

Policy Transfer of E-Voting From India to Indonesia: A Review Concept and Evidence



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ABSTRACT: Indonesia is one of the largest democratic countries in the world and has held 11 general elections nationally. Nonetheless, the electoral process with ballot paper is deemed convoluted, prone to manipulation, requires massive resources and lengthy process and spent extravagant state budget. Electronic voting (e-voting) has been implemented in more than 26 countries, and India has achieved terrific success in 2019 with more than 900 million voters. E-voting in India has answered convoluted and high cost of election problems, and the VVPAT (voter-verified paper audit trail) technology helped prevent fraud potential and manipulation. This study examines the policy transfer of e-voting technology from India into Indonesia's jurisdiction and political context by using literature study and secondary sources of data to support the arguments. The key findings are that e-voting serves a constitutional electoral system that defends effective and efficient democratic election, reduces the margin of error in voting, counting, recapitulation, and significantly reduces the probability of invalid votes, effectively hindering fraudulent practices like vote-buying during recapitulation and preventing dropping illegal ballots into the ballot box. Moreover, e-voting technology also corresponds with High Court No.147/PUU-VII/2009, and if implemented with adequate technology, software and human resources, this method could secure the tenets of direct, general, free, confidential, honesty and fairness.

KEYWORDS: elections, e-voting, policy transfer, technology

INTRODUCTION

Dolowitz and Marsh (2000) expound policy transfer as knowledge of policies, institutions, or ideas in particular political circumstances, and administrative arrangements are employed in policies expansion, institution or idea, and administrative arrangements in another political setting. Jessop (1997) claims that the internalisation of policy regimes implies that foreign institutions and agents increasingly function as an origin of policy design, ideas, and execution. In this article, we will discuss the terrific success of the foreign institution, namely India, in implementing e-voting since 2004, and we will employ India's success as a source of policy development of e-voting in the Indonesian jurisdiction.

E-voting can be described as utilising electronic systems to cast, count, and tabulate votes in polling stations of elections or referendums (IDEA 2011). E-voting technology has been practised in 26 countries (IDEA 2015), and India is the top tier to implement it successfully. In 2019, more than 900 million voters with a turnout rate were 77.35% and obtained high confidence of citizens toward e-voting (Avgerou, Masiero and Poulymenakou 2019; IDEA 2020) one reason why to pick policy transfer of e-voting from India to Indonesia.

Besides, information technology has permeated almost every domain of our lives, including in democracy. Moreover, e-voting technology used in India has helped elevate transparency, augment turnout, decrease election costs significantly, and increase security and integrity. While in Indonesia electoral process is convoluted, prone to manipulation, requires a long process and resources and a massive amount of state budget. For instance, in 2019, the general election cost amounted to IDR 34 trillion (USD 2.4 billion) (Media Keuangan 2019). Elections also have caused 554 deaths and 3668 sicknesses of the officers due to physical fatigue in the long and convoluted electoral process (CNN Indonesia 2019). Since then, some scholars and political commentators have started to consider adopting the technology of e-voting as a breakthrough to the problems encountered (Juaningsih, El-Islamand and Nurrafi 2020). Hence, this article seeks to examine the policy transfer of e-voting from India into Indonesia's political and socio-economic context as one of the largest democratic countries in the globe after India and the USA to tackle the convoluted electoral process in Indonesia.

This article is organised as follows; firstly, we will review the essential concept of policy transfer and then examine the policy transfer of e-voting and critically engage with the six aspects of policy transfer of e-voting. It started with the reasons to transfer e-voting, from where the transfer of e-voting is drawn, who transfer e-voting policy, what is transferred in e-voting, the process of policy transfer of e-voting, the degree of policy transfer, and how successful would be policy transfer in Indonesia's

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jurisdiction. Furthermore, the article will address trust in e-voting, including the challenges and strategies to secure Indonesia's public trust and election integrity.

