would use laser guides to install studs and sheetrock quickly in office buildings.
What’s Wrong With The Construction Industry?

• By getting it right, we can reap far more than financial rewards. Transforming construction from a vast jumble of local businesses to a truly national and accountable industry will deliver untold benefits, freeing resources to be deployed on something other than wasted time and labor. And there's one more piece of good news: Overseas companies haven't figured it out yet either, giving an advantage to the first American firms who can export these improvements, and clearing the way for a new, 21st-century American industry to emerge as yet another world leader.
The Owner’s Dilemma

• The design and construction industry is one of the most inefficient on the planet, wasting billions of dollars a year of public and private owners' money. Architects, engineers, builders, and developers have struggled in this environment for years. Architects are commoditized, and contractors struggle with the same risk they have carried for centuries; critical design information is withheld until the submittal process; no practical risk management instrument has been developed; and buildings are still created one brick at a time. Owners have played their part in this inefficiency. Some continue to believe in the value myth of competitive bidding, sentencing themselves to be eternally locked in inefficient processes. But it is owners who can impact the industry most deliberately and aggressively. It is owners who can drive innovation on their projects and create profound change in the industry. In fact, it is owners who are uniquely positioned to innovate. By planning the design and delivery process, becoming team leaders, collaborating deeply throughout the industry, and applying key elements documented in The Owner's Dilemma, owners can summon meaningful and lasting change. The Owner's Dilemma explores how best to use the power of the owner and how that power can recreate the building industry.
Screw Business As Usual – Brian Solis

• http://www.youtube.com/watch?v=b3hi0V13oag
Screw Business As Usual Competition: Raise 5

Changing BAU to Success

- Technology, Tools
- Customer Selection, Strategic Partnering, Teams
- Capturing the Contemporary Workforce
- Reimagining financing
- And much more...leading to a more structured approach: *Nine Transforming Keys to Lowering Cost, Cutting Waste, and Driving Change in a Broken Industry*
Nine Transforming Keys to Lowering Cost, Cutting Waste, and Driving Change in a Broken Industry

1. Trust-Based Team Formation
2. Early Collaboration
3. Built-In Sustainability
4. Transformational Leadership
5. “Big” BIM
6. Integrating Project Delivery
7. Trust-Based Agreements and Client-Centered Incentives
8. Offsite Construction
9. Workplace Productivity
Key 1: Trust-Based Team Formation

• TRUST = CHARACTER + COMPETENCY
• Come on! Trust-based teams...kumbaya, eh?
  – Players come and go. It’s easier to use the carrot-and-stick approach than to take the time to develop teams.
  – Trust is too fuzzy a concept to manage as a business practice.
  – People either have trust or they don’t.
  – The way we already do it is faster.
  – Clear goals and the right incentives should be enough to encourage cooperation and good coordination.
Key 1: Trust-Based Team Formation

• The Boldt Company, Appleton, WI
• Boldt is firm about selecting team members who meet their criteria. “There is so much waste in the current system. Our focus is to bring value by reducing the waste, and it takes a different kind of thinking and different kind of partner. We don’t line up resumes and pick the lowest price! Our pre-selection process first determines which firms are capable and solid. We also drive out to visit potential firms and explain our approach. We may visit a dozen electrical contractors and find several that tell us, ‘No, thanks; our strength is competitive lump sum bidding.’” – Dave Kievit, President.
Key 1: Trust-Based Team Formation

• “The success of our projects is completely dependent on our interview process. There is no formula, because each project has very different requirements. A $20 million project is larger than a lot of small businesses. When you consider the size of our projects and the number of people who will be working on it, we’re essentially creating a company when we form a team.”
Key 1: Trust-Based Team Formation

• “Right now we’re getting ready to kick off a project for more than $1.5 billion. We’re looking for partners, not vendors. So, once we complete our pre-screening, we ask each firm to interview. It is like a job interview, tryout, and a bit of pre-marriage counseling rolled up into one. We don’t want any PowerPoint or marketing material; we want to have a conversation. We care more about the company’s point person, what they’re like, and what they care about.”
Key 1: Trust-Based Team Formation

• “We look for correct behavior and problem-solving capabilities. Do they think about their work, or just follow lines on a plan? How early are they willing to get involved? How much of the design process are they willing to participate in? A lot of this is how well they play in the sandbox with others. We purposely talk to them as trade partners and not as subs, so we create a level playing field.”
Key 1: Trust-Based Team Formation

• “We also have a process and requirements for learning Lean and being able to fully function on a BIM platform, but at this point, we’re looking more at honesty and perhaps a little humility because they have to be willing to learn in a new way. They’re not experts in this model. At the same time, we don’t use our experience as a lever to force them into this. You can’t force people into a system that is all about philosophy and relationships. We’re looking for people who want to take this path together – not wishy-washy, but excited about it. We can tell them that they won’t have any more fun on a project than working in this environment.”
What Makes Us Successful – Gerd Leonhard

