

# 2nd International Conference on Informatics, Engineering, Science and Technology (INCITEST 2019)

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IOP Conference Series: Materials Science and Engineering  
Volume 662

Bandung, Indonesia  
18 July 2019

Part 1 of 3

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## Preface

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## Preface

It is our great honor and pleasure to introduce the Proceedings of the 2<sup>nd</sup> International Conference on Informatics, Engineering, Science, and Technology (INCITEST 2019). The second INCITEST was organized by Universitas Komputer Indonesia and was held in Bandung, Indonesia, on 18 July 2019. With the theme **"Building Competitive Advantage to Face Industry 4.0"**, the conference provides a platform to share ideas and current research in the areas of Informatics, Engineering, Science, and Technology with the participants from the scientist, engineers, researchers, practitioners, civil society and organization representative.

Following the success of the first INCITEST, the enthusiasm of second international conference INCITEST has increased. The high enthusiasm was reflected from high number of paper submission with more than 350 papers from the participants coming from several cities and countries. Therefore, it is allowed multinational and cultural exchange of ideas in facing the issue and challenges in Industry 4.0. In order to improve the quality of the papers and extend the publication, all papers have been carefully selected and peer-reviewed.

This conference can only succeed as a team effort. Our sincere thanks conveyed to the Rector of Universitas Komputer Indonesia for his support to the success of the event. We would also like to thank all participants for their contributions to the Conference program and for their contributions to these Proceedings. We also honored and grateful with the cooperation between the organizers of INCITEST 2019 with the international reputable publisher, Institute of Physics (IOP) for publishing the selected conference papers. We hope that the collection of the paper will be a valuable resource and will stimulate further research. Our highest appreciation also goes to the Reviewers, Editor and Advisory Boards who helped us maintain the high quality of manuscripts included in the Proceedings published by IOP. It is our pleasant duty to acknowledge the Directorate of Higher Education and Ministry of National Education for the budget support in INCITEST 2019.



We are looking forward to the third INCITEST next year that will be held on July, 2020 at the campus of Universitas Komputer Indonesia, Bandung, Indonesia.

Thank you,

Best Regards,

**Dr.Lia Warlina**

**The Chief of the Conference**

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## Electronic payment for Micro, Small and Medium Enterprises in Developing Countries

To cite this article: L Puspitawati and P Gurning 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **662** 032060

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# Electronic payment for Micro, Small and Medium Enterprises in Developing Countries

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**Abstract.** The purpose of this study is to find out how to use electronic payment for small and medium businesses. Because the rapid development of technology in developing country has resulted in middle to lower consumers experiencing technological ignorance. This research will answer question; what is the meaning of electronic payment for small and medium enterprises. The research method used interpretive qualitative methods with a descriptive approach. The results show that electronic payment can benefit small and medium businesses by bringing in many visitors by giving discounts, free ads, bonuses and more. The weakness of electronic payment is that electronic payment can make it difficult for visitors to purchase goods because electronic payment has complicated rules, as they have to top-up their account balance first before buying something and only one type of electronic payment in certain counters. The conclusion of this study is the use of e-money for small and medium businesses diverted into marketing reasons.

