

Analysis of Web Marketplace Integration for E-Suripreneur Multi-Channel Listing Software

Azlee Zabidi^{1*}, Megat Syahirul Amin Megat Ali², Ihsan Mohd Yassin², Nooritawati Md Tahir², Zairi Ismael Rizman³

¹Faculty of Systems & Software Engineering, College of Computing & Applied Sciences, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia

²School of Electrical Engineering, College of Engineering, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia

³School of Electrical Engineering, College of Engineering, Universiti Teknologi MARA, 23000 Dungun, Terengganu, Malaysia

Corresponding author: leeazlee@gmail.com

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Abstract

This study will provide an insight into the process of linking the web with marketplace platforms that are accessible on the market. Many different marketplaces, including as Lazada, Shopee, Qoo10, AmazonJD, eBay, Zalora, Rakuten, Prestomall (India), Wish, Flipkart, ShopClues, and Etsy, are available to be integrated into the platform. Each has a distinct approach that includes listing and pricing, inventory and order administration, financial management, data and insight, data privacy and conflict of interest, and API connectivity, as well as other features. All development techniques must be taken into consideration when integrating the web with all or chosen marketplaces.

Keywords: E-commerce, software engineering, advanced programming interface.

Introduction:

In the virtual world, a marketplace is a meeting area where vendors and buyers come together to conduct commercial transactions [1]. All company information, including product and pricing information, as well as distribution arrangements, are included in marketplace information and strategy. It is possible to find marketplaces in many categories, including retail stores, outlet flea markets, farmers markets, and warehouses. Traditionally, marketplaces served three primary functions: 1) bringing sellers and buyers together; 2) facilitating the exchange or transaction of products or services and/or information, as well as payment transactions and delivery arrangements; and 3) providing institutional infrastructures, such as the legal framework and rules for all activities [2].

Retailing has seen significant transformation in the previous two decades as a result of the introduction of the internet channel and the continuous digitization of the industry[3]. Particularly in the retail sector, the internet channel has risen to become extremely prominent, and this may be regarded a potentially disruptive trend. Many retailers' business models have

been impacted as a result of changes in the retail mix and changes in the behavior of their consumers as a result of these developments.

In today's world, there are many different e-commerce marketplaces accessible online. Several popular E-Commerce type shown in Fig. 1. All of them have a unique company approach and product to provide. It may provide additional options for both the seller and the buyer while conducting a commercial transaction. However, having a higher concentration of protocol, procedure, or method of usage may often be a disadvantage for middle-class users who are unfamiliar with such a system, particularly for sellers who wish to sell and manage their products online. Questions such as whether platform is the best for their product, how to utilize the platform, and whether or not their product is available on all platforms are examples of questions that one could ask. This will raise the problem of flexibility [4], which will be discussed throughout this paper.



Fig. 1 E-commerce logo

Multi-Channel Listing Software (MCLS) is the subject of this investigation, with the goal of gathering multiple different marketplace software and then pushing the information to our own marketplace. All product data and descriptions will be consolidated into a single location as a result of this method. Once a Goods Keeping Unit (SKU) has been created or downloaded from another channel, MCLS is meant to automate the process of relisting, adding, and updating stock on the website. Automation of restocking and product relisting, uniform product information and process across marketplaces, reduction in inventory management time investment, automation of order processing throughout the marketplace are some of the benefits of MCLS implementation.

Being familiar with the API integration is a critical component of designing the Marketplace Integration solution. API integration is the process of connecting two or more programs via the APIs, which enable data sources to be exchanged [5]. API interfaces enable operations across several sectors and layers of an organization, synchronizing data, increasing productivity, and making profit. API is an acronym for application programming interface. It is a component of nearly everything in the digital world. APIs ensure the flawless operation and performance of apps and online systems regardless of the business or organization size. When there is an extra necessity for optimizing and automating business processes and procedures that interact with and exchange essential data, this is where integration with APIs comes into play. API connection enables apps to exchange data and communicate with one another without the intervention of a person. Through APIs, connection between two online tools or apps is established. It enables organizations to automate operations, improve data exchange, and integrate existing applications.

E Commerce sites are among the most frequent consumers of API connections. Some of the API's functionality for example, order management systems are used by web businesses to handle shopping and shipping orders, as well as to keep track of inventory levels. Nevertheless, in order to process, it need to connect to servers and databases that contain information on customers as well as items and inventory levels. Through API connection, companies may create a continuous data exchange that connects the online store and shopping cart. Another example is the integration of a payment gateway. When customer pay for a purchase online, they don't witness the transaction. Data is being sent to verify their credit card/debit card information in the background. Often, the payment gateway API is buried within the online store.

