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## COPING THE BUDGET PRESSURE – POSSIBILITY OF ADOPTING OPEN SOURCE SOLUTIONS IN SAUDI LIBRARIES: A REVIEW

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### ABSTRACT

Because of the ascent in ubiquity and thought of Open Source Software in all divisions from training to government to business, it has turned out to be basic for all chiefs to comprehend the idea, reasoning, merits, negative marks, accessibility and ramifications of OSS for their associations. In a library domain, spending plan, time and staffing either predicate or forestall innovation activities. Today, while clients' needs are developing, library spending plans are contracting. In this setting of a regularly expanding requirement for innovation and consistently diminishing assets to get these new items, Open Source Software offers libraries an alluring arrangement. There is a general absence of mindfulness and enthusiasm among Saudi library experts with respect to selection of OSS. This paper gives a diagram of the developing connection among libraries and OSS, features the need, advantages and disadvantages of OSS and audits assortment of existing open source applications for libraries. This is the primary comprehensive examination following development and improvement of OSS in Saudi libraries.

**Keywords—** Open Source Software (OSS), Open Source Movement, Library Technology, Library programming, Information Technology

### INTRODUCTION

The library calling all through the world and all the more so in Saudi Arabia has been going through a time of progress. The coming of PCs and correspondence innovations has gotten a ponder upheaval the present century. The library situation has just been changed in creating nations and flourished in the Kingdom moreover. The previous couple of years have seen quick establishment of PCs in all kinds of different backgrounds, viz. business, associations, establishments, colleges and others. The libraries are not detached. Libraries of different kinds are tested to give more noteworthy data get to and enhanced dimensions of administrations, while adapting to the pace of mechanical change and regularly expanding spending weight. Moreover, the network has just been completely acquainted with the utilization of and use of PC and correspondence advancements (Chudnov, 1999). In this way to take into account and be helpful to this PC proficient network, the libraries have just begun surveying and assessing fundamentally accessible library administrations and passing judgment on their adequacy, adjusting administrations/methods by utilizing PC innovation. Hence, the utilization of programming applications in libraries has turned out to be basic because of the accompanying elements.

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Because of this need of programming and the absence of spending plan accessible to spend on it, numerous libraries are left to fight for themselves with regards to remaining fully informed regarding the most recent innovation. Business library programming items are thorough and sufficiently extensible to help the need, however by and large they are past the range of the greater part of the libraries in creating nations (Singh, 2007). The undeniable reason is that they are too exorbitant to be managed by normal libraries as it is outstanding that libraries dependably work under lack of money related and labor assets. The best accessible decision for the curator today is to swing to Open Source Software. It is an alleviation that the open source development has given some truly dependable programming answers for libraries. Not at all like restrictive programming that we have been utilizing till today, it offers items that can be utilized, adjusted and adjusted to give arrangements in different frameworks without or at an ostensible expense. There are various sort of open source applications that can be grasped by libraries including essential working framework, report handling programs, Library Management Software (LMS), Digital Library Software, Content Management Software (CMS) and Learning Management Software (LMS). Along the line open source has additionally brought about different other library innovation and instruments that are extremely proficient and particular and are sent to suit the shifted needs of libraries, their substance and administrations.

### **OPEN SOURCE – CONCEPT AND PHILOSOPHY**

Regularly, a program is characterized as an arrangement of directions which guides a PC i.e. Windows working framework is a program, or an arrangement of guidelines, which advises the client's PC how to send data to the hard drive, how to take data from the client, and how to speak with joined equipment, for example, the modem or the system card (Malik, 2005). In any case, these projects are aggregated and converted into parallel code, additionally called source code of the program which the PC comprehends (McClennen, 2003). The source code of a program can be considered for instance as the formula for a cake, and the cake itself as the accumulated type of the formula. When you have the cake, you can't transform it; yet on the off chance that you have the genuine formula, you can change at your will or enjoying. So also, if a client approaches the source code behind the program, he/she can adjust the program, changing the manner in which that it works (Crawford, R. S).

In this manner, the term 'open source' alludes to programming in which the source code is uninhibitedly accessible for others to see, change, and adjust. Normally it is made and kept up by a group of designers that crosses institutional and national limits (Poynder, 2001). The open source attitude spins around sharing and joint effort (Stallman, 1999). It speaks to an alternate model of programming circulation with which one gets both the executable rendition of a program and the source code-content documents that contain the programming dialect articulations to perform different activities inside the program. As the Open Source Initiative (<http://www.opensource.org>) appropriately guarantees, "This fast developmental process delivers preferred programming over the customary shut model, in which just a not very many software engineers can see the source and every other person should indiscriminately utilize a murky square of bits".