## 1. Introduction

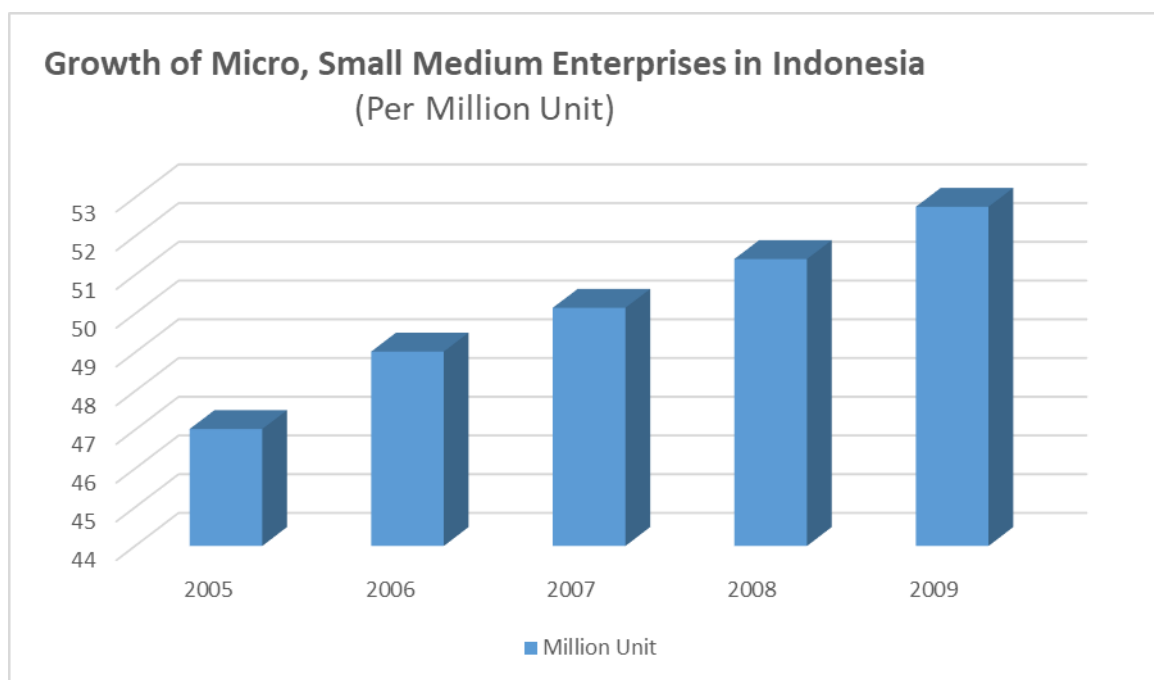
Survival in a competitive environment requires managers to identify and make sense of strategic issues as a prerequisite for business strategic change. In a business environment, managers in a company must ensure that the company must keep up with the technological developments that occur at this time in order to be able to harmonize with the current era of luggage [1]. Even rapid and consistent technological improvements, electronic payment methods across the country are still far from equitable. According to Michael who has study about technology in developing country, the development of technology has made the payment system experience development from initially using cash in the form of paper or coin as a means of payment to electronic payments [2]. Behavior in the use of payment instruments have been accustomed to the people of Indonesian and cannot be accepted by everyone, it means requiring an adaptation process that must be carried out by the socialization.

Not all people in developing countries can adapt to technological growth evenly. The technology that enters a particular culture in some rural areas can be rejected or accepted as the society views the new thing as something positive or negative for them [3]. In process of technology acceptance in society requires a positive sense which can help in the acceptance process itself [4]. Peter and Olson in their study found that the more positive experience about an object, the more positive the attitude that will be taken when receiving something new or innovation [5]. Likewise, according to Puspitawati, Lilis in her research succeeded in proving that the level of skill and level of knowledge of users influence the use of financial applications provided by a company [6]. So, it is important for developing countries to promote some education advancement efforts, especially regarding E-learning, and others technology in school teaching tools from an early age. In the economic study view, people in developing countries characterized as having relatively little per capita income compared to



developed countries. The development of a developing country generally has a level of industrialization that is relative to its population and has a middle to low standard of living. [7] According to the research that has been done by Salama, in developing countries, especially Indonesia, MSMEs or Micro, Small and Medium Enterprises are one of the backbones of the country's economy. Other countries such as Nigeria and Vietnam as developing countries have also become the foundation of the country's economy in the agricultural field [8]. In the past few years, ICT has helping countries to develop, for example, Indonesia has progressed rapidly with ICT used. In several other countries, the use of technology has helped a country in its economic growth. The growth of country's economy assisted by as a country can adapt to technology and information, which continues to grow never ending [9].

