Perspectives

Operational Performance

ERM Insights

January 2017

The business of sustainability

ERM

Preface

Welcome to *Perspectives on Operational Performance*, a periodic collection of ERM's insights into the latest sustainability challenges.

We share them as ERM makes a strategic shift in our journey as a global consulting firm, reaffirming the central role of our clients with a refreshed articulation of our purpose: *Shaping a sustainable future with the world's leading organizations*.

Our clients face unprecedented challenges from the so-called 'megatrends' stacking up environmental, health, safety and social challenges at an alarming rate. From climate change to digitalization these trends are gathering pace and attention.

ERM's Operational Performance services are built on the belief – and experience – that great environment, health, safety and sustainability performance is fundamental to business success. We are committed to helping our clients approach these issues as a deeply integrated and recognized contributor of both 'value' and 'values'.

For the last decade ERMers have been steadily building their ability to advise on the performance implications of these issues, carving out the space between business and technical consulting. As the articles in this volume illustrate, we increasingly understand that integrating across disciplines unleashes enormous power, and how that power is accentuated by ever more abundant flows of data from an increasingly connected world.

In this document you will learn how ERM is turning sustainability expertise into business advice, helping clients in different sectors to find new levels of operational performance throughout their value chain, from acquisitions to capital investment from manufacturing to retail:

- HSE resource strategies in a cost constrained world, by Don Lloyd
- Redesigning the EHS function, by Tom Woollard
- How globalisation is driving resource companies to deliver sustainable benefits and manage risks locally, by Caleb Wall
- Non-technical risk, the new frontline of capital discipline, by Matt Haddon
- Understanding how product stewardship fits into an effective business strategy, by Kate Sellers

We hope you enjoy these perspectives and look forward to helping you achieve even greater success.

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Less with Less

HSE Resource Strategies in a Cost Constrained World

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Introduction

From late 2014 to early 2016 the oil price collapsed by approximately 75%. This has had a major impact on both CAPEX and OPEX spend in the Oil & Gas sector resulting in the cancellation/deferment of major capital projects and significant workforce reductions both in terms of 'direct' staff and 3rd party contractors. In view of this, a key challenge facing the sector is how best to deliver the desired business outcomes in a safe and sustainable manner.

Through ERM's work with leading companies across the Oil & Gas sector (and others, including Mining and Chemicals) we have gained a sound understanding of what drives a company's view on the 'required' level of HSE resources and HSE management process

In this context, the aim of this paper is to explore:

- An 'event driven' approach that was prevalent across a number of companies.
- An example of a more systematic and risk-based approach that ERM uses with leading organisations to ensure fit-for-purpose resources/processes that are commensurate with the prevailing risk profile.

Looking back: a common approach

Historically, a common approach could be characterised as 'event driven and reactive'. In practice, this would develop and manifest itself as shown in Figures 1 and 2.

- An organisation that feels comfortable with its HSE performance and draws high level assurance that its HSE Management System was appropriate.
- A major incident occurs either within the organisation or in a similar organisation within the same sector.
- An internal and external (e.g. regulators) reaction along the lines of "this must never happen again and so a detailed investigation must be conducted to understand the root causes".
- Based on these findings the organisation would allocate additional HSE resources to develop processes to better control the identified weaknesses. Typically, this would include more detailed procedures, additional training and increased levels of central assurance i.e. the resource levels and processes would increase in a patchwork to address the causes of past incidents.
- These additional resources and more detailed processes then become regarded as the 'new norm'.

- Given the cyclical nature of the Natural Commodities sectors (e.g. O&G and Mining) some form of economic downturn (as highlighted above for the recent collapse in oil price) will put pressure on costs and resource levels.
- In the absence of a structured and risk-based approach staff reductions would often be made based on the application of a group-level cost reduction target along the lines of "the recent collapse in commodity prices has had a significant impact on our projected cash flows. In view of this it is imperative that each function reduces its staff costs by 25% by the end of the calendar year… Please reflect in your budget submissions".

Figure 1. HSE resources: looking back from a major incident

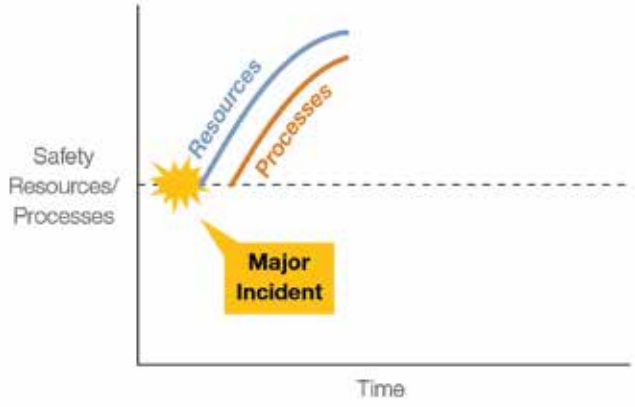
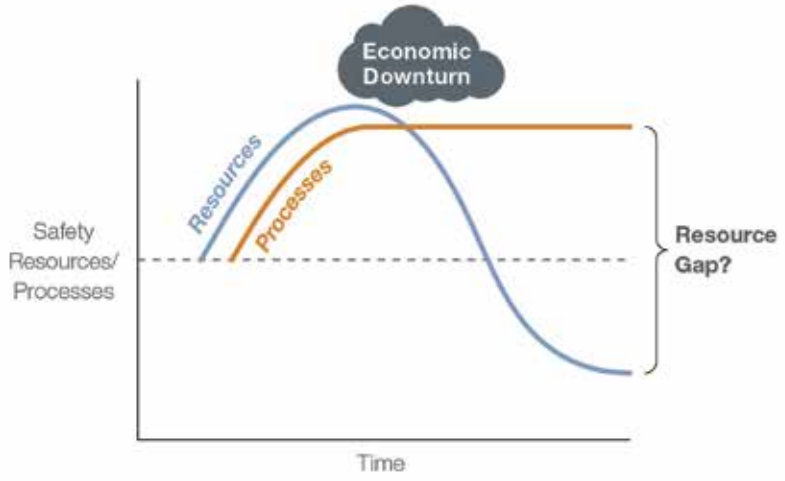


Figure 2. HSE resources: the impact of a downturn



Note: Increasingly, this percentage target for staff reductions is set by some form of benchmarking exercise in which the resources levels for the group and/or individual functions is conducted by an external management consulting group. This high-level benchmarking highlights to senior managers that peer companies are successful in doing 'More with Less' and gives them comfort that significant cuts are not unreasonable.

If and when these staff cuts take place, there is a perceived resource gap in which the remaining staff feel very concerned that they are no longer able to effectively implement the detailed HSE Management System that the organisation still has in place i.e. a disconnect develops between resources and activities. In these circumstances, there is often a feeling amongst staff that they are 'coping rather than managing' and that the residual risks are increasing as resources are spread thinly over a broad range of risk management processes.

As highlighted above, this approach is reactive and somewhat superficial in the level of risk-based analysis that is conducted. These short-comings have been recognised and organisations are increasingly looking for a much more systematic and risk-based approach.

