

Governing Energy

Digitization Value Proposition

Volume 6 Number 8—April 27, 2017

The consulting firm McKinsey has stated, “Customers want a quick and seamless digital experience, and they want it now.”ⁱ How you develop that capability to serve them can be challenging.

Many speak of the disruption of entire sectors due to digitization. Google, Uber and others are offered as case studies where entire sectors are transformed.

Thirteen years ago, we put an Operational Excellence Framework based on work that we had done with organizations in the upstream oil and gas sector.ⁱⁱ As noted in the previous blog, Not Alone, customers are not just a component of Operational Excellence (OE). They are the reason organizations seek Operational Excellence!ⁱⁱⁱ

This framework model was developed further (2013) and will be detailed in the forthcoming monograph, Rapid Response Management: Thriving in the New World Order.^{iv} The 2.0 version is available on line.^v Much of the following is taken directly from this book.

From the perspective of this blog, it is important to note that the digitization of operations is not simply a technology decision.

For decades, management has fallen into the “Technology Trap.” Falling in love with a “new toy” does not make for a successful firm. Examples abound where management has made this fundamental mistake, i.e., the belief that the U-2 spy plane operated beyond the ability of the Soviet Union to shoot it down.^{vi}

More recently, the jury is still out whether millions of self-driving automobiles will be successful with the current highway infrastructure filled with *not so self-driving human operated vehicles*, including those impaired.

Considering that airlines still have challenges with autopilots, a hundred million plus independent “agents” (human and technology drivers) is not a simple technology problem.^{vii} One suspects that “take up” will be slower than current pundits put forth.

As the following model suggests, OE is a function of *Economics* and *Process*. Technology (Information and otherwise) is only an element of this framework.

Operational Excellence Framework



Copyright 2013 The Rapid Response Institute. All Rights Reserved.

It is beyond the scope of a blog, this one included, to develop an in-depth construct. Those interested in more detail are invited to contact the author directly.

A brief but short definition of the nine area of focus follows. In the forthcoming monograph these points are more fully developed.^{viii}

This model identifies two primary areas of focus; Economic and Process. This is relatively straightforward. Economic focus on both the Macro and Micro economics that impact on the organizational ecosystem. Process is focused on both business and technical procedures of the organization's ecosystem.

Primarily Economic Focus

The following four areas of focus are briefly defined below. At least at some level, management cannot control many economic forces, especially at the macroeconomic level, i.e. the economic cycle. In other cases, they can manage some but not all the economic forces at work on the firm.

- **EVMI**—the *Economic Value of Marginal Information* was first put forth in 1997. Based on economic utility theory, its premise is that if investment in information technology generates more than it cost, the investment should be made.

“EVMI represents the probabilistic maximum acceptable cost of new information to the decision process.”^{ix}

- **Asset Maturity Model**—Originally developed in 2004 The Asset Maturity Model (AMM) is not focused on the asset life-cycle model, but on the robust nature of a revenue-producing asset. In other words, what is this resource producing and if X investment is made, what additional performance can be expected? ^x AMM also ties IT investments to the firm’s portfolio of assets.
- **Portfolio Management**—Investopedia states, “Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance.”^{xi}
- **Business Case**—Wikipedia indicates that a Business Case, “captures the reasoning for initiating a project or task. It is often presented in a well-structured written document, but may also sometimes come in the form of a short verbal argument or presentation. The logic of the business case is that, whenever resources such as money or effort are consumed, they should be in support of a specific business need.”^{xii}

Primarily Process Focus

These five areas of focus are areas where management can directly affect much of what transpires. For example, they can make the decision to use some or all of what others have defined as “Best Practices.”

- **Learning from Best Practice**—There is a substantial Body of Knowledge from many industry sectors that are available to management. Much is published and effectively free. Others are provided by professional services firms and offered as part of a methodology (such as Rapid Response Management).
- **Key Processes**—All organizations exist as a set of processes. The author was once told by an executive at a public company that they did not have a process. The case can be made that not having a process is a process!

However, it is important to identify those key or “critical” processes upon which organizational health depends, i.e., manufacturing as opposed to accounts payable. The 80/20 rule usually applies and is often an acceptable demarcation.

- **Key Technologies**—All processes are enabled by certain technologies. Again, which technologies are critical to the health of the firm. These are important considerations as technology changes quickly. Moreover, in some cases technologies are *Disruptive* and can even make certain industry processes outmoded and/or change the current competitive landscape.

Remember the technology trap--*we have always used this vendor* type language can be short sided.

Arguments that “switching costs” are too high should undergo scrutiny. What is the cost of not changing? This question should be asked early and often.

True Case Study: I was once told by the CIO of a large energy company (someone I knew well and for several years at the time) that the stand-alone PC software I was trying to license to an engineering department (who wanted it and had signed off on the deal pending approval of the CIO) was not approved.

His rationale was that he was implementing an ERP solution and did not have bandwidth for additional software. When informed that it was to license to one PC, not on the Internet were met still met with NO.

The engineering department had already told us that this Risk Mitigation solution was worth millions but no one stood up to the CIO. No value was accrued to this firm because the CIO team was busy building a technology solution that had no relevance to the problem being addressed—the operational risk profile remained high.