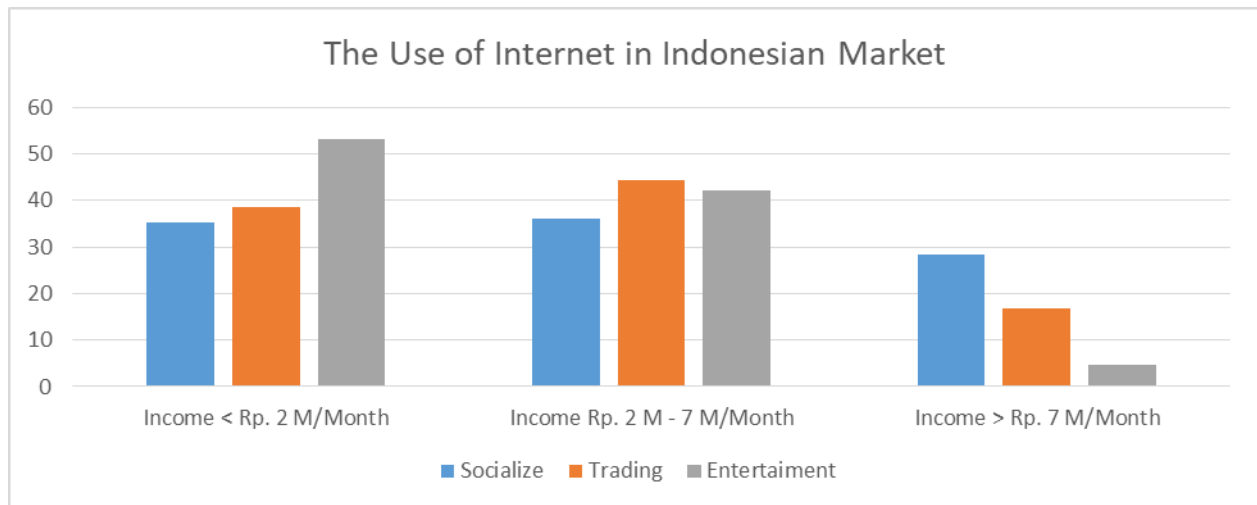
One of the marketing strategies carried out by good MSMEs is to innovate and keep abreast of technology, which continues to run. The use of electronic payments in MSMEs is unavoidable to be applied as explained in the research conducted by Sisi Majama in Botswana, Gabore [10]. Referring to data derived from research conducted by Eddy Soeryanto Soegoto. MSMEs in Indonesia which has an increase every year, where the data is explained in the chart below (see Figure 1).



**Figure 1.** Data on the development of Small Medium Enterprises in Indonesia

In 2005, there were 47 million units of MSMEs in the following years this number continued to increase. MSMEs in 2010 were 53.82 million units. In 2011, they increase to 55.21 million units. In 2013, it was 56.53 million units. This shows that the passion for creating a new business in Indonesia is quite large and very encouraging [11].

This research also motivated by data retrieved from research conducted by Lailatul Hijrah. Hijrah research has segmented 328 respondents regarding the use of internet in Indonesian market where the data explained in the chart below (see Figure 2).



**Figure 2.** Data on internet usage via mobile phone in Indonesia

Hijrah has divided into various categories in the segmentation of market use in Indonesia. The researcher took one of the categories, which is the economic part which is divided into income below Rp.2 million per month which represents a low-economic socialization, Rp.2 Million up to Rp.7 million / month as a socialization with a medium-economy, and income above Rp.7 Million / month as an upwards economic socialization. The chart above illustrates that the lower middle-class Indonesian people have a very high power for online purchasing compared to the Indonesian upwards socialization [12].

Considering that Indonesia as a developing country that has a socialization with an average economy classified as middle to lower, this study aims to describe use of electronic payment for MSMEs which have an average middle to lower market target.

