Achieving Sustainable Advantage by Integrating Innovation & Execution

The Case for a New Operating Model

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Businesses today face the dual challenge of rapid, global change and increased complexity as they search for operating models that can yield sustainable advantage and profitability. The “flat world” described by Friedman continues to enable new competitors and new business models from all corners of the world who are unencumbered with “traditional” patterns of competitive behavior. Governments engage in various forms of trade liberalization and protectionism to support their local economies. The recent financial crisis has launched a new wave of regulation and tighter credit that hampers business investment. All of these trends show no sign of abating, and leave firms with the burden of re-architecting their operating models to win in this age of the “new normal.”

Execution (or Operational) excellence has long been a core strategy used by businesses to deal with change and improve their competitiveness. Considerable experience and best practices have been developed to help companies improve the speed, cost, and quality of their core operations. They continue to deploy these techniques in hopes of combating the challenges of the new normal, but often these techniques lead to incremental, rather than breakthrough, improvements. This approach often leaves them uncompetitive when pace and complexity are accelerating much faster than in traditional times.

Of late, there has been a significant shift in focus toward innovation. Innovation often provides a breakthrough level of improvement that can redefine a firm’s competitiveness. Rather than rely on incremental improvement that can be leapfrogged, businesses wish to leverage new technology and other advances to achieve a truly sustainable advantage. Innovation can take many forms throughout the Enterprise, including business model, operating model, process, or algorithm. Fortunately, the breadth of new technology, new partners, new materials, etc. is presenting a rich set of inputs to supercharge innovation.

The ideal response is to create excellence in innovation, execution and linkage between the two. Much like the Gartner Group’s well-known “magic quadrant”, firms who can excel at both developing and deploying breakthrough innovation will be well positioned to lead in the future. When excellence is achieved in both disciplines, a highly virtuous circle is created. New innovations are easily and quickly integrated into existing operations which shortens the critical time-to-value measure, improves investment ROI, and most importantly improves operations. When execution results are captured and fed back to the innovation process, crucial insight into markets, competitors, and customers is used to improve the speed, cost, and quality of the next innovation cycle.

In the end, firms are challenged to develop operating models that will excel in this challenging environment and retain the flexibility to constantly adapt. In addition to building the physical operations and required partnerships, these advanced operating models must build out an information/management system comprised of four
fundamental capabilities. First, disparate information must be collected and integrated to form a complete picture of the current operating environment. Second, high quality analyses must be performed across (often dynamic) objectives, constraints, and trade-offs. Third, operating decisions must be made which meet applicable constraints while maximizing the likelihood of an optimal business outcome. Finally, those decisions must be deployed across the value chain and monitored on an end-to-end basis to ensure execution delivers the expected result.

This is a tall order for any business, let alone those saddled with limited global awareness, incapable processes, or outdated technology. Further compounding this challenge is the lack of developed “science” around innovation, and how companies could dramatically improve the time and cost of developing and fielding such innovations. Today, the time and cost penalty of failed attempts at innovation simply do not support the development of operating models needed to compete.

Challenges in Building a capable Management System

Building a high performance management system that can deliver on the requirements discussed above is challenging. Various paradigms have evolved over past years including a popular, but often misunderstood, approach called “Service Oriented Architecture” (SOA). SOA promised to make it easy for firms to access and integrate data, unlock applications functionality, and create complex, “composite” applications. The reality was far different as early generations of SOA required extensive (and expensive) new infrastructure, extended up-front design and development time, significant re-training of existing staff, and repeated re-starts due to inadequate upfront planning. The most serious issue with many SOA initiatives was the loss of business engagement and sponsorship due to the long lag in time-to-value. As technology, rather than business value, dominated the discussion many disillusioned adopters scaled back or canceled their programs.

Without doubt, creating such a management system is made much harder by often limited development of a robust Enterprise Architecture. All too often point solutions, one-off technologies, and development compromises in the name of cost and speed leave today’s companies with a complex mix of technologies, data models, and applications. The typically competing demands of speed, cost, robustness, and richness contribute to a level of complexity that does not deal with today’s pace of change and complexity.

Requirements for a New Approach

To meet the challenges outlined above, businesses must become masters at improving their innovation and execution capabilities enabled by the build-out of a new management system. To develop the right requirements for such a management system, it is useful to propose specific measures by which firms can gauge their progress. One such measure is the speed and cost of success. This measure is
particularly useful in driving true end-to-end thinking as it validates that a particular innovation has driven performance improvement in the marketplace. Key failure modes to overcome include scale-up and commercialization, which requires an ability to anticipate, model, and test the differences between a lab environment and the real world.

Another key measure is the speed and cost of failure. This measure can be invaluable in understanding how quickly a firm identifies and terminates lines of investigation that are unlikely to yield commercial advantage. Such early determination can save significant financial and human resources, allowing them to be re-deployed to likely winners. Key requirements for this measure involve simplifying the build, integrate, and test of new solution components. When the time and cost to construct a meaningful prototype is dramatically reduced, the commensurate resource consumption is much lower as well. The net effect can be a significant increase in ideas developed and tested with the same resource base which should generate more opportunities for success.

