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# Management's Key Responsibility

**I**f you could choose just one thing for a firm's management to get right in order to survive and prosper over the long term, what would that be?

I will argue that it is a firm's knowledge-building proficiency that is most important and, in explaining why, intend to convey four important concepts:

by Bartley J. Madden, Independent\*

I will argue that it is a firm's knowledge-building proficiency that is most important and, in explaining why, intend to convey four important concepts:

1. That a firm's knowledge-building proficiency is the critical determinant—the foundation—of its survival, prosperity, and long-term performance. In this connection, a firm's competitive advantage and intangible assets are best understood as the result of its knowledge-building proficiency.

2. That a firm's knowledge-building proficiency, along with its organizational structure, coordinates and improves work, innovation, and resource allocation.

3. That knowledge building produces three types of innovation:

- (1) Process,
- (2) Performance-improving, and
- (3) Scale (scale insights produce extraordinarily large gains in shareholder value and new jobs).

4. That much current academic finance research, heavily focused on identifying factors associated with excess shareholder returns, is actually irrelevant to fundamental understanding of what creates long-term value.<sup>1</sup> To illustrate just how knowledge-building proficiency creates long-term value, I present two successful examples: Walmart and Haier Group.

Unfortunately, the economics profession has remained largely oblivious to the critical importance of knowledge-building proficiency. In this same issue, 2006 Nobel laureate economist Edmund Phelps points out that something very important is missing from economics:

*...[T]here is the satisfaction of "acting on the world" and, with luck, of "making a mark," perhaps changing the world. Having these satisfactions has come to be called flourishing. ...*

\*I thank John McCormack and Jack Reardon for insightful suggestions which substantially improved the article.

1 For the advantages of using a causal diagram as part of economic analysis, see Judea Pearl and Dana Mackenzie, *The Book of Why: The New Science of Cause and Effect*, New York: Basic Books, 2018.

*standard economic models—neoclassical, Keynesian, behaviorist—contain none of these rewards, neither prospering, nor flourishing. In such models, the reward for work is fundamentally the wage paid in the economy for the sort of work done—the wage rate set by current market forces. There is no room in those models for any human agency by which a person might gain rewards other than the going wage—only room for endogenous responses to changes in the market wage or other prices. Thus, standard models ... miss the character of a modern economy.<sup>2</sup>*

In the sense that Professor Phelps means, employees who are flourishing enjoy job satisfaction beyond their paychecks. Such employees are engaged in continuous learning, leading to sustained economic innovation, long-term profitability, and high shareholder returns.

Achieving this sort of proficiency requires a great deal of focus and effort, however. All employees, but especially top management, must question assumptions, experiment with the new and different, and welcome critical but constructive feedback. This requires a spirit of collaboration and continual learning enabling employees to make problem solving an integral part of their jobs. The goal is to generate process insights that reduce waste (efficiency gains), performance-improving insights for existing products, and the occasional "big idea" that results in high-impact, scale gains.

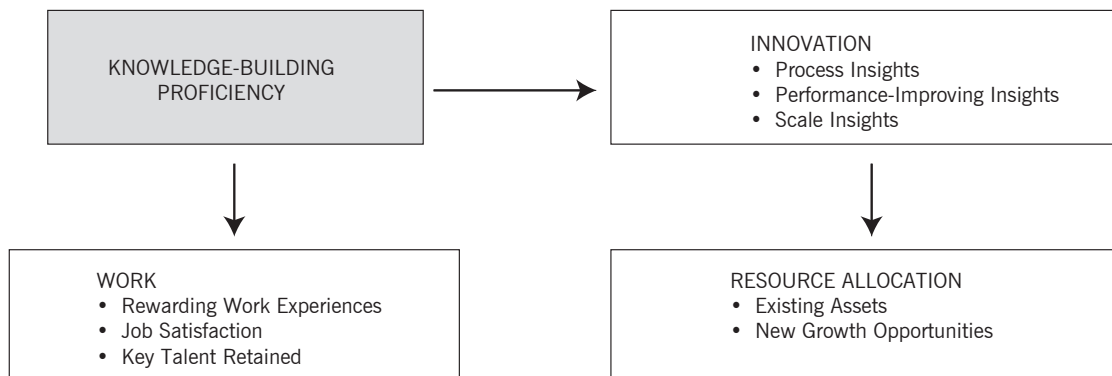
Traditionally, though, economists have preferred to model firms simply as production functions: management is assumed to coordinate factors of production to make and sell products until marginal costs equal marginal revenue and profits are maximized.<sup>3</sup> Such a firm is assumed to have clear boundaries

2 See Edmund Phelps in this issue: "The Dynamism of Nations: Toward a Theory of Indigenous Innovation," also published in *Capitalism and Society* 12(1) article 3, 2017. For additional background, see Edmund Phelps, *Mass Flourishing: How Grassroots Innovation Created Jobs, Challenge, and Change*, Princeton, NJ: Princeton University Press, 2013.

