

The Use of E-Payment During COVID-19 Outbreak

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ABSTRACT

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E-payment is an online technology option for people in the physical distancing period due to Coronavirus outbreak. This study aim is to examine social impact and role of e-payment provider and government related to the use of e-payment transaction as long as period of COVID-19 outbreak. We used PRISMA approach to find related resource to answer research questions. As social impact, we found e-business actor should be shifting their business model to support e-payment and costumers should learn e-payment application to support their payment activity as long as period of physical distancing regulation. As role of e-payment provider, we recommend to conduct a cooperation with banks and payment service providers, providing information to the public about the ease of access in using e-payment and infrastructure that supports for the community to be able to transact with e-payment. As e-government support strategies, we suggest to increase consumer confidence in using e-payment, facilitate consumers to easily transition from manual payments to e-payments and create a social program to support e-payment customers.

Keywords: E-Payment, COVID-19, E-Commerce

I. INTRODUCTION

In 2020, the situation in all sectors of life is disrupted as a result of the spread of a new virus of the type Coronavirus known as COVID-19. Countries or regions with COVID-19 patients have issued regulations related to physical distancing to reduce the spread of COVID-19 [1]–[3].

Physical distancing can be in the form of restrictions on contact with others, especially to people who have an indication of being infected with COVID-19. This condition results in travel restrictions, work or study from home regulations, closure of tourist sites, and so forth [4]–[6].

Trade as one of the important sectors in life was also affected by the COVID-19 outbreaks. Business entrepreneurs and the government began to change the way of thinking to still be able to serve consumers or the community with the current [7]–[10].

Online technology is an alternative to keep communicating with one another. For financial transaction problems, e-payment is an online technology option for people in the physical distancing period [11], [12].

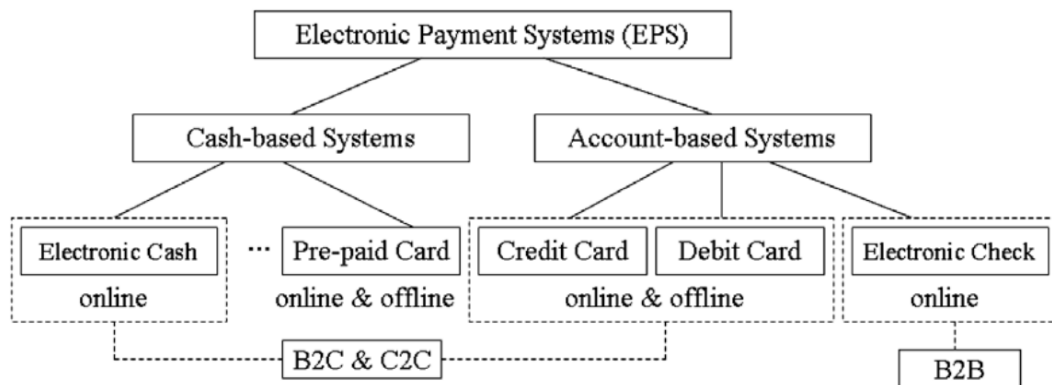
Although e-payment existed before the COVID-19 crisis, there is a need for studies on how to change the social paradigm of e-payment after the COVID-

19 outbreak [13][14]. This can be useful as knowledge for the public, business actors, and the government to develop strategies to get through the current problems and crises.

II. LITERATURE REVIEW

Electronic payment services become a necessity in transactions in e-commerce. In general, e-payment is divided into electronic-cash, pre-paid cards, credit cards and electronic checks [15]. The classification of e-payment can be seen in Figure below.

E-payment systems are technologies that can be used by individuals and organizations to make payments via the internet easily and quickly. In addition, e-payment systems become one of the keys of electronic business innovation to make business transactions run efficiently [16][17].



| Electronic-cash: | Pre-paid card | Credit cards | Debit cards | Electronic checks |
|---|---|--|---|---|
| <ul style="list-style-type: none"> • Transactions are settled via the exchange of electronic currency. | <ul style="list-style-type: none"> • Customers use a pre-paid card for a specified amount by making an entry of the unique card number on merchant sites. The value of the card is decreased by the amount paid to the merchant. | <ul style="list-style-type: none"> • A server authenticates consumers and verifies with the bank whether adequate funds are available prior to purchase; charges are posted against a customer's account; and the customer is billed later for the charges and pays the balance of the account to the bank. | <ul style="list-style-type: none"> • A customer maintains a positive balance in the account, and money is deducted from the account when a debit transaction is performed. | <ul style="list-style-type: none"> • An institution electronically settles transactions between the buyer's bank and the seller's bank in the form of an electronic check. |

Figure 1. Classification of e-payment service [15]

III. METHODOLOGY

In this methodology chapter, we explain the stages and techniques used to identify research related to the impact of the COVID-19 outbreak on the use of e-payment. This research uses the PRISMA approach by compiling and evaluating the results obtained to answer the research questions [18][14].

In accordance with the stages in the PRISMA approach, we carried out 4 main stages including resource identification, screening, eligibility of resources and the final phase named 'included' [19]–[22]. The phase is depicted on this figure below.

