To nurture transformational technology, build a community like Sam Walton's

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[Bio]

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Today, while countless startups are mastering exotic business models based on high-tech advances, many mature companies are struggling to manage the gap between technology's potential and what it actually does to add strategic and practical customer value. In many established industries, the top leaders striving to address this discrepancy don't have a background in technology or in the strategic application of "big data." As a result they have a limited view of the potential of technology and lack clarity on what it can do for their businesses' operations. The fallback tactic of leaving tech decisions to the specialists may solve some problems but is not likely to produce continuous customer-focused product and process innovation.

Surmounting these challenges, a few pioneering businesspeople started creating vast value several decades ago by leading the construction of new, reliable, profoundly useful technology-based systems. These early innovators produced radically new kinds of business growth and spearheaded corporate transformations even though they did not start out with much tech knowledge themselves.

One example stands out by many measures: Sam Walton, founder of Walmart, created more value with technology than any other non-technical corporate leader. Walton had no technology experience when he founded Walmart at age 44. He had previously been a proprietor of old-fashioned "variety stores" – what people used to call "five and dime stores." He took his first class in business technology at age 48. Twenty-five years later his company had created a formidable system for retailing that drove down costs and greatly improved how retailers could understand and serve customers. Virtually all mass retailers

copied it, and its introduction contributed substantially to the relative prosperity of the 1990s in the U.S.[1]

Walton and his key lieutenants did not entrust technology process innovation to tech specialists; they had their own vision. They worked to create a community of shared purpose to bring it about – a community where world-class tech specialists played key roles but never dominated.
Walton started with a fairly straightforward business mission and guided the emergence of a system that thoroughly supported the mission. Don Soderquist, who knew Walton from almost the beginning and who as chief operating officer was "keeper of the vision" at Walmart for ten years after Walton's death, summarized the mission as follows: "When he looked into the future, Sam didn't see Walmart as the largest retailer in the world. He simply wanted to provide a better shopping experience for people living in small towns."

Walton was able to lead in the creation of this system while achieving rapport with the Walmart employees using it. It's a measure of his achievement that now, 23 years after Walton's death, many large technology systems outside the big box retail industry work far less well than the Walmart technology system of 1992.

A number of other firms, including almost all large brick-and-mortar retailers, have learned many lessons from Walmart. Internet-based Amazon studied Walmart as it created a quite different system for on-line retail. But despite vast technological advances since 1992, many technology systems in banks, offices, schools, hospitals and government agencies leave users frustrated.

To understand how a leader with no technology background could pioneer a strategic approach to technology and systems management, we reviewed contemporary accounts and books on Walton and Walmart for references to the early technology practices of the firm. While there is a vast trove of material, there is still a great deal that strategists don't know about the emergence of Walmart's systems. By sorting through the many credible accounts of Walmart's technology and systems strategy, however, we can now offer a better understanding of the process than previous reports have provided.[2]

Five elements of success in strategic technology leadership

We found at least five behavioral practices of Walton and his team that contributed to their success in creating a radically new, effective system:

1. Walton constantly collected ideas about the potential of technology from early enthusiasts, information about technological advances and examples of innovative technology implementation. Then he synthesized them so that by the time he was investing aggressively in Walmart's network of stores he had a clear vision that included technologies only just then being invented.
2. He recruited retailers, especially top managers, who were passionate about technology. Walton also often hired people with excellent

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Comment [1]: I had to think for quite a while before I understood what you were trying to do with the quote you had inserted here, so I took it out. Possibly if you set it up better it would work well.

technology qualifications for positions such as a supervisor of store openings, vice president of merchandising or CFO. At the time, other retailers didn't require such tech qualifications for these positions.

3. With technology-oriented managers in place, Walton could assume a role for which his still limited knowledge of technology qualified him: chief skeptic. As such, he reviewed proposals and progress from a strategic perspective to ensure the vision was achieved and tech was installed only when it actually moved the company toward the vision.
4. With years of experience as a store owner, he empathized with the needs of front-line personnel and could anticipate whether new technology would help or frustrate them. To ensure that such operational technology was effective he insisted that technology designers develop program interfaces that were simple, clear and truly helpful.
5. After he was certain the technology basics were in place and working well, Walton approved profoundly significant partnerships with other companies.