3 See Luigi Zingales, "In Search of New Foundations," *Journal of Finance* 55(4): 1623-1653, 2000.

Figure 1

### Knowledge-Building Proficiency and System Benefits



and its management tightly controls the work of employees and the accumulation and allocation of its physical assets.

We will need a new and more sophisticated concept of the firm, however, if we are to position human capital, in general, and knowledge-building proficiency, in particular, at the center of value creation. Figure 1 shows one way to think about how knowledge-building proficiency could coordinate a system of work, innovation, and resource allocation to sustain long-term value creation.

Business history is filled with many examples of once innovative firms that descended into mediocrity or worse as their managements presided over increasingly bureaucratic cultures. The hallmark of a bureaucratic culture is an implicit belief that historic practices will prove to be as successful in the future as they have been in the past. Business-as-usual practices and attempts to insulate management from change in the external environment arise naturally from an emphasis on “doing things right” as opposed to “doing the right thing.”

It is true that shared assumptions about how to do work (“the way we do things around here”) can ease communication and coordination;<sup>4</sup> but innovation depends on continual challenge of existing routines in the search for improvement. It is not simply a matter of adopting the “one best way.”

Consider how many other companies have tried but failed to duplicate Toyota’s preeminent lean manufacturing system whereby employees continually deliver substantial efficiency gains. This involves a fundamental change in mindset and not simply the adoption of new routines and programs.

Engineer and researcher Mike Rother studied Toyota’s management system at length and found that Toyota managers used the concept of *kata* to help their employees improve processes. *Kata* is essential to Toyota’s success but has proven very difficult for other firms to grasp. Because it is a way of thinking and not a tangible “thing,” it is not immediately visible to outside observers.

*Kata* helps a business team transition from a current condition, through what Rother labels the gray zone, to a target condition. Getting through the gray zone involves a process of continual improvement rather than following a particular roadmap. Employees increase their knowledge by testing hypotheses, accepting feedback, and learning. Toyota factory employees gain confidence in navigating uncertainty while continually improving productivity.

Rother emphasizes how insights arise from Toyota’s ordinary operations:

*Toyota’s improvement kata involves teaching people a standardized conscious “means” for sensing the gist of situations and responding scientifically. This is a different way for humans to have a sense of security, comfort, and confidence. Instead of obtaining that from an unrealistic sense of certainty about conditions, they get it from the means by which they deal with uncertainty. This channels and taps our capabilities as humans much better than our current management approach, explains a good deal of Toyota’s success [competitive advantage] and gives us a model for managing almost any human enterprise.<sup>5</sup>*

4 A useful entry point to the extensive literature on knowledge building/management includes Clyde W. Holsapple, *Handbook of Knowledge Management*, Volumes 1 and 2, New York: Springer, 2003; and Kimiz Dalkir, *Knowledge Management in Theory and Practice*, 3rd edition. Cambridge: MIT Press, 2017.

5 Mike Rother, p. 165, *Toyota Kata: Managing People for Improvement, Adaptiveness, and Superior Results*, New York: McGraw Hill, 2010.

Toyota's knowledge-building proficiency is the fundamental cause of its long-term business success. Knowledge building and value creation are opposite sides of the same coin.

### Insights and Creative Destruction

In addition to process insights, firms with knowledge-building proficiency also gain insights into performance-improvement and scale advantages. Insights that reveal faulty assumptions or make previously unrecognized connections also open the door for product innovations, which, in turn may create new growth opportunities.

Large firms tend to focus on improving the performance of their existing products because this usually offers the best chance of boosting near-term cash flows and strengthening their share in established markets. However, opportunities unrelated to existing products can easily be rejected if they require capabilities that the firm currently does not possess. It is understandable why managers would be reluctant to assume the risks of the unknown for future benefits but avoiding significant change can easily result in a highly bureaucratic and inflexible organization that descends into earning well below cost-of-capital returns.

Jeff Bezos, CEO of Amazon, explains:

*If we set our strategy by what our skills happen to be rather than by what our customers need, we never would have done it [Kindle e-book reader]. We had to go out and hire people who know how to build hardware devices and create a whole new competency for the company.<sup>6</sup>*

It is hard to find a better example than Eastman Kodak of failing to grasp new opportunities because it feared the impact on the firm's existing business.<sup>7</sup> Top management at Kodak repeatedly forecasted that its cameras and film would maintain a wide leadership over digital photography. One forecast showed traditional film would still have 70% of the market by the year 2020 while digital would have only a 30% share.<sup>8</sup> This was not for lack of technical knowledge. Kodak developed a sizable inventory of patents emblematic of their technical R&D proficiency on the road to bankruptcy. But, while R&D skill is a component of a firm's knowledge-building proficiency, more is involved, including the discovery of faulty business assumptions and the handling of feedback about external changes taking place.