• http://www.youtube.com/watch?v=bUNY1pZxPzg
Key 2: Early Collaboration

• Collaboration is a social technology tool. For much of the commercial real estate world, though, it’s a rusty one that’s hidden under the pile of instruments we use every day.
• We suck at collaboration in this business.
• We possess a startling lack of any training in collaboration in either schools or businesses.
• The current generation of senior industry leadership was raised under different rules, when collaboration was not a general discipline needed for success.
• Teams that really do want to collaborate stumble over the basics and give up too soon.
Key 2: Early Collaboration

- Collaboration is a DEFINING CHARACTERISTIC of Millennials!
The Future of Work

Millennials (16-36): Unlocking the Talent

• As a generation they are ambitious, demanding, hyper-connected, and firmly believe they can change the world.

• They want to:
  – Work for an organization that does something they believe in.
  – Be self-directed when it comes to their learning and personal development – 68% say they want to initiate most of their own learning and development
  – Work for organizations that are supportive, empowering, and inspiring.
  – Blend their home life and their work life in a fashion that allows them to work when, how, and where they want.
  – Develop new skills and good career prospects with their employer.
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Millennials – A Summary

• They’re in a hurry for success.
• They’ve had access to mobile phones, laptops, Facebook, MySpace, and YouTube since their adolescent years.
• When they did their homework in grade school they were using Google to find answers quickly.
• With the latest information constantly streaming into their bedrooms they have witnessed Oklahoma City bombings, 9/11, Columbine, and the Boston Marathon bombing.
• Though they are often characterized as an entitled generation, they are the most socially conscious generation since the 1960s.
• They are committed to developing new skills and want to work for organizations where they have coaches and mentors to learn from on the job.
  – Corporate training is often cited as one of the most attractive benefits as they seek to differentiate their careers.
Five Key Findings about Five Generations

1. Traditionalists & Boomers are as likely to be web contributors as millennials are.
2. Boomers and GenXers look for a work life / home life balance, while Millennials see work as “part of life”
3. Millennial and GenXers place a high importance on working for a company that develops both their career and life skills
4. Millennials are likely to select an employer based on the ability to access the latest tools and technologies at work
5. Both Traditionalists and Boomers place high importance on a manager who understands age diversity in the workplace
The Future of Wearable Technology

Key 3: Built-In Sustainability

- Buildings are expensive – the largest capital expense for any company. But a building and all of its operational costs are only one-eighth of the cost of its employees.
- So first, the mission is not to go the cheapest way possible but to create a better place for people to work in. This is the best way to build a highly sustainable building. Cost and good design are not in conflict.
- Second, a great mission requires engaged leadership. The owner has to be master of his own house. You create a better place to work with extensive research, experimentation, and a willingness to pull in experts and engage with their people.
Key 3: Built-In Sustainability

• Important connection:
  – The quality of the work we do is directly related to the quality of relationships we hold (trust-based teams).
  – The reasons behind what we do determines the quality of what we do (intent of design).
  – Building a better place for people to work produces good and sustainable buildings.
  – Buildings are really about the people who work in them, not pro formas. But, if you build a great place for people, you will improve your pro forma.
  – If we reduce the harm to the environment, we might also begin to see a corresponding improvement in the health of our company cultures (Gallup).
Smart Buildings – The Future of Building Technology

• http://www.youtube.com/watch?v=gCuPx9shWT0
Key 4: Transformational Leadership

• Fifteen years ago, a prominent flooring manufacturer began receiving requests from some of their clients asking what they were doing about the environment. Charles, the CEO, was a second-generation factory guy. When new VP of Sales, Jane, approached him with the question, he gave her a funny look.
Key 4: Transformational Leadership

• “What environment? We make the best floor products in the industry. Our factory is one of the safest and cleanest anywhere. I’m not going to sacrifice the quality of our products to satisfy a few people who feel like the sky is falling. Just tell them that we follow all of the EPA standards, and we’d be happy to show them our track record.”
Key 4: Transformational Leadership

• Jane responded by explaining, “Charles, I don’t think that’s what they’re really talking about. I’ve met with manufacturing and engineering, and they say we’re not even looking at how we can make safer products for the environment.”

