Chapter 5
Agile Methodologies for Business Intelligence

Deanne Larson
Larson & Associates, LLC, USA

ABSTRACT

Agile methodologies were introduced in 2001. Since this time, practitioners have tried to create and apply Agile methodologies to many delivery disciplines. This chapter will explore the application of Agile methodologies and principles to business intelligence delivery. The practice of business intelligence delivery with an Agile methodology has yet be proven to the point of maturity and stability; this chapter will outline Agile principles and practices that have emerged as best practices and formulate a framework to outline how an Agile methodology could be applied to business intelligence delivery.

INTRODUCTION

The manifesto and principles for Agile Software Development (ASD) were published in 2001, and since then, the objectives and principles have been interpreted and applied to Business Intelligence (BI). The application to BI is natural, because of the iterative and incremental nature of BI development. The intent of this chapter is to provide practitioners an understanding of how the Agile ideals are applied to BI delivery. Beck, et al (2001) outlined the core ideals of the manifesto: individuals and interactions over processes and tools; working software over comprehensive documentation; customer collaboration over contract negotiation; and responding to change over following a plan. Ultimately, by following these ideals, software development becomes less formal, more dynamic, and customer focused.

Information Technology (IT) departments are faced with the circumstances of globalization and maintaining a competitive edge, which, in turn increases pressure to deliver high quality technology solutions faster. In this environment, the values

DOI: 10.4018/978-1-61350-050-7.ch005

of technology efforts are determined through how quickly payback and return on investment occur. BI efforts often include significant investment initially and ongoing to maintain value, thus inviting constant scrutiny on whether business value is gained. BI value measurement continues to be a struggle for organizations, mainly due to the challenge of directly attributing return to the investment in BI. BI plays the role of an enabler – enabling the organization to become smarter, work smarter, and make better decisions. The enabler role that BI plays makes it difficult to directly attribute a return on investment and after time, the use of information becomes routine and expected.

The information value chain is the process used to derive value from information and information from data; BI delivery is centered on the information value chain. Collecting raw data is the first step in the value chain; applying logic and business context to the data creates information; information is then consumed by BI users; decisions and actions are a result of the consumption of data; and ultimately decisions and actions provide business value. Understanding the information value chain is important in analyzing the benefits of Agile principles applied to BI delivery. BI delivery is not accomplished via traditional waterfall software development (although some organizations attempt this); it is more focused on data discovery and understanding how information is going to be used. This perspective drives how Agile principles should be applied to BI delivery – less focus on software development and more focus on information use.

The objectives of this chapter are fourfold. First, address the alignment between Agile principles and BI delivery. Second, analyze Agile methodologies and address the applicability to BI. Third, review the components and best practices of BI delivery. Last, propose an Agile framework for BI delivery.

BACKGROUND

Business Intelligence (BI) is defined by literature and scholars in similar ways. Noble (2006) defines BI as the ability to provide the business an information advantage; business doing what it has always done, but more efficient. Singer (2001) described BI as the value proposition that helps organizations tap into decision-making information that regular reporting does not provide. Singer outlined that BI requires tools, applications, and technologies focused on enhanced decision-making and is commonly used in supply chain, sales, finance, and marketing. Negash and Gray (2008) outlined BI more comprehensively. BI is a data driven process that combines data storage and gathering with knowledge management to provide input into the business decision making process. BI enables organizations to enhance the decision making process and requires processes, skills, technology, and data.

Being able to deliver BI in a manner that enables business collaboration, data to become information, and ease of use of information are the challenges. Delivery of BI is accomplished via a methodology. Creswell (2003) outlined that a methodology is set of processes, methods, and rules applied within a discipline. Successful BI methodology should focus on the information value chain and less on the development of software as is the focus of traditional information technology (IT) development. Research has demonstrated that waterfall lifecycles and traditional software development practices are not successful in BI. Software and hardware do not provide organizations value pertaining to BI; it is the use of information (Larson, 2009).

Common stumbling blocks that exist in BI projects include: fuzzy requirements; lacking an understanding about how data is created and used; data quality is not measured or known; source system constraints dictate design and service levels; developing based on perceptions of data; results are not demonstrated in a timely manner;