6 Jeff Bezos, "Bezos on Innovation," Interview: *Bloomberg Business*, April 16, 2008.

7 Harvard Business School Professor Clayton Christensen described this situation in his landmark 1997 book, *Innovator's Dilemma*.

8 Paul Snyder, p. 179, *Is This Something George Eastman Would Have Done? The Decline and Fall of Eastman Kodak Company*, 2016.

Scale insights are breakthrough ideas that create new products/services and, at times, new business models such as those of Amazon. Obviously, every manager would like to participate in such extraordinary successes but change creates some losers as well as winners. As the Old Economy, focused on physical assets and local manufacturing, is replaced by the New Economy with its intangible assets, globalization, and Internet-related business models, many people are left behind.

This does not mean that innovation and change are actually harmful but that, as emphasized by Clayton Christensen, different types of innovation result in different impacts on new job growth.<sup>9</sup> The economy in general, and those left behind in particular, need breakthrough ideas (scale insights) that will spawn ancillary business opportunities and big gains in new, meaningful jobs.

Management can help by focusing on long-term value creation and more closely weaving their firm's knowledge-building activities with resource allocation decisions. This involves using the knowledge of those closest to the problems to be solved; and not subordinating the innovation process to static financial spreadsheet analysis. Along these lines, Scott Cook, founder of Intuit, noted that an early and excessive focus on financial analysis leads to what he calls a "withering of ambition." Intuit new product teams no longer submit spreadsheets as part of early development and instead focus on, according to Cook, "where we can change lives most profoundly."<sup>10</sup>

Firms that make changing customers' lives for the better an integral part of knowledge-building should expect higher retention of key employees through flourishing and job satisfaction that go beyond monetary compensation. This is consistent with both a win-win partnership between employees and top management, and improved financial performance but most contemporary studies attempting to explain high shareholder returns do not address these factors. An important exception is the research showing the importance of retaining "pivotal employees," classified in the top quartile of percentage pay progressions.<sup>11</sup> Using a proprietary database of employees' compensation and employment duration at specific firms, DePaul Professor Mark Ubelhart has shown that when pivotal employees leave firms at a fast pace, the subsequent CFROIs

9 Clayton M. Christensen, "A Capitalist's Dilemma, Whoever Wins on Tuesday," Op-Ed, November 3, 2012, *The New York Times*.

10 Clayton M. Christensen and Derek van Bever, "The Capitalist's Dilemma," *Harvard Business Review*, June: 60-68, 2014.

11 Mark C. Ubelhart, "An Economic View of the Impact of Human Capital on Firm Performance and Valuation," in Rawley Thomas and Benton Gup, Eds., *The Valuation Handbook: Valuation Techniques from Today's Top Practitioners*, Hoboken, NJ: John Wiley & Sons, 2009. This research is discussed in Mark L. Frigo and Mark C. Ubelhart, "CFO+CHRO=POWER PAIR," *Strategic Finance*, November 2015. Also, see Ram Charan, Dominic Barton, and Dennis Carey, *Talent Wins: The New Playbook for Putting People First*, Boston: Harvard Business Review Press, 2018.

(cash-flow-return-on-investment) of those firms declined, whereas high retention rates of pivotal employees led to increased CFROIs.

### Excess Shareholder Returns: Correlation versus Causality

Since the 1960s, the standard academic explanation for why some equities outperform the general stock market indexes is simply *Beta*, a stock's co-movement with the general market.<sup>12</sup> This was rooted in the assumptions of the capital asset pricing model (CAPM), positing a trade-off between risk and return.<sup>13</sup> In recent years, the popularity of ETFs (exchange traded funds) has encouraged researchers to search for better explanations of "excess returns" as ETFs are meant to match factors with perceived predictability to earn excess positive returns.