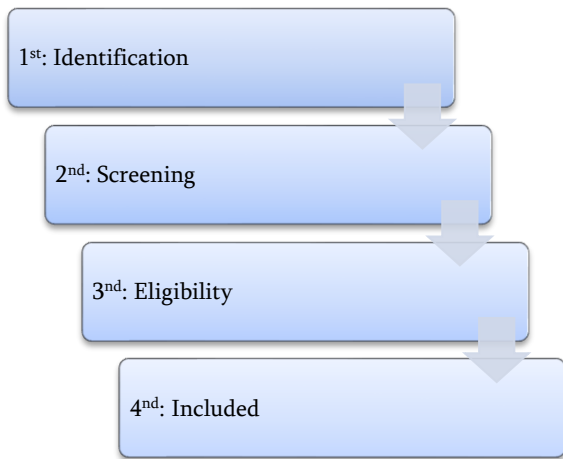


Figure 2. Research methodology adapted PRISMA [19][20].

In this research, sources of information used to conduct literature studies are Scopus, ScienceDirect, IEEE and Google Scholar. We used keyword, including “e-payment covid19”, “e-business covid19”, “electronic payment covid19” and “e-wallet covid10”, to find related paper resources.

IV. RESULTS AND DISCUSSION

In this section, we present result of literature review by elaborating paper based on the topic that can be seen on table below.

TABLE I

RESEARCH ARTICLES BASED ON TOPIC

| Topic | Reference |
|------------------------------|---------------------|
| Impact to business actor | [5], [7], [9], [23] |
| Impact to impact of consumer | [11], [24]–[26] |
| Role of e-payment provider | [27], [28] |
| Role of government | [6], [27], [29] |

A. Impact to Consumer

The usage of internet technology is increased significantly because of a signification increase of anxiety or stress level during COVID-19 outbreak. One of the internet technologies used during quarantine is financial program. It helps them for supporting electronic payment from home because regulation of physical distancing to reduce COVID-19 outbreak [7], [24]. Based on data, contact less of electronic payment usage increased due to COVID-19, as depicted in Figure below.

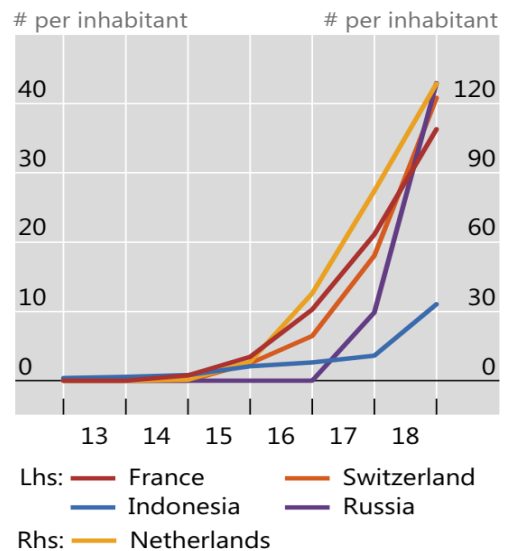


Figure 3. Graph of e- payments usage [30]

Due to continuance of e-payment, costumer expect several aspects that must be fulfilled by application service provider including performance expectancy, social influence, perceived security, trust and perceived risk [24]–[26].

B. Impact to Business Actor

The virus of COVID-19 also encourages business actors of SMEs familiar to e-payment. E-payment is

useful for them for conducting transaction due to rule of social distancing, for example, e-payment in food delivery application to preventing COVID-19 outbreak [5]. In addition to e-payment, businesses also need to learn marketing and sales strategies through the internet [23].

The research by [23], proposed a digital transformation for business actor in period of COVID-19 outbreak crises. They proposed three keys of aspect, including usage of electronic payment, intensive competition and upgrading skill and knowledge as depicted in Figure below.

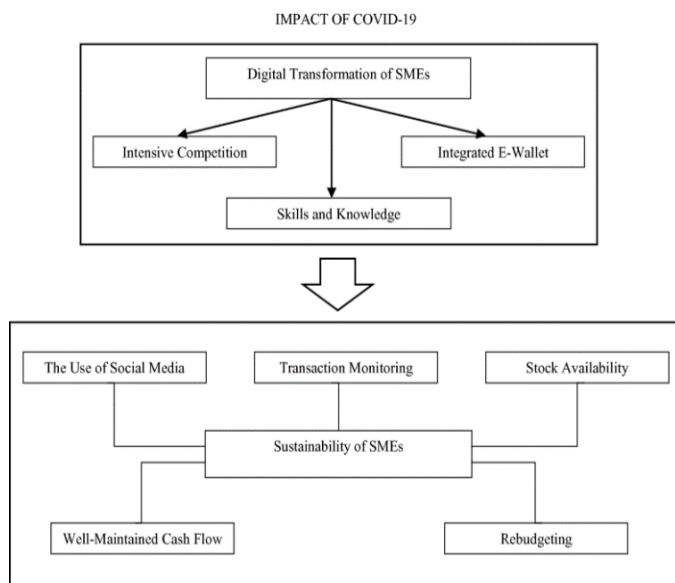


Figure 4. Sustainability in SMEs framework during COVID-19 situation [23].