For this article, we will discuss some of the operations associated with the accessible marketplaces for LAZADA and SHOPEE. Then, to demonstrate the method, a straightforward integration between LAZADA APIs is carried out. Lazada and Shopee are two e-commerce platforms that operate on a customer-to-customer basis. Both offer virtual store services for users to conduct transactions with customers. Lazada and Shopee offer a wide range of necessities ranging from home necessities to business necessities, infant necessities to adult necessities[6]. Consumers will be profit from the benefits given, such as free delivery, on-site payment (COD), and discounts. The ability to trace items from purchase to receipt is also one of the item in place.

Application Programming Interface:

An application programming interface (API) is a way for computers or computer programs to communicate with one another [7, 8]. It is a sort of software interface that provides a service to other software components. An API specification is a document or standard that explains how to create such a connection or interface. APIs are frequently used to refer to web APIs, which enable communication between computers connected through the internet. Additionally, there are APIs for programming languages, software libraries, operating systems, and hardware.

Web APIs are the established interfaces that enable interactions between an organization and the apps that consume its assets[9]. It also serves as a Service Level Agreement (SLA) for the functional provider, defining the service path or URL exposed to API consumers. An API approach is a design philosophy centered on the provision of a program interface to a collection of services to a variety of applications servicing a variety of customers. When used in conjunction with web development, an API is often specified as a collection of specifications, such as HTTP request messages, and a definition of the structure of response messages, typically in the Extensible Markup Language (XML) or JavaScript Object Notation (JSON) format. A shipping business API, for example, may be integrated into an eCommerce website to enable customers to buy shipping services and to automatically include current shipping prices, without the site developer having to manually insert the shipper's rate table into a web database. Web APIs have enabled web communities to ease the sharing of content and data across communities and apps in the social media arena. Thus, material generated dynamically in one area may be published and updated in numerous locations throughout the web. For instance, Twitter's REST API enables developers to have access to core Twitter data, while the Search API enables developers to interact with Twitter Search and trend data.

Lazada API Integration:

Lazada Group is a global e-commerce company created in 2012 by Maximilian Bittner with the support of Rocket Internet and now owned by Alibaba Group. In 2014, Lazada Group operated in numerous countries and raised around US\$647 million from investors including Tesco, Temasek Holdings, Summit Partners, JPMorgan Chase, Investment AB Kinnevik, and Rocket Internet. It launched its websites in March 2012 with the business strategy of selling products to clients directly from its warehouses. In 2013, it introduced a marketplace concept, allowing third-party retailers to sell their products on Lazada's website; by the end of 2014, the marketplace accounted for 65 percent of its sales.

The Lazada Open Platform is a fully integrated platform that offers end-to-end API creation, provisioning, upgrading, and operations. It allows users to programmatically exchange Lazada seller data on products, orders, package shipment, and finance, as well as providing a development environment for integrating user applications with Lazada systems via APIs, improving development efficiency and quality, and sharing user applications among Lazada sellers.

To be able to interface with the Lazada marketplace, one option is to make use of their API. The procedure of obtaining Lazada API necessitated the user registering with the marketplace as a vendor first. After completing the registration process, users may be able to use the site under the name Lazada Open Platform. Fig. 2 shows the interfaces for LAZADA open platform.