But even this advanced research can't help us answer the question about what firms need to survive and prosper because that answer—a firm's knowledge-building proficiency—is simply absent from the CAPM and related factor correlation studies.<sup>14</sup>

### Long-Term Value Creation and Excess Shareholder Returns

From 1970 to 1990, Walmart's stock outperformed the S&P 500 approximately 100-fold. Necessarily, such a long-term outperformance of the market meant that Walmart exceeded investor expectations in most years. Specifically, Walmart's CFROIs were sustained at high levels (did not fade toward the corporate average). Over these two decades, Walmart's annual reinvestment rates were in the 20%–30% range as the firm took customers away from competitors, such as Kmart. This coupling of an unusually high reinvestment rate with sustained, well-above-cost-of-capital CFROIs is the ideal combination to create exceptional shareholder value.<sup>15</sup>

Invariably, those who worked closely with Sam Walton, Walmart's founder, emphasize his extraordinarily deep knowledge about the retail industry, his long-term focus, and his insatiable curiosity about what was happening outside the firm that might be useful. Sam Walton was the nucleus for Walmart's knowledge-building proficiency reflected in its

overall logistical/information system with pioneering advances such as RFID tags to optimize inventory management and a long list of technical innovations that improved efficiency and helped deliver Walmart's promise of everyday low prices. Consumers benefitted as Walmart forced competitors to play catch-up with investments in information technology and distribution which were necessary in order to remain competitive.<sup>16</sup>

In my opinion, Sam Walton's most important insight involved his strategy to compete against Kmart. Kmart was the leading retailer in the U.S. in the early 1960s and its management believed that business-as-usual in the future would replicate its past success. That success was built on a business model in which a "store" was an independent entity with the store manager responsible for ordering, pricing, and other key activities. Sam Walton had an especially important scale insight: he envisioned a future in which a "store" was a node in a network thereby leading to centralized decision making and a path for continual efficiency gains due to one integrated system.<sup>17</sup> With his long-term perspective, large stores could be very profitable in small towns as Walmart soon dominated those markets. Meanwhile, the population was steadily expanding towards these stores.

What was the root cause of the extraordinary value creation achieved by Walmart from 1970 to 1990? Obviously, its exceptional financial performance often exceeded investor expectations but that was a reflection of underlying operational superiority. The *fundamental root cause* resided in Walmart's knowledge-building proficiency which began with Sam Walton. This proficiency created various intangible assets, giving it an overwhelming competitive advantage.

There is growing awareness of the benefits to society from management with a long-term focus committed to maximizing shareholder value not as the purpose of the firm, but as the result of a firm successfully achieving its purpose. Firms such as Walmart that have delivered exceptionally rewarding returns to their shareholders have also wound up employing far more people.

### Value Creation = Long-Term Focus + Knowledge-Building Proficiency

The firm's purpose has four components: (1) a vision that inspires and motivates employees to devote their working lives to making the world a better place; (2) an awareness that in order to survive and prosper the firm needs to earn

12 C.R. Harvey, Y. Liu, and H. Zhu, "... and the cross-section of expected returns," *Review of Financial Studies* 29, 5-68, 2016. For a more recent paper, see Campbell R. Harvey and Yan Liu, "Lucky Factors," Working paper at <http://ssrn.com/abstract=2528780>, 2018.

13 Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, 18(3): 25-46, 2004.

14 Juhani T. Linnainmaa and Michael R. Roberts, "The History of the Cross Section of Stock Returns," *Review of Financial Studies* 31(7): 2606-2649, 2018.

15 Bartley J. Madden, *Value Creation Thinking*, 2016, p. 124-133 contains a long-term, life-cycle track record for Walmart and a calculation of investor expectations at year-end 1979 which is compared to subsequent life-cycle performance.

16 Sandra S. Vance and Roy V. Scott, *Walmart: A History of Sam Walton's Retail Phenomenon*, New York: Twayne Publishers, 1994.

17 Richard P. Rumelt, p. 23-28, *Good Strategy Bad Strategy: The Difference and Why It Matters*, New York: Crown Business, 2011.

its cost of capital and that innovation leads to both expanding and contracting businesses; (3) a commitment to nurture and sustain win-win partnerships with all important stakeholders; and (4) a guarantee that the firm takes care of future generations (e.g., environmental sustainability) with particular attention to designing, at an early stage, products and manufacturing processes that eliminate waste and pollution.<sup>18</sup>

A team of McKinsey consultants published the results of their research into the benefits of a long-term perspective. One interesting finding was:

*We calculate that U.S. GDP over the past decade might well have grown by an additional \$1 trillion if the whole economy had performed at the level our long-term stalwarts delivered—and generated more than five million additional jobs over this period.*<sup>19</sup>

Knowledge-building proficiency does involve quantitative challenges since investments to enhance knowledge building are almost always expensed (and difficult to even classify accurately) even though they result in intangible assets. But the quantification difficulty should not be an excuse to avoid connecting these investments to value creation.<sup>20</sup> It would not be surprising to learn that some factors associated with excess returns are also correlated with a firm's knowledge-building proficiency that ultimately underpins competitive advantage, such as lean manufacturing expertise reflected in the Toyota Production System and the Danaher Business System. For example, if a low ratio of inventories/sales for manufacturing firms versus competitors is identified as a statistically significant factor, a plausible causal explanation is that these firms are far more advanced in the implementation of lean thinking that reduces waste and typically leads to lower inventories.