THE ESSENTIAL CONCEPTS OF POLICY TRANSFER

Before discussing the policy transfer of e-voting in detail, we will overview the essential concept of policy transfer in the relevant literature. Policy transfer, lesson drawing, and emulation indicate a process in which knowledge regarding specific policies, institutions, and administrative arrangements in one circumstance/jurisdiction is employed to expand policies, institutions, and administrative adjustment in another circumstance/jurisdiction (Dolowitz and Marsh 2000; Dolowitz and Marsh 1996). These terminologies do not differ significantly; nonetheless, lesson drawing and policy transfer are not exchangeable. Lesson drawing is voluntary policy transfer, which emerges from political actors' free choices. However, as we will briefly see later, policy transfer may involve one government pushing or forcing another government to apply a specific policy (Dolowitz and Marsh 1996).

Why does policy transfer is carried out? In order to answer this question, it is necessary to understand three levels of policy transfer. Voluntary transfer occurs when standard government policies are unable to provide a solution; hence it is crucial to search for a lesson (Dolowitz and Marsh 1996), or in an election, candidates may look for a lesson to create an individual mark in history, to differentiate their program from the predecessor, and thus to grant policy innovation (Polsby 1984). Direct coercive transfer emerges if one government coerces another to implement a specific policy. Direct coercive policy transfer is rare; supra-national institutions like the IMF or the World Bank more potentially force countries to adopt a policy (Dolowitz and Marsh 1996; Lloyd). An indirect coercive transfer may happen when external forces or functional interdependence. Interdependencies between countries push the government to tackle the problems, and then policy transfer is one solution. Technology can also push the government to adopt policy transfer to solve the technological forces (Dolowitz and Marsh 1996).

Who would participate in a policy transfer? According to Dolowitz and Marsh (2000:10), nine actors possibly engage in policy transfer; civil servants, official bureaucrats, political parties, policy entrepreneurs, pressure groups, think tanks, expert consultants, supranational institutions, and transnational actors corporations. These actors may have different importance in agency issues and structure (MacKinnon et al., 2008), and some groups could be more privileged than others (e.g. politicians) or more legitimate since they have specific expertise in a specific policy area (e.g. policy experts) (Bulmer and Padgett 2004).

What would be transferred? Horowitz and Marsh (1996) suggested that theoretically, many things could be transferred, such as policy goals, policy instruments or administrative techniques, structure and concept, institutions, ideas, ideology, attitude, and negative lessons. Ideas, ideologies, and policy goals could be simpler to include in a transfer. However, policy instruments, institutions, or policy programs could be more complex since social, political, economic, and institutional circumstances may differ between the originator/borrower and lender (Marsden and Stead 2010). Stone (2004; 2000) advises the importance of softer policy transfer such as concepts, ideas, ideologies, and policy elements circulated among non-state actors globally. In contrast, Jones and Newburn (2006) emphasise the necessity of hard policy transfer, including policy instruments, programs, and institutions. Nevertheless, Stone (2010) stresses that both soft and hard transfer are complement one another.

From where is the transfer being drawn? Policy transfer can be international, national or local. Bennett (1991) argues that actors tend to look abroad at how other countries respond to similar policy problems and draw ideas and lessons from foreign countries into their jurisdiction. On the other hand, some actors prefer to transfer a policy from specific regions or countries with the constitutional system, culture, language and economic structure proximity. For instance, the US and the UK share many similarities, and these two nations have some examples of policy transfer (Wolman and Page 2002; Wolman 1992). Dolowitz and Marsh (2000) emphasise that actors should consider political, social, economic and ideological context between the originator/borrower and the lender. Otherwise, the transfer could engender fail/inappropriate policy transfer.