Going forward: a systematic and risk-based approach

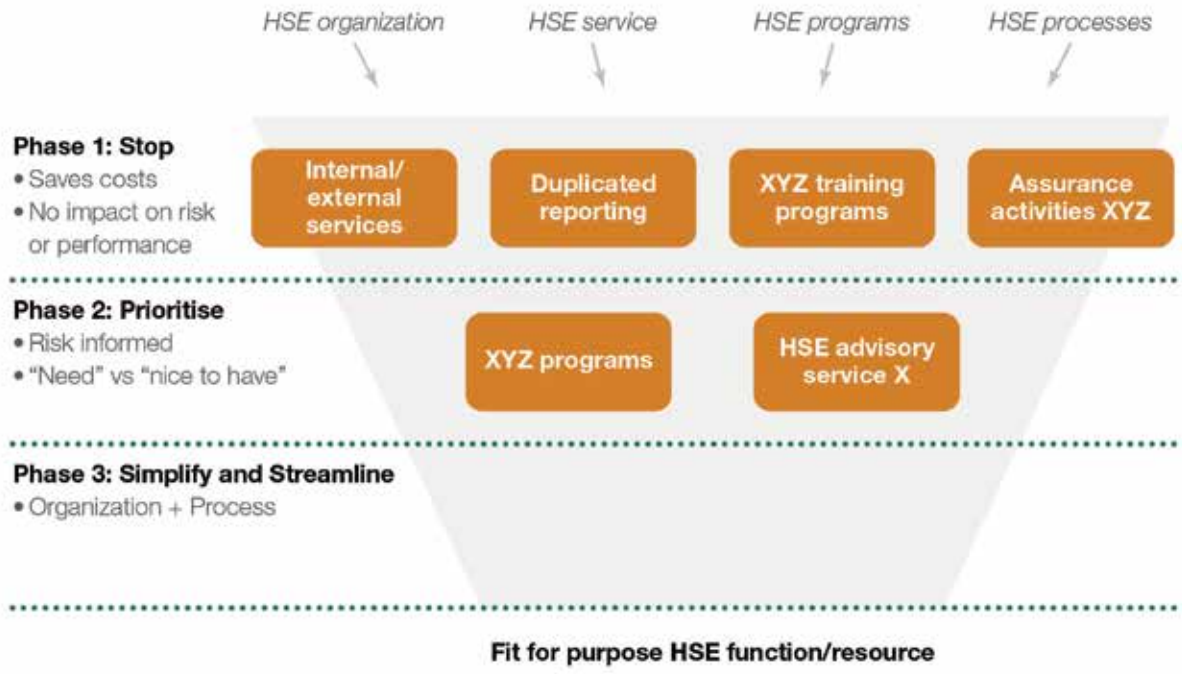
As implied in the title, it is important that such an approach must be underpinned by a good understanding of the organisation's current risk profile and risk appetite. A true baseline needs to be established of cost/risk/work being undertaken by the HSE function and HSE work undertaken by the front line/external consultants etc. so that informed decisions can be made. The aim then is to ensure that the resource levels and HSE management system are appropriate and proportionate to the prevailing level of risk.

An example of a structured and systematic approach applied by ERM is shown in Figure 3.

The starting point is to establish a clear picture of:

- HSE resource levels (e.g. 'central' function and embedded in operational teams).
- Relative accountabilities and activities.
- HSE management system requirements (including development, maintenance and implementation support).
- The current and likely future risk profile e.g. a site that is about to double in size….a site that is closing down etc.

Figure 3. HSE resources: way forward



Once this information has been collated HSE 'activities/expenditure' are passed through a three stage 'filter' process i.e:

Stage 1: Stop

The aim here is to identify any activities/ spend that can be stopped without increasing the residual risk. For example, there are often risk controls and associated training requirements that were previously included in the HSE management System that are no longer required as the source of the risk has been removed. Experience to date indicates that approximately 10% of the resource requirements can be eliminated at this stage.

Stage 2: Prioritise

At this stage the aim is to differentiate between those activities that are 'needed' versus those that are 'nice to have' in the current climate on the basis that those that are 'nice to have' can be deferred – again without an increase in risk. Examples include, deferment of the organisation's participation in a joint-industry research programme or the cessation of a systems development project. Again, experience indicates 'savings' of 15% at this stage.

Figure 4. ERM experience: streamlining HSE activities

Stage 3: Simplify, streamline, standardise

All of the activities that reach this stage are deemed to be necessary in order to deliver the desired outcomes. As such, the question is "is there a better (more efficient and cost-effective) way of achieving these outcomes?".

For simplify/streamline, this involves scrutinising key activities/steps and asking if they add sufficient value to the outcomes. If not, they can be eliminated saving resources and costs. Figure 4 illustrates ERM's experience of potential areas for streamlining.

In terms of standardization, it was clear from the CEO dialogues at the recent IHS CERAWeek conference that this subject is very much on the 'C-Suite' agenda. For example, Jeff Immelt (Chairman and CEO of GE) compared the degree of customisation in a Combined Heat Power Plant with that of a Sub-sea Christmas tree. His point was that the Christmas-tree had 100 times the amount of customisation. This adds a major additional cost in terms of up-front design and subsequent design reviews (e.g. FMEA, HAZOP) and equipment/system verification and certification.

In view of this it is important to review and ensure that any technical safety and environmental engineering inputs account for the benefits of standardization and Stage 3 of this systematic process will include this in its scope.

Whereas the previous approach generally equates to 'More with Less' this more systematic approach results in 'LESS with LESS'. As such, the organisation does less 'stuff' with less people and yet achieves the same outcome in terms of risk management outcomes i.e. it develops a more efficient and cost-effective approach to the management of the current risks.

Discussion

Key points of discussion from the above sections include:

‘Organic’ Growth in HSE Resource Levels

The ‘event driven and reactive’ approach as described above is obviously a simplification of what happens in practice i.e. this ‘spikey’ event driven growth is generally accompanied (to a greater or lesser degree) by organic growth as the company HSE Management System expands to accommodate changes in regulations etc. Nevertheless, the ‘Less with Less’ approach applies equally to this situation.

Resource/Cost Savings

Based on our experience to date typical resource/cost savings associated with the staged process are as follows:

- Stage 1, *Stop* – typical savings are in the region of 10%.
- Stage 2, *Prioritise* – typical savings are in the region of 10 to 15%.
- Stage 3, *Simplify, streamline, standardise* – again simplify/streamline yields savings of 10%. Savings associated with *standardise* are much harder to quantify not least because it is a multi-functional lifecycle issue. Needless to say that this could be a major source of cost reduction.

Some people may point out that equivalent reductions (c.30%) are also typically achieved using the ‘event driven and reactive’ approach; this of course is true. However, in the first case cuts are made and then people worry about the implications whereas, in the second case, the implications and benefits of proposed cuts are considered upfront via a risk-informed decision process. This, more considered approach, feels much different (i.e. positive and sustainable) to those remaining within the organisation.

Benchmarking

It will be noted that benchmarking was mentioned in the earlier ‘event driven and reactive’ approach but not in the later systematic approach. This raises the question – does benchmarking have a role in a risk-based methodology or are they mutually exclusive? This answer to this is – yes it can have a place and (therefore) they are not mutually exclusive.

However, there is often a key difference between how benchmarking is utilised between these two alternative approaches i.e.

- Event Driven/Reactive – in this case benchmarking is often used as the ‘answer’ i.e. that the output represents the target cost reduction to be achieved. So, the cuts are made and (as stated above) the implications are then figured out.
- Systematic – in this case, it is recognised that high level benchmarking generally doesn’t account for an organisation’s specific risk profile (i.e. it will be generalised for a sector) and doesn’t account for the specific risk appetite or HSE culture, values or aspirations. As such, the benchmarking output is noted as a broad-brush guide and regarded as a necessary but not sufficient tool by which to judge what constitutes a ‘fit-for-purpose’ HSE function and management system.

What are the benefits to an HSE function and to the organisation?

The argument and concern often voiced to us by HSE functions regarding a systematic and independent review of HSE costs and resources is – why would we volunteer to a review that will most probably result in a cut in headcount and budget? The answer to this is simple - it is much preferable to an alternative that may be characterised as 'CUT and COPE' i.e. given the prevailing cost pressures then some form of cuts are inevitable therefore let's ensure that it's done in a rigorous and risk-based manner.