Moreover, when studying variables that may be correlated with excess (positive/negative) shareholder returns, we should segment the data in order to seek causal patterns. Analysis of aggregate data has shown that low-asset-growth firms have exhibited higher shareholder returns, on average, than high-asset growth firms.<sup>21</sup> But, a more fine-grained analysis could focus on firms with significant scale advantages such as Walmart where big reinvestment rates (asset growth) coupled

with high and sustained CFROIs may, on average, produce positive excess returns—the opposite of the reported relationship for asset growth.<sup>22</sup> And although corporate acquisitions are hardly a guaranteed path to wealth creation there are some firms that manage to earn high CFROIs through skill in consolidating industries or improving the operations of acquired firms (e.g., Danaher), some of which may be earning low CFROIs and in need of restructuring. These “skilled” acquirers may perform quite differently than most corporate acquirers and deliver, on average, positive excess shareholder returns while generating high asset growth.

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### Organizational Structure and Knowledge Building

In the Old Economy, the importance and profitability of most firms closely corresponded to the size of its physical assets—plant and equipment, reserves of natural resources, and other tangible assets easily quantified. Existing assets and new growth opportunities were broadly similar and both were correlated to tangible assets. Little attention was given to human capital which is critical to the development of intangible assets.

The New Economy's widespread Internet access, information sharing, and consumer power has visibly changed how products and services are designed, marketed, and used by consumers. But a less visible process is underway as managers reorganize their firms to exploit growth opportunities provided by the New Economy. The Shanghai-based Haier Group is a good example of successful application of knowledge-building-proficiency to the conceptual framework illustrated in Figure 1.

In 1984, Zhang Ruimin was hired as CEO to fix a small, near-bankrupt, Chinese firm that was manufacturing exceedingly low-quality refrigerators. Under his leadership, the Haier Group became a highly profitable diversified multinational consumer electronics and home appliances firm with sales of

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18 Bartley J. Madden, “The Purpose of the Firm, Valuation, and the Measurement of Intangibles,” *Journal of Applied Corporate Finance*, 29(2): 76-86, 2017.

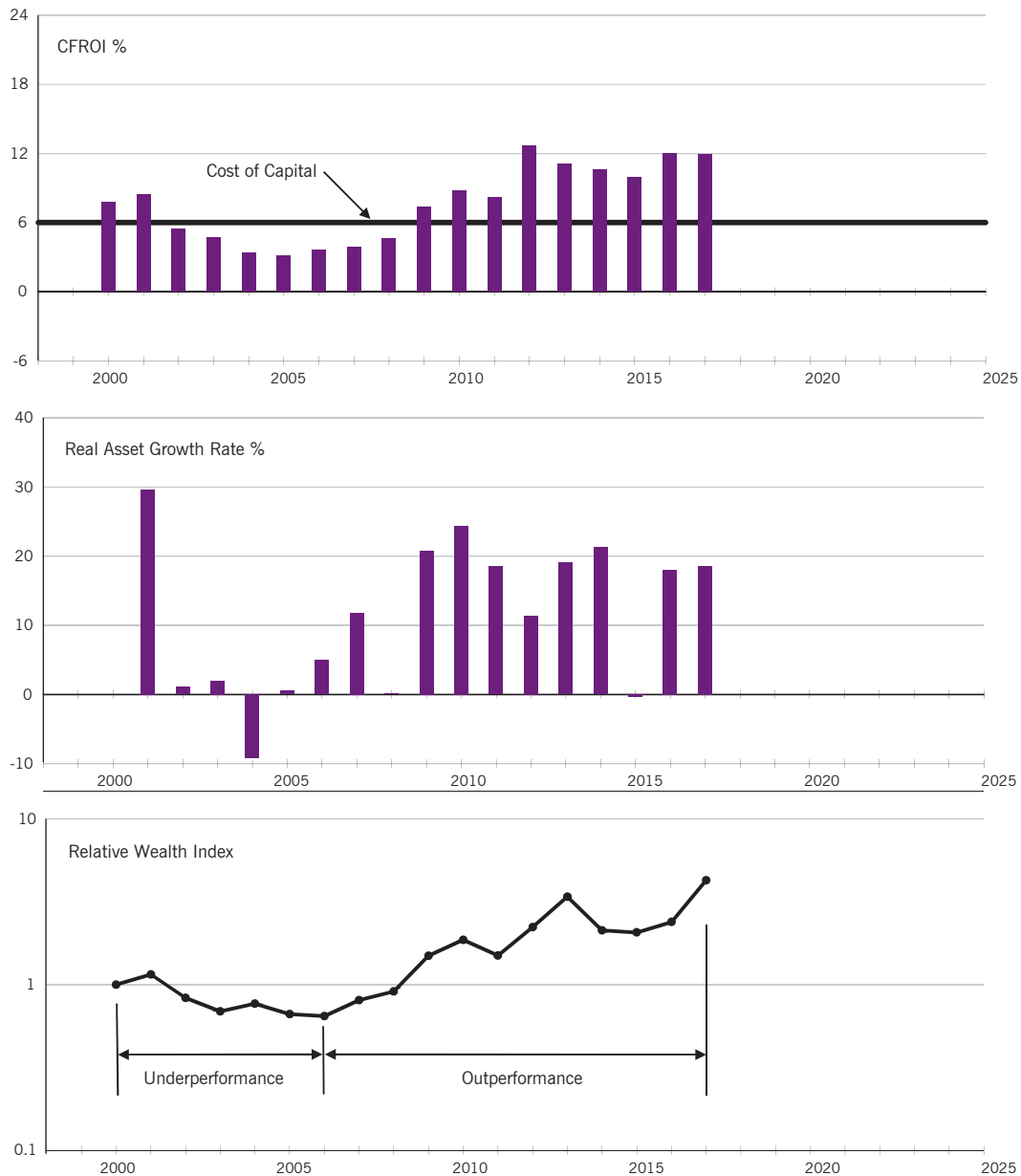
19 Dominic Barton, James Manyika, and Sarah Keohane, “Finally, Evidence that Managing for the Long Term Pays Off,” *Harvard Business Review*, online HBR.ORG February 2017.

