

INTRODUCTION TO THE LEARNING LAYER

It has long been understood that the only truly *sustainable* business advantage comes from the capacity to learn to learn better. A lofty thought, but is there anything new under the sun that provides a *practical* and *scalable* way to *significantly* enhance this capability? Steven Flinn says yes! Born of Web 2.0 and artificial intelligence, and taking lessons from the way the brain works, it's the radically new systems paradigm called *the learning layer*—the paradigm that inevitably emerges when the capacity for automatic learning and adaptation is made the centerpiece of our systems.

The learning layer is described as an ethereal, AI-enabled network of learning that overlays and integrates new and existing content and systems into an emergent whole. The learning layer automatically learns from its experiences with users, returns the learning back to users, and even applies the learning to modify *itself* to become ever more useful over time!

The productivity-enhancing power of the learning layer and its technical feasibility—all of the required technical elements are now in place to make it a reality—imply that the learning layer will be an inevitable part of our future and that the adaptive enterprise will finally be more than just a dream.

The unique powers of the learning layer derive from five novel and interlocking design points:

1. **Fuzzy Knowledge Network.** A *fuzzy* network comprises nodes related by *degree*—it's the basic structure of that ultimate learning “machine,” the brain. A fuzzy knowledge network can weave together existing and new content and applications and provides the structure that is required for true adaptation.
2. **Social and Knowledge Networks United.** Relationships among people vary by degree, so they are a natural for fuzzy networks. People can therefore be easily represented and integrated into the fuzzy knowledge

network, resulting in a seamless social and knowledge union built to gracefully adapt.

3. **Integrated People, Knowledge and Process.** Process workflow can be integrated directly into the fuzzy social and knowledge network. Learning and work become an integrated whole.
4. **Responsive Social Awareness.** The socially aware system pays attention to our individual and collective behaviors and comes to well understand our preferences and interests. Adaptive recommendations of people, content, and even workflow can be generated and delivered to us on the basis of highly sophisticated inferences derived from wide-ranging system usage behaviors.
5. **Self-Modifying Recommendations.** Recursively applying recommendations back onto the system itself and modifying the fuzzy network accordingly sets in motion an ever-evolving web of people and knowledge.

The result is a system that can recommend the right individual or item of knowledge to the right person at the right time. A system in which the workflow of a process can adapt based on the experience level of the user. A system that effortlessly and continuously generates metrics of learning value associated with people and content, and that amplifies the value of existing applications. And a system that beneficially *evolves*, culminating in a people-system *phenomenon* of a qualitatively different *nature* than the traditional enterprise systems, or even the Web 2.0 systems, that came before it. The learning layer is *us*, yet so much *more* than just us.



BUILDING LEARNING INTO THE FABRIC OF BUSINESS

The author describes the fabric of a business as including its strategy, capabilities, and culture. The learning layer promises to build a new capacity for learning into this very fabric, and any knowledge-based process or organization will undoubtedly benefit. But there are some applications that will be particularly transformational.

One of the most fundamental opportunities is to transform the way businesses *renew* themselves. Business renewal comprises the generative processes such as R&D, business development, and innovation in general—the engines of growth and revitalization. And learning is at the core of business renewal—the need to learn is *the* reason renewal projects and activities are conducted. Essentially, *renewing is learning*.

Which means business renewal and the learning layer have a particular affinity. The learning layer effortlessly makes *tacit* knowledge *explicit* so that it is available and can be applied by others. It automatically draws together people with complementary experiences and expertise, thereby stoking the fires of creative combinatorics. It fosters the effective diffusing of innovative results throughout the enterprise. And it provides an adaptive process platform for creative endeavors that is flexible enough to be of real assistance, rather than a cumbersome burden. The result is a continuous unfolding of dazzling patterns of additional value.

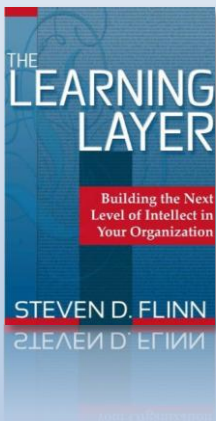
In the area of relationship management, the learning layer provides a transformational opportunity for providers of expertise and their clients. A joint learning layer ensures that the client attains a deeper and more continuous expertise transfer, while the expertise supplier benefits from a privileged relationship and greater efficiencies in expertise delivery.

Education and training will be transformed by the learning layer through its delivery of *real-time learning*. Educational materials embedded in the learning layer become flexible

knowledge assets that can be delivered specifically when they are most relevant. Classes and concentrated training programs have their place, but delivery of personalized knowledge when it is most needed will inevitably become the dominant way people learn.

And most generally, the learning layer harnesses the latent capabilities of the organization that have been hidden in plain sight. Learning is a flow, and the learning layer allows us to actually see the flow in motion. In applications as diverse as business renewal, relationship management, and project management, it effortlessly captures knowledge that would otherwise be lost, and encourages explicit contributions to an organization's body of knowledge by making learning, and the contributions to learning, a very visible and measurable reality.

It will be a business fabric of very different nature.



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ABOUT THE AUTHOR

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Steven Flinn uniquely combines the perspectives of an experienced global senior executive, strategist, scientist, technologist, entrepreneur, and inventor. Mr. Flinn is a founder and CEO of ManyWorlds, Inc., which conducts R&D in the area of next generation systems and business processes, and delivers the results to leading companies around the world. ManyWorlds often serves as a "consultant to the consultants," and sponsors and operates ManyWorlds.com, the acclaimed business thought leadership site and adaptive technologies demonstration facility.

Mr. Flinn is a pioneering inventor in the field of adaptive systems and processes and has been awarded numerous patents. He is widely sought as a speaker and executive educator and has delivered the keynote addresses at international conferences on innovation, business strategy, intellectual capital and knowledge management, and IT strategies and futures. Mr. Flinn also publishes on frontier scientific issues ranging from the origins of music to the deep correspondences between information theory and evolution.

Prior to founding ManyWorlds, Mr. Flinn was an executive at Royal Dutch Shell, at the time the most valuable company in the world. Among the leadership positions he held was Chief Information Officer and Vice President of Strategy and Strategic Alliances. In these roles he was a driving force in establishing Shell directions at the intersection of business and technology. He was also a leader in applying advanced techniques to promote more effective organizational learning at Shell, including methods informed by the field of cognitive science, as well as the application of Shell's famous scenario process to enterprise IT strategy.

Mr. Flinn studied economics, mathematics and computer science as an undergraduate, and holds graduate degrees in engineering-economic systems from Stanford University and business from Northwestern University's Kellogg School of Management.