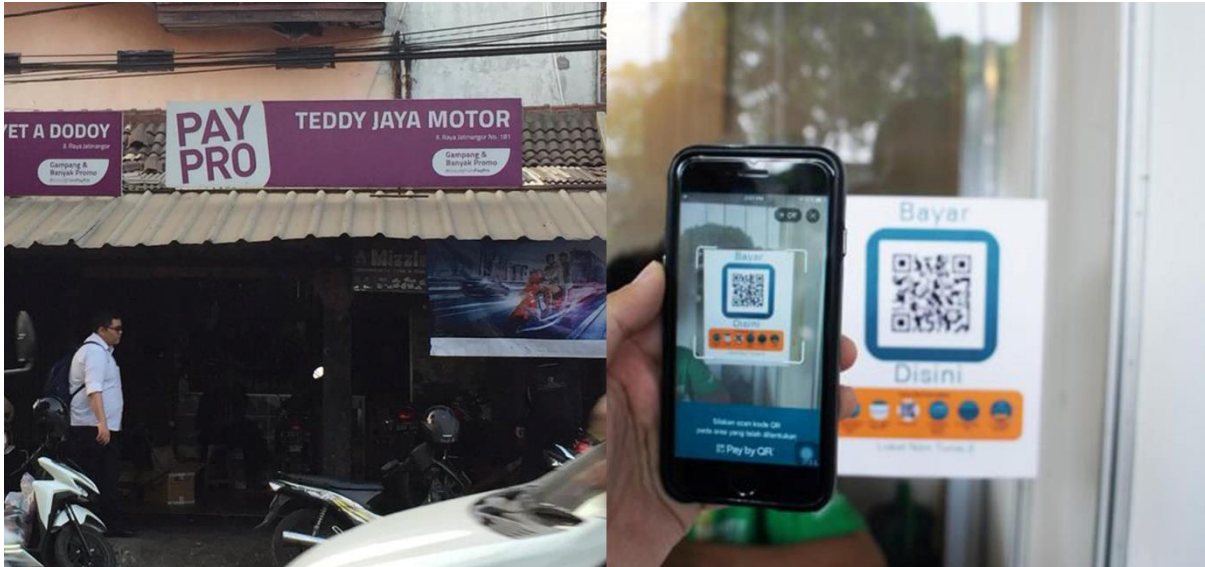
## 2. Method

This study conducted using an interpretive qualitative research methodology by integrating a descriptive approach. Qualitative methodology has been chosen as the basis of this research based on the reasons for compatibility with research objectives to solve research problems. Descriptive approach is used with the aim to give a view of the state or development of an object which as ongoing fact [13]. In this qualitative research, data collection is generally done through observation, interviews, and library research. Observation was conducted for 2 weeks at MSMEs circle. This study has 4 people as key informants were interviewed from the MSMEs side and 2 informants from consumers from the MSMEs Key informants. Key informants have been determined by purposive sampling technique in which key informants are determined by a representative category with this study. Researchers use data triangulation as to determining the validity of the data that has been obtained, the researchers themselves the one who determine the saturation of the data that has been collected.

## 3. Results and Discussion

As we know that e-payment defined as payment by electronic exchange methods such as credit cards, e-wallet, debit cards or other electronic means besides payment with money and checks [14]. Researchers has observed various types of MSMEs using electronic payment features, including those using online shop services, and e-wallets. In this study, six representative people were interviewed, including four MSMEs owners, two MSMEs owners who used online shop services, two MSMEs owners who used e-wallet services, and two MSMEs product consumers. The use of e-wallet for Small Medium Enterprises is not really needed. For example, the motorcycle service center places which MSME who never get a consumer using e-wallet for payment process. As conveyed by Mr. Teddy

who run motorcycle service center when asked how the benefits can be obtained by using e-wallet services offered by his service providers (see Figure 3).



