The influence of digital payments on public spending patterns

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Abstract. The purpose of this study is to analyze the effect of developing digital payments on current patterns of public spending. The method used in the writing of this paper was a descriptive method, where this method was intended to describe events related to digital payments and public spending patterns, and supported by theoretical foundations both from abroad and domestically. Digital payment was a payment system that uses internet facilities as an intermediary. The results of this study indicate that digital payments affect public spending patterns. Many people feel helped by the existence of this digital payment because with the existence of digital payments the public feels easier in making transactions. This can be seen from the number of people who make transactions using e-money every day. Therefore, many patterns of public spending change, from those who initially shop at direct retail stores (offline), now shop through applications (online stores) or what we often know as e-commerce.

1. Introduction

Currently, the use of payment systems is very popular, one of which is Blockchain technology (aka Distributed Ledger Technology or DLT) is a technology with Peer-to-Peer configuration, cryptographic and distributed computing technology, so that it has the potential to convert the internet from internet information to the internet with a digital value network or payment system [1]. After the era of democracy, or at present digital payments can affect changes in behavior of buying and selling carried out by the community. This is due to the rapid growth in internet usage to support the use of various services online, supporting the formation of online services and digital payment applications that are increasingly popular nowadays [2]. In addition, digital payments that can be specifically activated on smartphones have great potential to change the lifestyles of millions of people in developing countries by offering financial services to the masses without having to have bank accounts [3].

The results of Laila Ramadhani's research conducted on 240 students of Malang State University explained that there was a significant influence between the use of e-payment on student expenses. This is due to the ease and speed of e-payment, so the higher the use of digital payment (e-payment), the higher the consumer behaviour of students [4]. Jun Ma, Gokhan, Karaati also researched the influence of the internet network on people’s shopping style and decision making. The results of his research show that the rapid development of technology, especially in the business field, increases the desire of the public to be able to shop through the internet network and more trust to shop through e-commerce [5]. While Sitorus Siera researches the effect of electronic payments on Indonesian cash transactions which shows that the use of digital payments can reduce the monetary costs of printing and circulation of banknotes and is more efficient, safe, convenient and fast [6], Zandi, M analyzes the effect of digital
payments on economic growth. The results of the study show that card users can make the economy more efficient, resulting in significant changes to economic growth from year to year [7]. Based on research conducted in Singapore, it was found that digital payments are an evolution towards a society without cash, which must be supported by access to information technology available in all countries and existing government systems, there are important factors to be able to start making payments without money cash or digital payments, such as merchant discount rates, critical mass, point-of-sale interfaces, mass transit cards, consumer behavior and government policies [8].

This paper was created to analyze the effect of digital payments on public spending patterns. Where in this study used a descriptive method to describe the conditions that happen at this time and supported by theories from experts.

2. Method
This research uses a descriptive method to describe the condition of the digital payment influence on the pattern of public spending and using previous research related to the influence of digital payment as a comparison with the results of research that has been done. So it can analyze how much influence the digital payment to changing patterns of public spending.

3. Results and discussion
Along with the times, now payment is easier because it can be done anywhere and anytime. We no longer need to carry cash with a large nominal because there are many ATM cards that we can use, besides many other types of digital payments such as e-banking, some types of electronic wallets, and many other digital payments that have been developed at this time.

Smart cards are one type of digital payment in the form of cards with embedded computer chips that store several bank accounts and personal data. As owned by Unikom students, the card can be used as a student sign card, ATM card, attendance card, and some other applications [9]. Jieh-Shan Wang explained that the digital payment (e-payment) is an electronic wallet that contains account information and security for which is usually in the form of a smart card and used to make transactions [10]. The following are the types of digital payments that have been known and used by the public:

3.1. Electronic payment system
Electronic payment systems are now systems where transaction activities are carried out digitally and payments are generally made using digital payment instruments, one of which is like bitcoin. One of the electronic payment systems is done by blockchain, which is the data system for each user connected to the payment server that will be made, so that it has a list of each transaction made. Currently various types of applications offer various payment methods, one of which is digital payment simply by filling in a digital wallet and tailored to the type of digital wallet used. Some of the activities that can now be carried out with digital or online based transactions are online or manual transportation reservations with payment methods through digital wallets, ordering food and beverages, and shopping for various needs can be done by digital payment (Figure 1).

