

Exploring the Impact of Open Source Software Development in E-Commerce Software Development Process

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Abstract:

Electronic Commerce is an Integration of business models with technologies and processes that empower online market, service and sale for Business to Business (B2B) and Business to Customer (B2C) commerce. It expedites transactions over the Internet web technology and supports the formation and continuing development of online relationships." The major issues with organizations are, they are unable to invest on a single e-commerce software application which suits their complete business match with all their distinctive business requirements as they exist in the market, or there is no swift enough to support changing business requirements. Since organizations are unable to procure a single e-commerce solution that are needed for their complete match with all their unique business requirements. Strategy regarding software use has suddenly become an important concern because of a new choice has recently become feasible solution so called Open Source Software (OSS) approach developed volunteer software developer community an alternative approach to proprietary software. The major finding and conclusion drawn is "An alternative software application approach for e-commerce with the promise of information-enabled development". Hence, the study suggests the need for OSS in e-commerce applications to be implemented by Organizations and individuals and will in-turn strive to formulate their guidelines in an informed manner which will contribute back to the OSS Community knowledge base for further business development.

Keywords: Business to Business; Business to Customers; E-commerce Software; Open Source Software (OSS); Volunteer developer Community.

I. INTRODUCTION

The introduction of Internet technology into human affairs with an extensive telecommunications bandwidth configured as a neutral and public network motivates individuals and gives room for more business opportunities to organizations and in turn they encounter growth in their economy as they move towards increasingly knowledge based intensive economies.

E-commerce on demand is a collection of functionality to facilitate through Internet marketing functions that are used to serve individual consumers and business partners, and raise long-term customer relationships through Internet Web Technology. The Internet Web application is owned and managed remotely by one or more IT service providers. The IT service provider delivers an application based on a single set of common software source code and data definitions that are consumed in a one-to-many business model

In most organizations e-commerce enterprises have more primary or core integration software applications in order to full-fill their complete operational state. So organizations find themselves very difficult in investing and managing multiple types of e-commerce applications because of the varying Information Technology (IT) capabilities in the internet world.

II. ANALYSIS

The unstable economy makes organizations to implement a strategy on new investment in IT infrastructure and advancements in e-commerce capabilities. At the same time customer interest in e-commerce has been increasing since the last decade. Organizations want to improve their business through internet by improving their online user interfaces with user friendly Internet application capabilities for all types of e-commerce.

The increasing number of software service providers and developments in e-commerce software as a service, which is also referred to as e-commerce on demand, have opened e-commerce capabilities to a much broader development of applications for organizations than ever before, and the hype surrounding such offerings is increasingly due to current economic and market forces. Organizations are in a critical state to develop their e-commerce capabilities into next-generation customer experiences and to increase sales and customer retention as part of their business growth.

Over a period of time, many organizations develop e-commerce applications using only proprietary software such as Microsoft Windows platform as the main Operating System to host the Internet based website, and Microsoft SQL Server as the database application which stores the vital company data and information about business transactions. These types of software's are referred to as "Closed Source Software", because you can use only the services and software applications that are available with the Operating System, you are unable to see the source code of the software

program that makes up the Operating System how it works. As a result, you cannot modify the source code of the Operating System in order to satisfy your requirements. In other words, with Closed Source Software, “What You See Is What You Get”, and you as the Ecommerce business service provider, have no choice to customize as per n demand service. Also, in the past we have seen such systems susceptible to severe threats and enormous security outbreaks.

Organizations need to redefine their IT strategies in-order to make them significant to the changing business development process, new choice has recently become feasible solution so called “Open-source e-commerce” which is alternative to the proprietary software. This software is available for free under a GNU general public license. These include the use of open-source software (OSS) as a single package for Web, database or application servers commonly known as the Linux-Appache-MySql-Php (LAMP) platform.

“Open Source Software” is just the contradictory of Closed Source software. The Open Source software usually is free to download and use by any computer users without giving any royalty to the developers. Also more important factor is that the option to choose what services and applications needed as per your business requirements and the bottom line is that with Open Source software, the user have access to the source code program and as a result, the E-Commerce business service provider can modify the developed Operating System in order to fit the needs and desires of the business needs. A formal definition of Open Source software is: “Open Source Software is software in which the underlying programming code is available to the computer users so that they may read it, make changes to it, and rebuild new versions of the software incorporating their changes.”