**Figure 3.** The Small Medium Enterprises that use e-wallet services.

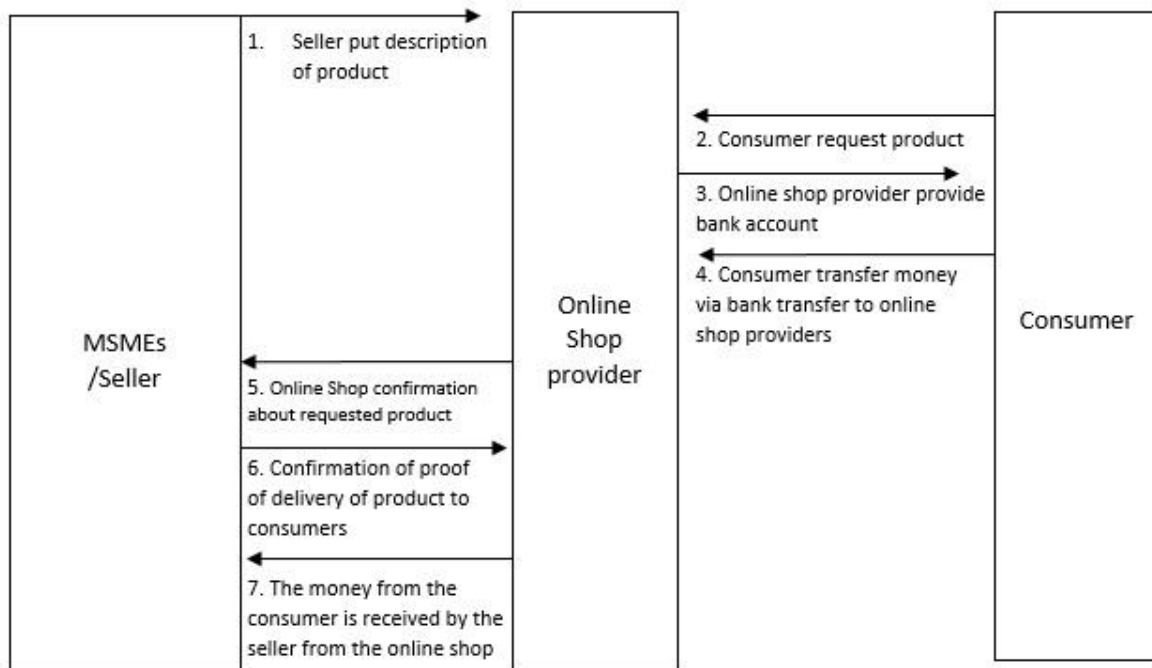
Mr. Teddy also told that he registered it by being invited by one of the marketing departments of the e-wallet service provider and explained the benefits that could be obtained and what had to be fulfilled by Mr. Teddy as long as Mr. Teddy became one of the e-wallet members.

The use of e-wallet on MSMEs has not been well received by consumers in rural area. E-wallet simply requires more effort to use than cash or physical money for consumers. As for how to use e-wallet requires top up the "balance" first before using it when the top up balance e-wallet isn't everywhere and hard to obtain. From observation the researchers have found that not all the shop's use the same e-wallet service this fact has made consumers feel loss too.

E-wallet has also helped consumers in using less cash society. The ease of e-wallet is not requiring it to bring physical money, which sometimes troubles consumers in purchasing, especially in large amounts of transactions. The use of e-wallet also found to trigger a sense of security for consumers in transactions, a sense of security caused by the use of e-wallet requires various kinds of confirmation such as fingerprints, or PINs that not easily recognized by others compared to physical use of money that is easy to stolen and used by thief.

E-payment is well known in Indonesia, besides using e-wallet, there are also many consumers and MSMEs who use it through online shop. E-payment transactions made by consumers with sellers through online shops by several stages, which (see Figure 4).





**Figure 4.** Stages of Transaction E-Payment Through Online Shop

The chart above describes the transaction flow carried out by the seller to its customers. This is made in such a way that there is no fraud committed by the consumer or the seller. This process has been made because in the beginning online transaction made, there are many frauds have been planned by sellers or consumers in the online transaction process.

In order to be more significant about how to use e-payment through online shop, researchers have interviewed 2 product sellers through an online shop and have their own stores physically. One of them is Dadoo product this MSMEs is selling various text book for students and customizable cover text books, and this is picture of Dadoo in on of online shop provider (see Figure 5).