We can understand the nature of Walton's technology leadership success by telling his story in terms of the five reasons for his success:

Stage 1: Walton gathered insights from leading technology practitioners and patiently framed a vision that took account of the potential of emergent technologies to drive an innovative operational system.

Before Walton created Walmart he had already built the largest group of entrepreneur-owned variety stores in the United States, mostly franchised under the Ben Franklin brand name. But even as he was creating this group in the 1940s and 50s, Walton saw that "the discount idea was the future" – larger stores would sell more at lower markups. Knowing that his business model was under threat, in the 1950s Walton began to travel the U.S. to visit early discount stores and understand the phenomenon. The managers running the new discount stores were mostly "promoters." They would take advantage of the improving roads and widespread automobile ownership of the era, rent some cheap real estate, find someone to sell them inventory at a cheap price, and sell it at a small markup. Stock was limited, so customers couldn't do all their shopping at most of these discounters, and many opportunities for serving the customer were being missed. Walton anticipated that retailers who offered more professional practices would win in the long run.

He knew computers would be important, too, but initially he struggled to understand what exactly they would do. In the days before most business people saw computers as more than a way to manage payrolls, Walton was one of the first to believe they could play a driving role in operations. In 1963, when Don Soderquist was "data processing manager" at the parent company that franchised Ben Franklin stores, he and Walton had the first of many

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Comment [2]: Soderquist says when he met Walton in 1963 Walton had a 'sixth sense' of the potential power of computers for driving operations.

conversations about technology. He recalls that Walton "spent an entire afternoon with me asking probing, insightful, and far-reaching questions about what computers were capable of doing now and my opinion of how they could be used in the future…. You have to remember that in 1963 no one could have conceived that computers would become so powerful and so cost-effective that they would be driving major business functions."[3]

Stage 2: Walton anticipated that a tech background would be a key competency for new hires doing a wide variety of jobs.

When Walton opened his first Walmart in 1962, it didn't differ in obvious ways from the promoter-owned stores in other parts of the country. For the first year "everything was just piled up on tables, with no rhyme or reason whatsoever," recalled Clarence Leis, who managed the store.[4] But Walton's vision was incubating. "As much as we must have looked like promoters in the early going—with our donkey rides and riding mowers out in the parking lots," Walton recalled, "what nobody realized, including a few of our own managers at the time, was that we were really trying from the beginning to become the very best operators—the most professional managers—that we could."[5]

To better understand how computer systems could radically change operating systems, he enrolled in an IBM school for retailers in Poughkeepsie, NY.[6] "I knew I was never going to be a whiz-bang computer guy myself," he said. "I was looking to hire a good, bright systems person."[7] He met and courted Ron Mayer, the young chief financial officer of another discount chain and a man with a passion for computers. He hired him two years later and continued to seek and hire other managers with strong tech backgrounds for key jobs. Later, as technology advanced, Walmart was, by Soderquist's reckoning, the first major retailer to make a tech leader – the chief information officer – a formal member of the top management team. Because tech-oriented managers were involved in major initiatives in the growing firm, technology was built in from the beginning.

Stage 3: With technology-oriented managers in place, Walton could serve as chief skeptic, reviewing proposals and progress from a strategic perspective to ensure that the tech initiatives actually moved the company toward the company vision.

"From Ron Mayer's arrival on, we as a company have been ahead of most other retailers in investing in sophisticated equipment and technology," Walton said in his autobiography. "The funny thing is, everybody at Walmart knows that I've fought all these technology expenditures as hard as I could. All these guys love to talk about how I never wanted any of this technology…. The truth is, I did want it, I knew we needed it, but … I always questioned everything…. It seems to me they try just a little harder and check into things a little bit closer if they think they might have a chance to prove me wrong."

As Don Soderquist recalls the early years: “The simple act of getting our merchandise from the supplier’s dock to the store shelf received numerous makeovers, and we made an art of stripping excess cost and waste of any kind.[8]”

Over the ensuing years, many of the technology-based ideas that Walton and his top managers ultimately developed—such as cross-docking merchandise deliveries from manufacturers’ trucks to Walmart trucks bound for stores and satellite communication to stores--addressed issues that no one had ever thought relevant to retailing. At the same time, reveling in his role as chief skeptic, Walton was able to shoot down a lot of ideas that “everybody” in the technology business “knew” needed to be installed in stores.

