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Review On E-Commerce Application with Leveraged Cryptosystems and Big Data

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ABSTRACT
The fast improvements in technology and the growing desire for safe and easy online purchasing have caused a dramatic shift in the e-commerce market in recent years. The merging of big data analysis and encryption, two potent instruments that are transforming how companies run and customers interact in the digital marketplace, is at the core of this change. In e-commerce applications, cryptography, the study of secure communication, is essential for maintaining transaction integrity, protecting user privacy, and securing sensitive data. Businesses may optimize pricing strategies, improve auction efficiency, and obtain important consumer insights by practicing big data analysis, which is the art of gleaning insights from large volumes of bidding data. This in-depth analysis explores the diverse applications of big data analysis and cryptography in the e-commerce industry, delving into their complex worlds. We look at the underlying ideas behind these technologies, the range of applications they can be used for, and how they affect the entire e-commerce ecosystem.

Key words: Cross-border, data process, legacy, Blockchain, Attack detection model.

1. INTRODUCTION

The e-commerce industry is thriving because the introduction of the internet completely changed how we conduct business. This international phenomenon has completely changed the way business's function, giving them the ability to access a larger customer base and offer flawless online purchasing experiences to customers all over the world. But as e-commerce has expanded, it has also presented new difficulties, namely with regard to guaranteeing the effectiveness and security of online transactions.

The manner that consumers and organizations do business has changed dramatically as a result of the explosive expansion of e-commerce. Alongside this expansion, there has been a rise in the demand for effective and safe e-commerce solutions. In order to meet these demands, big data analysis and cryptography are essential.

Big data analysis and cryptography have become crucial instruments for overcoming these obstacles and advancing e-commerce. Big data analysis delivers insightful information on customer behavior and market trends, while cryptography offers a strong basis for secure communication and data security.

2. THE DEVELOPMENT OF CROSS-BORDER APPLICATION

Cross-border e-commerce application is an activity in which the transaction is proceeding through electronic transaction platforms accomplished by delivering commodities through logistic service among the dealers [1].

As one of the Backbones of international trade, the logistics industries worldwide was over 8.4 trillion euros in 2021 and is expected to be 13.7 billion euros by 2027. Parallel to this the global total logistics costs soared to 9 trillion U S dollars in 2020, by this there is still room for the development of cross-border import.

Cross-border e-commerce has 6 characteristics including global, invisible, anonymous, instantaneous, paperless and evolves [1]

3. THE PROCEDURE OF APPLYING BIG DATA INTO MARKETING OF E-COMMERCE

The application of big data to marketing of E-commerce are divided into four procedures [4]

3.1 Data Collection

Firstly, data collection plays a major and important part in data processing. In the model of B2C e-commerce enterprises, the usefulness of data, whether and where to collect should be confirmed in this stage other irrelevant data such as work, age and gender of the uses will become key elements for the successful and accurate implementation of market model [5].