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TECHNOLOGY****CONTENT MANAGEMENT SYSTEM FOR E-COMMERCE WEBSITE
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ABSTRACT

In today's world one of the most growing areas is online selling and purchasing of goods and services which we generally call as E-commerce business. With this massive growth of global ecommerce market, the number of available Content Management Systems (CMS) and ecommerce platforms has grown as well. The aim of this research paper is to make a comparative study between many widely used open sources CMSs used for e-commerce website. This comparison will guide which CMS can be selected for setting up an e-commerce website based on their features, advantages and limitations. The paper will also elaborate difference between hosted e-commerce platform and open source e-commerce CMS because either can be used for setting up ecommerce application online

KEYWORDS: CMS, Hosted E-Commerce Platform, Open Source CMS.**I. INTRODUCTION**

Ecommerce has endorsed itself as a robust and reliable alternative for purchasing goods and services online. It is giving a tuff competition to the brick and mortar stores with competitive pricing and aggressive business tactics by the ecommerce companies. This is all possible due to the presence of a plausible content management system which enables the E-commerce website owner to easily manage the different aspects of the website and conveys accurate information to the end users effectively.

Content Management System (CMS) mostly helps in managing, editing and improving the content of the website with ease. Content here is not just confined to the written text but also the images and different ecommerce based preferences or settings for various available products. The website owner has all the freedom to change the content from anywhere at anytime which enables him to improvise as per the need of the business and consequently boost the ecommerce development. Typically, a CMS has two elements: Content Management Application (CMA) and Content Delivery Application (CDA). In the Content Management application, content manager may be able to manage the creation, modification, and removal of content from a Web site. It may happen that content manager even does not know about the knowledge of HTML (Hypertext Markup Language) or may not be experts as a Webmaster. In the Content delivery application, website is updated to use and CDA elements complies the information to update the website.

There are two options for building and ecommerce website – one can either use managed (hosted) ecommerce platforms like Shopify and BigCommerce or open-source Content Management Systems (CMS) like Magento, OpenCart etc.

**II. MANAGED OR HOSTED E-COMMERCE PLATEFORM VS. OPEN SOURCE
CONTENT MANAGEMENT SYSTEM**

There are two options for building an e-commerce website. The first is an open-source, self-hosted CMS and the second is a managed or hosted ecommerce platform. Your choice depends on your needs and technical involvement. Here is a closer look at each option:

Hosted E-Commerce Platform

Hosted eCommerce websites are based on SaaS (Software as a service) system, wherein you can sign up with the company and begin the store. You will not have any access to server and software for coding and modification of software. Following are the benefits of hosted e-commerce platform:

Less development and maintenance cost

As there is no development team required and hosting is shared as well so it makes less costing for the website.

Better Technical Support

Most online store creators have a strong tech-support team to assist users with any issues that may arise.

Less Complex to work with

The back-end for most of these platforms is user-friendly and is built for ease of use keeping in mind users with limited technical knowledge.

Open Source Self-Hosted E-Commerce CMS

An open source ecommerce CMS is a bit more technical but you have full liberty to modify and manage your source code as per your requirement. Following are the benefits of self hosted e-commerce CMS:

Better customizability

Content management systems allow the freedom of adding/modifying features as well as building a customized design unique to one's brand. They also allow for constant improvements and enhancements to the user experience on the site, which plays a major role in today's highly competitive ecommerce space.

Better functionality

Multitude of plugins, add-ons and themes available for content management systems allow the addition of advanced functionalities that would not be possible in the case of self-hosted platforms.

Can support large stores and sophisticated websites

Content Management Systems, being self-hosted do not have a limit to the number of products or categories allowed, so they can handle much larger stores as well as sophisticated websites.

CMS community support

Every CMS has large number of people who are using and supporting users through support forum. If you have any issue or have questions about your CMS site, you can easily approach these people already using and supporting it.