Stage 4: Technology has to serve the frontline managers. Adopting this principle, designers consistently emphasized simplicity and clarity of program interfaces so that technology actually helped store personnel do their jobs more easily and effectively.

Walton wanted systems that were thoughtfully designed to serve people in the stores and warehouses. As evidence of this, there are no reports of conflicts between tech people and non-tech people. For instance, Ron Loveless, a manager with no technical background whatsoever was hired because he had impressed Walton with his work ethic. He rose to general manager of Sam’s Wholesale Clubs. In his own memoir, written 25 years after he left Walmart, he has nothing but praise for Walmart’s computer systems and their power. “The real-time gathering, processing, and reporting of item sales in every store every minute of every day boggles my mind,” he says.[9]

To reinforce the relationship between tech and retail and improve communications, Walmart required computer professionals to work in stores at least once a year. The information systems group’s motto was, “Think like a merchant.”

This focus had two major results. First, Walmart could manage goods much more efficiently than other retailers. A prime example was its ability to track goods bound for its warehouses and stores so well that most of them never had to be placed in the warehouses. They could be moved directly from in-coming trucks to store-bound trucks on the same dock. By 1983, Walmart’s cost of distribution was two cents per dollar of sales while Kmart’s was five cents – giving Walmart a significant competitive advantage.[10]

Second, the systems created eye-opening data reports. Everyone at Walmart from pet department managers to the CEO knew what was selling where. They knew which departments in which stores were producing the best returns and how they produced them. And that allowed people to make changes constantly to fine-tune what they sold and how they sold it. The easy-to-use systems and the reports they generated created an ecosystem that supported innovation throughout the company.

Stage 5: Once its basic systems were working effectively, Walmart undertook innovative hi-tech partnerships with other companies.
By 1987, Walmart was or was about to become the largest customer for most of its suppliers, some of which had been in business for nearly a century. It was one of those old-line suppliers – Procter and Gamble – that launched the first high-tech partnership effort. The back story is that a tennis partner of Walton's invited him on a canoe trip and brought along Lou Pritchett, a vice president of P&G. Pritchett later said that up to that time Walmart and P&G had "no sharing of information, no planning together, no systems coordination." He added: "We were simply two giant entities going our separate ways, oblivious to the excess costs created by this obsolete system…."[11]

Walton and Pritchett talked a lot on the trip. Later Walton gave Pritchett space in Walton's autobiography to describe what happened: "We assembled the top ten officers of both companies in Bentonville for two days of soul-searching and thinking and within three months we had created a P&G/Walmart team to build a new kind of vendor-retailer relationship." Soon Walmart's computer systems were talking seamlessly to Procter & Gamble's, and sales of P&G's Tide detergent in any Walmart store could trigger the manufacturing of more Tide.

This kind of information technology partnership expanded rapidly to Walmart's other major suppliers. The fact that they were not experimental initiatives, but were a product of the mature system, is noteworthy. To understand the lessons of Sam Walton and his IT-savvy managers, it is important to observe that they focused on things they could control until those things worked very well.

A system that really worked

By the end of the 1990s, retail technology had become highly efficient, an exception in an era when so many large-scale systems were still confusing and annoying users. Walton and his team not only made technology work. To a considerable extent, they showed how big technology can be made to create ecosystems supporting innovation and efficient partnerships.

The steps that Walton took to get technology to work for him should be an inspiration for many, a roadmap for some. At minimum, they deserve careful study from those who lead other organizations.

