

Article: More Than You Want to Know About Wal-Mart's Technology Strategy Part 1
by Anthony Smoak, July 21, 2016.



Wal-Mart has long been associated with innovations in its home-grown information technology systems, which in turn have exerted tremendous influence on its business strategy of everyday low prices. The company was a pioneer in bar code scanning and analyzing point of sale information which was housed in its massive data warehouses.

Wal-Mart launched its own satellite network in the mid 1980's which led to profound business practice impacts with respect to its supply chain management process. Strategic systems such as Retail-Link, spearheaded by industry luminary Kevin Turner, enabled data integration and sharing between Wal-Mart and its suppliers. These systems also enabled the concept of vendor managed inventory. However, not every technology project in which the company invests significant resources turns to gold as Wal-Mart encountered missteps with its RFID technology initiative. Despite the less than stellar ROI and supplier adoption rate of RFID, that effort demonstrated the willingness of its technology to push the envelope in exerting tremendous changes on business processes not only within Wal-Mart but throughout the industry.

Storm clouds are on the horizon as consumer preferences change from "big-box" brick and mortar stores to online retail platforms such as Amazon. To counter Amazon's online dominance, the company must continue to invest in its digital know-how. Adding new capabilities to its online presences and refreshing its digital properties will be a requirement in order to keep pace in a shifting industry dynamic.

Wal-Mart: Strategy for Technology Infrastructure:

Wal-Mart's architectural philosophy can be classified by the twin sentiments of "build rather than buy" (the organization has historically held the belief that their information systems provide a competitive advantage over other industry players) and one of innovation. Recently, as consumer preferences have shifted away from "big-box" brick and mortar stores to the convenience of online "e-tail", competitors such as Amazon and Target have begun to erode Wal-Mart's retail dominance. In order to react, Wal-Mart has been allocating resources to invest in digital capabilities that will allow the organization to effectively compete and become better aligned with consumer shopping preferences.

Historically, Wal-Mart's information technology strategy has long favored an internal "build rather than buy" approach which has spawned innovative business strategies. Wal-Mart prefers to build in house strategic systems that allow the company to gain competitive advantages. Retailers are known to prefer home-grown systems and Wal-Mart's immense size has traditionally been a hindrance in running off the shelf packages (*Wailgum, 2007*).

Globally, the company runs a heavily modified version of IBM's elderly point of sale (POS) supermarket application at all of its checkouts with the exception of Japan (Zetter, 2009). The in-house systems approach has been a source of competitive advantage for Wal-Mart. "Wal-Mart was a pioneer in applying information and communications technology to support decision making and promote efficiency and customer responsiveness within each of its business functions and between functions" (Ustundag, 2013).

The advantage of an in-house strategic system is that it offers tight alignment between the company's business strategy and the finished solution. Another advantage of in-house strategic systems as opposed to running off the shelf packages from third parties is the ability to keep proprietary business process and systems knowledge out of the hands of competitors. A third party developer would have no problem advertising a system that was in use at Wal-Mart and then selling that system to competitors. The advantages of the in-house development approach must be weighed against the downsides, namely the higher cost of development and the internal staffing required for new innovative development and on-going maintenance.

Recently, as Wal-Mart tries to use its geographic reach and existing retail infrastructure to compete with Amazon, it is making a move to ramp up its cloud-based technology assets. In keeping with its "build rather than buy" approach, the company built its own data centers and developed supporting cloud-based commerce applications using open-source tools. "We took back control of the technology and largely built it ourselves," explained Jeremy King, chief technology officer for global e-commerce at Walmart" (Lohr, 2015).

Additionally, as of 2015, the company is in the middle of an IT systems overhaul called Pangaea that "includes a hybrid cloud platform and search technology" (Nash 2015). King, in keeping with the Wal-Mart approach has stated, "Most people don't replace entire systems in one shot, especially with from-scratch development...but given how rapidly this place is changing, we didn't have time to screw around" (Nash 2015).

Wal-Mart: Strategy for IT Capability & Staffing:

Wal-Mart is not a technology company, but it is a company in which technology is a key enabler of business strategies. Since technology has been a crucial component of the organization's competitive advantage, its IT governance archetype can be characterized as an IT duopoly. The IT duopoly arrangement allows technology executives and business unit leaders to collaborate on technology projects and decisions.