III. COMMONLY USED OPEN SOURCE SELF-HOSTED E-COMMERCE CMSs

Following are the most commonly used open source CMSs in E-Commerce Industry.

Magento

It is the most popular rapidly growing open source e-commerce CMS platform that has a share of about 21% of the world's top 100,000 ecommerce site. It has a large number of extensions and plugins available through which addition of much other functionality are possible. It has ease of availability of experienced developers that leads to lower overall development and maintenance cost. Magento's open source community is rapidly expanding and constantly engaged in helping others to run their online store.

Pros

- It is flexible
- It has many features that other platforms lack. For example, with the help of Magento, you can vary your price of the specific product depending upon the group of customers. You can have different price for VIPs as well as a different price for your staff. It ensures a quick support as there is a large community of Magento users worldwide.
- Due to mobile friendly feature Magento it allows you to create a mobile site without any difficulty and gives best mobile viewing experience to the customer as far as possible.

- Magento can approximately support up to five hundred thousands of products and thousands of transactions in an hour. It is a notable advantage because you can customize Magento without any constraints.
- It is more SEO-friendly as compared to most other platforms.
- It is highly-scalable – no need would arise to upgrade to another platform while scaling up in future.
- It provides more than 50 payment gateways.

Cons

- Due to the large database it is not that easy to find expert Magento developers, and if you find one, their charges are exceptionally high.
- Even on having a flexible architecture, customization are hard to make because of its loading speed on different platforms.
- It requires adequate server space to operate efficiently at high speeds. Issues related to speed and others may arise if smaller servers used
- It might be too complex for small businesses.

WooCommerce

WooCommerce is a WordPress plugin for developing an eCommerce store/website on the WordPress platform. The plugin is easy to install and provides almost all the features one can expect from an open-source CMS. It also has one of the largest communities available for the e-Commerce platform.

Pros

- WooCommerce open source e-commerce plugin can integrate with WordPress websites perfectly and together they create a powerful ecommerce store.
- It also has mobile friendly feature.
- You can easily use WooCommerce, if you have prior experience of WordPress development.
- Data safety and control is very high as you don't have to share the data with any third party software platform.
- As it is regularly updated hence there are very less bugs and security issues. Good number of lower-priced add-ons and themes available.

Cons

- Might not work for mid and large size businesses or for businesses looking to scale up soon.
- One should have the knowledge of both WordPress and WooCommerce to effectively use and update the store, you need the help of expert developers or WooCommerce service providers like SearchNative.
- Ecommerce store owner has the responsibility of security and maintenance.
- It only works with some WordPress themes not all and the customization might become costly.
- Even though WordPress is free, it doesn't come with free hosting. So you will need to pay for it separately.

OpenCart

OpenCart is fairly a light weight ecommerce platform that is free to use and upgrade. It is good to start off, but might not be perfect to scale. OpenCart is best suitable for people with some web design and development experience. It has some good features like – Unlimited categories, products, and manufacturers, Multilingual, PCI Compliant, more than 20 payment gateways, reporting and more.

Pros

- As the interfaces offered by Opencart are very straightforward and simple ones. So it is easier to setup and work with.
- It has a well-designed Admin Interface.
- OpenCart comes with some very good and simple documentation, which helps users through all the initial setup and other functionality.

- The cost of setting up a store with OpenCart is quite approachable even for small businesses. There is number of free add-ons/ plug-ins available for OpenCart that makes you to setup your site easily.
- Back-end operations are easy to use.
- CSS can be edited from within the admin panel.

Cons

- It is not quite suitable for large scale businesses.
- It does not have large number of fancy features like Magento.
- As it is easy to learn so low quality and vulnerable modules are available on Internet.
- Cache management is not available out of the box.
- Some users report difficulty in installation of some themes.

OsCommerce

For more than a decade, osCommerce has been the most trusted e-Commerce Platform for CMS in the open-source category. The platform has vast network support and more than 7000 add-ons created by osCommerce community. The interface of osCommerce is easy-to-use and has great customization options for the online storefront.