In turn this should reassure the overall organisation in that cost savings are achieved whilst not increasing the risks to:

- the health and safety of the workforce and general public,
- the environment, and
- the organisation's Licence to Operate.

Overall, we have found that the time and cost associated with such a systematic review are widely accepted as value adding and cost-effective given the comfort and assurance gained from such an exercise.

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Getting Ahead of the Game

Redesigning the HSE Function

Tom Woollard
Partner

Introduction

The world of HSE (Health, Safety, and Environment) is changing fast. In many companies the HSE function is being shrunk with limited consideration of the consequent risks. Instead of simply accepting that this is 'just the way it is', HSE professionals need to **get ahead of the game** and demonstrate the value they bring to the organisation.

The efficiency and effectiveness (and potentially the overall burden) of the HSE function is increasingly being challenged by executives who are looking for better HSE and operational performance and risk management at reduced cost, as one dissatisfied executive put it to us recently 'I sleep at night by knowing that I have the right supervisors on the job not by having safety advisors running their own parallel bureaucratic processes'. The efficiency and effectiveness goals being sought are typically:

- Reduced headcount
- Fewer and simpler integrated processes
- Greater ownership within operations

In most cases, the HSE function either needs to transform itself or prepare to be downsized (e.g. usually by HR supported by external consultants). Downsizing, in our experience, usually occurs in one of two ways: rapidly, driven by cost reduction targets and without due consideration of consequential risk; or in a phased manner taking into careful consideration consequential risk. The approach taken is determined, in part, by the openness of the HSE function to the need for change.

In this context, the aim of this paper is to explore the early stages of HSE organisational transformation, specifically:

- Recognizing the need to change
- Redesigning the HSE function

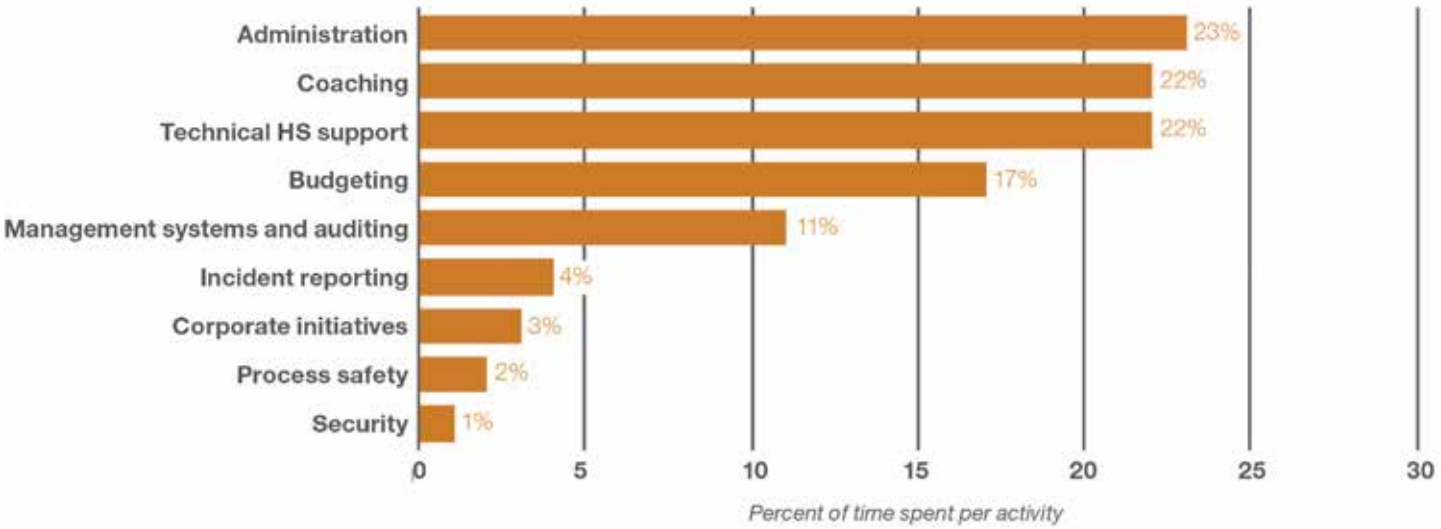
This paper is intended to front-end and complement our paper on 'Less with Less' which describes a risk-based approach to implementation.

Recognizing the need for change

The warning signs for change include:

- **Functional overload**: If the HSE function has evolved into a 'holding pen' for multiple and diverse strategic, tactical, and operational services (e.g. including CSR, Sustainability, Quality, Social, and Security).
- **Evolution and past growth of the HSE function**: Have corporate, business unit, and site recruitment of HSE professionals been done in isolation and without participation from operations? Has there been a review of the size, shape, and composition of the function across the entire business portfolio? To what extent is the HSE function (and processes) a product of previous incidents?
- **HSE service catalogue**: The HSE function provides services to a variety of internal (e.g. the executive team, site managers, operational manager, front-line operators) and external 'customers' (e.g. regulators, local communities). If these customers (and services) have not been defined and prioritized in line with the most pressing needs of the company then it may be time for a change.
- **HSE resource allocation**: Over the years large and complex HSE processes and systems have grown to respond to ever-increasing risks, regulatory burden and corporate expectations etc. Whether your company employs 50 or 500 HSE professionals it is important to understand how this valuable expertise is being deployed. We frequently find that HSE staff are spending a considerable amount of time managing their own HSE system requirements as opposed to directly supporting their customers (Figure 1). We also find site and operational managers using HSE personnel to deliver initiatives that are not directly related to HSE performance improvement or risk reduction, to effectively 'fill in' for shortfalls elsewhere in the organisation.

Figure 1. Activity analysis of 10 HSE manager roles



- **Ways of working**: Site managers usually tell us that their biggest source of comfort on safety performance first and foremost is the quality and calibre of their supervisors and operators. The support and expertise of the HSE function has to be 'fit for purpose' and 'on hand' especially for high risk work. If safety professionals are not in the field working alongside operational staff and providing support on high risk tasks (e.g. in-situ assurance) then it may be time to review the safety services being provided by the HSE function.

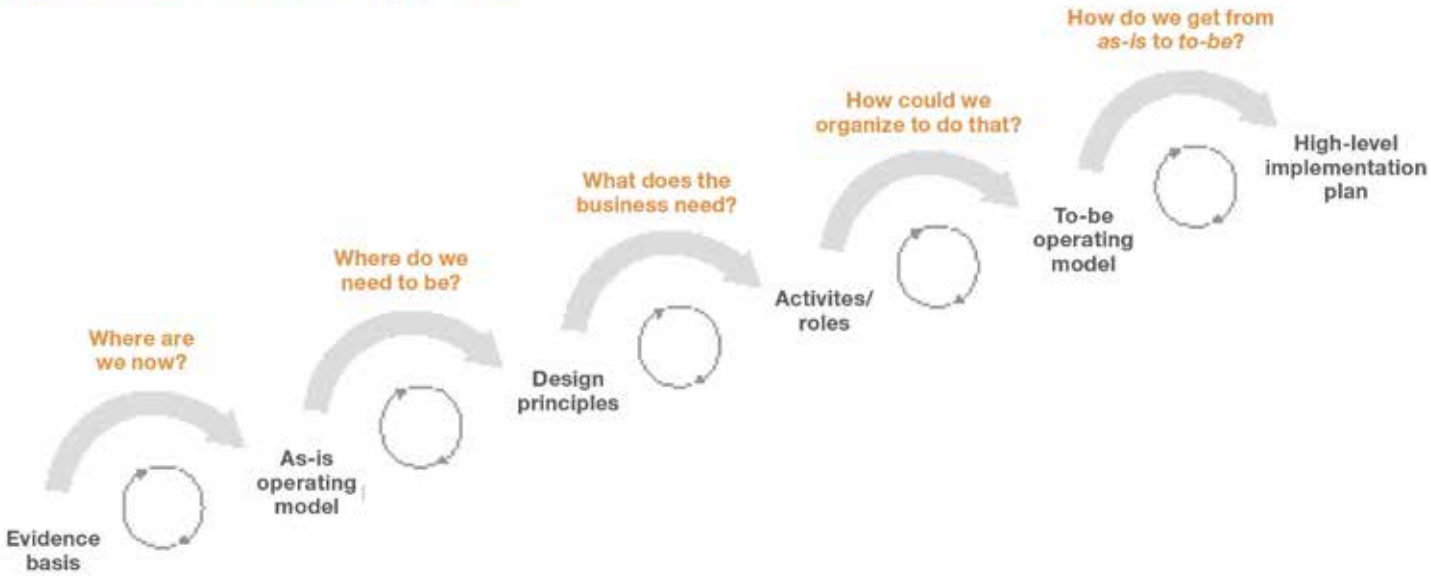
These symptoms are often ignored and the main trigger for a decision to redesign the HSE function is driven either by a specific event (an acquisition or major incident) or as a result of a sustained downturn. The downturn in commodity prices in the extractives sector, for example, has led to some companies being in an almost continuous state of 'downsizing' which, at its worst results in headcount reductions with little consideration of the consequent risks or workload (and morale) of the remaining staff ('cut and cope').