• However, Charles would not be so easily moved. “Jane, I appreciate that your job is to make customers happy. But we can’t please everyone. We can’t afford to change our products to satisfy every group with a cause. Just tell them our 50-year story and the quality of our products. They’ll understand. We’ll be fine.”
• Over the next two years, Jane continued to field more questions about the environmental policy of the company from clients and prospects. Frustrated, she finally stopped asking Charles about the various queries and drafted a statement that basically said, “We comply with all of the government’s standards for safety.” Charles approved the document, and it became the company’s official stance.
Key 4: Transformational Leadership

• Not long after, one of their oldest clients in California removed them from contract renewal talks. When Jane gave Charles the disappointing news he went ballistic: “What are you talking about? They’ve been a close client of ours for 15 years. Heck, I closed the deal while my dad was grooming me to take over the company. Sarah Cummings was the head of purchasing back then, now she’s CFO. I’ll call her. Whoever they put in purchasing has stepped way out of bounds on this!”
Key 4: Transformational Leadership

• Charles called Sarah, but before he could move past hello, she broached the very issue he wanted to address. “Charles, I probably know why you’re calling. I’m the one who removed your company from our suppliers list. I should have called you directly, but we’ve been requesting for two years that your company help us create a healthier work environment. We’re selecting suppliers who have this on their agenda and who feel that it’s part of their mission to improve the world we live in. I know you make a great product, but we want more for our employees and our community, I’m sorry.”
Key 4: Transformational Leadership

• Charles was stunned. “Sarah, could you give me some time and let me see what we can do? Your account is not only important to our company, but to me personally. I promise, we’ll do whatever it is we need to do to keep your business.”

• Sarah reluctantly replied, “Charles, I appreciate that, I really do. But this is not something you’ll be able to fix in 90 days, or even a year. Before you would make a commitment like that, I’d have to be sure you really know what you’re prepared to take your company through. It’s too late for this round, but you know we review our contracts every three years. Think about it. If you’re still interested, I’ll be happy to share what we’ve done and what our suppliers are doing.”
Key 4: Transformational Leadership

• Charles didn’t know what to say, but Sarah continued. “Charles, this is something I really think you’ll want to investigate further. I know you have a lot of accounts in California, and we’re concerned with the environment out here. You know what starts in California eventually spreads across the country, right?” Charles nodded, but was still speechless.
Key 4: Transformational Leadership

• “Well,” Sarah said, “I meet with a group of corporate leaders every few months to better understand where this mission might lead. We are also using our leverage to influence other companies and the state. That means that in a year or so, it won’t just be our account that takes you off its list.”

• “I’ll do anything I need to, Sarah,” said Charles.
Key 4: Transformational Leadership

• But when he hung up the phone, Charles slumped in his chair. He had no reference points for what just happened. He had only told Sarah that he would do something out of sheer desperation. He truly had no idea what he would do. California was a major market for the company, and he didn’t really know whether to take this environmental stuff seriously or not. A few weeks ago, he and some of his golf buddies were laughing about a colleague in the flooring business who had some “personal epiphany” and became a tree hugger. He was going to make his company the “first sustainable industrial enterprise...Doing no harm to the biosphere.” Charles recalled that he joked, “Now what the heck is a biosphere.” They’d all laughed.
Key 4: Transformational Leadership

• Charles was no longer laughing. In fact he felt sick. Sarah said they had chosen to partner with the company he was ridiculing a mere few weeks earlier – the tree huggers.

• He became regretful as he pondered his current situation. “My dad and I built a great company, but somewhere we must have missed a turn. If this is where the industry is headed, I’m not sure I can get there.” What hit Charles was not just the loss of an account, but deeper doubt about the future of his business and even the values that he had been proud to represent for more than 30 years. For several weeks he felt angry, sad, confused, and exhausted. He wasn’t dealing with it well, and it unsettled his direct reports – including Jane.
Key 4: Transformational Leadership

- A few months later, Jane told Charles about a local luncheon on the topic of “Building a Sustainable Business.”
- What the heck, he thought. Let me go and see what this frenzy is all about.
- When he arrived, Charles saw a few of the other local business leaders and some longtime friends at a table near the front. He went over to sit at the table and greeted several more friends and town acquaintances along the way. After several hearty handshakes and some small talk, the luncheon was called to order. Charles picked up the program and saw that the president of the company to which he had lost his long-time account would be the guest speaker. The tree hugger! That was almost too much to take. He quickly lost his appetite, but couldn’t leave now. People would notice, and that wouldn’t go over well.
Key 4: Transformational Leadership

- So Charles pretended to eat his lunch as he listened to the man’s story. But instead of feeling angry or awkward, he found that he actually connected with the topics that the speaker was covering. In many ways, he was like Charles – a factory man at heart. Charles had just never considered how much waste and harm a factory produces; even if he had, he never really thought there was anything he could do about it. But the speaker’s story made sense. Hearing about where the company had started in their new effort – from scratch basically – made Charles feel like it was something that he just might be able to do, and just might want to do, at least for business reasons. The weight of having to solve the problem overnight lifted when he heard the path the speaker was charting for his company.
Key 4: Transformational Leadership

• He left the luncheon thinking to himself, “It’s going to be okay. If this is where the game is going, I might as well get back into it.”