Blockchain can be likened to a database that can distribute various records, or public ledgers of all digital transaction or event activities that have been carried out and can be shared with the parties involved. While Bitcoin is a decentralized peer-to-peer digital currency, is the most popular example of using blockchain technology, and has been well integrated into every application in the financial and non-financial world, such as addressing issues related to activities that require integrity with information in the various current and nearest timeframes, assuming that the security system can be controlled by infrastructure management. [11,12].
3.2. **Payment card**
This payment card can be used if you still need cash, the usage is quite easy, just go to the nearest ATM and make cash withdrawals. In 2015 Bank Indonesia noted that the number of outstanding credit cards increased by 5.25% from the previous year. While the dilution through the tempo, in terms of transaction value, credit card usage has increased by 8% with 23.78 transactions per year.

3.3. **Electronic wallet**
Electronic wallets are many used by people at this time because the system is practical and usually likes to have lots of promos in it. Juniper Research said that the number of virtual wallet users would increase to 450 million people at the 2020s worldwide. The following are some kinds of world-famous electronic wallets:

3.3.1. **Paypal**. PayPal is an electronic payment system that replaces conventional transactions in the form of checks and money transfers. Having PayPal, like you have an online account that can be used to buy products and receive funds from people who have a PayPal or credit card account.

3.3.2. **Google Pay**. Google Pay is a fast and easy way to make payments online. Book trips, order food, see shows and enjoy new experiences - all without our wallet.

3.3.3. **Apple Pay**. Apple Pay is a mobile payment and digital wallet service by Apple Inc. which allows users to make payments directly, on iOS applications and the web. This application is supported on the iPhone, Apple Watch, iPad, and Mac.

With the increase in digital payment, e-commerce sales also increased. E-commerce by Zwass Vladimir is a site for sharing business information, establish business relationships, and conducting business transactions over telecommunications networks [13]. With many people shopping on several e-commerce sites, this has shown an increase in users of digital payments.

4. **Conclusion**
Technological developments made it easy for many people, one of them in the field of sales transactions. We could easily buy or sell goods on e-commerce sites use digital payment (e-payment). With digital payments, it was easy for people to make transactions anytime and anywhere. This affects the pattern of community spending from those who initially used cash, now using electronic payments. From graphics data, it had been explained that e-commerce and electronic payment users had increased from year to year. That meant digital payments was very influential in changing patterns of public spending at the moment. Because with a digital payment people prefered to shop online.
References

[1] Adams R, Kewell B and Parry G. 2018. Blockchain for good? digital ledger technology and sustainable development goals In Handbook of sustainability and social science research 127-140

[2] Sheetal J U, Purohit D N and Anup V 2019 Increase in number of Online Services and Payments through Mobile Applications Post Demonetization Advances in Management 12(1) 34-38

[3] Patil P P, Dwivedi Y K and Rana N P 2017 Digital payments adoption: an analysis of literature In Conference on e-Business, e-Services and e-Society, Springer, Cham 61-70

[4] Ramadhani L 2016 Pengaruh Penggunaan Kartu Debit dan Uang Elektronik (E-Money) Terhadap Pengeluaran Konsumsi Mahasiswa JESP 8(1) 1-10

[5] Karaatli 2017 International Journal of Mobile Marketing 5(2) 75-86

[6] Sitorus S 2016 The effect of the use of electronic payment cards and substitution power of electronic cash transactions 8(1) 1-10

[7] Zandi M, Singh V and Irving J 2013 The impact of electronic payments on economic growth Moody’s Analytics: Economic and Consumer Credit Analytics 1(2) 217

[8] Ng D 2018 Evolution of digital payments: Early learnings from Singapore’s cashless payment drive Journal of Payments Strategy & Systems 11(4) 306-312

[9] Soeryanto S E 2014 Menjadi Pebisnis Ulung (Jakarta: Penerbit PT Elex Media Komputindo Kompas Gramedia)

[10] Chen J F and Wang J S 2016 Electronic payment system and method International Journal of Electronic Commerce, Amerika Serikat 3(1) 1-6

[11] Crosby M, Pattanayak P, Verma S and Kalyanaraman V 2016 Blockchain technology: Beyond bitcoin Applied Innovation 2(6-10) 71

[12] Lemieux V L 2016 Trusting records: is Blockchain technology the answer? Records Management Journal 26(2) 110-139

[13] Vladimir Z 2015 Electronic Commerce: Structures and Issues International Journal of Electronic Commerce 1(1) 1-3