Moral of this story is that Key Technologies are not always the multi-million (even billion) investments in technology. Care needs to be taken to understand what the Key Technology Landscape looks like on an ongoing basis.

Finally, a video of this [Risk Management](#) technology is available.

- **Interrelated Processes**—Like “No Man is an Island,” no process stands alone. Even in the Case Study above, the engineering process was an element of the Enterprise Risk Mitigation. It was a key component to operations and safety.

The challenge management faces is to understand which and how processes interact. Sensitivity analysis will help identify how changes made in one process can impact on others.

Interrelated process can get quite complex. Tools are available that help management better understand these relationships.^{xiii} As our complex world becomes more complex, this challenge will only increase.

- **Integrated Operations (IO)**—Much has been written on this subject and it is often considered (in the oil sector) as synonymous with the so-called Digital Oilfield. However, as with most things one size does not fit all. For example, there are significant differences between an oil and gas company and those firms in their supply chain.^{xiv}

Therefore, care needs to be taken with this focus as well. In this model, we view IO from a “value of the firm” perspective.^{xv}

The traditional definition follows, “refers to new work processes and ways of performing oil and gas exploration and production, which has been facilitated by new information and communication technology. Multi-discipline collaboration in plant operation is one example. IO has in a sense also taken the form of a movement for renewal of the oil and gas industry. In short IO is collaboration with production in focus.”^{xvi}

This model appears to be a “Reduce Direct Costs and Shorten Process Cycle Time” construct that historically adds value. However, when viewed as an *equity price increase*, the impact on the firm is much more than simply reducing operational costs.

This edition of the blog is longer than most as well as more methodology oriented than most. If the reader was bored, my apologies. However, as we started to write about the impact of *Digitization* and the common belief that it was a *good thing*, we decided to look at the bigger picture.

Billions have been spent on technology in the belief that it is a ‘good thing.’ As in the past, this approach is not a strong business case. The rate and level of OE *take up* depends on an assessment of the economic value such a process impacts shareholder value (equity price point).

Is Your Firm’s OE Plan this Encompassing?

Free [Economic Value Proposition Matrix](#) version 2.0 (Realize the value of your investment)

Also, checkout our new [YouTube Channel](#)

More details are available from the author.

About the Author

Dr. [Scott M. Shemwell](#) has over 30 years technical and executive management experience primarily in the energy sector. He is the author of six books and has written extensively about the field of operations. Shemwell is the Managing Director of The Rapid Response Institute, a firm that focuses on providing its customers with solutions enabling Operational Excellence and regulatory compliance management. He has studied cultural interactions for more than 30 years—his dissertation; *Cross Cultural Negotiations Between Japanese and American Businessmen: A Systems Analysis (Exploratory Study)* is an early peer reviewed manuscript addressing the systemic structure of societal relationships.

End Notes

ⁱ <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/accelerating-the-digitization-of-business-processes>

ⁱⁱ Shemwell, Scott M. (1997, September). The Economic Value of Timely Information and Knowledge, Key to Business Process Integration Across Boundaries in the Oil & Gas Extended Value Chain. Proceedings of the Gulf Publishing 3rd International Conference and Exhibition on Exploration & Production Information Management. Houston.

ⁱⁱⁱ Shemwell, Scott M. (2017, April 19). Not Alone. Governing Energy. PennEnergy. <http://www.pennenergy.com/articles/blogs/governing-energy/2017/04/not-alone.html>

^{iv} Shemwell, Scott M. (forthcoming). Rapid Response Management: Thriving in the New World Order. RRI Publications. Houston.

-
- v [http://www.therrinstitute.com/assets/rapid_response_management - thriving in the new world order 2.0 - january 2009.pdf](http://www.therrinstitute.com/assets/rapid_response_management_-_thriving_in_the_new_world_order_2.0_-_january_2009.pdf)
- vi <http://www.history.com/topics/cold-war/u2-spy-incident>
- vii <http://www.newyorker.com/science/aria-konnikova/hazards-automation>
- viii Shemwell, Scott M. (forthcoming). Rapid Response Management: Thriving in the New World Order. RRI Publications. Houston.
- ix Shemwell, Scott M. (1997, September). The Economic Value of Timely Information and Knowledge, Key to Business Process Integration Across Boundaries in the Oil & Gas Extended Value Chain. Proceedings of the Gulf Publishing 3rd International Conference and Exhibition on Exploration & Production Information Management. Houston.
- x Shemwell, Scott M. & Murphy, D. Paul. (2004, September). Roadmap to Enterprise Optimization: A Guide to the Impact of Information Driven Field Operations on the Petroleum Corporation. Authors.
- xi <http://www.investopedia.com/terms/p/portfoliomanagement.asp>
- xii https://en.wikipedia.org/wiki/Business_case
- xiii https://en.wikipedia.org/wiki/Business_process_modeling
- xiv <http://www.energistics.org/assets/nov04ammsshemwell.pdf>
- xv [http://www.therrinstitute.com/assets/asset_integrity_governance -ver 1.1.pdf](http://www.therrinstitute.com/assets/asset_integrity_governance_-_ver_1.1.pdf)
- xvi https://en.wikipedia.org/wiki/Integrated_operations