Kevin Turner, who was a Wal-Mart vice president for application development, a former CIO and the current CEO of Citadel Securities, has stated that technology payback figures for Wal-Mart initiatives are put into writing, "which in turn requires the affected business units to acknowledge savings and work them into their business plan — or dispute the savings and work with the IT department toward a resolution" (Power, 1998). "Do the [business units] always agree with us? No. Will they work with us? Yes. If they don't, we won't do anything more for them in the future. And I'll tell you, that works," said Turner" (Power, 1998).

Traditionally, Wal-Mart's IT staff have a background in other non-technology areas of the business. The company looks to promote its staff out of the IT department which allows a technological "cross-pollination" of knowledge to occur across the organization. When Wal-Mart is looking to develop new systems it dispatches its top engineers to perform "regular" operations jobs so they can gain working hand knowledge of the challenges that line employees face (Boyer, 2003).

As Wal-Mart has looked to withstand new online retail challenges from chief competitors Amazon and Target, its technology staffing mix and organizational structure have had to adapt in order to remain competitive. Former CEO Mike Duke was looking to combine the organization's stores, information technology assets and logistics expertise into one channel in order to drive growth (Buvat, Khadikar, & KVJ, 2015). Wal-Mart was cognizant that it could not realistically expect the technical staff that it required in order to compete with Amazon, to relocate to Bentonville Arkansas.

Therefore, in 2010 Wal-Mart re-organized and consolidated its worldwide e-commerce staff into a new Global division located in Silicon Valley California. Historically, the company has favored a centralized Information Systems structure coupled with an in-house development approach. Former Wal-Mart CIO Turner has stated, "What we've come up with is a model of decentralized decisions but centralized systems and controls. We will have a common system and a common platform, but we have to allow a great deal of flexibility in our systems so that the people in those local markets can do their job in the best, most effective way" (Lundberg, 2002).

The new Global E-Commerce initiative is in keeping with that philosophy as the new division's key responsibilities include, "running Walmart's ten websites worldwide, building and testing cutting-edge technology at @WalmartLabs, and building Walmart's eCommerce capabilities" (Buvat et al., 2015). Additionally, in order to bolster its e-commerce staff, Wal-Mart has purchased 14 companies primarily for the purpose of gaining access to engineering personnel. As a result of Wal-Mart's emphasis on ramping up e-commerce talent, its e-commerce sales grew from 4.9 billion to 12.2 billion dollars between 2011 and 2014; an increase of nearly 150% (Buvat et al., 2015).

References:

- Boyer, J. (February, 2003). Technology Helps Stores Order Only As Much As They'll Sell. Albany Times Union. Retrieved from Factiva
- Buvat, J., Khadikar, A., KVJ, S. (2015). Walmart: Where Digital Meets Physical. Capgemini Consulting. Retrieved from <https://www.capgemini-consulting.com/walmart-where-digital-meets-physical>
- Lohr, S. (October 2015). Walmart Takes Aim at 'Cloud Lock-in' Retrieved from <http://bits.blogs.nytimes.com/2015/10/14/walmart-takes-aim-at-cloud-lock-in/>
- Lundberg, A. (July 1, 2002). Wal-Mart: IT Inside the World's Biggest Company. CIO magazine. Retrieved from <http://www.cio.com/article/2440726/it-organization/wal-mart-it-inside-the-world-s-biggest-company.html?page=2>
- Nash, K. (October, 2015). "Wal-Mart to Pour \$2 Billion into E-Commerce Over Next Two Years.", Dow Jones & Company, Inc. Retrieved from Factiva
- Power, D. (June, 1998). WAL-MART: TECHNOLOGY PAYBACK IS IMPERATIVE. Supermarket News. Retrieved from Factiva
- (ed), Alp Ustundag. (© 2013). The value of rfid: benefits vs. costs. [Books24x7 version] Available from <http://common.books24x7.com/libezproxy2.syr.edu/toc.aspx?bookid=49466>.
- Wailgum, T. (October 2007). How Wal-Mart Lost Its Technology Edge. Retrieved from <http://www.cio.com/article/2437953/strategy/how-wal-mart-lost-its-technology-edge.html>
- Zetter, K. (October 13, 2009). BIG-BOX BREACH: THE INSIDE STORY OF WAL-MART'S HACKER ATTACK. Wired. Retrieved from <https://www.wired.com/2009/10/walmart-hack/>

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