A third measure involves the degree and value of close collaboration between market-facing and internal development resources. Each group has invaluable insights to bring—market facing groups understand the customer requirements and real-world implications of change, while the development resources can envision new delivery models, etc. that leverage core competencies and new technology. Optimizing these relationships requires a platform that promotes easy, low-cost, and highly effective collaboration. As design iterations continue, each group must be able to add their unique insights, test hypotheses, and assess results. Having this partnership helps avoid “great ideas that won’t sell” and “great ideas we can’t develop.”

These higher level requirements are complemented by a set of lower level, enabling requirements. In addition to standard governance, change management, and customer engagement practices, the adoption of a development and management platform that provides breakthrough productivity for business solution design is a critical component of success.

The first critical platform requirement is to enhance collaborative design. Ideally the platform would have an intuitive interface to develop and test solution components which allows the broadest possible user base. Second, the platform must support rapid, low-cost ways to identify, integrate, and interact with the various internal and external assets of the firm. This exposes the full complement of resources available to the designer. Third, the platform must be able to model expected impacts and behaviors to allow the creation of a suitable test-bed for new solutions. Fourth, the platform should create a layer of abstraction that shields innovators from the details of implementation and operation. In today’s solutions, technology tends to overshadow business for innovators thus hampering rapid development efforts. Fifth, the platform must be properly instrumented so that hard data can be gathered about potential solution performance. Finally, the platform must smoothly integrate, cooperatively manage, and optimize execution in a heterogeneous operating environment.
Pneuron – A New Paradigm for Innovation and Execution

Pneuron has embraced the challenge to enable superior performance across the innovation and execution disciplines. Leveraging advanced research and development, Pneuron has defined a fundamentally new approach to the development and deployment of applications solutions. This approach embraces today’s technology trends, provides a platform to improve the relationship between business and technology resources, and creates value by improving the core innovation and execution disciplines.

Pneuron has defined an ambitious mission: Define a new Business Oriented Architecture to drive customer competitiveness by re-defining the paradigm for innovation and execution. Pneuron’s approach is through the use of a distributed network of highly integrated, resilient, and fixed function processing objects (Pneurons), which cooperatively build out the composite solutions needed by today’s businesses. Breaking this mission down further, Pneuron has defined a set of specific customer objectives:

- Align and connect value chains to create new products, applications, workflows, operating models or businesses as interconnected, distributed, and available services at low cost, with maximum speed to market and fully utilizing existing investments in IP, technology and infrastructure

- Achieve targeted 50% improvement in time and cost to market versus traditional application development, deployment, and operations approaches

- Establish real-time, distributed Business Intelligence without the need for intermediary or centralized databases and the requisite duplications, normalization, and management of corporate data

- Integrate traditionally stove piped legacy or third party systems and technologies into cooperating interoperable application services which support new (horizontal) operating models

- Combine different technologies, data sources or components within one unified interoperability model without intermediary technologies or translation

- Enable the re-deployment of maintenance resources to further accelerate improvements in innovation and execution

The core of the Pneuron approach is the development of a distributed, lightweight, and elastic approach to building and distributing the required functionality of new solutions. This is fundamentally different than traditional SOA approaches where a much more centralized paradigm requires significant overhead, up-front design, and continuous re-architecting as business complexity and scale continue to grow. Pneuron believes that a distributed approach provides a platform better suited for today’s business and
technology trends given its ability to scale using existing infrastructure, incorporate legacy and new data sources, and provide for elastic expansion of processing capacity.

Within the Pneuron framework, all functions are fully interoperable, enabling the enterprise to connect, configure and deploy global, high performance products or businesses without the need for the onerous, time consuming and costly data integration, application build, or systems integration projects of the past.

The Opportunity

Looking ahead, the relentless challenges of competition, regulation, and globalization will wear down businesses that are not well positioned with leading innovation and execution capabilities. In response, business must find new ways to leverage existing IP, energize collaborative development, and build external linkages all while dealing with a legacy of highly distributed data, applications, and infrastructure.

Pneuron’s revolutionary distributed approach re-defines focus toward value creation while hiding implementation details. By avoiding the traditional and costly re-structuring of IP into duplicated and centralized resources, Pneuron accelerates initial build, simplifies deployment, and minimizes ongoing maintenance of new solutions.

For more information on the Pneuron Solution and the benefits it can bring to your organization, please feel free to reach out to the following Pneuron contacts:

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<tr>
<th>Chief Executive Officer</th>
<th>Chief Operating Officer</th>
<th>Chief Relationship Officer</th>
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</thead>
<tbody>
<tr>
<td>Simon Moss</td>
<td>Elizabeth Elkins</td>
<td>Raymond Raggi</td>
</tr>
<tr>
<td><a href="mailto:simon@pneuron.com">simon@pneuron.com</a></td>
<td><a href="mailto:elizabeth.elkins@pneuron.com">elizabeth.elkins@pneuron.com</a></td>
<td><a href="mailto:ray.raggi@pneuron.com">ray.raggi@pneuron.com</a></td>
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