Chapter 16

Beyond Open Source:
The Business of ‘Whole’ Software Solutions

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ABSTRACT

Researchers have argued that competitive necessities will require open source software companies to participate in cooperative business networks in order to offer the complete product/service (whole product) demanded by customers. It is envisaged that these business networks will enhance the business models of participant firms by supplementing their value adding activities and increasing responsiveness to customers. However, while such propositions have intuitive appeal, there is a paucity of empirical research on such networks. This study examines Zea Partners, a network of small open source companies cooperating to deliver the ‘whole product’ in the area of Content Management Systems (CMS). It investigates how network participation augments the business models of the participant companies, and identifies the agility challenges faced by the business network. The chapter concludes that reconciling the coordination needs of OSS networks with the operational practices of participant firms is of crucial importance if such networks are to achieve adaptive efficiency to deliver whole products in a ‘bazaar-friendly’ manner.

INTRODUCTION

Researchers (Agerfalk et al., 2006; Feller et al. 2006a; Fitzgerald, 2006) have recently argued that Open Source Software firms should adopt a ‘whole product’ approach (cf. Moore, 1999) by forming a network/ecosystem of partners with complementary capabilities “to offer a professional product and service in an agile, bazaar-friendly manner” (Fitzgerald, 2006, p. 294). This ‘whole product’ approach is consistent with the challenges of ‘productizing OSS’ discussed by Woods and Guliani (2005) as well as developments in the production and use of other complex product/service offerings as discussed by Davidow and Malone (1992). This approach is regarded as appropriate when there is a need for firms
to quickly deliver a variety of customised products, and when the nature of the product development process means that individual organisations do not have sufficient competencies to deal with all parts of product design (Davidow and Malone, 1992; Huang, 2001). In such circumstances, market forces require organisations with similar goals to align themselves in IT-mediated partner networks in order to meet customer requirements (Stafford 2002).

Moore (1999) popularised the concept of the ‘whole product’ as the cornerstone of market-driven, rather than product-driven, businesses. However, the concept resonates with the dynamics of the open source software phenomenon, which, due to the licensing structure, emphasises services and meta-services surrounding the artefact. Indeed, Woods and Guliani (2005) describe as the challenge of ‘productizing’ open source software as the need to offer support, implementation, modification and related services. Thus, networks of co-operating small open source software organizations may represent what Clemons and Row (1992) term a “move-to-the-middle” where networks of organisations interact in order to deliver value (in the form of the whole product) to the end consumer.

This paper examines Zea Partners, a business network of firms developing Content Management Systems and selling related services, all based around the Zope application server. It investigates how participation in the network augments the business models of participant firms in order to adopt a ‘whole product’ approach, and identifies the challenges faced by the network in trying to ensure the business agility necessary to offer the ‘whole product’. The paper begins by discussing the theoretical foundation for the study. Next, the research objective and research methods are discussed. The case environment is then outlined and the findings presented. The paper illustrates that participation in the network allows firms to share business model components within a centrally managed network, and to engage in agile competitive practices by making network-level changes in response to changes in the external environment. The need to address adaptability and alignment issues in addition to business agility is highlighted, however. Consequently, the paper concludes that reconciling the coordination needs of OSS networks with the operational practices of participant firms is a critical issue if such networks are to achieve adaptive efficiency to deliver whole products in a bazaar-friendly manner.

THEORETICAL FOUNDATION

OSS has been investigated from a variety of disciplinary and theoretical perspectives. The two dominant research themes, however, have been (1) OSS software engineering tools and techniques and (2) the socio-cultural analysis of OSS communities. The open source model of software development has been popularised as a realistic option for commercial organisations in recent years (Agerfalk and Fitzgerald, 2008; Watson et al. 2008). Commercial organisations, however, are under-represented in OSS research, not just in terms of quantity, but more importantly in terms of depth of research. In particular, there is a need for greater research on commercial aspects (Agerfalk and Fitzgerald, 2008) and business model issues surrounding OSS (Feller et al. 2006b). In this section, we draw on the wider literature on business models and business networks to develop the theoretical grounding for our study. In particular, we examine how extant research on business models and networks can improve our understanding of the issues facing firms seeking to form the type of agile business ecosystems envisaged by Fitzgerald (2006).

In keeping with the increasing commercialisation of OSS, researchers such as Watson et al. (2008), Krishnamurthy (2005), Weber (2004), Spiller and Wichmann (2002), Raymond (2001) and Hecker (2000) have documented a series of OSS business models. However, much of this
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