

# **Business Value of IT in Multiple-stakeholder's Environment**

*TREO Talk Paper*

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## **Abstract**

Nowadays, when the oil and gas (O&G) industry faces the prospect of a long-term low-price environment, adopting information and communication technologies is essential for improving operational excellence of O&G industry in the new market conditions. Currently, international O&G companies are experiencing convergence of new digital technologies. How local companies can respond to these trends is especially important for developing and transitional countries where technological expertise is missing. Development of ICT technologies which may result from the energy sector is also extremely important for developing resource-rich countries such as for example Kazakhstan as they try to diversify their economies where the energy sector still plays a dominating role. O&G sector's value network comprise different technological stages and represent a network of organisations including: development, exploration, production, processing, pipelines, refining/petrochemical, transport/storage, and marketing/distribution. Adopting digital technologies, for example cloud computing, may allow implementation of standard ICT services in a network of organisations in a short period of time, and make it possible to timely react to business strategy changes.

From the theoretical perspective there is a gap in our understanding how participants in the multiple stakeholder's ecosystem align different IT resources to equitable partake in value co-creation. According to the strategic alignment model of Henderson and Venkatraman (1993), value from IT investments in a single organization can be generated only if IT strategy is aligned with business strategy. However, this model does not explain how the value of IT can be used in the value network. Lately, a view that companies and customers are able to create value through interaction and sharing resources crossing over firm boundaries has emerged as a new paradigm in the management literature (Grover and Kohli, 2012). Built on the review of literature and three guiding theories – the strategic alignment model, the value co-creation model, and the theory of clusters – we develop a business–IT value co-creation model at the network level for the O&G industry, which describes the process of inter-company alignment between IT and organizational strategy in the ecosystem of organizations.

For this paper we conducted semi-structured interviews with Chief Information Officers and ICT experts from Kazakhstan's oil and gas sector and found that levels of ICT adoption is significantly different between international, large national oil and gas companies and local small and medium enterprises. The main contribution of this paper is development of a model of ICT-enabled value co-creation in the multiple stakeholder's environment of oil and gas industry which explains the role of IT in value co-creation process in the network with different stakeholders.