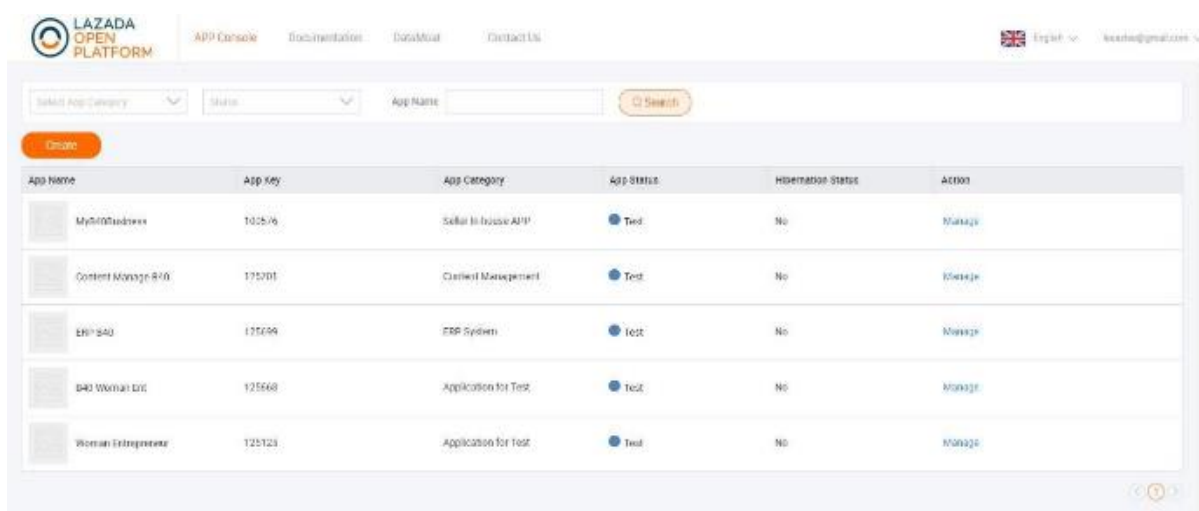


Fig. 2 LAZADA open platform interfaces

In the Lazada Open Platform, users may choose from a variety of application categories, including Seller In-House APP, ERP System, Application for Test, Content Management, and Business Intelligence [10], among others. There are several various roles that may be played to assist users in the creation and integration of their own app, testing the program, managing content, data analysis, and also marketing their own app to Lazada sellers.

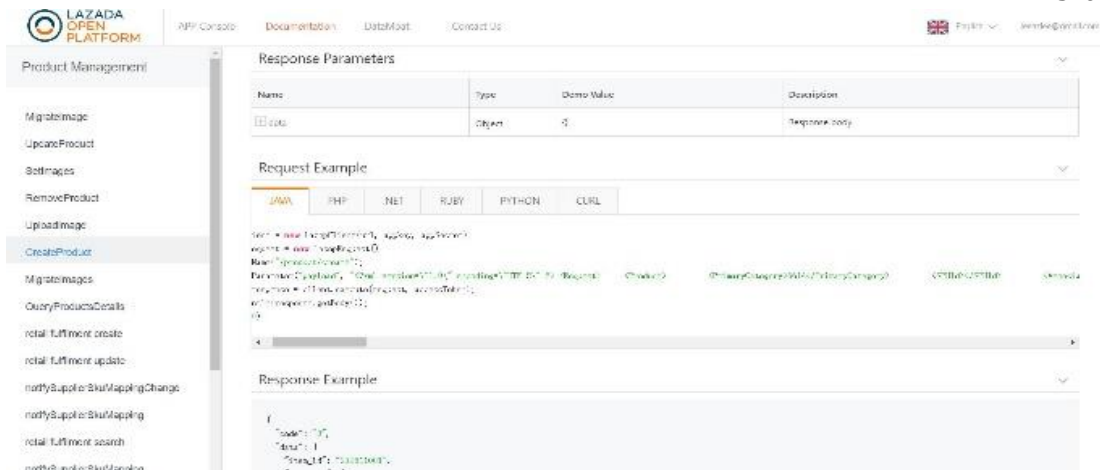


Fig. 3 Accessing parameter

During the application development process, the user has the option to test the API procedure. However, if a user has not yet registered their company on Lazada Open Platform, they will only be able to complete the product information acquisition procedure. This means that the act of posting information such as product images, photographs, and other images, as well as any other information, is not permitted.

Several features of this platform include comprehensive documentation to assist users in understanding how to use the platform, including the processes of 'get' and 'post,' obtaining a token, and seeing response data. It also includes an API test tool (Fig. 4) to assist users in managing the development process. Users may choose from a variety of SDKs to manage and connect their apps with the platform's APIs, including JAVA, .NET, PHP, Python, and Ruby, among other languages.