Furthermore, open source programming is commonly more steady and secure than the exclusive programming. Notwithstanding, the most convincing component of OSS is that, despite the fact that there might be some help expenses, OSS is basically free (Poynder, 2001). As per Open Source Initiative (<http://www.opensource.org>): "Open source advances programming unwavering quality and quality by supporting free companion audit and quick development of source code. To be ensured as open source, the permit of a program must ensure the privilege to peruse, redistribute, change, and utilize assuming uninhibitedly." Thus to be viewed as open source programming, the accompanying highlights are basic.

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## DEVELOPMENT OF OSS IN SAUDI ARABIA

In Saudi Arabia, the Open source upset has been spreading consistently since the foundation of the National Program for Free and Open Source Software Technologies (NPFOSST, otherwise called Arabic abbreviation Motah) under the sponsorship of King Abdulaziz City for Science and Technology (KACST). The program chips away at empowering and advancing the utilization of open source programming in the nation, bringing issues to light towards OSS, Open Standards, and Open Access through arranging gatherings, preparing and address programs, giving specialized, lawful and vital help to associations expected to utilize OSS (Motah online interface, 2013). The NPFOSST has been adding to different OSS programming including LibreOffice to upgrade the Arabic dialect and RTL bolster and to grow new highlights. The Arabic adaptation of Koha - Integrated Library Management Software has just been propelled for libraries in 2010 (Alshareef, 2010).

Likewise, there has been a positive and enduring increment in Open Access activities among the scholarly community, scientists and curators in the nation. As per Registry of Open Access Repositories (ROAR) , Saudi Arabia has so far enlisted five open access stores in particular KFUPM ePrints by King Fahd University of Petroleum and Minerals, KSU Scientific Repository and Makhtota at King Saud University, Umm – Al-Qura University Reference Repository and KAUST Digital Archive by King Abdullah University of Science and Technology. There has been a discernible development in open access distributing in the nation with 12 open access diaries are recorded in the Directory of Open Access Journals (DOAJ) (Unesco entryway, 2013).

## BENEFITS OF OPEN SOURCE SOFTWARE

According to Raymond (1999), there are a couple of points of interest from accepting the open source approach, including better quality, higher reliability, and lower progression and bolster costs. Self-sufficient companion overview of programming enhances its quality and gives snappier progression cycle. Beside the going with general points of interest of OSS, there are different reasons that libraries, explicitly, may jump at the chance to use OSS over prohibitive programming – insurance, security, arrange resources, and open rules (Altman, 2001).

Insignificant exertion or Free of Cost: A commonly customary preferred standpoint of OSS is its lower cost or no cost of ownership. Rather than prohibitive programming, there are no purchase costs, approving costs, or refresh charges. As OSS is usually not joined to prohibitive hardware, so the gear costs related with the OSS is furthermore lower. The fundamental utilizations are for media, documentation and shipper reinforce, at whatever point required (Kenwood, 2001).

Better Quality Control: The openness of source code, peer overview process, and system measures are the features that prompts quality programming enhancement. According to Kenwood (2001), OSS much of the time has purposes of enthusiasm for enduring quality, repeat of bug fixes, extensibility and reinforce which help in quality control and enhancement of things.

Cross Platform Simplicity: Cross stage straightforwardness suggests that the item does not depend upon an unequivocal gear or working structure organize with the ultimate objective to work. With OSS, it should be possible to run your library the board system modules, (for instance, posting, acquisitions, and stream) on any working structure – Windows, Linux, or whatever else.

Straightforward Licensing Restrictions: Eased approving confinements are a critical guide to affiliations. Using OSS, people can have copies of undertakings on their machines and can present it a similar number of times and in indistinguishable number of zones from they wish. The affiliation won't be rebuffed for doing all things considered due to allowing impediments.

Persevering Support: Unlike prohibitive programming, reinforce is available for open source things without costs and inside compelled time through the online system by methods for the Internet. Also, some item associations are at present furthermore offering assistance to OSS customers either free or with apparent costs.

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Confinement: Localization is one of the zones where OSS comes superior to prohibitive programming because of its open nature. Libraries can modify OSS to suit their close-by essentials.

ier Software Development: Open source programming has endless and associations included, which infers faster enhancement cycle. Raymond (1999) battles that viable open source adventures revive their item quickly and as regularly as could reasonably be expected, giving watchful thought to customers' bug reports. The declaration legitimizes the OSS aphorism "given enough eyeballs, all bugs are shallow".