• As long as leaders do not have to face the facts directly they are able to continue and reinforce their old ways of looking at their business. When it becomes personal that line of thinking is no longer viable.
BAU: “Stick Around Sonny and Someday You Might Get My Job”
Average is Over: Tyler Cowen

- [http://www.youtube.com/watch?v=PJXGuurnZEQ](http://www.youtube.com/watch?v=PJXGuurnZEQ)
Key 5: “Big” BIM

- Some call it BIM, some call it Virtual Building, some call it Virtual Design and Construction, some call it Revit. But BIM is not a particular software package – it’s a concept, it’s a CULTURE.
  - The building is the project.
  - The information portion can include almost anything. The most obvious is the building’s geometric information. It can also include the manufacturer’s specifications, warranty information, the hours estimated to build the object, location in the building, tax classification, maintenance schedule, energy use, rules for how it behaves in space...
  - The modeling – along with its ability to manipulate the objects and simulate their behavior or performance – is the visual component. The information and model are linked in such a way that changing the data will change the object and vice versa.
Key 5: “Big” BIM

• BIM mind shift – BIM is not just a faster, better machine for doing what we did before. A good parallel to BIM is the Internet.

• DPR’s Dean Reed: “The old assumption is that design can be successful if separated from the construction. However, design is now an iterative conversation, and each element is intimately linked to the others. For example, design affects the means and the methods of delivery. Those means and methods affect the design. The ends and means affect each other and have to be part of the same conversation.”
Key 5: “Big” BIM

- BIM is causing the industry to realize that roles, processes, and relationships between the different stakeholders are up for grabs and undergoing significant redefinition.
- The real questions we need to be asking right now are basic. What is the new business of:
  - Architecture?
  - Contractor?
  - Specialty Trades?
  - Manufacturer?
  - Facility Manager/Owner?
  - Broker?
  - Developer?
  - Investor?
Key 5: “Big” BIM

- BIM is a technology shift, a process shift, a cultural shift, and a worldview shift.
- Some differing models for understanding BIM:
  - Basic Model:
    - 3D relates BIM visualization capabilities
    - 4D adds the time element of sequencing and schedule
    - 5D adds quantity takeoffs and cost capabilities
    - Fabrication is still another level of use
  - Maturity Model
    - Level 1 includes 3D visualization, the reference model, and contract documents.
    - Level 2 adds 3D coordination, secondary structures, and the coordination of trades.
    - Level 3 adds clash detection and tertiary components.
    - Level 4 adds material properties and attributes and schedules
Key 5: “Big” BIM

- A more sophisticated model of BIM:
  - Static 3D visualization
  - Dynamic 3D visualization (Animation)
  - Object intelligence: objects know what they are
  - Relational intelligence: objects know where they are
  - Analytics: clash detection, quantity and cost analysis, object property comparison
  - Simulation: performance of materials, operations, logistics, what-if analysis
  - Prediction: sequencing, scheduling, cost, and performance
  - Fabrication: converting onsite construction to offsite manufacturing of subassemblies
  - Operations: controlling the building operations and maintenance
  - Virtual worlds: alternative environments for people to organize within to get things done. “Low carbon collaboration” Kimon Onuma
Key 5: “Big” BIM

• “The future of construction...moving down the same path as the aerospace industry, with the fabrication of integrated subassemblies of a building called “Chunking,” Steve Jones, McGraw Hill.

• $7 billion MEP contractor EMCOR is rapidly moving in the direction of prefabricated sections of plumbing and HVAC components that can be brought to site and attached and assembled instead of constructed.
Key 5: “Big” BIM

• McGraw-Hill’s SmartMarket Report on BIM – 57% of firms indicated that they needed training on the soft skills of working with others in a collaborative environment, the cultural transition. This recognition of this need can turn into the driver that pushes BIM into its 2.0 phase of growth.
Key 5: “Big” BIM

• In the future, human resource data will be tied to the kind of office a person has, and assessment software, which now exists, will profile a work team and then track their performance against other teams using different space archetypes. Multinational corporations will be able to track the air or light quality from building to building and track sick days or turnover and correlate how buildings compare to one another.

• NOW THAT’S BIM!
Innovation in Technology
Your 4D Service Company of the Future

The headline in the local paper forced Jim’s hand: “New City Hall Uncertainty Threatens New Commercial Development.” As city manager, Jim could no longer avoid facing the council. Rumors were now front-page news, and delays on the project would soon back the city into a corner. A large developer planned to buy the old building site, tear it down, and build a mixed-use town center that combined retail, business, and townhouses. Continued delays with no end in sight caused the developer to send a letter to the mayor, each city council member, and the local paper with a clear message: “If the city is not capable or willing to keep its promised hand-over date of the Old City Hall for demolition, we will have no choice but to select an alternate site in the neighboring town.”
Key 6: Integrating Project Delivery

• Stan, the construction manager, spent a blurry weekend reworking the critical path for the project and running scenarios to see if and where they could make up time. He needed to brief Jim before the city council meeting. The polite veneer of this small town had cracked. This would be a tough meeting with one question on the table: “What’s the recovery plan?”
Key 6: Integrating Project Delivery

