

## Chapter 13

# Apache Sustained Competitive Advantage in the Web Server Industry

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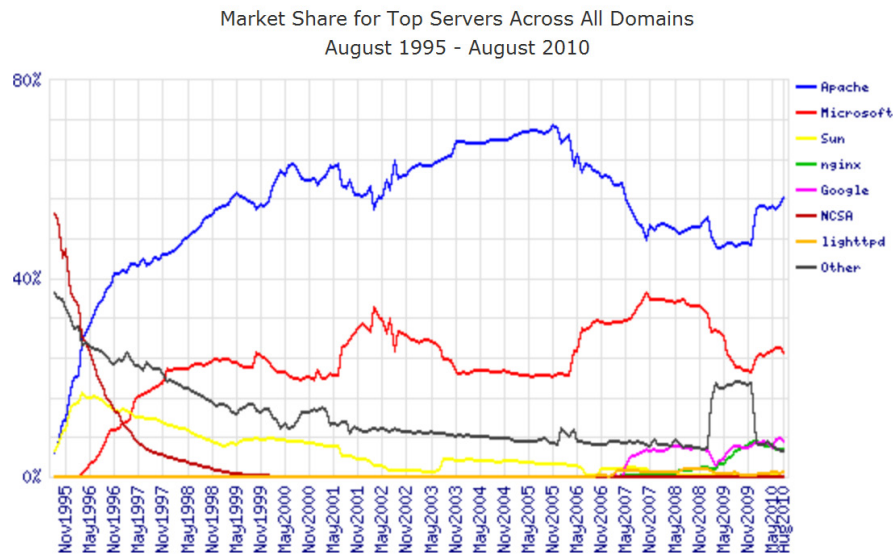
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### **ABSTRACT**

*Open source communities such as the ones responsible for Linux and Apache became well known for producing, with volunteer labor innovating over the Internet, high-quality software that has been widely adopted by organizations. In the web server market, Apache has dominated in terms of market share for over 15 years, outperforming corporations and research institutions. The resource-based view (RBV) of firms posits that an organization outperforms its competitors because it has valuable, rare, imperfectly imitable, and non-substitutable resources. Accordingly, one concludes that Apache possesses such resources to sustain its competitive advantage. However, one does not know what those resources are. This chapter is an effort to locate them, answering the question: “What resources enable Apache to outperform its for-profit competitors consistently?” This research draws on the RBV to develop a series of propositions about Apache’s internal resources and organizational capabilities. For each proposition developed, methods for their empirical validation are proposed, and future research directions are provided.*

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*Figure 1. Market share for top servers across all domains (August 1995 - August 2010)*



## INTRODUCTION

The web server industry has been dominated in terms of market share by an open source product for the last 15 years. A recent survey, which collected data from more than 200 million servers, showed Apache with about 56% of the market, followed by Microsoft with over 25% (Netcraft, 2010). Other participants in the web server market include Sun (Oracle), Google and the National Center for Supercomputing Applications at the University of Illinois, accounting together for the remaining 19% (see Figure 1 for details).

According to these numbers, clearly, Apache is preferred by users and has maintained its competitive advantage in the web server industry for a long time. Therefore, from a resource-based view (RBV) perspective, Apache must possess valuable, inimitable, non-substitutable and rare resources. To point out these resources creates knowledge on how, when and where a volunteer-based organization can sustain competitive advantage against for-profit and research-oriented organizations. That knowledge with due adaptations may apply to a broader class of organiza-

tional efforts, covering any attempt to incorporate customers (communities) online input on organizational processes to keep up with stakeholders' changing needs and to communicate back to input generators (Di Gangi, et al., 2010; Gallagher & Ransbotham, 2010).

This chapter is a model-building attempt to explain Apache's sustained competitive advantage based on its organizational structure, strategies, policies, and, of course, volunteer availability, which represent the resources it possesses. Apache is an illustrious effort in terms of open innovation (Chesbrough, 2003) or even may be termed as crowdsourcing innovation (Howe, 2009). This research identifies Apache's traits that arguably meet all theoretical criteria needed for an organization resource to provide it a sustainable competitive advantage, in a RBV-fashion. Specifically, the study intends to separate Apache from its competitors, especially its closest one, Microsoft (a giant and corporate business entity), through its resources, which would then provide Apache a source of competitive advantage. In specific words, the research has tried to provide an answer for the question: How can an open source

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