

Digital and Cash Transaction in Indonesian Local Government

Samuel David Lee
Gunadarma University
samzzlee@yahoo.com

Laina Zahra
Gunadarma University
laina_z@yahoo.com

Abstract

Differences in the quality of economic development among regions Java and outside Java will affect gap of quality in banking infrastructure among these areas. The purpose of this study is to analyze the cash and digital transactions in Java and outside Java. This research uses descriptive analytical method and the cross sectional method for data collection. Result of this study is the total nominal use of E-banking services in each province shows a fairly high rate. Percentage growth in the use of E-banking services continues to increase, although not very high growth.

Keywords :E-banking, Digital Transaction, Local Government.

1 Introduction

1.1 Gap between Regions of Java and Outside Java

National development which has been implemented so far have shown progress in various areas of public life. However, the development gap between regions, especially areas outside of Java and Java, is still an issue in Indonesia. The condition of facilities and infrastructure available in each area clearly demonstrate this. Gaps facilities and infrastructure of postal and telecommunications will lead to the wide digital divide between those regions.

The progress of the banking system is strongly influenced by developments in information technology. Along with the competition that occurred in the banking world, banks are increasingly improving service quality to customers. Real time operational inter-bank also has a claim to the world of banking, as this became one of the materials for a competing service in marketing banking products.

Inter-bank remittance transfers, automated outlets (ATM), have become a benchmark valuation for its customers generally in the transaction in terms of service. So, to be able to compete in the business, bank must operate efficiently, and this should be supported by an integrated system contained in an information technology.

Differences in the quality of economic development between regions of Java and outside Java, of course, will affect the gap in quality of banking infrastructure between these areas, in addition to other factors that also affect it.

E-banking is a banking activities conducted through electronic equipment, such as telecommunications networks, Web tech-

nologies, mobile phones, and other electronic means [Al-Amin and Rahman, 2010]. More and more banks are becoming increasingly interested in e-banking services to win market [Jiaqin Yang and Boehme, 2007]. E-banking technology adopted by banks will affect the circulation of cash in the community. Therefore, this research aims to get a picture of the gap between cash and digital transactions in the provinces in Indonesia.

2 Theoretical Background

E-banking can be made available 24 hours a day throughout the year, and a widespread availability of the Internet, even on mobile phones, means that customers can conduct many of their financial tasks virtually anywhere and anytime. This is especially true of developed countries, but increasingly in developing countries, the spread of wireless communications means that services such as e-banking are becoming accessible [Dani, 2010].

The banking industry has been a leader in the e business world in recent years. While the large city and urban area banks have been leading the way in the recent application and development of e-banking, many small and local community banks are catching up in this trend and becoming more interested in the e banking services to gain competitive edges in the marketplace[Jiaqin Yang and Boehme, 2007].

The Bank is a financial intermediary is generally established with the authority to accept deposits, lend money, and issue promissory notes or what is known as a banknote.

According to the Law of the Republic of Indonesia Number 10 Year 1998 November 10, 1998 on bank-

ing, which is the bank is a business entity which collects funds from the public in the form of savings and channel them to the community in the form of credit and / or other forms in order to improve many people's lives. The banking industry has undergone major changes in recent years.

[Hermana, 2008] said Electronic banking covers a vast area of rapidly evolving technology lately. Some are related to banking services in the "front line" or front end, such as ATM and computerization (system), banking, and several other groups are back end, the technologies used by financial institutions, merchants, or transaction services provider, for example electronic check conversion.

According to Bank Indonesia Regulation Number: 9/15/PBI/2007 article 1, paragraph 3 says Banking Services Through Electronic Media or hereinafter referred to as Electronic Banking is a service that allows customers of the Bank to obtain information, communicate, and perform banking transactions through electronic media such as ATM, phone banking, electronic funds transfer, internet banking, mobile phone.