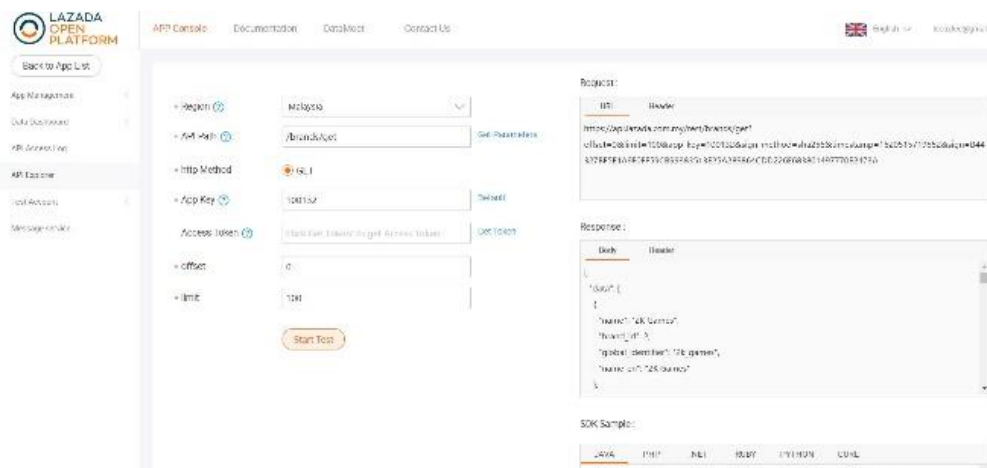


Fig. 1 LAZADA API test tool

Shopee API Integration:

Shopee Pte Ltd is a worldwide technology business headquartered in Singapore that specializes in e-commerce. Shopee was founded in Singapore in 2015 and has since spread to Thailand, Malaysia, Taiwan, Indonesia, Vietnam, the Philippines, Mexico, Brazil, Chile, and Colombia.

Additionally, mainland China, Hong Kong, Japan, and South Korea serve as seller hubs. As of 2021, it services consumers and sellers in Southeast and East Asia, as well as numerous Latin American nations, focusing in online product selling.

Shopee offers a wide range of services, including logistical and customer assistance, safe payment ways, shopping, and chatting with merchants. In comparison to Lazada, Shopee has a comparable procedure for seeking to become a part of its platform. The platform is referred to as SHOPEE Open Platform [11] (Fig. 5) , and registration is required in order to utilize it.

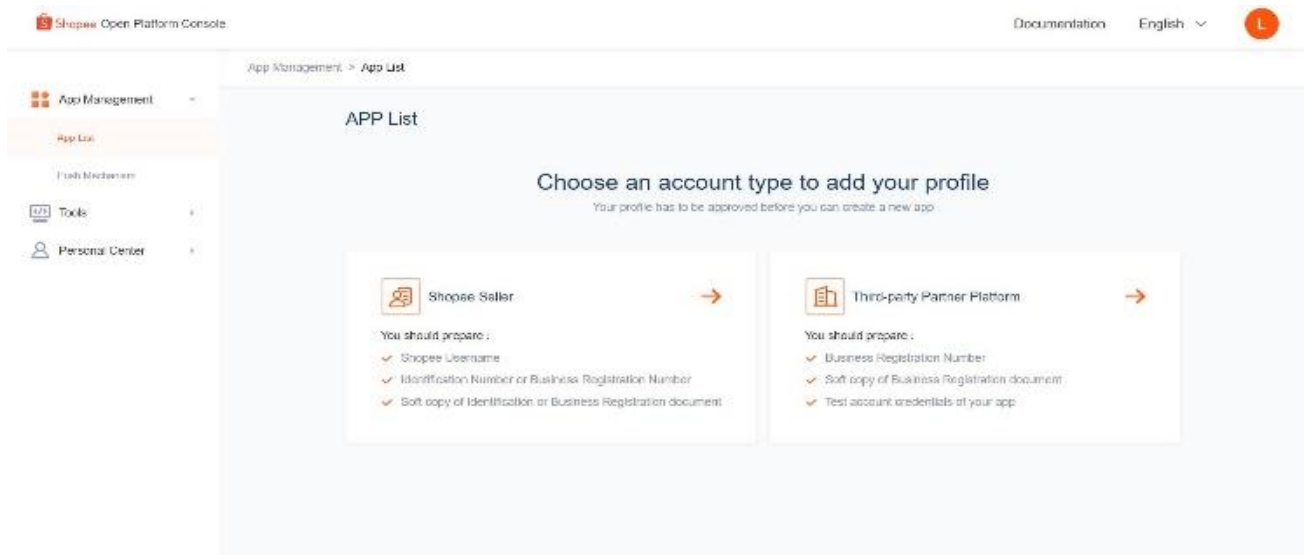


Fig. 2 SHOPEE open platform interfaces

While the API access method differs somewhat from that of LAZADA, it is quite comparable. Shopee Open Platform also includes an API test tool (Fig. 6) to assist users in managing the development of their applications.