20 See [www.FCLT.org](http://www.FCLT.org). “Focusing Capital on the Long Term” is an initiative to advance practical action to focus institutional investors, management, and boards on the long term. FCLT research has recently developed measures of firm commitment to building long-term value and avoiding short-termism.

21 Michael J. Cooper, Huseyin Gulen, and Michael J. Schill, “Asset Growth and the Cross-Section of Stock Returns,” *Journal of Finance*, 63(4): 1609-1651, 2008.

22 Similar thinking suggests that high asset growth may be related to positive excess returns for firms with demonstrated innovation skill measured by securing patents. This is, in fact, supported by Praveen Kumar and Dongmei Li, “Capital Investment, Innovative Capacity, and Stock Returns,” *Journal of Finance*, 71(5): 2059-2094, 2016.

Figure 2  
Haier Group, 2000 to 2017



Source: Credit Suisse HOLT global database

\$38 billion. It is now the world's biggest white goods (refrigerators, ovens, etc.) manufacturer.

Figure 2 displays the life-cycle track record for Haier Group.<sup>23</sup>

23 For background on life-cycle charts, see Bartley J. Madden, *Value Creation Thinking*, Naperville, IL: LearningWhatWorks, 2016. For the book summary, see Bartley J. Madden, "Value Creation Thinking: Powerpoint Presentation," available at <http://ssrn.com/abstract=2788692>.

The top panel of Figure 2 plots inflation-adjusted returns (CFROIs) on a measure of total capital adjusted for a variety of accounting distortions. This provides a more accurate reading of true economic returns compared to simple measures such as RONA. The top panel also includes a dark, horizontal line at 6 percent, which is an approximation of the real, long-term corporate cost of capital. The middle panel displays Haier's reinvestment rate, calculated as a real asset growth rate. The

bottom panel displays a relative wealth index as a trend line—Haier's total shareholder return relative to the market index. Outperformance is seen as a rising trend line; market-match performance is a flat trend; and underperformance is a declining trend.

The above life-cycle track record is rooted in cause and effect. The top and middle panels display CFROIs and reinvestment rates which drive a firm's net cash receipts and ultimately determine market valuation. Life-cycle performance of these two variables that significantly differs from investor expectations causes excess (positive/negative) shareholder returns displayed as the relative wealth index in the bottom panel.

From 2000 to 2006, Haier's CFROIs declined to below-cost-of-capital levels, disappointing investors. During this period, Haier's stock underperformed the Shanghai Stock Exchange Composite Index as shown in the bottom panel. But, since 2006, its stock has significantly outperformed the market as its CFROIs rose to 12% while real assets grew at a 20% rate (helped by the 2016 acquisition of General Electric's appliance division for \$5.4 billion). This double-barreled performance, reminiscent of the financial performance delivered by Walmart from 1970 to 1990, is the culmination of Ruimin's orchestration of a New Economy organizational structure.