• “How in the world did this thing get so off track?” Stan was weary and frustrated. He had helped to sell their firm to Jim and the city council. “Our size and expertise will make the difference for a project of this importance to the community,” he’s said. They were selected over two local firms who had a long history with the city.
Key 6: Integrating Project Delivery

• His firm tapped Stan because he was one of their best. A former Marine and expert in logistics, he was allowed to handpick his subs. A project of this stature would open a new and growing market for the contractor – or so it seemed. Now it looked like the firm would likely take a big loss and have to contend with several lawsuits as well.
Key 6: Integrating Project Delivery

• Stan had begun the project four months earlier with a thorough analysis of the design, schedule, trades, and constraints. He broke the job down into its individual elements and knew every aspect inside and out. He crafted a strategy for deploying resources and was ready to map out a clear plan, which took shape in an elaborate critical path. The master schedule listed more than 6,000 activities defined and linked, each with its predecessor and successor. He worked closely with the point person for every firm after the contracts were awarded to make sure that everyone bought in to their schedule. Stan had built-in buffers at potential pinch-points in the schedule. He felt that the project contingency of 5% for the architect and 7% for their portion would be more than adequate.
Key 6: Integrating Project Delivery

• Jim and several members of his department were impressed with Stan’s forethought and planning at the kickoff meeting. He knew this was the right team to bring in, even though he caught heat for not selecting one of the local contractors.
Key 6: Integrating Project Delivery

• But then a particularly hard winter delayed breaking ground. Stan thought that if he could gain some time getting the structure up and expedite the curtain wall, he might be able to double up crews on the interior and align back with the schedule – maybe. The structural fabricator promised to rush their order, but the engineer missed his hand-off and they lost the production slot by a day. That cost Stan’s team a critical two weeks in the schedule. When the structure was finally erected, the curtain wall was ready to go. But then a problem in coordination showed up. The curtain wall contractor called out for a 1/8” tolerance to attach to the frame, but the structural contractor left 1/4.” Stan pressed for the recovery date. The best guess was a three- to four-week delay to fabricate the new attachment brackets.
Key 6: Integrating Project Delivery

• At this point, their schedule was broken. Their was no way to keep up with the day-to-day problems and update the master schedule to provide some kind of order to the project. Stan had to improvise daily and assign whatever subs he had where he could. He lost coordination of the schedule, and the owner lost confidence that Stan and his team could keep their promises.

• THIS IS THE TRADITIONAL PROJECT MANAGEMENT MODEL!
Key 6: Integrating Project Delivery

• IPD – A Network of Commitments
• Stan went home and flipped on the TV. He stopped on a channel showing, “An Evening at the Kennedy Center with the Marine Corps Band.” The band stirred up memories of his days as a Marine – the precision, the dedication, and the loyalty to one another. He loved watching the conductor, standing tall like a stick and waving his arms toward one group and then another. “Perfect coordination and harmony, I love it!”
Key 6: Integrating Project Delivery

• He clicked through a few more channels and ran across another show, “The Legends of Jazz.” He watched the bass player begin with a few quiet, simple chords and then shift to an up-tempo syncopated rhythm. Within seconds, the drums, guitar, and piano entered at the same time.

• Stan watched as the musicians looked at each other for cues, the way they leaned toward one another during transitions. He noticed the way in which the lead switched from player to player. Suddenly, the idea of a project as a “network of commitments” took on a whole new meaning.

• Stan realized he was trying to run projects like a Marine drill sergeant; there was no network of commitments. The only commitment was to learn your part and follow the leader. Jazz, on the other hand, now that was all about commitments to one another – from tight interaction to listening, really listening. Music wouldn’t work at all if one guy tried to take charge, but it sounds fantastic when everyone is working to synchronize with the other musicians.

• THIS IS IPD AND THIS IS LEAN.
Integrated Project Delivery

- [http://www.youtube.com/watch?v=IIc2XBpLNso](http://www.youtube.com/watch?v=IIc2XBpLNso)
Key 7: Trust-Based Agreements and Client-Centered Incentives

- President of Solidus Mark Charette sits down with Harry, the president of a regional bank, to review the contract details prior to the final award for the construction and full interior finish out of their new headquarters. Solidus has already walked the bank through their process: three phases of analysis, with the principals for each of the consultants and suppliers on Mark’s team in every meeting. The bank compared Solidus’ proposal with submissions from two other firms and found Mark’s price just slightly less than the highest firm’s offer. And so, this meeting is the final step.
Key 7: Trust-Based Agreements and Client-Centered Incentives

• When Mark lays the contract on Harry’s desk, the banker looks it over in surprise. It’s just one page, guaranteeing the price for the project, the move-in date, and doesn’t have any provisions for change orders.
• “Where’s the rest of the contract?”
• “That’s it,” Mark replies. “One page.”
• “And your lawyer’s okay with that?:
• “We actually do quite well with this,” Mark explains. “We’ve used it for 10 years, and our clients really like it. Our lawyer wasn’t crazy about it at first, but when he reviewed our whole process with the client he too became a believer. Are there any details you think we need to cover or add? We’ve included the guarantee of our price, your move-in date, and no change orders. You’ve got a two-year warranty on all of our work and longer for the furniture. The contract is based on the final proposal with all the details. But let me know if you see something else we need to cover.”
Key 7: Trust-Based Agreements and Client-Centered Incentives