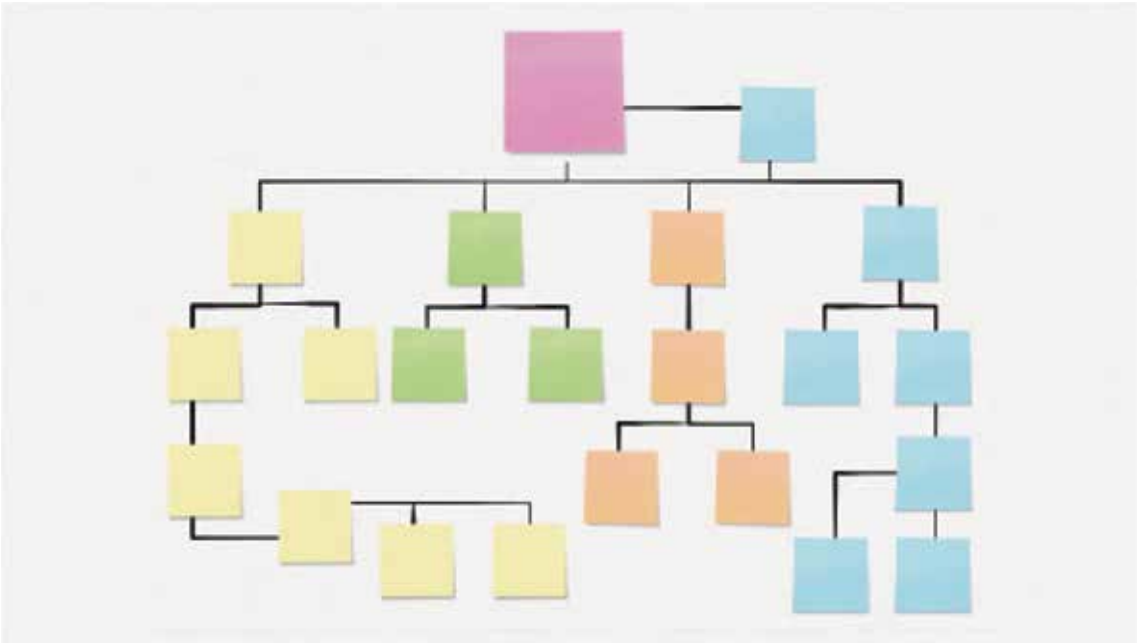
Re-designing the HSE function

Once a decision has been made to transform, downsize, or simply redesign the HSE function, then it is time to map the 'as-is' and 'to-be' organisation and systems and to initiate a plan to implement the transition. This change process is well understood (Figure 2) but needs to be tailored carefully when applied to the HSE function. Here are some of the lessons we have learnt when mapping the current HSE organisation:

- **Bring 'the voice of the customer' into the process at the outset**: The HSE and HR function will have a view of how the HSE function could be transformed to deliver better performance at lower cost. This needs to be complimented by the views of various 'customers' including the senior management team, operational leaders, supervisors, and the front line.

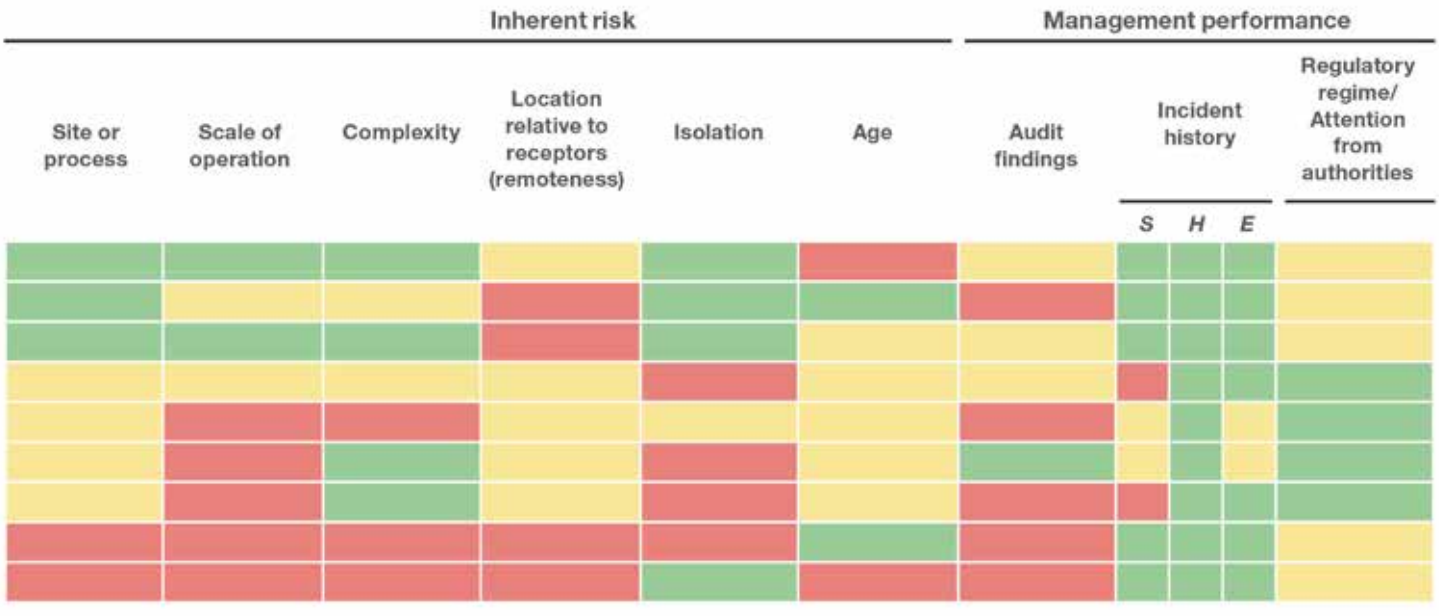
Figure 2. Illustrative HSE change process





- **Activity and task analysis**: All roles at every level should be analysed. There will be significant variation in the how similar roles are implemented in different locations and this will help to understand the rigour with which roles have been both developed and implemented as well as how far they might have morphed into something different in reality.
- **Risk profiling**: Sites will have inherently differing HSE risk profiles and performance histories (Figure 3). Size, age, operational complexity, location will all contribute to the inherent risk of each operating facility. Past audit findings and incident history are two indicators of past performance that can be used to build a picture of which sites are not currently managing to meet either regulatory or corporate standards.