Haier's success came from a unique scale insight similar to Sam Walton's understanding that a retail store was really a node in a system. Zhang Ruimin saw that Haier's ability to leverage new growth opportunities depended upon rapid changes in the firm's organizational structure. In an interview, Ruimin explained: "One of the biggest differences is our ability to remake and overhaul ourselves. Many companies' ways of thinking and operating have ossified and become hard to change, especially their organizational structures."<sup>24</sup>

Ruimin started the firm's transition by rapidly upgrading employees' knowledge about manufacturing a quality refrigerator.<sup>25</sup> From 1984 to 1991, Haier was building a well-deserved reputation as a quality brand in China and eventually gained a dominant share of the Chinese market for refrigerators. At that time, though, Haier still used a hierarchical command-and-control organizational structure to quickly deliver a quality product.

From 1991 to 1998, Ruimin acquired firms with quality products but which were otherwise poorly managed. He implemented a decentralized organizational structure focused on

individual business units. During 1998-2005, Haier expanded internationally, entering the most competitive markets. Ruimin flattened the organizational structure even further with project teams designed to operate with "zero distance" from customers. This was a major step in decentralization.

From 2005 to 2012, Haier acquired well-known brands and focused on local manufacturing using its lean process expertise. Self-managed teams expanded and became responsible for allocating resources and acceptable profitability. Since 2012, the firm has become a platform-based enterprise with local employees able to provide extensive customization. Rather than being subject to top-down control, employees became self-motivated decision-makers working to make customers lifetime users of Haier products and services. Effectively, Ruimin's *rendanheyi* organizational structure has thousands of self-governing microenterprises rather than a large middle management tier.<sup>26</sup>

Zhang Ruimin explains his approach as follows:

*In 2005, with the Internet economy in mind, we began making innovations in our business model that would help us adapt. We called our new model rendanheyi. Ren refers to the employees, dan means user value, and heyi indicates unity and an awareness of the whole system. The term rendanheyi suggests that employees can realize their own value during the process of creating value for users. This new model was intended to foster co-creation and win-win solutions for employees and customers.*<sup>27</sup>

*... For the first few years, our performance didn't really pick up. ... Some of our shareholders expressed concerns. In our shareholders' meetings we explained that this is the model that we believe will lead to success, especially in this changing world where we were entering the Internet era. ... Our performance started picking up in 2016. Our stock price doubled that year. In 2017, our stock price doubled again. This pick-up in performance was no coincidence. It was the accumulated effect of many years of working in the micro-enterprise model.*<sup>28</sup>

Does Haier's stock outperformance since 2006 fit the framework laid out in Figure 1? Yes, as the key idea here is *system benefits tied to a knowledge-building proficiency*. Ruimin has always encouraged a self-critical attitude to build knowledge about customer needs. Haier is committed to mass customization, e.g., its water purifiers eliminate specific

26 Rosabeth Moss Kanter and Nancy Hua Dai, "Haier: Incubating Entrepreneurs in a Chinese Giant," *Harvard Business School*, Case study 9-318-104, 2018.

27 Zhang Ruimin, "Why Haier Is Reorganizing Itself around the Internet of Things," *Strategy+Business* Summer issue 91, 2018.

28 Knowledge@Wharton. "For Haier's Zhang Ruimin, Success Means Creating the Future." April 20, 2018. <http://knowledge.wharton.upenn.edu/article/haiers-zhang-ruimin-success-means-creating-the-future/>

24 Art Kleiner, "The Thought Leader Interview: Zhang Ruimin," *Strategy+Business*, Winter 2014 issue 77: 96-102.

25 He famously used a sledgehammer to destroy a significant number of defective refrigerators in inventory.



pollutants in each of the 220,000 Chinese communities. The firm's objective of zero distance to customers ensures that work is directly linked to making the world a better place in the eyes of customers, which is also a key to job satisfaction.

Haier has a track record of cultivating and rewarding high-quality talent resulting in high retention of pivotal employees. By delegating resource allocation decisions to those project teams closest to customers and giving them freedom to obtain resources within and outside the firm, the end result is that resource allocation comports with value creation—an ideal arrangement attuned to free-market principles. By any measure, Haier represents a radical change to the conventional ways of managing firms and warrants careful watching as a leader in evolving a new organizational structure for large firms.<sup>29</sup>

### Research that Makes a Difference

What are the incentives for researchers to grapple with the difficult-to-measure variables involved with a firm's knowledge-building proficiency? Researchers have ready access to computerized Compustat financial data on firms and this can expedite a chance to publish in a top-5 journal and gain recognition, and for some, possibly lead to tenure.