• “No, this is everything, Mark. I just didn’t think it was going to be this easy.”
• With that the two men stood up shook hands. Deal done.
• Harry carried a copy of that one-page contract with him for the next two weeks; he simply couldn’t get over it. He displayed it with pride to several colleagues and to all of his direct reports. For Harry it served as a trophy and restored some of the trust he had long ago lost during a difficult series of projects with people who built buildings the traditional way.
• Don’t think it can happen? Warren Buffet completed his purchase of McLane Distribution from Wal-Mart for $1.5 billion with a handshake.
Key 7: Trust-Based Agreements and Client-Centered Incentives

• Of course, most businesspeople are unwilling to base a deal on a handshake without a legal document to back it up.

• We are slowly stepping out of the toxic paradigm of using the courts to settle disputes. There are new documents being used that strike a balance in our evolving understanding of trust-based and relational contracting. The three common references are:
  – AIA “Integrated Project Delivery Guidelines” (IPD)
  – Sutter Health’s “Integrated Form of Agreement” (IFOA)
  – The Project Alliancing Practitioner’s Guide – Australia
Key 8: Offsite Construction – A Glimpse Into The Future

• It’s 2020, and Manny and Stu have just completed a day of work on a new 30-story high rise going up in Chicago’s Loop. They head over to O’Brien’s for a beer to recap the day and talk about tomorrow. At the pub, they run into the integrated wall techs who are working on the same job.
Key 8: Offsite Construction – A Glimpse Into The Future

• Manny and Stu are “slab techs” for Ready Fit Integrated Floors, a high-precision design and fabrication shop. The company builds a prefabricated slab that looks like it’s upside down when manufactured. The flat surface is on the bottom. Four vertical sections create long channels that are the length of the slab, and extend a foot in height. The slab includes built-in plumbing, electrical, and data, and it acts as a plenum for the air-conditioning and heat to the building.
Key 8: Offsite Construction – A Glimpse Into The Future

- The new floor is called an Integrated Modular Slab. The new slabs are lighter weight but much stronger, which allows for longer runs. A combination of the channel design and new carbon fiber nanotechnology have reduced the concrete content by two-thirds and made the process much faster and safer. The pipe, cable, and conduit are delivered to the shop, bar-coded and matched to a specific slab. When these are snapped into place, the slab is closed up using concrete access floor tiles laid over channels and tightened. The Integrated Modular Slabs are delivered to the site and easily set in place.
Key 8: Offsite Construction – A Glimpse Into The Future

- All that Manny and Stu need are a drill and a number of quick connect pipe fittings sorted and identified in clear plastic bags with barcodes. Their job is to go to the junction of each slab, remove the floor tile with the drill, and then connect the plumbing pipe from slab to slab. Each junction takes about 5 minutes, and there are 50 per floor; it takes a little more than half a day to complete a floor.
Key 8: Offsite Construction – A Glimpse Into The Future

• Five trades are combined into one integrated system. It takes a day for the slabs to be inserted into the floor plate, and then a half-day to make all the connections. Ten years ago, the same floor would have taken a few months and involved 30 or more people on site. In 2020, it takes a crane operator (or robot), two slab handlers with a slab dolly, and Manny and Stu.
2020!
B.S. you say...never going to happen

• You’re right, how about it’s happening now:
• http://www.youtube.com/watch?v=etv1It7Bg9E
Offsite Construction

- [http://www.youtube.com/watch?v=DzgcV6oD9nY](http://www.youtube.com/watch?v=DzgcV6oD9nY)
Modular Pipe Rack

- [http://www.youtube.com/watch?v=etv1lt7Bg9E](http://www.youtube.com/watch?v=etv1lt7Bg9E)
Robotics in Construction

- http://www.youtube.com/watch?v=l_olwAwGdKc
Barbara is vice president of real estate. While planning her company’s corporate relocation, she goes over the numbers with her broker. So far, there has been no announcement to the employees of a corporate move. Too many details remain undecided, and it was not worth the distraction and speculation that would occur.
The selection was narrowed to three locations, all of which were in the target area. Barbara’s mandate is to reduce real estate cost by 10 percent. The developer’s architect created some test fit drawings, simple plans with boxes to represent offices drawn in the space. Now the exercise was to see which option would allow for the most efficient number of offices per square feet. Barbara and the broker compare the plans and features of each building. “Option two will fit 20 offices more than the others with a slightly smaller floor plate. With all things being equal, this looks like the building to choose.”
Key 9: Workplace Productivity

• The broker closes the deal and secures an increased but average build-out allowance. He sits down with Barbara to begin the process of selecting an architect, then a contractor. Barbara has a nagging feeling that something had been left out of the equation, but she and the broker have been through this drill before: take the puzzle of a new space and try to give each group as much as possible within the constraints of available space and working with the corporate standards, and of course, the budget. No, everything was in place. She shrugged off her doubts and went back to work.
Key 9: Workplace Productivity

• The enormous iceberg that lies beneath all the effort that goes into the design and construction of a building and its interior space is workforce productivity.