What are the different degrees of policy transfer? When actors engage in policy transfer, they must learn to integrate lessons from another government into their administrative system (Dolowitz and Marsh 1996). Rose (1995; 1993) suggests five degrees of policy transfer, copying, emulating, hybridisation, synthesis and inspiration. Copying occurs if countries adopt a policy elsewhere without making amendments (Rose 1995; Waltman 1980). Emulation occurs when countries refuse to copy in every detail; nonetheless, recognising specific programs elsewhere supplies the best standard for stipulating legislation in their political system (Rose 1995; 1991). Hybridisation and synthesis combine programmes established in two or many other countries and then extend a policy best suited to their political system. Inspiration may happen when a country learns familiar problems in unfamiliar circumstances and could develop ideas and inspiration to think about the best possible thing (Dolowitz and Marsh 1996).

How successful would be policy transfer? Marsh and Sharman (2009) argue that a general framework to judge a policy's success is limited in academic literature. While Evans (2009) denotes that policy success has multiple levels and is contested. There are three dimensions to assess policy success. Firstly is the process dimension. A policy is considered successful if a process is made via constitutional and quasi-constitutional, which will grant a better degree of legitimacy of policy results, uphold the values of democracy, accountability, and deliberation, and secure the government's policy goals and instrument (Boyne 2003; McConnell 2010). The critical goal of a policy process is to create sustainable coalitions, and formal approval in the legislature or cabinet and program success will likely be achieved if the policy process engages with the powerful coalition's interest. A sustainable coalition

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also underpins successful implementation and carries sufficient authority and power to engender the overall policy success. Innovation and influence are also considered indicators of a successful process, and policy transfer may provide innovative ways to tackle a problem (McConnell 2010).

Secondly, the programmatic dimension; the policy success can be judged based on how policy-makers achieved what they have set out to do (outcome-based), how they meet bureaucratic objectives and how the policy impacts society (Parsons 2002; Sanderson 2002). For instance, in Switzerland, a policy to enhance homeownership is measured by achieving the target by multiplying homeownership in a 15-year term (Knoepfel et al., 2007). Besides, efficiency to use resources (reduce 'waste' and cost-cutting) can be considered an indicator of success. Policy success can also be achieved if policy creates advantages for a particular group based on gender, race, and religion. For example, in Australia, the Indigenous people's land right is recognised, resulting in 40% of the land being returned to traditional owners (Cassidy 2005; Parsons 1996).

Thirdly, political success is also considered an essential benchmark to assess policy success (Marsh and McConnel 2009). A policy is successful if it underpins the government's electoral prospects, reputation, and the bulk of governance. Head and Alford (2008:7) emphasise that a successful policy rescues the government from poor popularity (e.g. Thatcher's government was doomed to fail in 1982 until her government intervened in the Falkland Isles, which paved the way for her 'heroic' victory (McConnell 2010). So, a policy can be framed as successful if it grants positive political impact and manage momentum to benefit the political agenda.

The judgment of policy success is quite variable because we encounter complex ideas and issues when assessing a policy's success. Discussing policy success entangle a notion of success for whom; many actors can define success differently (Marsh and McConnel 2009). On the other hand, Bovens, 't Hart and Peters (2001) posit that the assessment of success depends on political, cultural, temporal, and spatial factors. What is considered a success in one political system could be not regarded as a success in another political circumstance, and policy that seems to be successful at a short time maybe seem less successful in a more extended period and vice versa. For instance, the Sydney Opera House was considered a disastrous project due to its expensive budget; however, it has become the most iconic building and advantageous for the tourist industry (Bovens and 't Hart 1996). Moreover, the assessment of success also involves differing benchmarks; consequently, there is no similar and objective parameter (McConnell 2015).

POLICY TRANSFER OF E-VOTING

WHAT IS E-VOTING, AND WHY TO TRANSFER?