The availability of source code makes it possible to use in-house software developers to analyses the source code and fix bugs or change running configurations. What seems clear is that OSS can help service providers and business organizations or individuals to avoid getting locked into a spiteful circle of hardware and software upgrades and changes in data formats that require investing in new license fees and significant retraining and can provoke major down time. Ultimately, the software service provider may have rights to decide which process makes better software; the steady growth of market share for the LAMP operating system indicates that many business organizations are expecting that the open-source process will, over time, produce better solutions for their e-commerce needs. Proprietary software is rarely seen taking market share away from open source software solutions where OSS solutions exist.

III. RESULT

The study finds a boom in the major business community to move towards the use of the “Open Source Software” applications. In detail, the “Open Source Software” that is predominantly used today by business service providers for E-Commerce application are as follows,

- Linux as an alternate to Windows as an Operating System;
- Apache as an alternate Microsoft Internet Information Services as the Web Server;
- MySQL as an alternate MS SQL Server as the database.

The growth and popularity of OSS in IT service provider sectors are remarkable. The open source Web server software Apache, which sends Web pages to the computer of someone accessing a site, has dominated its market segment since 1996 and now holds at least twice the market share of its nearest competitor of closed source software.

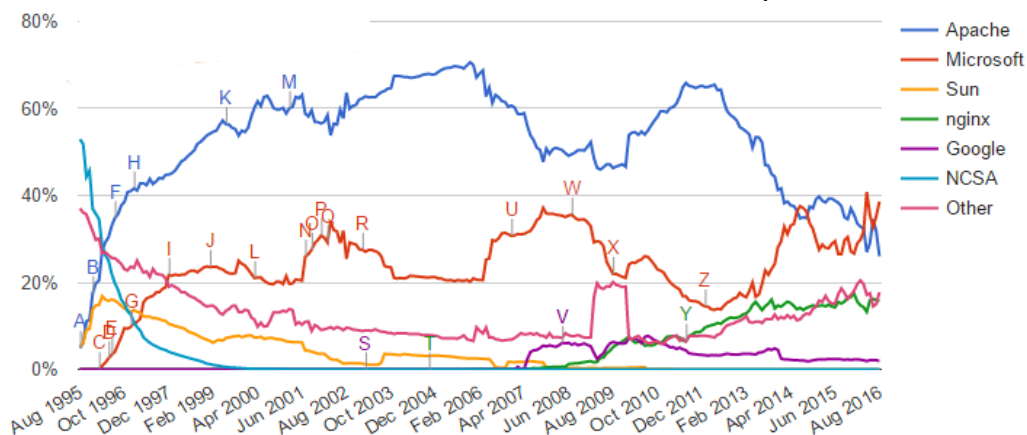


Fig: 1.1 Market shares for Web server software from August 1995 to August 2016.

Source: <https://news.netcraft.com/archives/2016/08/24/august-2016-web-server-survey.html>

The Business advantage of Open Source Software to deal with is achieving quality equal to or superior to that achieved in proprietary software corporate organizations is as depicted below,

- The installation of proprietary based software after the purchase is of a right-to-use license is often tied to accepting terms and conditions.
- Source code availability is in itself an important product quality.
- While all software has programming errors (bugs) and stability problems, OSS can have more developers looking critically at problems and proposing fixes than any proprietary software developers. In other words, “given enough eyeballs, all bugs are shallow” (Raymond 2000).

IV. CONCLUSION

This study has provided an in depth understanding and impact of OSS e-commerce business models, which is an area of contemporary significance. The core finding of this research work is an experience so far has shown that open-source environments often produce reliable, secure and upgradable software at free of cost. Also OSS provides an improved approach to security issues and to the need for public and open standards, Organizations supporting OSS can have an anti-monopolistic effect on the e-commerce business market and in IT service provider industry in a country and globally, thereby reducing the threat of technological and financial lock-in. Finally, the increasing adoption of OSS in the developed world is creating export scope for more online business opportunities; ultimately there are many different ways to manage the transition to a knowledge or information economy. OSS should be seen, then, as more than just a different kind of software product. It is a different kind of process for building, maintaining and changing the rules that govern information flows.

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