Pros

- An array of easy-to-use modules facilitates easy customization of websites.
- Active forum with a large support base.
- It can be localized and translated into any language.
- Large number of plugins and add-ons allowing the addition of most functionality.

Cons

- This platform is old and doesn't have some security features as others. So, you should have an experienced hosting manager which can check security points of your website.
- If you are not quite adept technically, editing the code can be gruesome.
- There is a limited scope for attributes system.
- For many changes of your site, you need to do manually in files. To do this you need to have at least basic CSS and HTML skills to add some new features.

Drupal Commerce

Drupal is the second most-used open source website content management system after WordPress. Drupal commerce is the plugin for ecommerce sites built on Drupal. Its seamless integration with Drupal makes creating a blog or forum much more convenient than most other ecommerce content management systems.

Pros

- Its seamless integration with the Drupal CMS framework gives it an edge over other platforms when it comes to blog integration and content marketing.
- It allows for easy implementation of SEO strategy.
- Due to the built-in caching it has fast speed than other CMSs.
- It has better security than other free open source CMSs.
- Drupal was originally developed with an idea that only professional will be using it. It is the major advantages of this system and distinguishing it from its major competitors.

Cons

- The support community/forum is not as large or active as Magento or osCommerce.
- It has quite Advanced Interface that makes it difficult to master. Due to the complex interface, Drupal CMS is not very intuitive.
- High System Requirements. Before switching to Drupal CMS, be prepare for paying an extra hosting fee and forget cheap fares.

Table 1. Comparison table for Open Source E-Commerce CMSs

	Magento	WooCommerce	OpenCart	OsCommerce	Drupal Commerce
Release Date	08/13/2007	09/27/2011	05/11/1999	03/12/2000	08/23/2011
No of plugins/ add-ons/ Extensions available	High	High	Medium	Medium	Medium
Availability of Technical experts	Very easily available	Very easily available	Suitable expert is a bit difficult to find	Suitable expert is a bit difficult to find	Easily available
Development and Maintenance Cost	Low	Low	High	High	Medium
Supported Data Storage System	MySql, MySqli,	MySql, MySqli	MySql, MySqli	MySql	MySql, MySqli, PostgreSQL, SQLite
Next – Previous Product Links Feature	No	Yes	No	Yes	No
Multiple Product Image Attaching	Yes	Yes	Yes	No	Yes
Request a Quotes feature with core version	No	Yes	No	No	No
Point of Sale order Management	Yes	Yes	No	Yes	Yes
Customer Testimonials	Yes	Yes	Yes	Through add-on	Yes
Featured Products	Yes	Yes	Yes	Through add-on	Yes
News	No	Yes	Through add-on	Yes	Yes
Polls	Yes	Yes	No	Through add-on	Yes

IV. CONCLUSION

The decision whether you should use hosted e-commerce platform or the open source CMS is clearly based on the requirement you have. If you have small number of products and don't want to spend much on the software the hosted e-commerce platform is good for you like Shopify, BigCommerce, Volusion etc. But if you have a



big store and your number of products are rapidly growing and you require a customized site with unique branding and advance functionalities then you should go for any open source CMS for your e-commerce site like Magento, OS Commerce, Woo Commerce, OpenCart etc

As far as selection of open source CMSs is concerned, Based on the above study of commonly used open source ecommerce CMSs it is found that if you are new in ecommerce business and have a small scope then you can choose Opencart or WooCommerce. OpenCart has very simple documentation and easy admin interface to work with. WooCommerce is also very easy to work with and have a strong base of community help. If somebody want to learn and then implement the solution, for them Magento is a good choice. If someone have a big scale in business and have rapidly growing product base then Drupal eCommerce is best solution. Also it is based on very popular Drupal CMS which has very strong professional technical framework. Above all which CMS to choose is completely the choice of individual as all these open source CMSs have their pros and cons.

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