E-voting can be defined as utilising an electronic system to cast, count, and tabulate votes in the polling terminal of provincial or national multiparty referendums and elections (IDEA 2011). Using this system, electoral management bodies (EMBs) obtain better management of elections logistics (IDEA 2011; Fujiwara 2015). Besides, e-voting also reduces invalid and null votes and faster election results (IFES 2013; McCormack 2016). The most important reason is that e-voting potentially removes any kinds of electoral fraud, such as stuffing the ballot box (IDEA 2011; McCormack 2016) and also increase elections legitimacy. In addition, e-voting provides convenience for voters and enfranchises disabled and illiterate voters (Hidalgo 2010; Fujiwara 2015).

Apart from those mentioned above, the reasons for transferring e-voting could be inspired by the advancement of technology with sophisticated Artificial Intelligence (AI), which help solve the election problems. Adoption of this technology also can be driven by the political will to increase the legitimacy of elections as Dolowitz and Marsh (1996) argue that officers may look for a lesson to create an individual mark in history, or as Polsby (1984) claims to differentiate their program from the predecessor to grant policy innovation. Therefore, adopting e-voting will be likely voluntarily; if the General Elections Commission of Indonesia (KPU) intends to make history or a breakthrough innovation to solve the problem of the challenging election, e-voting would be one of the best approaches.

FROM WHERE IS THE TRANSFER OF E-VOTING BEING DRAWN?

India has successfully implemented e-voting since 2004 and reached its great success in 2019 with 900 million electors (Avgerou, Masiero and Poulymenakou 2019; IDEA 2020). Apart from India, Brazil, Belgium, and several states in the US has applied e-voting for more than a decade with a sizeable public trust (Esteve, Goldsmith, and Turner 2012; IDEA 2011; McCormack 2016). However, other countries reject e-voting, such as the German High Court, which declared that e-voting violated constitutional law, while countries like Bahrain, Paraguay, and the UK have piloted e-voting but determined to stop using it (Melia and Byrne 2012). After more than two decades of use, the Netherlands decided to withdraw e-voting technologies and reverted to paper ballots (Oostveen 2010). Notwithstanding, the eagerness to use e-voting increased recently, including Africa, Asia and South America. The Philippines has started to use e-voting in 2010, Bhutan in 2013, and Namibia in 2014.

Moreover, some countries like Ecuador, Mexico, Nepal, Nigeria, and Peru started piloting the e-voting system. At least 26 countries have recently used the e-voting system for national and sub-national elections (Avgerou, Masiero and Poulymenakou 2019; IDEA 2015). So far, only India has successfully implemented e-voting so that the Indian e-voting policy will be transferred to Indonesia. Besides, there are some similarities between Indonesia and India; based on data 2019, both countries have many voters (India 900 million and Indonesia 190 million) and have two chambers system.

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WHO TRANSFERS E-VOTING POLICY?

There are many actors involved in e-voting policy transfer. As an elector management body, the General Elections Commission of Indonesia (KPU) is responsible for managing elections. However, to adopt e-voting technology successfully, apart from KPU, political parties, legislatures, civil societies and non-governmental organisations are also involved in the decision-making process. McCormack (2016) suggests that elector management body should launch a robust public education and campaign of awareness to familiarise all actors and public with the new system and the involvement of all actors are essential to support the decision to adopt e-voting and enable KPU to communicate objectives for policy transfer of e-voting and provide a mechanism of public feedback.

WHAT IS TRANSFERRED IN E-VOTING?

In the policy transfer of e-voting, a vast range of aspects can be transferred. First of all, we will discuss the transfer of policy instruments. The Election Commission of India (ECI) applied direct recording electronic (DRE) in India. This instrument expedites the voting process, counting and votes recapitulation. In 2010, the Brazilian presidential election was released only 75 minutes after the voting ended (Haynes 2014). This technology can reduce the margin of error in voting, counting, recapitulation and significantly reduce the probability of invalid votes, effectively hindering fraud practices like vote-buying during recapitulation and impeding dropping illegal ballots into the ballot box. In addition, this instrument efficiently lessens the number of staff needed in the vote-counting and aids disabled and illiterate voters independently to cast their vote (IDEA 2020). The DRE is composed of two units. Firstly, the ballot machine, to select electoral candidates (represented by a name, number and symbol for the inclusion of disabled person) and the control machine (to count the votes cast by the voters automatically) and these two machines are connected by a 5-metre cable (Puri, Singh and Kaushal 2017).