Research at the firm level will likely involve extensive field work not easily packaged into the sort of "top-5 journal" articles that play such a large role in faculty evaluation but not necessarily in "real world" importance.<sup>30</sup> Who, in recent decades, has made a truly significant impact on improving a firm's knowledge-building proficiency? Two names at the top of my list are James Womack and Eli Goldratt but they did not publish in top-5 journals. Rather, their insights were packaged primarily in books and videos plus conferences attended by practitioners.

Womack is noted for advancing *lean thinking* (pioneered by Toyota) as a management discipline to the benefit of worldwide manufacturing firms and more recently service firms.<sup>31</sup> A central message of lean thinking is to observe how work is done along the entire value stream of a product and then eliminate waste. This is a horizontal approach to value creation but most firms typically have vertical silos of separate activities. Hence, lean requires top management involvement and

changes in organizational structure as needed. Womack and his colleagues emphasize the need to treat employees with respect and continually develop their problem-solving skills. At a deep level, lean thinking involves a scientific approach to problem solving that begins with careful observations of how work is organized.

Goldratt developed the *Theory of Constraints* (TOC) which specifies that top priority needs to be given to identify and elevate the key constraint that impedes performance of the system.<sup>32</sup> He published a series of popular books describing how TOC could be applied to a wide range of business problems. Goldratt was educated as a physicist and always maintained that cause-and-effect analysis could dissect complex business problems into simple solutions. His scientific instincts helped him create detailed maps of interlinked business causes and effects. These maps then allowed managers to identify the faulty assumptions that were the key to problem resolution or strategic insight. Goldratt viewed traditional cost accounting as the enemy to productivity and developed an alternative accounting approach.

Womack and Goldratt's work is deeply rooted in fundamental principles of causality, even if not suited for econometric studies and the customary presentation style of top journals. Their work has had an enormous world wide impact. Goldratt, in particular, had an impact on top managements' strategic thinking. Their work deserves study by business managers and researchers in finance, economics, accounting, and management.

### Concluding Thoughts

Researchers should ask important questions about a firm's knowledge-building proficiency. For example, does a firm's accounting control system motivate employees to ignore process improvements or to adopt them?

Portland State Professor Tom Johnson summarizes the situation this way:

*No company that talks about improving performance can know what it is doing if its primary window on results is financial information and not system principles. . . . The dilemma facing all companies that intend to become "lean" is that they can follow a truly systemic path to lean or they can continue to use management accounting "levers of control." They can't do both.*<sup>33</sup>

29 Compared to the extensive number of articles and books about Haier, much less attention has been given to the privately held Koch Industries, which has implemented an organizational structure in the spirit of Haier's structure. For an overview of Koch Industries, see Bartley J. Madden, *Value Creation Thinking*, Naperville, IL: LearningWhatWorks, 2016, p. 113-117.

30 See a recent American Economic Association panel discussion, "Curse of the Top-5," <https://www.aeaweb.org/webcasts/2017/curse.php>; and Robert S. Kaplan, "Reforming Academic Performance Evaluation: Overcoming the Curse of the Top-5," Presentation at the American Accounting Association Annual meeting August, 2017.

31 James Womack and Daniel T. Jones, *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, New York: Free Press, 2003; James Womack, *Gemba Walks*, Cambridge, MA: Lean Enterprise Institute, 2011.

32 James F. Cox and John Schleier, *Theory of Constraints Handbook*, New York: McGraw Hill Education, 2010; Eliyahu M. Goldratt and Efrat Goldratt-Ashlag, *The Choice*, Great Barrington, MA: North River Press, 2010; and Bartley J. Madden, "Management's Knowing Process and the Theory of Constraints," 2011, available at <http://ssrn.com/abstract=1806500>.

33 H. Thomas Johnson, p. 13. of "Lean Dilemma: Choose System Principles or Management Accounting Controls—Not Both," in Joe Stenzel, ed., *Lean Accounting: Best Practices for Sustainable Integration*, Hoboken, NJ: John Wiley & Sons, 2007.

Perhaps, what management really needs *is* a way to do both.

The relevant question is: How best to promote process improvements while still using accounting reports? That is, at higher levels of the organization, accounting data is essential to measure return-on-investment for business units in order to efficiently allocate resources. There is a crossover problem that involves a transition to control of process variables at lower levels of the organization. Solving that control problem and many

more problems involved with a firm's knowledge-building proficiency will improve firm performance and lead to greater flourishing with higher economic growth that lifts all boats.

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BARTLEY J. MADDEN was a managing director at Credit Suisse HOLT and a founding partner at Callard Madden & Associates where his research was instrumental in the development of the CFROI valuation model. His current research is described at [LearningWhatWorks.com](http://LearningWhatWorks.com).

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