Organizing activities prepaid card (e-money) shall be in Bank Indonesia Regulation (PBI) No. Implementation Activities 7/52/PBI/2005 of Tool Use Card Payments dated December 28, 2005 and Circular Letter (SE) of Bank Indonesia No. 7/59/DASP dated December 30, 2009 concerning Procedures for Implementation Activities Using Tools Card Payment. PBI contains among other arrangements concerning licensing procedures, delays and cancellation of the agreement, the procedures for implementation, monitoring, increased security and technological sanctions. Appropriate provisions on this point is a prepaid card (e-money) is a Payment Tool Using Card that can be used to make payments on obligations arising from economic activities, including expenditure transactions where the card holder's obligations fulfilled immediately by reducing direct cardholder savings in addition to the Bank or Institution approved by the Bank to raise funds.

Types of E-Banking Technology are

- Automated Teller Machine (ATM)
Electronic terminals provided by financial institutions or other companies that allow customers to make cash withdrawals from savings accounts at the bank, make deposits, check balances, or transfer funds.
- Computer Banking
Banking services which can be accessed by customers via the Internet connection to central bank data, to perform some banking services, receive and pay bills, and others.
- Debit (or check) Card
The cards are used at an ATM or a terminal point-of-sale (POS) that allows customers to

obtain the funds directly debited (taken) from his bank account.

- Direct Deposit
one form of payment made by the organization (eg an employer or government agency) that pays a sum of money (such as salaries or pensions) through electronic transfers. Funds are transferred directly to each customer account.
- Direct Payment (Also electronic bill payment)
one form of payment that allows customers to pay bills via electronic funds transfer. The funds are electronically transferred from the customer's account to the account of creditors. Direct payment of preauthorized debit is different in this case, the customer must initiate any direct-payment transactions. Electronic Bill Presentment and Payment (EBPP). Forms of payment claims submitted or informed to the customer or customers online, such as through email or a note in bank accounts. After submission of these bills, customers can pay these bills online as well. Payments are electronically will reduce the customer's deposit balances.
- Electronic Check Conversion
the process of converting information contained in the check (account number, transaction number, etc.) into electronic format for electronic funds transfer can be done or the process further.
- Electronic Fund Transfer (EFT)
the move "money" or "borrowing" from one account to another via electronic media.
- Payroll Card
One type of a stored-value card "issued by the employer as a substitute check that allows employees to access the payment at an ATM terminal or Point of Sales. Employer payment of employee adds value to the card electronically.
- Preauthorized Debit (or automatic bill payment)
Forms of payment that allows customers to authorize routine payments automatically taken from his bank account on the date-certain date and usually with a certain number of payments (eg payment of electricity, telephone bills, etc.). Funds are transferred electronically from customer accounts to the accounts of creditors (such as PLN or PT Telkom).
- Prepaid Card
one type of Stored-Value Card which stores monetary value in it and the previous customers had to pay the value to the card issuer.

- Smart Card

one type of stored-value card in which one or more embedded chips or microprocessors that can store data, perform calculations, or the process for special purposes (eg PIN validation, authorization of purchase, verification of account balances, and storing personal data). This card can be used in open systems (eg for public transport payment) or a closed system (eg MasterCard or Visa networks).

- Stored-Value Card

the cards are stored therein a number of monetary value, which is filled through a previous payment by the customer or through savings provided by the employer or other enterprise. For single-purpose stored value cards, the issuer (issuer) and receiver (Acceptor) cards are the same companies and funds on the card shows payment in advance for the use of certain goods and services (eg telephone cards). Limited-purpose cards are generally used in limited on POS terminals previously identified in certain locations (such as vending machines in schools). While the multi-purpose card can be used in several service providers with a wider range, such as cards with the logo of MasterCard, Visa, or any other logo in the network between banks.

12.1% or a total of Rp239, 2 trillion. These developments indicate there are funding sources other than deposits.