Figure 3. Asset risk profiles



Source: ERM analysis

Lessons from designing the 'to-be' organisation include:

- **Design a fully functional operating model**: to describe how HSE will be organised and how it will operate in order to deliver the desired level of performance. The operating model should detail not only the organisation structure but also the accountabilities, the services catalogue and the desired 'ways of working' (Figure 4). Organisation charts inevitably are the most contentious element and often consume a disproportionate amount of the available design time. Road testing scenarios on each of the proposed model (e.g. to help visualize the new ways of working) can be incredibly helpful in determining strengths and weaknesses.
- **HSE headcount reduction must be accompanied by HSE process and systems reduction**: This is covered in more detail in 'Less with Less'. One of the hardest aspects of this type of transformation is getting agreement on which systems and processes will be eliminated, which will be streamlined and which will be retained. Cutting headcount and leaving all the corporate HSE requirements in place is nonsensical. It leads to a significant additional burden being placed on the remaining HSE staff and/or transfers work to the front line just when the organisation is already at full stretch. Eliminating processes can also deliver cost and efficiency savings.
- **Engage operational leaders in fine tuning the new operating model**: Senior executives, site managers, and HSE leaders often have a different perspective on what good looks like and what the preferred operating model should be.
- **The importance of a high level implementation plan**: The 'to-be' HSE operating model should be accompanied by a high level implementation plan before it gets approved. Swift implementation is always preferable (e.g. 8-12 weeks rather than 6-12 months) and needs to be done with precision, professionalism, and attention to detail; so it needs to be well resourced.

Figure 4. Key components of an HSE operating model

Source: adapted from Bain Consulting

Summary

The main concern which prevents companies from downsizing their HSE function is the consequential impact on HSE performance and risk exposure. To evaluate this concern executives usually want to know the answer to two questions:

- How does the HSE function influence HSE performance? And,
- How much HSE expertise already exists (and is embedded) in operational teams?

Broadly speaking the HSE function provides governance and advisory services to multiple internal customers. These customers have different and not always compatible needs. So perspectives regarding the value of the services provided by the HSE function will vary considerably depending on whether you are talking to an operational leader (e.g. level of hands-on support), a site manager (e.g. maintaining the license to operate), or a member of the executive team (e.g. HSE performance and risk).

The level of HSE knowledge and expertise that resides within operations and the performance standards set by executives are critical factors in determining the size, shape and competence of the HSE function. A transparent analysis of both is necessary to assess how the HSE function influences HSE performance. In our experience this type analysis is rarely carried out and is one of the reasons for dissatisfied customers. HSE functions need to be very alert to their internal and external customers' needs and to transform accordingly.

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Resource Localism

How Globalisation is Driving Resource Companies to Deliver Sustainable Benefits and Manage Risks Locally

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Resource Localism

Resource development was once a straightforward process. A geologist would explore for a deposit, prove out the resource, and seek funding for its development. They would then spend time, money, sweat and tears, to get a geological model, engineering design and license to develop the resource. The resource industry got very good at developing resource projects in this way. Initially at home, and increasingly abroad, this approach worked. Where projects failed, it was for technical or economic reasons.

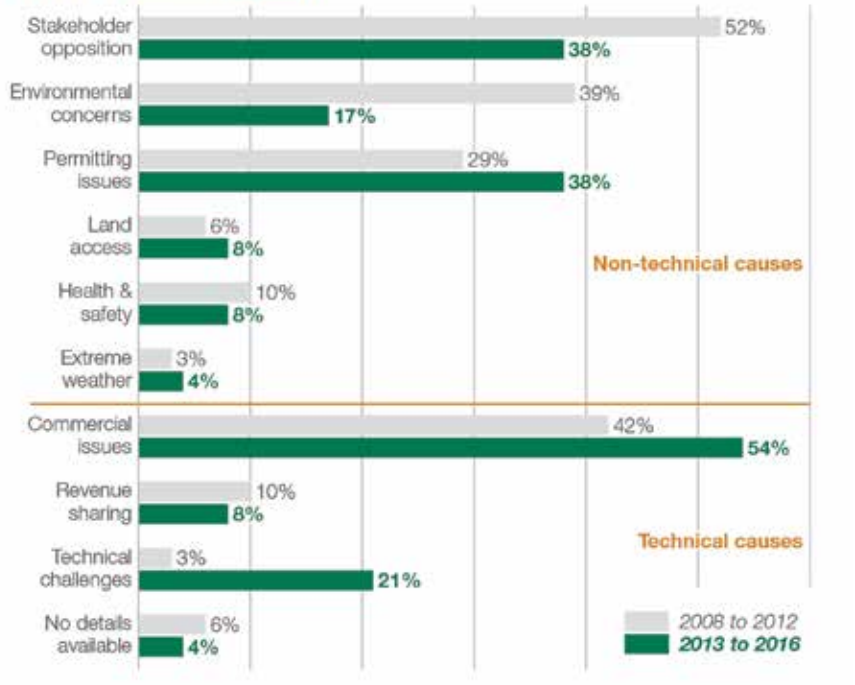
Then along came environmental issues. Then it wasn't enough to have a viable deposit and a good technical and economic model to match. Permits were required, which meant conducting baseline studies and spending more time, money, sweat and tears during the development phase to get the necessary approvals. But the industry adapted, projects got built, and money got made. Environmental issues may have adjusted the economics of resource development, and in some cases even led to technical design changes, but the industry did not slow down.

In the past ten years, coincident with the resource super-cycle, the game changed. Suddenly social issues went from the being 'soft issues' on the periphery of projects to the leading cause of project delays. For the engineers and geoscientists working in the industry for many years, "social" went from something that got organized every Saturday night at the construction camp, to a determinant of project success or failure. Borrowing from the environmental experience, talk shifted to a 'social license to operate', taking a permitting approach to addressing "above ground" issues. But in stark contrast to the way the industry adapted to meeting environmental requirements, suddenly unmanaged social issues were causing projects to be delayed or even cancelled. Research now shows that social issues were a leading cause of value destruction for projects during the commodity super cycle.

Delays: The New Reality of Resource Development

Mining and oil & gas projects are delayed more often than they are delivered on time. For sectors and companies that are used to delivering projects on time, often overcoming seemingly insurmountable technical obstacles along the way, this is a challenging new reality. To better understand this new reality, ERM conducted research into the key drivers of project delays between 2008-2012, and did an update to the research to study changes during the commodity downturn between 2012-2016, with a particular focus on the mining industry. During both periods, the research looked at mega-projects valued at over US $1billion, and their performance in developing on time and on budget.

Figure 1. Causes of Delays



Social issues present real risks to project success. Delays, especially long delays, are clearly something that the resource sector wants to manage. Only in understanding the root causes will we be able to manage and mitigate these costly social risks.

The research showed that over 50% of resource development projects are delayed, regardless of the economic cycle. This is an astonishing figure and represents billions of dollars' worth of net present value erosion for shareholders and investors. But why are these projects being delayed? The research, summarized in Figure 1, shows that:

- 53% of resource projects were delayed in the upswing, and 57% of mining projects are now delayed now in the downturn
- While 3% of these delays could be attributed to technical challenges in the good times, this has risen to 21% during the downturn for mining projects
- Commercial issues delayed projects 42% of the time between 2008-2012, and this is even higher today in the mining sector at 54%
- Stakeholder opposition was seen as contributing to 52% of delays during the upswing, and has fallen only slightly to 38% in the downturn for mining projects
- The contribution of environmental concerns, defined in the study as "stakeholder concerns over potential environmental impacts" decreased from 39% to 17%, reflecting the growing importance of commercial considerations
- Health and safety, a constant focus in the resource industry, leads to 8% to 10% of delays, regardless of the period in the commodity cycle

All Resource Development is Local

To address these expensive social issues, mining and oil & gas companies attempted to tackle them as specific and isolated challenges. When Indigenous rights were mentioned, ILO 169 (an International Labour Organization Convention) was studied and corporate guidance promulgated to sites. When human rights issues came up, lawyers and human rights experts eagerly consulted the Ruggie Framework (a UN guiding principle on business and human rights) and setup policies and training to "protect, respect and remedy." Taking a leaf from the environmental issues, EIAs became ESIAs, and then expanded further to ESHIAs as public health impacts came to the fore. Today the list of frameworks, guidance, and tools created to address specific social issues is endlessly long, yet projects continue to be delayed.