Different times, similar challenges

The technology landscape has changed enormously since Sam Walton's day,

yet the role of general manager who has to incorporate technology into a strategic plan has changed remarkably little. So his leadership successes offer clear lessons for today's general managers:

1. In any organization, the chief executive has to be the chief technology visionary and architect. But vision is not so much about brilliant intuition as about gathering data, asking questions, and learning what technology can do and is doing, then synthesizing what has been learned to create a vision or a new business model.
2. Top management needs to recruit and inspire managers at all levels of an enterprise to form communities that produce customer-valued process and product innovation for customers. Nowadays, training technologist managers to understand and respond to the needs of customers and front line personnel is just as important as hiring the most accomplished technologists.
3. Strategic partnerships and business ecosystems that leverage technology can create dominant competitive advantages, but truly successful partnerships have to be built on existing systems that already work seamlessly for people inside the participating organizations.
4. The transformational leader will need to be the chief skeptic as well as the chief visionary. It's a challenge to be a productive skeptic, however. Walton succeeded by showing he really cared about the ideas of even the lowliest associate serving customers at the stores.

Of course there's a right and a wrong way to be a chief skeptic. A.J. Lafley, CEO of Procter & Gamble, articulated how best to use skepticism in a recent article in *Strategy & Leadership*.[12] Lafley noted that an earlier P&G chief executive had reveled "in the chance to put people on the spot with tough, detailed questions." That approach caused other executives to focus on creating and defending "bulletproof" presentations – an activity that produced little learning.

Lafley and his team eliminated formal strategy presentations. In their place they created interactions that had a good deal in common with end-of-the week meetings and frequent in-store sessions that Walton and his team held. The sessions in Walton's Walmart were mainly about using and learning from the IT system and discussing new ideas. In P&G, the conversations are just as open and learning-oriented, but a much wider range of issues is up for grabs: "choices of where to play, how to win, competitive core capabilities and management systems."

Key questions the P&G senior team will ask include: "What were the opportunities related to unmet consumer needs? What were the most promising innovations and technologies?…What core capabilities was the business lacking?"

Perhaps the most important question for a chief skeptic to ask is: "What would have to be true?" for a particular proposed course of action to be the right one.

Endnotes

[1] Johnson, B. C. (2002). Retail: The Wal-Mart Effect. *McKinsey Quarterly, (1).;* Federal Reserve Bank of Chicago. (2004, Spring). The acceleration in the U.S. total factor productivity after 1995: The role of information technology. *Economic Perspectives, 28*(1).

[2] An influential example of a study based on earlier data is Stalk, G., Evans, P., & Shulman, L. E. (1992, March 1992). Competing on capabilities: The new rules of corporate strategy. *Harvard Business Review,* pp. 57–69. Powell, T. C., & Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business, and technology resources. *Strategic Management Journal, 18*(5), 375–405 carefully examine the effect of information technology on profitability in retailing based on data from Walmart and others. They show that information technology contributes to profitability only when it is accompanied by such complementary elements as flexible culture, integration of strategic planning and information technology, and good supplier relationships. The process described here is consistent with this model and with the model described in Kor, Y. Y., & Meska, A. (2013). Dynamic managerial capabilities: Configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic Management Journal, 34,* 233–244.

[3] Soderquist, p. 139. Walton describes his early explorations in considerable detail in Walton, S. & Huey, J. (1992). *Made in America.* New York: Doubleday. Not only Soderquist but also Loveless, R. (2011). *Walmart inside out: From stockboy to stockholder.* Las Vegas, Nevada: Stephens Press; (who wrote 25 years after leaving Walmart) support the accuracy of his portrayal, as do interviews by Ortega, B. (1998). *In Sam we trust: The untold story of Sam Walton and how Wal-Mart is devouring America.* New York: Times Business/Random House; and Fishman, C. (2006). *The Wal-Mart effect: How the world's most powerful company works - and how it's transforming the American economy.* New York: Penguin.

[4] Walton & Huey, p. 65.

[5] p. 100.

[6] The curriculum included a talk by Abe Marks, whose Hartfield Zody's stores had become among the first to track inventory and logistics by computer. Walton not only listened intently to the talk, he met with Marks, had him review Walmart's financials, and arranged to visit Hartfield Zody, review its operations, and bring additional Walmart staff to study it. Walton & Huey, pp. 107-111.
[7] p. 111.
[8] Soderquist, p. xix.
[9] Loveless, p. 194.
[10] Ortega, p. 130.
[11] Walton & Huey, pp. 237-238.
[12] Lafley, A.J. and Martin, R., "Instituting a company-wide strategic conversation at Procter & Gamble," *Strategy & Leadership*, 2013 Vol. 42, No. 4).