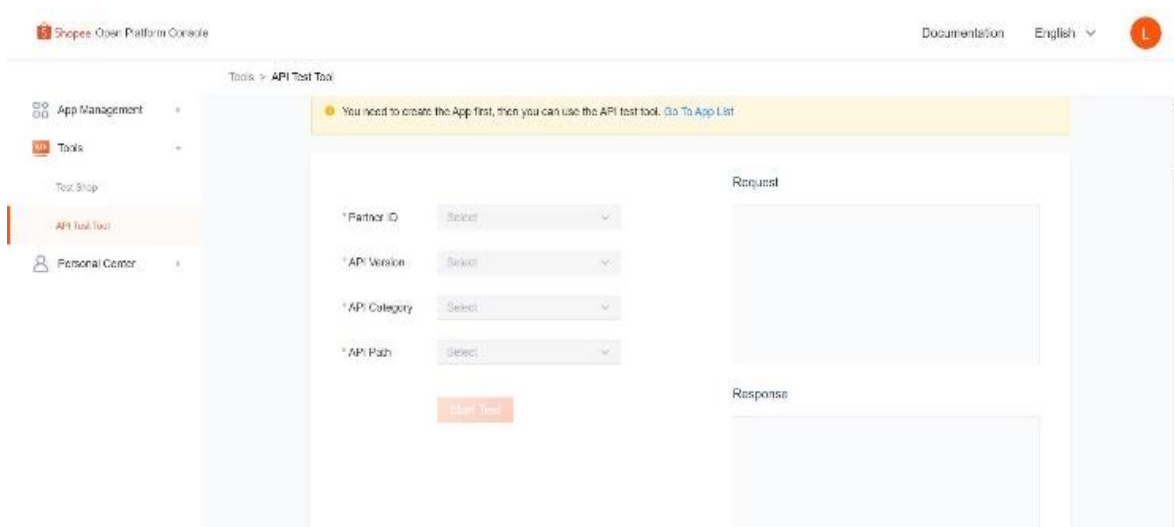


Fig. 3 SHOPEE API test tool

In this section, we conducted an experiment to extract information from the Lazada Open Platform using the API and displaying it in Laravel. For the sake of testing, we are using POSTMAN [12] in order to retrieve the necessary information from the API. The information, particularly the query string to be used in the call of the requested action, is known from this point on. Fig. 7 illustrates how the 'get' function of the POSTMAN protocol is used to retrieve 100 available brand information from Lazada.



911



Fig. 5 Information retrieve using LAZADA API

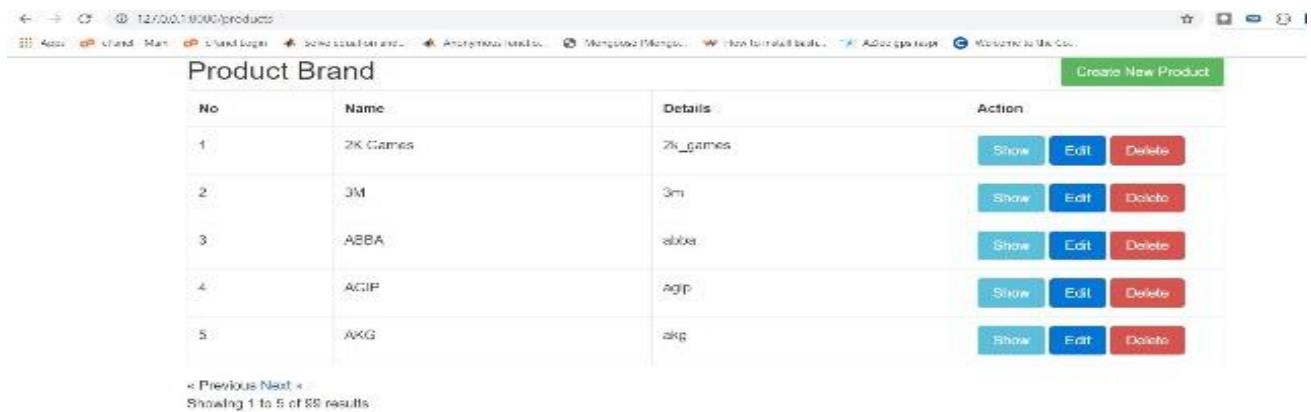


Fig. 6 LARAVEL with LAZADA integration

Conclusion:

This article presents two instances of web application interaction using APIs provided by marketplace platforms. Numerous elements may be explored in further detail in order to optimize the integration process in any chosen E-Commerce platform. With the growing number of E-Commerce and social media platforms accessible today, online merchants as sellers must leverage many channels to increase client acquisition, product promotion, and market share

expansion. An E-Commerce administration portal is necessary to manage the complexity and enable merchants to deliver a Multi-channel retailing experience.

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