C. Government Role

Government can support the use of e-payment in the following ways:

1. Cooperating with banks and payment service providers to reduce transaction costs and

increase transaction limits to encourage the use of e-payments [27][28].

2. Providing information to the public about the ease of access in using e-payment [27].
3. Provide infrastructure that supports for the community to be able to transact with e-payment [27].

D. E-Payment Service Provider

Banks and e-payment service providers can encourage the use of e-payment in the following ways:

1. Facilitating consumers (including SMEs) to easily transition from manual payments to e-payments by providing e-payment platforms that have a high level of security [26], application performance [25] and interoperability [27][29].
2. Creating a social program to support e-payment customers who are having difficulty using services, such as providing free marketing services, promos and transaction fee discounts and so on [27].
3. Increase consumer confidence in using electronic payments by conducting promotions by providing discounts and discounted transaction costs, especially for SMEs [27][6].

E. Proposed Framework

Based on topic, we proposed framework to support usage of e-payment in business. We used three relations, including cooperation, promote and facilitate to explain the correlation among four actors. The detailed proposed framework can be seen below.

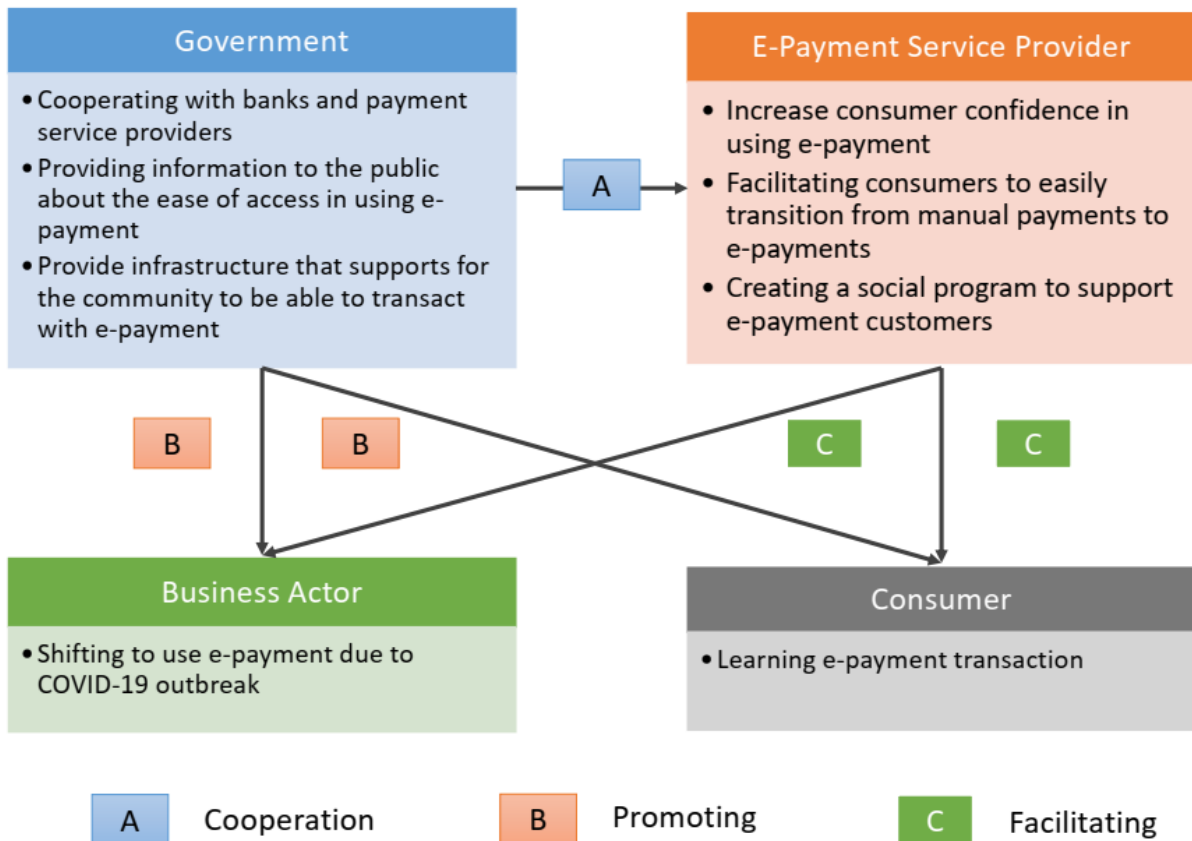


Figure 5. The use of e-payment framework during COVID-19 situation

V. CONCLUSION

Based research result, we found e-business actor should be shifting their business model to support e-payment and costumers should learn e-payment application to support their payment activity as long as period of physical distancing regulation. For e-payment provider, we suggest to conduct a cooperation with banks and payment service providers, providing information to the public about the ease of access in using e-payment and infrastructure that supports for the community to be able to transact with e-payment. For e-government, we suggest to increase consumer confidence in using e-payment, facilitate consumers to easily transition from manual payments to e-payments and create a social program to support e-payment customers.

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