

Ba and Knowledge Creation in Scrum

By Heitor Roriz Filho, M.Sc., CSP

Agile Coach

AdaptWorks, Brazil

hroriz@adaptworks.com.br

This article briefly discusses the creation of knowledge in Scrum and the importance of the environment that enables knowledge creation and cross-pollination, the *ba*. The term *ba* is originated from the Japanese and can be translated as *place*. The SECI model, as described by Takeuchi and Nonaka defines a dynamic process in which explicit and tacit knowledge are exchanged and transformed [1]. During this process, Nonaka and Konno point out four types of *ba* that support and enable the creation of knowledge [2].

As Sutherland and Schwaber describe, the Scrum Team interacts in an iterative manner [3]. According to Sutherland et al., in order to obtain the most out of Scrum, the team must attain to certain constraints [4] [5]. These constraints lead to hyperproductive teams and the stabilization of the environment where the team works. This environment is the Scrum Team's *ba*. Nonaka and Konno assert that the creation of the *ba* is the company's responsibility [2]. The company must create the *ba* and ensure their continuous transformation.

During the Scrum process we can identify (e.g. during a Sprint) the SECI knowledge creation process. For each of the steps in the SECI Model, we have a specific *ba* that is specifically suited to each of the four knowledge conversion steps [2]. The ScrumMaster plays a key role to obtain the four *ba* to facilitate the Scrum process for the team and foster the creation of project knowledge and knowledge cross-pollination.

SECI Model and Knowledge Creation

Takeuchi and Nonaka suggest a model for knowledge creation called the SECI Model [1]. In this model, the spiral path to construct new knowledge presents four steps in the knowledge conversion process:

1. Socialization: where tacit knowledge between individuals is exchanged.
2. Externalization: tacit knowledge is converted to explicit knowledge.
3. Combination: explicit knowledge is converted into more complex explicit knowledge.
4. Internalization: when internalized by some individuals, explicit knowledge becomes tacit again.

The Four Types of *Ba*

Nonaka and Konno describe four types of *ba* that suit each of the steps in the SECI Model. The four types of *ba* are [2]:

1. Originating *ba* is the place where individuals share feelings, emotions, and experiences. It is the primary *ba* from which the process of knowledge creation begins and represents the Socialization step of the SECI Model.

2. Interacting *ba* is the place where tacit knowledge is made explicit, so it represents the Externalization step. In this *ba* through dialogue, individual's mental models and skills are converted into common terms and concepts.
3. Cyber *ba* consists of a place of interaction between individuals in a virtual world through the use of IT tools. This *ba* represents the Combination step.
4. Exercising *ba* supports the Internalization step. This place facilitates the conversion of explicit knowledge to tacit knowledge.

Scrum and the SECI Model

In Scrum we can easily identify that all steps of the model are present. Socialization and Combination happen constantly, especially during the Daily Scrum. The dynamics created by Scrum and the aim of cross-functionality that teams are always looking forward to achieve is crucial to these two model steps. The technical part of the Scrum Review is also a source for both steps. Dr. Jeff Sutherland suggests the adoption of Pair Programming to achieve excellence levels while adopting Scrum [4]. This technique is a fertile ground for Socialization and Combination.

Now let's consider Externalization. It is up to the team to decide what is going to be documented and what is not. It may also happen that the ScrumMaster has the task to prepare documents in accordance to some process in the company where the project is undertaken.

Internalization and Combination are crucial to cross-functional teams. After acquiring knowledge during a Sprint and Scrum ceremonies, an individual creates and/or appends new knowledge to his or her pre-existent set of knowledge. Ultimately the result of the team's internalization process is the development of the product.

Summary

It is up to the organization to create and transform the Scrum Team's *ba*. As the servant leader for the team [3], the ScrumMaster must facilitate the knowledge creation process and maintain these *ba* in order to maintain the flow of knowledge. The team nurtures the *ba* while it acquires experience and develops its interrelationship. The Originating and Cyber *ba* are strongly related to the Scrum Team's location, i.e., their workplace. The Cyber *ba* can be extended to geographically separated teams as Scrum benefits can be obtained in such environments [6] [7].

References

[1] I. Nonaka, H. Takeuchi, *The Knowledge Creating Company*, Oxford University Press, New York, NY, 1995.

[2] I. Nonaka, N. Konno, *The Concept of "Ba": Building a Foundation for Knowledge Creation*. California Management Review, Vol. 40 No.3, pp.40-54.

[3] K. Schwaber, *Agile Project Management with Scrum*. Microsoft Professional Series. Paperback. 192 pages. Microsoft Press, 1st edition February, 2004.

[4] J. Sutherland, *Practical Roadmap to Great Scrum. Systematically Achieving Hyperproductivity*. Keynote speech in Munich Scrum Gathering. 19-21 October 2009, Munich , Germany.

[5] J. Sutherland, S. Downey, and B. Granvik, *Shock Therapy: A Bootstrap for a Hyper-Productive Scrum* in Agile 2009, Chicago, 2009.

[6] J. Sutherland, G. Schoonheim, and M. Rijk, *Distributed Scrum: Agile Project Management with Outsourced Development Teams*, in 40th Hawaii International Conference on Software Systems, Big Island, Hawaii, 2007.

[7] J. Sutherland, G. Schoonheim, N. Kumar, V. Pandey, and S. Vishal, *Fully Distributed Scrum: Linear Scalability of Production Between San Francisco and India*, in Agile 2009, Chicago, 2009.