So, where did we go wrong? By focusing on specific issues and applying tailored frameworks after the fact, we missed the common driver that is at the heart of every social issue: the expectation of project-affected communities that they will benefit equitably from resource development. Globalization has empowered project-affected communities and the civil society organizations that support them. International networks and alliances ensure communities are aware of their rights and able to advocate for the benefits that they are due. While globalization may have enabled extractive sector companies to seek new opportunities abroad, the phenomenon also enabled communities to mobilize against projects when they feel they are not benefiting adequately. This new chapter in globalization is what we're calling resource localism, which highlights that not only is resource nationalism through governments a threat to projects, but that local communities also hold significant power relative to project success. Resource localism remains the most important element of any extractive sector companies' social management plan today.

It seems simple in retrospect. Yet, we all missed it. In our focus on specific technical issues: public health, human rights, community housing, gendered workforce studies, etc., we missed the forest for the trees. Resources are local – they are situated in a specific place. People are local too – they reside in a place and that place is invested with meaning, value, history and views of the future. The longer that people have been in that place, say, as with indigenous peoples, the stronger the sense of place is.

Globalization – and in particular the increased access to information through the internet, democratization, and demographic change it has caused – is the key driver of resource localism. Indeed, resource localism can be seen as the "opposite face of the same coin" of the resource super-cycle. The global trends that created the resource and commodity boom are the same underlying social and economic changes that shifted the focus on the local benefits of resource development. Taking into account this perspective, it is perhaps easier to understand why expectations have changed so drastically over the past ten years, for instance the emergence of Free, Prior, Informed Consent (FPIC) for indigenous communities.

Resource localism means communities are now demanding a voice (indeed, often a choice) in how and whether a project goes forward. Project-affected communities expect to see benefits from resource development, and they now have impactful strategies to demand their involvement in the decisions that will affect their lives. The social issues the industry continues to struggle with are therefore the direct result of companies' failure to manage and meet communities' expectations. The resulting project delays and cancellations are a foreseeable outcome that can, and must, be proactively managed.

Resource localism thus encapsulates a wide variety of issues that are already managed through social impact assessment and management plans (human rights, public health, community investment, etc.), but it goes beyond these standalone initiatives.

Resource localism is different because it:

- Distils many discrete issues down to their root cause, and,
- Shifts the analysis from the developer's perspective to the perspective of the local people.

Understanding resource localism is central to companies delivering the expected benefits to project-affected communities and resolving conflict. A failure to do so will mean projects continue to be delayed, which is costing resource sector companies money – lots of it. Simultaneously, potential win-win solutions, good outcomes for local people as well as global companies, are being squandered through social studies and initiatives that don't address the underlying issues delaying resource development. During the unwinding of the commodity super-cycle, these costs and risks can no longer be borne.

Local Risk Management

Social and environmental impact assessments remain outward-facing activities conducted to meet a mix of regulatory requirements and in some cases, corporate guidelines or standards. In many projects the major design and mitigation decisions are made behind closed doors before an impact assessment begins, removing (or making more costly) the opportunity to modify the project design to reduce impacts and optimize benefits. This is often where social issues begin, and where the forces of resource localism begin to be exerted. More often than not, failure to engage affected communities at the earliest stages of project planning will have economic costs for the company. Engaging communities early is critical to identifying and managing impacts to the surrounding human and ecological environment, but also developing the relationships that will prevent costly project delays. Companies must be proactive in setting realistic expectations of the project with affected communities early on, and ensuring they fulfil their commitments throughout the project cycle.

Done right, risks can be managed and local support for resource development can be secured early on. Managed poorly, delays due to social opposition will continue to cost companies time and money. The key to success is adopting a local view of resource development, and being prepared to invest the time and effort up-front, arguably before the engineering and technical work starts.

The focus of projects needs to shift to resource localism, ensuring that resource development will create sustainable benefits to local people and communities.

Resource Localism: The New Reality?

With the focus now on cost cutting and doing "less with less"[1] it is tempting to put off or delay engagement with local communities, particularly in cases where projects are being shelved or delayed due to overriding commercial considerations. This is tempting, but it is a mistake. When the commodity markets improve and projects seek to ramp up, quickly, the commercial delays will by definition disappear and the delays most acute will be social delays. As commodity prices recover, it will be those firms that "managed for the rebound" that thrive. Firms that failed to manage risks – especially social risks – will struggle to survive. Addressing resource localism thus requires a new way of approaching risk management for the resource sector. It ties together many tools and approaches already in place, but makes the step change from a resource centric approach to a local one. With the broad pressures of globalization continuing to shape and change our markets and sectors, so too must our industry adapt to a resource localism view of the world.

1. *LESS with LESS – HSE Resource Strategies in a Cost Constrained World.* Don Lloyd, ERM. March 2016

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Non-Technical Risk

Non-technical risk, the new frontline of capital discipline

Matt Haddon
Partner

“Non-Technical is the single biggest risk we face today.”

Senior Oil Company Executive

Senior executives across the energy industry are becoming highly vocal about the impact of Non-Technical Risk on their business.

ERM surveys suggest that as many as 70 percent of major capital projects are being delayed by months – if not years – as a result of the health, safety, environmental and community issues that make up Non-Technical Risk.

CEOs presenting at recent CERAWeek conferences (and other industry events) on insights into the energy future have repeatedly highlighted maintaining a ‘license to grow’ as among their top three concerns.

With the current heightened focus on capital discipline, better management of Non-Technical Risk offers the chance to protect and create billions of dollars of value by avoiding stranded and inefficiently allocated capital.

What is Non-Technical Risk?

Non-Technical Risk (NTR) describes an integrated view of a suite of risks arising from health, safety, environmental and community issues that jeopardize the successful implementation of energy companies’ strategies – from acquisitions to major capital projects.

Originally coined to mark a distinction from ‘technical risk’ – the day-to-day focus of the many thousands of engineers that populate all energy firms – it is increasingly being used by the industry to articulate and proactively tackle some of the biggest challenges the industry faces today as it searches for the next wave of capital discipline.

While NTR is often discussed project by project, there is another level of conversation emerging – at the portfolio and enterprise level. Similar to any potential source of business disruption, NTR has now been elevated to a ‘concentration risk’ (using a banking term) – where the risk is across a portfolio and requiring organizational commitment, standards, policies, auditing and other business processes to address in order to avoid catastrophic failure.

Behind these challenges lie common root causes of mismanagement, including lack of specific accountability for Non-Technical Risk, the complex and cross-functional nature of the risks themselves (unclear or contradictory incentives), lack of integration into the core business and a lack of deep understanding by decision-makers.

Solutions from the new frontline of capital discipline

In North America, the challenge is being accentuated by the industry’s return onshore to unconventional shale plays after a 20-year absence from high intensity development, as well as with the push into sensitive frontier locations such as the Arctic. A confluence of greater industrial activity, questions over environmental performance and heightened community awareness raise the stakes further.