**Stationary Of Dodoo**  
Aktif 29 menit lalu

Star Seller

+ IKUTI CHAT

Persentase Chat Dibalas: 82% Waktu Chat Dibalas: Hitungan Jam Penilaian: 4.7 Dari 5 (5211 Penilaian)

Produk: 116 Bergabung: 17 Bulan Lalu Masa Pengemasan: 2-3 Hari

Mengikuti: 8 Pengikut: 8660

Halaman Utama Semua Kategori Binder Ready Stock Pri... Binder Ready Stock Po... All About Hologram Binder HPO Ready Sto... Lainnya ▼

**TENTANG TOKO**

SETELAH MENERIMA PAKET, HARAP PERIKSA PAKET DENGAN TELITI SEBELUM MEMBERIKAN RATING/BINTANG. JIKA BARANG YANG DITERIMA TIDAK SESUAI/RUSAK, SEGERA HUBUNGI KAMI MELALUI FITUR CHAT, KARENA KAMI AKAN MENGGANTI DENGAN YANG BARU.

Everyday shipping (kecuali weekend & hari libur)

Agar pengiriman lebih cepat, saat order, harap menuliskan warna/motif cadangan di kolom keterangan.

PACKING MENGGUNAKAN BUBBLE WRAP, akan mendapatkan garansi kerusakan.

FREE ONGKIR belanja min 90K

**Figure 5.** Profile of Dodoo Binder at online shop. Figure was adopted from [www.shopee.com](http://www.shopee.com) on Nov 19th, 2018

One of the uses of e-payment in MSMEs can be seen in the way of sales conducted by stationary of Dodoo through an online shop. The owner of the Dodoo stationary himself, Mrs. Frizka has admitted that almost 90% of her sales were made by online and used e-payment method as a type of transaction. Until now, Mrs. Frizka did more e-payment transaction using bank transfers or using a third party which called “rek-ber” than transaction manually using cash and meet the consumers. The transaction carried out by Mrs. Frizka and her customer are supported by the online shop provider as a third party. Increasing consumers who have used e-payment in transaction and the ease of information obtained through technology has changed the way MSMEs sell their product from the specially place shop from online shop. Now MSMEs are easier to get the right consumers, according to the segment through online.

Besides positive things about uses online sales, there are also can obtained negative things too about online shops. Not a bit we can meet some fraud that occurs between sellers and consumer in the process of the e-payment transaction especially in unexperienced transaction process online shop provider. It will have happened when online shop provider does not participate in transaction process, so consumer will transfer their money through to sellers. For example; when the consumers have given their money through bank accounts to sellers, if sellers trying to fraud they would suddenly disappear and do not send the products what consumers have paid or they send product not in accordance with the consumer requested.

The use of e-payment in online sales also has significant benefits for MSMEs in the accounting process or sales calculation that always carried out by any company. The results of the e-payment sales are not in the form of physical money, but in the form of numbers that can be checked at the bank. Recording of income and expenses that have been recorded by the bank has made the company's accounting more practical than having to calculate money physically and manually.

The use of e-payment can also use to pay employees through bank transfers. This makes it easier for workers in the process of paying their salaries every month and can be arranged periodically every

month or every week with the same nominal which efficiency for management view [15]. According SS Rao, G Metts involves the initial steps that organizations do to get involved in a digital environment hints to the types of transactions that are currently handled by their system electronic [16].

#### 4. Conclusion

E-payment is as an electronic exchange payment method such as a credit card, e-wallet, debit card or other electronic means other money and checks. MSMEs use electronic payment features, some of which use online shop services and e-wallets. This research finds that the use of e-wallets for MSMEs is not really needed for service providers. The use of e-wallets for MSMEs has not been well received with consumers but it is sufficient to use more business than cash or physical money for consumers. E-wallet has also helped consumers in using less cash society. The ease of e-wallet is not requiring it to bring physical money which sometimes troubles consumers in purchasing, especially in large amounts of transactions. The use of e-wallet is also found as safety ways compared to use cash money in large amounts in making transactions. The increase in consumers who have used e-payment in transactions and the ease of information obtained through technology has changed the way MSMEs market their products to consumers. In addition, the use of e-payment can also be done to pay employees through interbank transfers that can facilitate workers in the process of salary transactions every month and can be arranged regularly every month or every week with the same nominal, which has helped in efficiency in management point of view.

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