Straightforward Evaluation: Ideally Open source writing computer programs is less requesting to survey than prohibitive programming. The prominent reason is its free openness to download. Libraries can present the whole variation of programming and evaluate the whole package to condemn its esteem.

### LIMITATIONS / DRAWBACKS OF OSS

Presumably a large portion of the open source programs comes without permitting cost. Anyway one must be set up for supporting charge at later stage as all product should be bolstered on a progressing premise, and OSS is the same. Much of the time, the help costs for OSS can be more than the expenses for equal business programming. To begin with, introducing and keeping up OSS by and large requires a more elevated amount of mechanical refinement than that required for business programming. Second, most yet not all, OSS isn't as completely created as business programming with comparative usefulness. This outcomes in a general absence of advanced apparatuses for the upkeep of OSS programs - devices that usually accompany business programming bundles. Absence of preparing and ability on OSS with respect to the clients may prompt inadequate usage of the product also. Moreover, no one is extremely in charge of the items (by contract) sends an adverse message to individuals wish to utilize OSS (Yoga Priya, 2013).

### OSS AND LIBRARIES: THE PRINCIPLES AND PHILOSOPHY

As indicated by Eric Lease Morgan (2002), creator of MyLibrary entryway programming: "From numerous points of view I trust OSS improvement, as enunciated by Raymond, is fundamentally the same as the standards of librarianship. As a matter of first importance with sharing data. The two camps put a premium on open access. The two camps are blessing societies and gain notoriety by the measure of 'stuff' they give away. What individuals do with the data, regardless of whether it be source code or diary articles, is dependent upon them. The two camps trust the mutual data will be utilized to enhance our place on the planet. Similarly as Jefferson's educated open is a need for majority rules system, OSS is essential for the enhancement of PC applications."

Hence, the standards and logic which have brought Open Source Software and libraries into one stage can be condensed as:

### OPEN SOURCE SOLUTIONS IN LIBRARY SETTINGS

In a library situation, spending plan, time and staffing either predicate or avoid innovation activities. Today, while supporter's needs are developing, library spending plans are contracting (CIBER, 2009). In this setting of a consistently expanding requirement for innovation and regularly diminishing assets to procure these new items, open source programming offers libraries an alluring arrangement. Also, many have even contended that on account of the standards of free administration, open access and all inclusive open principles, libraries and library ventures are morally required to utilize and create Open Source Software. Actually, one of the Keystone Principles of the U. S. Relationship of Research Libraries states, 'Libraries will make interoperability in the frameworks they create and make open source programming for the entrance, spread and the board of data' (Keystone Principles, 2003, area 2.4). Today, the assortment of OSS assets are expanding at an exponential rate (Cervone, 2003). These OSS items are classified by their expected capacities in the library, for example, Integrated Library Management System (ILMS), Open Source Digital Library Software, Open Source Content Management System (CMS) and Open Source Learning Management Systems (LMS). These divisions speak to the essential zones in which libraries have embraced OSS and innovation arrangements (Bissels, 2008; Cervone, 2003)

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## CONCLUSIONS

Without a doubt, Open Source Software has reformed the foundation of web throughout the previous quite a long while and given us some amazing arrangements that could be utilized to make a significantly more creative library. There are more than fifty thousand OSS applications accessible on the web today for moment download and utilize and its development has no closure. Among them are various excellent, hearty and easy to understand library applications that can be utilized to work as Digital Library Software (DLS), Integrated Library Management System (ILMS), Content Management System (CMS), Learning Management Systems (LMS) and different toolboxes that would be of extraordinary use in the advancement or improvement of library administrations. In this manner, libraries can spare a lot of their yearly spending plan by utilizing open source applications and the cash subsequently spared, can be utilized for other vital purposes, for example, acquiring extra media assets and employing specialized help, and so on. Besides, the OSS is always being refreshed, changed and modified to address the issues of the library. Usually more steady, secure, auditable and extensible than business options. The utilization of OSS not just makes the safeguarding of computerized objects less demanding and less dangerous yet in addition ensures that the guidelines and conventions utilized in the library will dependably be open for examination.

In any case, there are still a few entanglements and obstacles that the OSS people group should survive. The essential reasons of libraries not actualizing open source arrangements are absence of mindfulness, preparing and nonattendance of empowering government strategies. Preparing programs for working data experts and consideration of open source programming in library science educational modules will handle the circumstance legitimately. Government and expert associations can assume a basic job in structuring strategies to empower the utilization of open source programming in libraries. This paper means to help both rehearsing and hopeful data experts and additionally approach creators and gives some starting data concerning how to wean your library off from business figuring items and jump into the pool of open source assets accessible today.

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