Chapter 75

Copying with Dynamic Change:
Collaborative Business Interfacing for SMEs under *Intergated eOperations*

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ABSTRACT

The business environment around the world is in a continuous evolution process due to changes in global dynamics. Even though the energy sector has relied much on the known sources, the production process has gone through some notable changes due to inherent challenges and developments in knowledge management and technology use. The Offshore oil & gas production industry today, at least in the North Sea, is at a cross-road where the traditional operational concepts are seriously challenged due to various risk factors and commercial uncertainties. Subsequently, 'Intergrated eOperations' (IO) was adapted as the business solution for a sustainable future seeking major benefits by major players in the sector. This has begun to re-engineer the traditional practices and commercial operations, and the industry continuously seeks novel solutions for 24/7 online real-time operations. In this unique 'eBusiness' environment, SMEs encounter various technical and operational challenges to cope with the mass scale dynamic change process. In order to utilize IO for commercial advantage, SMEs are in the process of exploring various interface solutions today. With respect to the ongoing developments and the scopes of IO, 'Collaborative business interfacing' that is discussed in this chapter is to enable the SMEs to be 'smarter together' to capitalize on the potentials of IO through a strategic capability acquisition process. In the IO setting, and the eBusiness environment that it is expected to create, strategic business change is not an option for SMEs but an inevitable issue for survival and growth.

INTRODUCTION

The environment for Engineering asset management has been subjected to significant changes over the last few years. Various attempts have been made in industrial sectors towards technological and service innovation, knowledge management,

information, collaboration, etc. to realize operational excellence in hard times (Child & Faulkner, 1998, Dyer, 2000, Tidd, 2001, Gunasekaran, Khalil, 2003, During, Oakey, et.al., 2004, Timo, Markku, et.al. 2005, Wang, Heng, et.al. 2006, Liyanage, 2008a). Different industrial sectors seem to have different orientations, in this context, seeking feasible implementation solutions.

In the North Sea Offshore petroleum industry, *Integrated eOperations* is seen as the new business solution for complex engineering assets to cope with challenging commercial conditions (OLF, 2003). North Sea oil & gas production industry in particular has already begun to invest billions of USDs on various application solutions targeting productivity improvements in offshore production assets. At the beginning, a major portion of these investments were made seeking technological innovation to enable a 24/7 real-time online operating mode. This has resulted in a completely different e-business solution around offshore assets, where the industry as a whole today undergoes a complete re-engineering process involving producers, authorities, trade unions, external service providers, third party contractors, etc. This process began in early 2000s and will continue at least for another decade targeting the full scale *Integrated eOperations* status towards 2015 or so (Liyanage, Herbert, et.al. 2006, Liyanage & Langeland, 2007, McCann, Omdal, et.al. 2004).

The major oil & gas producers are the principal drivers of this dynamic change process. The external organizations are expected to device suitable strategies and measures, and implement advanced technologies to cope with the mass scale change process to remain competitive. While major business partners, such as engineering contractors, drilling service providers, etc., have taken early measures to implement adaptive strategies to capitalize on *Integrated eOperations*, there are various other organizations who are lagging behind the development process. This particularly is the case for SMEs who encounter various technical and operational challenges to cope with the mass scale dynamic change process. As an active and a critical component of the industry structure and corporate value chains, SME integration is a commercially vital issue in many different contexts (Wang, Heng, et.al., 2007, Tai, Wang, et.al. 2007). However, as Lin and Patterson (2007) discuss, there are notable barriers for SMEs in coping with industry transformation strategies, where risk distribution plays a major role.

In order to utilize *Integrated eOperations* for commercial advantage, SMEs are in the process of exploring various interface solutions today. Commercially advantageous business interface solutions do not solely rests on innovative technologies and advanced ICT infrastructures, but also on other soft organizational, managerial, and work-processes related issues that are critical to have a seamless interface with the Offshore assets. (Liyanage & Bjerkebæk, 2007, Liyanage, 2008b, Liyanage & Herbert, 2008). For instance, business-to-business trust has become a major issue of attention lately (Lin & Pettrson, 2007) due to inherent risks associated with organizational exposures. The required transition is not a choice for SMEs but an unavoidable business requirement to survive and grow in the emerging highly collaborative 24/7 online real-time operational environment.

With reference to recent development in more global scale, Sabbaghi & Vidyanathan (2007) highlights that in integration context the cultivation of anticipatory stance for SMEs to cope with emerging business challenges is vital for competitive performance rather than resorting to reactive strategies. Such anticipation can largely be generated through a realistic comparison of opportunities presented by strategic changes in industrial sectors against the capabilities that an organization possesses. However, given the limitations in access to resources coupled with other practical bottlenecks encountered by SMEs, novel interface solutions seem to be necessary in the implementation of adaptive measures. The objective of this chapter is to discuss these complex set of business interface solutions for SMEs to survive in this dynamic mass scale change process within the petroleum sector. This is based on current developments in the Norwegian Offshore industry towards dynamic *Integrated eOperations*.

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