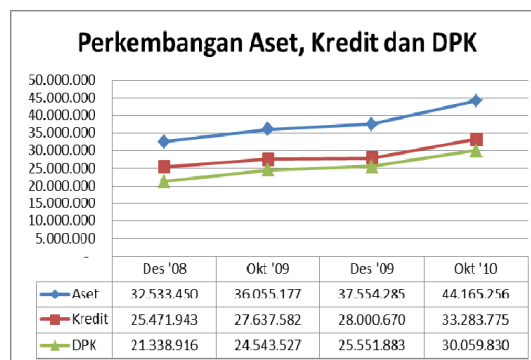


Figure 1: The Development of Assets, loans and deposit RB

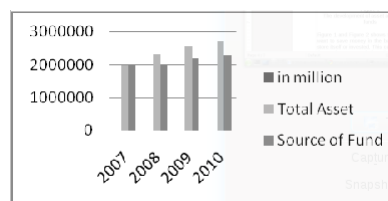


Figure 2: The development of asset and source of funds

3 Research Method

Population studied in this research are provinces of the Republic of Indonesia. Data is collected using non-participatory observation method and cross sectional method, by observing and examining documentation Regional Economic Studies Quarterly IV 2010, issued by Bank Indonesia. Selection of data based on the available data on the document. The analytical method used is descriptive statistics.

4 Result and Discussion

One sector that is affected by the development of information and communication technology is the financial sector, especially banks. Indonesian state banks from time to time is constantly changing to adjust to the needs and progress of the times. Referring to the Indonesian banking statistics in the Bank Indonesia as of August 2010, the number of banks operating in Indonesia, there were 122 commercial banks and the 1717 Rural Bank (RB). Total assets of national banks to commercial banks and rural banks as of the fourth quarter of 2010 increased to 3.6% or by Rp98, 2 and Rp.44 trillion, 17 trillion, an increase of 23.03%, as the trend of increasing credit at the end of the year. On the other hand, the Third Party Funds (TPF) as a primary source of funds bank, grows lower than the credit, which is

Figure 1 and Figure 2 shows that people still want to save money in the bank than in the store itself or invested. This can be seen that the total assets and deposits from year to year increase. But it is unfortunate when judging from the number of banks that have until now, the number of banks in Indonesia experienced a significant decline from 2007 to 2010. The number of banks decline can be seen in the following chart.

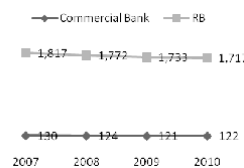


Figure 3: The number of banks in Indonesia

Consumers' acceptance of technological innovations may be influenced not only by their socio-economic and demographic characteristics, but also by their perceptions of specific technologies and by the characteristics of different products and services.²¹ For example, consumers may be motivated to use some electronic banking technologies because of the perceived convenience and time saving. In one survey of computer banking users, 79 percent indicated that convenience was very important in their decision to use computer banking and

71 percent said that saving time was very important; in another survey, a large proportion of consumers said that twenty-four-hour availability was the most important factor in their use of computer banking.[Feed, 2004].

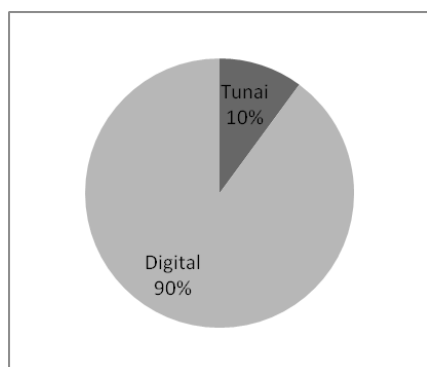


Figure 4: Digital vs Cash Transaction

Referring to the regional economic studies in each province in Indonesia can be compared to the use of cash and digital cash (e-banking) in Indonesia in making payments. The results obtained by 90% of the people using digital payment system (E-banking) and only 10% of the people who make the payment using cash.

Of all provinces in Indonesia can be seen a large number five provinces that make payments with cash and non-payment by cash or money using E-banking services. Following table.

