Chapter 18
Knowledge Markets and Collective Learning: Designing Hybrid Arenas for Learning Oriented Collaboration

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ABSTRACT

In this chapter, the authors argue that “Knowledge Markets” might be used as a term to describe how individuals can be engaged in a democratic process where their competence, background, and personal information resources are mobilized in full in a broad and non-biased process. The contribution of each individual is aggregated and averaged in a way the authors believe will yield more accurate results, personal involvement, and learning than traditional approaches to group efforts. Recent work on crowdsourcing (Surowiecki, 2004) highlights the strength of a collection of individuals over traditional organizational entities. This contribution will extend these principles to fit into an organizational setting. The chapter discusses how knowledge markets can create an arena for change. Moreover, it shows that if certain principles are observed desired effects could be achieved for relatively limited groups. The authors extend this to propose theories about collective learning and performance improvement. They further describe how the principles defined can help to meet some fundamental challenges related to petroleum activities such as drilling. The authors think that the Knowledge Market approach can serve as a model for designing IO arenas to increase collaboration, to improve shared problem solving, and make collective learning more effective. In all kinds of operations performance improvement is strongly related to learning. It is a cognitive ability that must be exercised and maintained through motivation, discipline, and other stimuli. Collective learning applies to the effort whereby a group of people detect threats or opportunities and learns how to take early advantage of this in order to assure change.

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INTRODUCTION

We claim that a drilling operation is a process whereby change is the norm rather than the exception. Consequently collective learning is an essential ingredient for future success. Collective learning is often described as a collaborative exercise that will involve competence building and knowledge sharing that seek to enhance the individuals’ skill and insight as well as mutual understanding that strengthens working relationships, clarifies roles and makes common goals transparent. Integrated Operations (IO) are organized around arenas where collective learning is essential. Arguing in line with Why, What and How learning (Korsvold et.al, 2010) as well as the concepts of exploration and exploitation in organizational learning (March 1991), we have pinpointed the need for a balance between the different dimensions of learning. The Knowledge Market is dynamic and democratized arena that involves all individuals that must be united around a set of common processes. It makes an organization posed for change by making objectives and solution strategies transparent and by combining the cognitive capabilities of the many with individual incentives, knowledge and skills.

Imagine a big jar of jelly beans placed on a table. A crowd of people will be challenged to guess the number of beans that it contains. Each member of the crowd acts independently and is allowed to scrutinize the jar and its content in his own way to volunteer a judgment. To the dismay of some the collective performance of the crowd is likely to outperform any individual among them. The average estimate of the collective guessing will, with a very high probability, be the best. The chances that the crowd’s average output will be among the top three estimates, including the best individuals, is very close to one. The experiment can be carried out by anybody, and though it may seem counterintuitive the outcome is persistent. This and many other examples that illustrate the wisdom of crowds are described in the best seller book carrying the same title and authored by James Surowiecki (2004). Surowiecki argues that crowds have inherent capabilities that can be unleashed in order to find solutions to different types of problems. He points to a number of cases where problems posing a real challenge even for seasoned experts are better off if solved by a democracy of individuals. Such a democracy favors individualism for the benefit of the collective.

A convincing body of both historic and more recent research is mobilized to support his claim. In light of this the most intriguing question is why the application of this know-how has not penetrated more enterprises, both within business and government. Since the inception of the Internet we have seen the emergence of enterprises that thrive on the crowd and whose value is dependent on the number of participants involved in production, marketing and development of the enterprise’s offering. Early examples were the Apache Web Server (AWS 2011) and the Linux operating system (Shuen, 2008). Since then we have seen the emergence of digital social systems such as Facebook and Wikipedia. They all rely on the crowd to prosper and many such enterprises have seen their stock value soar. An entire suite of digital technologies under the label “Web 2.0,” has emerged to support such systems (Shuen, 2008). Many attempts have been made to “in-source” these technologies in order to create enterprise systems that are meant to support the organization and its members to increase general participation in business affairs, exchange information and share knowledge (O’Reilly and Battelle, 2009). Compared to Internet oriented initiatives, the fruits of intranet or intra-organizational endeavors have been modest. A more recent initiative exploiting the benefits of Web 2.0 technologies and directed towards the enterprise is crowd sourcing (Howe, 2008) and so called digital ecologies (Shuen, 2008). They are both relevant aspects of the ideas presented here.