ERM’s experience over many years on very different projects around the world has provided us with deep insight into the strategies that most effectively help major corporations, their business units and capital project teams address NTR, including:

Earning the privilege to operate

Project proponents often assume that developing countries are more difficult places in which to deliver capital projects. There, they work hard to reinforce local government relations by engaging broadly with communities, supporting agency capacity building and funding broadly based skills training. Yet recent experience in North America, Europe and Australia demonstrates that similar efforts are needed in mature regulatory regimes – the land of 'small government and big civil society'.

Developers can face moratoriums, reactive new laws and reputational damage if they simply expect that a statutory permit is all they need. By approaching new developments in increasingly delicate contexts as a process of earning the privilege to be there, we see organizations taking more inclusive social approaches which serve them well over the long-term of asset development and operation.

Translating Non-Technical Risk into business impacts

Across industry, executives are increasingly alive to the commercial implications of environmental, community and safety challenges. Yet the functions responsible for them are often ill-equipped to help executives understand how non-technical risks threaten a project's schedule and budget. A new skill set is emerging to deliver the insights that will enable capital project success.

Integrating NTR across project functions

Teams work best when they are just that, teams. Regular dialogue between design, construction and permitting teams enables early sight of potential challenges and fresh solutions on paper that avoid failures later on the ground. One senior executive recently lamented that insight about environmental and social risks 'seems to be stuck in the middle management sausage making machine' – and this needs to be fixed.

Moving the permitting conversation on earlier in the lifecycle

The old model of 'design, permit, build' is dead (or at least terminally ill). Gaining approvals – from regulators and the public – is now too complex and sensitive to start late. Instead, the most effective project teams are using well-informed permitting strategy to shape their engineering designs and execution timetables, turning the well-worn dogma on its head.

Optimizing NTR performance across the project lifecycle

All too often the bridges between formal stage gates are weak and fail to build on knowledge generated during previous phases in the decision making process. Insights gained from current efforts need to be more clearly articulated so that colleagues working the next step can use it most effectively. Leveraging world class information solutions to make environmental, health, safety and community data – and commitments – accessible consistently throughout the lifecycle is a huge opportunity that is now coming into play.

Proactively engaging—not just managing—stakeholders

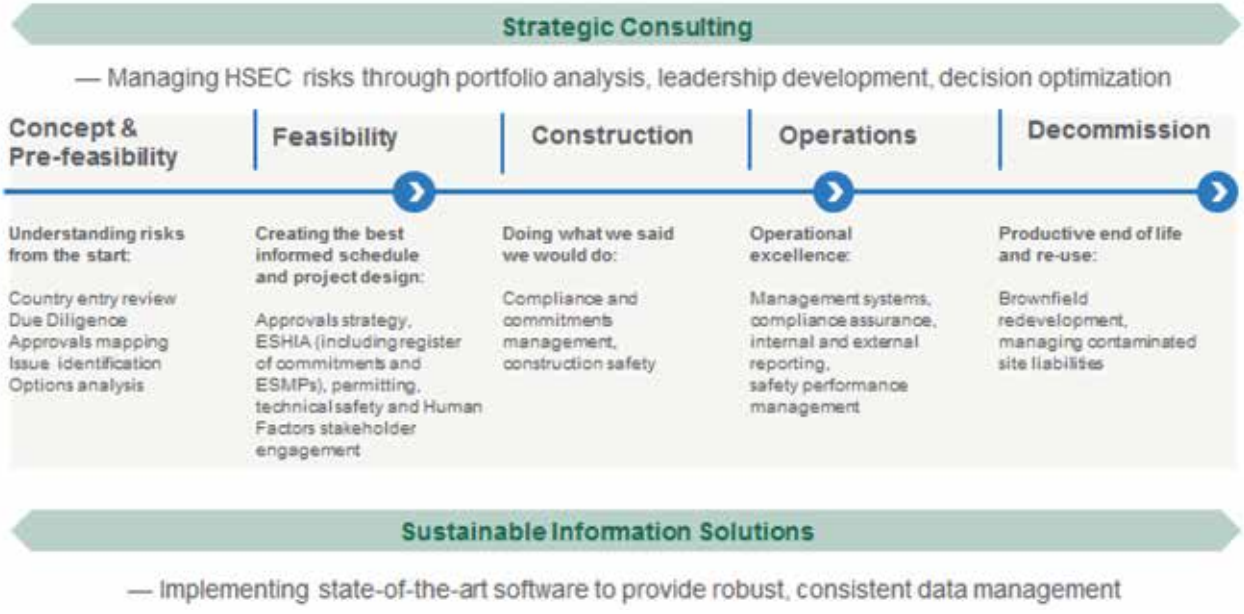
Relationships with the public and the regulatory agencies need to be actively mapped – and proactively managed. Don't let any player, either internal or external, be taken by surprise by development plans, nor allow a marginal group to become 'big losers'. Adjusting physical plans to be responsive to others' needs and acknowledging the legitimacy of outsiders' interests is a powerful – but remarkably under-used – way to create mutual acceptance.

How ERM helps

Because of our experience over many years on very different projects around the world, ERM has developed and successfully executed solutions to help major corporations, their business units and capital project teams by:

- Identifying sources of risk – understanding the internal dynamics and external stakeholder concerns and expectations which can present significant business risk,
- Assessing risk – determining the impact on financial performance, company reputation, safety and other key company objectives, articulating the value at stake to executive decision makers,
- Identifying control and mitigation options – identifying the appropriate level of controls, to avoid and minimize business risk in line with the company's risk appetite,
- Implementing controls effectively and ensuring that everyone clearly understands their roles in ensuring plans and controls are successfully implemented, and
- Monitoring the effectiveness of controls and identifying opportunities for improvement processes through value-adding audits that seek to improve operational effectiveness and efficiency.

The diagram below illustrates how ERM's services are implemented along the capital project lifecycle



A case study from an oil and gas major

This client needed to get approvals fast for a major hydrocarbons processing facility to seize the market opportunity presented by emerging shale gas supplies in North America.

Our approach

Working closely with the client's project leader and team, ERM:

- Assessed potential challenges around land acquisition options at the earliest stages,
- Identified what would drive value for the project and worked to address those issues – including air permitting, GHGs, wetland approvals and community engagement – to create potential for schedule improvement,
- Worked across the health, safety, environmental, community and engineering functions to support proactive management of the project risk matrix, and
- Executed practical NTR support across capital project stage gates to gain internal capital approvals and deliver on the improved schedule potential.

Benefits and value to our client

- Contributed to potential schedule improvement that promised a USD 500M improvement in NPV,
- Provided locally informed understanding of stakeholder and permitting challenges,
- Enabled leadership decision making to optimize engineering and commercial design, and
- Mobilized a dedicated 20+ person ERM team working seamlessly alongside the client team.

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The Business Value of Product Sustainability

Understanding How Product Sustainability Fits into an Effective Business Strategy

Kate Sellers
Technical Director
Product Sustainability Services Practice

Minimizing Business Risk

The call comes in after 4 p.m. on a Friday afternoon: Customs has held a product shipment. Perhaps the label does not meet hazard communication requirements, or some component of the product does not meet regulatory requirements. And so, the supply chain breaks.

While the manufacturer scrambles to address a product stewardship issue, the customer fumes. A sale may be lost or – worse still – a customer account. Perishable products may spoil while they wait in storage for the issues to be corrected. And that's just the beginning of the challenge.

Penalties for violating some product stewardship regulations are jaw dropping. Making or importing a product in the European Union (EU)? Consider the penalties under the regulation Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). A first violation can result in a fine of up to 1,000,000. Some countries in the EU impose criminal sanctions that can include prison terms for company executives.

This example of the consequences of gaps in compliance illustrates why corporate executives must recognize regulatory compliance and managing products as a potentially serious business risk.

Let's look at one of the other top risks – damaged corporate reputation – within the context of product stewardship.