Figure 1. direct recording electronic (DRE)

(google source, the link available in the bibliography, accessed 22 April 2021)

ECI implemented a voter-verified paper audit trail (VVPAT) to ensure the election was more verifiable and transparent. This device verifies track documents for the documents voter audit. VVPAT printer machine prints VVPAT which is detached from the DRE machine. VVPAT generates physical proof of votes assigned by electors. Therefore, VVPAT secures the election principles, free and fair election (Bailey and Sharma 2015) and ensures an efficient method for transparency since the election commission could verify the election result by comparing the data generated by the machine and manual counting from printed documents of VVPAT. Commonly, the election result verification with VVPAT is performed by random assignment, and VVPAT is subject to the procedure of recount in consort with a device for settling possible discrepancies between electronic and manual computations. Therefore, the DRE with VVPAT will secure the credibility of the voting system (International IDEA 2011).



Figure 2. DRE accompanied by VVPAT

(google source, the link available in the bibliography, accessed 22 April 2021)

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The VVPAT comprises two electronic devices, a printer and the VVPAT Status Display Unit (VSDU). The officials of polling stations keep VSDU and the control unit while the ballot machine and VVPAT printer are placed inside the polling booth. When a voter casts a vote, the VVPAT printer automatically generates a document, a receipt including a serial number, symbol, and name of the candidate selected by the voter. The receipt will be cut and fall into a VVPAT secured box automatically, while the VSDU will show for seven minutes the voting status to report to the voter that the DRE machine has successfully recorded the vote cast by the voter (Congressional Research Service 2007; ECI 2018). So, to sum up, Indonesia could adopt policy instruments applied in India, namely the DRE machine and VVPAT.

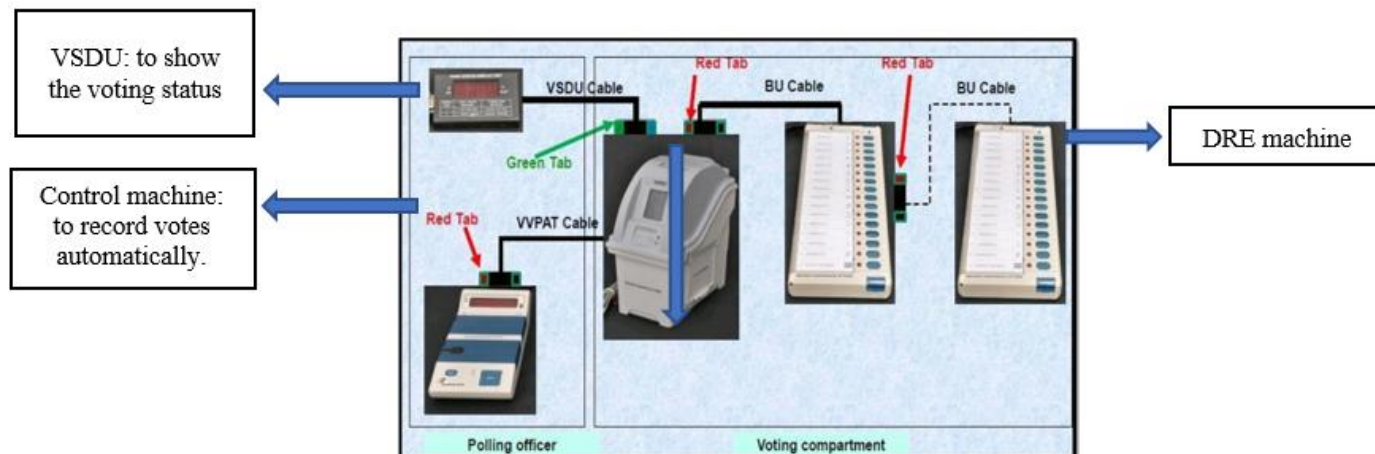


Figure 3. Illustration of the process to cast a vote in e-voting
(google source, the link available in the bibliography, accessed 22 April 2021)