• In real life, the design and construction of buildings and spaces seldom really uses human performance as the driving criteria.

• Why? Because the system for building and leasing is only tied to this bigger picture through a spreadsheet.
Key 9: Workplace Productivity

• Ask an executive why they would buy a $30,000 car when you could buy a $10,000 car and they could list the reasons. Ask them why they would invest in a $3,000 laptop when they could easily buy one for $1,000, and again, they can list off the reasons. But that same executive will choose a $100-per-square-foot building over a $300-per-square-foot building because they don’t have a similar means for comparison.

• You job is to give them that comparison!
Key 9: Workplace Productivity

• There is no lack of research and case studies showing that better facilities improve an organization’s performance and bottom line:
  – The Rocky Mountain Institute tracked productivity gains of 6% with improvements in thermal control, lighting, acoustics, and indoor quality.
  – Johnson Controls reports that indoor environments affect human performance from 5-15%.
  – Citibank reduced their space by 23% and reduced churn costs by 76% and reduced the average cost of a workstation by 20%.
  – The USGBC provides the case study of West Bend Insurance that documented a 16% increase in productivity moving into a new 150,000-square-foot green building. The increase represents more than $2 million a year.
SBAU: Stop trying to get back to average!

• Average jobs producing average products and average services don’t cut the mustard any more.

• Organizations that are trying to re-create average (even if unintentionally) won’t be successful.

• The world has changed. We have come to the end of one economic era and are entering a new one.
Getting back to average

- Jack Welch says, “the dumbest idea in the world” is for your firm to *press harder and harder* to maximize shareholder value.
- The results of pressing harder are: increasingly dispiriting the people who are doing the work and frustrate the people for whom the work is being done.
- Even on their own terms, organizations doing this are going out of business faster and faster.
- The way in which we got things done in the 20\textsuperscript{th} Century is not working.
- The problem isn’t that organizations have forgotten how to manage. It’s because the world has changed and management hasn’t.
Moving past average

• Nothing fundamental will be different until the economy grows more rapidly.
• It doesn’t matter whether the economy is in recovery or not.
• Until the private sector – YOU – is further advanced in the transition to the creative economy, the economic pie simply will not be growing fast enough to meet our collective needs.
• The winning dynamic of the creative economy is continuous innovation – something that traditional management is not good at.
• To succeed in the new economy firms need to shift focus away from maximizing shareholder value to delighting their customers.
  – This doesn’t mean lowering your price!
SBAU: Embrace the Machine!

• Machines are just about producing goods & services...
• They also will improve the quality of service.
• Sooner or later, most professionals, especially at the top end of the market, will be graded by teams of skilled workers working cooperating with smart machines.
  – ...a more scientific Yelp for almost everything.
Economic Trauma: Historical Perspective

- Much of the economic trauma of the Great Depression flowed from the fact that the economy was shifting from agriculture to manufacturing.
  
  » Economist, Joseph Stiglitz

- Today we are once again undergoing the economic trauma of a massive phase change, but this time from a factory economy to the creative economy.

SBAU: Develop Your Own Ratings Strategy, and Use It To Promote Your Brand & Destroy Your Competition

• In the broader context of professional performance, sooner or later most professionals will have to submit to ratings, one way or another, or bear the consequences and end up serving the lower and less informed ends of the market.
Let’s say you own a law firm...

- Potential customers can ask their smart phones where the lawyer went to school, what her class rank was, and what kinds of promotions she has received.
- That information will be accompanied by an asterisk:
  - “This information explains only 27 percent of lawyer performance.”
- The better lawyers will open up their courtroom performances, their win-loss records, their contract analyses, and their written briefs to computer analyses for more accurate evaluations of professional quality.
- Siri will tell you: “This lawyer’s written briefs are in the top eighty-first percentile of his peer group; that explains thirty-eight percent of performance on a corporate deal.”
Let’s say you own a law firm...