The news magazine 60 Minutes aired a story on March 1, 2015, regarding the levels of formaldehyde in Lumber Liquidators laminate flooring.[1] The potential health effects of exposure to this carcinogen outraged consumers and regulators; as a consequence, the company's reputation suffered. The company stock price, which was at $63.69 per share on February 13, dropped abruptly to a low of $30.55 by March 13.

This decrease in stock price is not unique. A study on supply chain resilience published by the World Economic Forum[2] provides additional evidence of the value of product stewardship. Gaps in product compliance that leave a product shipment stranded in Customs disrupt the supply chain. As news of disruptions leaks, it can affect stock prices even before public announcement. The stock value of a publicly traded company drops by 7% on average when the public announcement of a supply chain disruption occurs and stock prices typically require months to recover.

[1] http://www.cbsnews.com/news/lumber-liquidators-linked-to-health-and-safety-violations-2/
[2] http://www3.weforum.org/docs/WEF_RRN_MO_BuildingResilienceSupplyChains_Report_2013.pdf

Essential Business Value

Product stewardship is essential to the success of a multinational business.

Product stewardship is at the core of your company's value generation. By managing your products' environmental health and social impacts, you will drive growth and minimize business risks.

Let's start by looking at the results of a recent survey of multinational business executives.[3] These results are especially compelling because the survey designers did not intend to build a case for product stewardship. In fact, their report never mentions the phrase "product stewardship". The study authors simply wanted to identify the most crucial risks to multinational businesses and the greatest opportunities for growth. Nonetheless, the results of the survey make a powerful case for the potential return on investment in product stewardship.

[3] http://www.ey.com/GL/en/Services/Advisory/EY-theres-no-reward-without-risk-grc-survey-2015-grc-survey-findings

Figure 1. Product Stewardship Related Risks and Opportunities

Making the Case for Product Stewardship
According to a 2015 survey of some 1200 corporate executives in 63 countries, the top five business risks included regulatory compliance and corporate reputation. Two of the top business opportunities were improvements in corporate reputation and penetration of emerging markets.

Defining Product Stewardship

Responsibly managing the health, safety, and environmental aspects of raw materials, intermediate, and consumer products throughout their life cycle and across the value chain in order to prevent or minimize negative impacts and maximize value.

- Product Stewardship Society

Also known as:
- Product Sustainability
- Product Compliance
- Product Safety

The survey results show an interesting counterpoint between stewardship-related risks and opportunities (Figure 1). Regulatory compliance, a top business threat, grows increasingly important with the proliferation of product regulations in key market countries. This threat can stifle the growth opportunities in emerging markets if stewardship is not properly managed. Corporate reputation emerged from the survey as both a top business threat and a crucial opportunity. When news – or sometimes merely rumors – about product safety flash across the internet, the results can make or break corporate profits.

Let's look more closely at how effective product stewardship can support business growth. A robust product stewardship program can support innovation and sales.

Supporting Growth

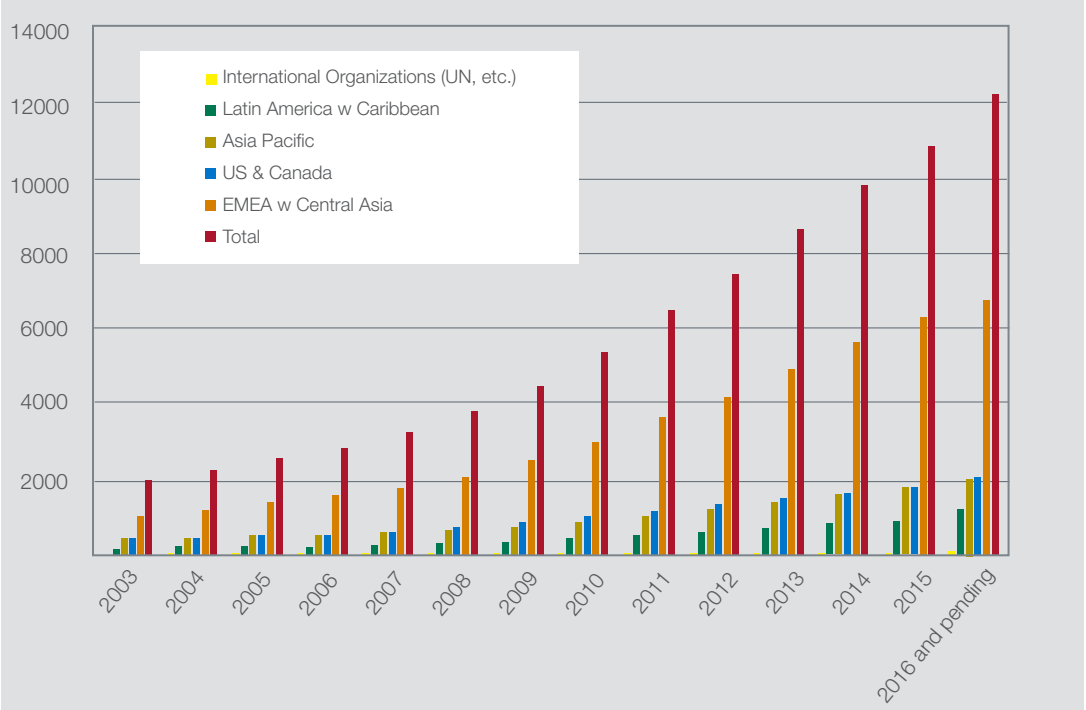
Products crossing international borders must meet an ever-increasing number of regulations (Figure 2[4]). Product stewards work with supply chain managers to track crucial information and address hazard communication, product registration, and product safety requirements. Effective compliance can open markets in new countries and support the introduction of new products.

Beyond compliance, product stewardship can position a brand in the marketplace. Attention to product compliance, product safety, and sustainability can help many businesses grow when appropriately communicated to the public. In one recent consumer survey,[5] 58% of respondents said that they would pay more for a product from a brand known as environmentally friendly; 72% of respondents in the crucial target age between 15 and 20 were willing to pay more for products that come from companies committed to positive social and environmental impact[6].

Customers for a wide range of products increasingly insist on knowing about the stewardship of the goods that they purchase.

[4] See: http://www.complianceandrisks.com/public/growth_of_regulations_jan_2016.pdf
[5] http://www.nielsen.com/us/en/insights/reports/2015/the-sustainability-imperative.html
[6] http://www.nielsen.com/us/en/insights/news/2015/green-generation-millennials-say-sustainability-is-a-shopping-priority.html

Figure 2. C2P Global Regulations by Region: Cumulative Totals
Total Existing Plus New Regulations in force by Year, 2003-Jan. 2016



Pending includes all the remaining sources that are either still proposed or enacted but have not yet gone into force. This chart includes only regulations on the topics listed in the accompanying chart. C2P covers other topics that are not included in this chart.

Source: Compliance & Risks

Building Business Resilience through Effective Product Stewardship

There's no doubt about it: a robust, right-sized product stewardship program can protect and build business value.

While gaps in stewardship can have catastrophic consequences for a product, a reputation, and a company's bottom line, effective product stewardship can build a brand, open new markets, and support the commercialization of innovative new products.

This white paper reflects the views that ERM has developed through working with clients to create business value. For additional perspective, please see the book *Realizing the Full Business Value of Product Stewardship* recently published by the Product Stewardship Society.

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About ERM

ERM is a leading global provider of environmental, health, safety, risk, social, and sustainability related consulting services. We have more than 160 offices in over 40 countries and territories employing over 4,500 people who work on projects around the world. ERM is committed to providing a consistent, professional, and high quality service to create value for our clients. We have worked for more than 50 per cent of the Global Fortune 500 delivering innovative solutions for business and select government clients helping them understand and manage the sustainability challenges that the world is increasingly facing.

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