Chapter 70

Open Source Software Adaptation in Africa:
Is a Matter of Inferior or Cheap Is Not Quality?

Abubakar Diwani Bakar
University Putra Malaysia, Malaysia

Abu Bakar Md. Sultan
University Putra Malaysia, Malaysia

Hazura Zulzalil
University Putra Malaysia, Malaysia

Jamilah Din
University Putra Malaysia, Malaysia

ABSTRACT

The African continent has long benefited from adopting OSS in its private and public organizations that have changed their way of development, the use and how to acquire proprietary software. This frequency of adaptation does not appear to be in balance with the contribution to the OSS community. Using views from experienced software practitioners working in different organizations across two African countries it has been observed that neglected infrastructure, a wide availability of proprietary software and misconceptions of a clear meaning of Open Source Software across Africa have been an obstacle towards the participation in the OSS technology in the global network.

INTRODUCTION

Recent developments in the software design, for many developing countries an open source has encountered proprietary software as one of the accepted alternative solution. African countries as part of the developing continent have changed their strategy in software adoption towards the use of open source

solution by introducing policy advocating the use of the OSS in their institutions (Bruggink, 2003; Lewis, 2008). The free and open nature of this technology gives the practitioners room to enjoy the flavor of newly advanced technology through codes. Among other benefits that attract the widely adaptation of this technology is the availability of a large pool of developers who can easily debug and improve the software without borders (Dafara et al., 2000; Huett et al., 2010; Serone & Sowe, 2010; Ven & De Bruyn, 2011). Increase in adaptation rate, more practitioners from different part of the world dump a million of software products in the market.

In illustration, OSS technology is characterized by bazaar style, where practitioners from different parts of the world contribute to the single product at the unknown location (Raymond, 1998). Developers and other contributors commit the changes of software based on this kind of practice. Xu (2007) explained the OSS practice like social networking where interaction between developers from unknown geographical location made remarkable achievement in the software development. He added that one of the catalytic achievements is the commitment of developers in participating fully in the OSS community. Therefore the contribution from this group of technical people is the one that make product stable since the early release of the software is the outcome of grimy design.

As earlier studies concerned with the comparisons and contrast between OSS versus proprietary software (Bonaccorsi & Rossi, 2003; Paulson, 2004), there is a need of turning the side of the coin into the challenges and opportunities of OSS adoption in different contexts. In Africa, where the social economic barrier, imbalance of economic policies and lack of financial resources are the major problems due to more opportunities obtained in comparison with the challenges, OSS technology has triggered many of its countries to adopt it in their private and even in public organizations (Chonia, 2003; Dan et al., 2005; Morgan & Finnegan, 2007; Roza et al., 2011; Bakar et al., 2012). However, African practitioners seem to lead in downloading and installing the OSS rather than developing participation. According to the statistics collected by a FEDORA project survey by Chonia (2003) and a survey of five Africa countries by Bruggink (2003), the countries increased the adoption but still the continent in general is the least to be represented in contributions. This has raised concerns about the imbalance between adoption and the contribution to this fastest growing technology model.

This study aims at investigating the reasons that make Africa to lag behind other continents in contributing to the OSS community regardless of the high frequency of downloading and installing the software. In answering this question, the following sub-hypothesis have been validated

1. African software practitioners rarely send feedback, errors or extra requirements to commit the changes in the global OSS repository.
2. Individual problems such as lack of confidence of practitioners and other organizational problems are the major issues that hinder software practitioners in contributing to the OSS development.
3. OSS contribution is only for the programmer from Europe, America and Asia.
4. Proprietary software is a critical issue associated with low contribution coverage from Africa.

The study questioned several Software practitioners in Africa in order to investigate their views and experiences that cause low contribution coverage from African software practitioners.

Related Content

Critical Issues in Requirements Engineering Education
Rafia Naz Memon, Rodina Ahmadand Siti Salwah Salim (2018). *Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications (pp. 1953-1976).*
www.irma-international.org/chapter/critical-issues-in-requirements-engineering-education/192955

Study of the Image Segmentation Process Using the Optimized U-Net Model for Drone-Captured Images
Gunjan Mukherjee, Arpitam Chatterjee, Bipan Tuduand Sourav Paul (2023). *Novel Research and Development Approaches in Heterogeneous Systems and Algorithms (pp. 81-99).*
www.irma-international.org/chapter/study-of-the-image-segmentation-process-using-the-optimized-u-net-model-for-drone-captured-images/320125

Software Engineering and New Emerging Technologies: The Involvement of Users for Development Applications for Tablets
Sergio Ricardo Mazini (2018). *Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications (pp. 1586-1609).*
www.irma-international.org/chapter/software-engineering-and-new-emerging-technologies/192937

Secure Opportunistic Routing for Vehicular Adhoc Networks
Harsha Vasudevand Debasis Das (2018). *Handbook of Research on Pattern Engineering System Development for Big Data Analytics (pp. 253-273).*
www.irma-international.org/chapter/secure-opportunistic-routing-for-vehicular-adhoc-networks/202845

Programming Interfaces for Realtime and Cloud-Based Computing
Gregory Katsarosand Tommaso Cucinotta (2012). *Computer Engineering: Concepts, Methodologies, Tools and Applications (pp. 959-975).*
www.irma-international.org/chapter/programming-interfaces-realtime-cloud-based/62491