- Many of the lesser lawyers will decline to be rated by a computer-human team at all, for fear of getting a bad rap and also because producing the rating will involve some cost.
- That will hurt their business prospects, especially with wealthier and better educated customers.
- Have you ever opened up the Friday movie page and read, “The studio declined to make this movie available for screening at press time”?
  - The obvious conclusion is that the film is a dud, and it usually is.
  - They didn’t do a screening because they wanted to avoid bad reviews.
- In the broader context of professional performance, sooner or later most professionals will have to submit to ratings, one way or another, or bear the consequences and end up serving the lower and less informed ends of the market.
## The New World of Sales

<table>
<thead>
<tr>
<th>Old World: Process-Focused</th>
<th>New World: Judgment-Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>The customer expresses a defined need.</td>
<td>Qualification Criteria</td>
</tr>
<tr>
<td>Identify a stakeholder with the authority to spend.</td>
<td>Stakeholder Selection</td>
</tr>
<tr>
<td>Demonstrate the value your solution provides relative to the competitors’ offerings.</td>
<td>Nature of the Conversation</td>
</tr>
</tbody>
</table>
BAU & Selling to Empowered Customers

- Sales strategy used to center on answering a simple question: In a world where customers learn primarily from suppliers, how do you become the one that customers learn from first? Being that favored resource allowed suppliers to shape and ultimately win deals. The approach went like this: Identify customers early in their learning process; put solution in front of them before anyone else does; highlight how it meets their needs; and push the deal through faster than competitors can.
From BAU to SBAU

• Today, as suppliers have moved from selling individual, easily commoditized products to offering complex “solutions,” customers – wary of the scale, disruption, and cost – have responded by scrutinizing deals more closely.
• They require consensus from more stakeholders than ever before.
• Empowered customers now approach suppliers armed with a clear idea of their own needs, the potential solutions, and what they’re willing to pay.
• When suppliers encounter such customers, there’s often little left to negotiate but price.
From BAU to SBAU

• As a result, a supplier’s biggest competitive challenge today isn’t so much the competition’s ability to sell as it is the customer’s ability to learn.

• Whereas competing against a rival’s ability to sell requires superior sales discipline – more calls per hour, visits per week, and so on – competing against a customer’s ability to learn requires superior teaching skills, a talent for revealing novel and important information about the business that the customer has overlooked.

• The best sales reps excel at this kind of teaching and can link the insights that arise to the solutions their firm provides.
Enough Already!

Get out there and SBAU!
Steve Denning

• The Leader’s Guide to Radical Management: Reinventing the Workplace for the 21st Century – 7 Principles
Principle #1: Delighting Clients

• There are three layers of corporate performance, the lowest being you'll take what we give you; the second being we know what you need here it is; and the third being what do you need today, we'll do it faster, better, cheaper. Impossible to go wrong with this principle, especially if your clients are the five billion poor and they can only afford a $2 refrigerator. See The Fortune at the Bottom of the Pyramid, Revised and Updated 5th Anniversary Edition: Eradicating Poverty Through Profits.
Principle #2: Self-Organizing Teams

- This is so very current with what Digital Natives demand and Analog Leaders do not get--leadership is about nurturing teams, not about top-down micro-management.
Principle #3: Client-Driven Iterations

• Most existing "leaders" (actually more like administrators without any innovative spirit left) will simply not get it. Better is the enemy of good enough, something now that is 70% complete without waste is better than 120% three weeks late with functions we cannot understand.
Principle #4: Delivering Value to Clients in Each Iteration

• Carries on from above with more depth. This really is a "hand-book" for natural capitalism that also creates happiness--see Natural Capitalism: Creating the Next Industrial Revolution and of The Hidden Wealth of Nations as well as Derek Bok's new book, The Politics of Happiness: What Government Can Learn from the New Research on Well-Being.
Principle #5 - Radical Transparency

• Here is important to note that the author uses the words "radical" and "agile" interchangeably. This is less about revealing the naked emperor and more about getting the truth on the table and really digging deep into both the true costs and needed value propositions. I like what the Chairman of Satchi and Satchi says: "until you get the truth on the table, no matter how ugly, you cannot deal with it." As Ben Gilad notes in Business Blindspots: Replacing Your Company's Entrenched and Outdated Myths, Beliefs and Assumptions With the Realities of Today's Markets, most CEO's are out of touch with reality--the information reaching them is filtered, late, biased, and generally incomplete. Customers today want businesses that do not waste, do not sweat children, do not avoid taxes, and ideally that also support a cause or a Millenium Goal or whatever. Everyone on the team needs to see everything inside and out.
Principle #6: Continuous Self-Improvement

• This may strike some as old hat, but the reality is that in the US we do not do this well. Instead, we have a culture of cheating (see The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead). This is a good point to observe that if there were one word to describe this book's focus, it would be: INTEGRITY. Integrity in dealing with the client's needs; integrity in dealing with employees, the facts, and sources; integrity in follow-through.
Principle #7: Interactive Communication

• This chapter alone could be made mandatory reading in every MBA program where they still do not teach commercial intelligence (decision-support) and the fundamentals of cross-boundary information sharing and sense-making. You have to walk around and see the body language and hear between the lines; organizational communication must be "like a DNA spiral," interacting at every level, across every function, etcetera. This need is given lip service by so many. The author is deeply authentic and very relevant to today's challenges in his discourse on this point.
Resources

• Fiatech Webinar Series