Table 1: Top Ten Cash Payment

Province	Nominal Cash*
East Java	5.25
North Sumatera	5.117
West Borneo	4.271,00
East Borneo	2.620,74
West Papua	2.260,00
Sulawesi Tengah	2078,63
Riau	2070
Jawa Barat	1950
Kalimantan Tengah	1855,66
Jambi	1830,96

Table 2: Top Ten Digital Payments

Province	Nominal digital**
West Java	202,65
East Java	141,82
DKI Jakarta	87,49
East Borneo	51,16
Bali	41,22
Jambi	40,54
West Borneo	38379
Lampung	37,83
Central Java	35,9
South Borneo	32,48

In Table 1 and Table 2, were compared between the use of cash and digital (e-banking), it can be said that already many people who use E-banking technology, it is evident from the high use of non-cash payment system (E-banking) that reached 202.65 trillion in the area of West Java province also ranked first using E-banking services compared to the use of cash in East Java, which only amounted to 5250 billion, which ranked first in East Java in the use of cash. In addition, the position of the province located on the island of Java and Bali are included in the ranking of the Top 5 like West Java, East Java, Bali, and DKI Jakarta.

From these data, it can also be said that Indonesia as one of the developing countries, people have started to feel switch using E-banking services, as comparative material India Indonesia is the country which are both developing countries. In India has done the research, a survey result was obtained from 292 respondents about their views on electronic banking channels. The results indicate that the majority of the customers are very comfortable and willing to use e-banking channels. At the same time, over 80% feel that 'human contact is necessary'. This throws up a challenge to banks. Technology alone cannot give a sustainable competitive advantage for the banks [Kamakodi N., 2008].

When compared among the provinces in Java and Bali with the other provinces, showed that indeed the island of Java and Bali, more use of E-banking services. It can be proven in Figure below.

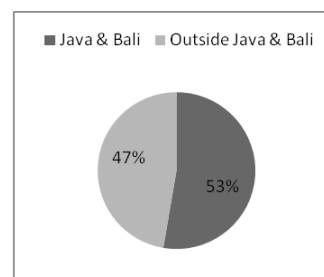


Figure 5: Comparative Use of Digital Money

Percentage use of E-banking services from the province who are on the island of Java and Bali by 53% and the other provinces by 47% from all over Indonesia. Can be concluded that the community living on the island of Java and Bali is more directed to a digital society than people in other provinces.

Although the level of use of E-banking services are higher in each province that has been mentioned before, does not reflect that the province is high per capita as well. This can be seen in the following table.

Table 3: The Big Ten Per Capita Provincial of E-banking

Province	Digital Per Capita**
Nanggroe Aceh Darussalam	24.986.594
West Papua	24.683.662
East Borneo	14.398.520
Jambi	13.110.131
Bali	10.594.339
DKI Jakarta	9.106.155
South Borneo	8.956.007
West Borneo	8.730.471
West Sumatera	6.664.660
South Sulawesi	5.252.169

From the analysis of table 1 to table 3, just east of Borneo and Bali which indeed shows that the use of cash, digital (e-banking), and the use of digital money per capita have a great par on each of these categories. This shows that the province's community quite mastered the technology compared to other provinces.

Therefore, the higher the intensity of people who use E-banking services in Indonesia indicate that the Indonesian people has led to a digital society, although the digital society in Indonesia is still a minority. In 2010, when the number of users of E-banking or using a system of non-cash payments amounted to Rp.16, 8 trillion divided by the number of Indonesia's population of 237.556 million in the same year, the E-banking per capita is 70 people. Meanwhile, in the United States the percentage of families that use various types of plastic cards are for 2003 only reached 65% for ATM cards, 54% for Debit Card, 73% for Prepaid Card, and 6% for the Smart Card (the Fed, 2004).

Based on a survey of 178 respondents collected from Taiwan companies, the results support that environmental, organizational, and globalization factors will affect customer satisfaction with e-banking significantly [Lai, 2009]. [Hermana, 2008] said that the pattern of use of E-banking services and changes in demographic and socioeconomic characteristics of the user community to be one challenge in go public of E-banking services. For cases in Indonesian, the role of banking with e-banking services it becomes very important and a major actor in accelerating the establishment of a digital society. With the amount of public funds that are stored in the banking industry, a bank could still increase the activity of paperless transactions in the future. This can be seen from the trend growth in the number of plastic cards along with the increasing value of their transactions in the last 12 months. The challenge is how to accelerate the rate of penetration in the future.

Data from each province processed using SPSS.15, below the Scatter Plot.

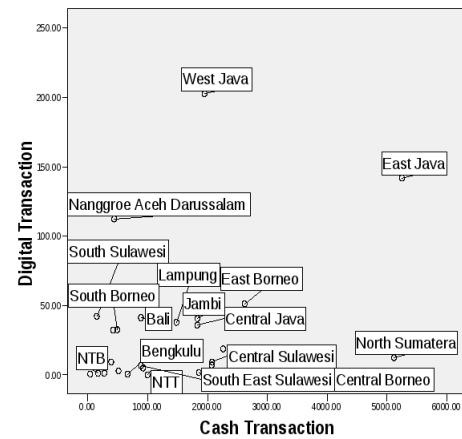


Figure 6: Scatter Plot of Cash and Digital Transaction

Based on the scatter plot above can be seen that the province which has a digital activity transactions and cash transactions that are high is the East Java. Then the provinces that have high transaction digital activity but low transaction cash activity is West Java. For the province of North Sumatera and Central Borneo has a digital transaction activity is low but the cash transaction activities of the province's high. While other provinces digital activities and cash transactions transaction is at a low position.

5 Conclusion

E-banking services not only to create new competitive advantages, but also can improve the relationship between customer and bank. Clearly, the E-banking can offer better services needed by companies and individuals, this can be a good opportunity not care for customer's bank or the bank.

Indonesia's population is starting to turn into a digital society, one way is by using E-banking services. Total nominal use of E-banking services in each of province shows a fairly high figure for a developing country like Indonesian. Percentage growth in the use of E-banking services continues to increase, although not very high growth. Indeed, when compared with other countries such as Taiwan, the United States and India, Indonesian is still lagging but suffice quite clear that today the people of Indonesia started to take advantage of banking technology than using cash.

Based on the scatter plot above can be seen that the province which has a digital activity transactions and cash transactions that are high is the East Java. Then the provinces that have high transaction digital activity but low transaction cash activity is West Java.

References

- [Al-Amin and Rahman, 2010] Al-Amin, S. and Rahman, S. S. (2010). Application of electronic banking in bangladesh: an overview. *Bangladesh Research Publications Journal*, 4(2).
- [BPS, 2011] BPS (2011). Badan pusat statistik <http://bps.go.id>.
- [Dani, 2010] Dani, C. (2010). E-banking benefits.
- [Feed, 2004] Feed, T. (2004). U.s. consumers and electronic banking 1995 until 2003.
- [Hermana, 2008] Hermana, B. (2008). E-banking and less-cash society.
- [Indonesia, 2011a] Indonesia, B. (2011a). Kajian regional provinsi.
- [Indonesia, 2011b] Indonesia, B. (2011b). *Laporan Perkembangan Pelaksanaan Tugas dan Wewenang Bank Indonesia di Bank Indonesia, Buku Statistik Perbankan Indonesia, Direktorat Perizinan dan Informansi Perbankan*. Bank Indonesia.
- [Jakarta, 2011] Jakarta (2011). *Bidang Moneter, Perbankan, dan Sistem Pembayaran*.
- [Jiaqin Yang and Boehme, 2007] Jiaqin Yang, M. W. and Boehme, K. (2007). New issues and challenges facing e-banking in rural areas: an empirical study. *Electronic Finance*, 1(3).
- [Kamakodi N., 2008] Kamakodi N., B. A. K. (2008). Looking beyond technology: a study of e-banking channel acceptance by indian customers. *Electronic Banking*, 1(1).
- [Lai, 2009] Lai, Jung-Yu, C.-T. L. (2009). What factors drive corporate customer satisfaction with e-banking services.