Apart from policy instruments, policy ideas of e-voting are also essential to transfer into Indonesia's context. There are many policy ideas of e-voting implemented in India, but we are only focusing on the three elements of Indian policy ideas suited to transfer to Indonesia's jurisdiction; planning, procurement, and implementation. These three elements are essential to ensure the success of e-voting technology implementation. In planning, e-voting adoption starts from the appraisal of the actual needs to solve the election problems. In Indonesia, there are many issues, such as voter data duplication; in 2019, Bawaslu estimated around two million data duplication (Kompas 2019). Other election issues are inflating votes illicitly, a sumptuous election budget (2019 elections employed IDR 34 trillion, USD 2.4 billion) (Media Keuangan 2019), and 2019 general elections have caused 275 deaths 2875 sickness of the officer due to physical fatigue in counting the ballots (Kompas 2019).

In planning, adopting e-voting should consider Indonesia's legal system and regulations to rule the detail of e-voting (casting, counting and recapitulating). In essence, the Indonesian Constitution opens the possibility of implementing e-voting, and according to Law No. 7/2017, as long as the election is performed based on direct, free, general, confidential, fair and honest, e-voting is acceptable (Ali and Widjaja 2020). Goldsmith and Ruthrauff (2013:110) suggest that Electoral Management Body (EMB) needs to consider these nine aspects when devising a legal framework for e-voting technology. The physical aspect of e-voting technology, transparency dimension, technology certification, auditing mechanism, voting result status cf. electronic result, data storage and security, voter identification, access to source code, and law enforcement.

Procurement is an essential part of e-voting adoption and affects technology legitimacy and the whole elections (IDEA 2020). In India, the e-voting technology is manufactured by an Indian company, and the procurement was transparent and ultimately controlled by ECI. If technology is leased or purchased from another country, the relationship between supplier and EMB must be accountable. The technology system must be tested and certified via a rigorous testing process, and the whole process should be accountable and transparent (IDEA 2020). Moreover, comprehensive technology specification must be meticulously addressed, including the type of technology, scale, time frames, voter authentication, auditing mechanism, election result transmission, environmental conditions and power supplies, electoral system, accessibility, security, access to source code, additional service, and term and use (Goldsmith and Ruthrauff 2013).

India guaranteed cybersecurity, system security, and voter confidentiality implementation and supplemented an auditing mechanism to re-run the voting. The technology is also user-friendly and accommodates all voters, including disabled people. In the implementation phase, several lessons must be taken into account. Firstly, time is essential; before the public accepts this technology, KPU should ensure no serious technical error and perform an adequate voter education (International IDEA 2011). Secondly, human resources and capacity building gaps could emerge; hence, vendors and experts should train the stakeholders to fill the gaps (International IDEA 2011). Thirdly, voter education is intended not only for voters but also for political parties and media; on this occasion, KPU has to explain the motivation for adopting e-voting technology to gain public trust (International IDEA 2015). Fourthly, technology trials mean that the adoption should not be performed entirely in Indonesia. It could be done in a provincial or local election or performed parallelly with manual voting, and the results from the two mechanisms are compared to

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test the e-voting accuracy, and if successful, trials can be performed in broader elections circumstances and gradually change the manual mechanism (IDEA 2020).

THE PROCESS OF POLICY TRANSFER OF E-VOTING

In adopting e-voting, the process should follow the Constitutional Law and the tenets of the election. KPU should comply with the following principles, independence, fairness, honesty, legal certainty, transparency, professionalism, proportionality, accountability, and effectiveness and efficiency (Ali and Widjaja 2018). To be more precise, the degree of policy transfer of e-voting should comply with these principles.

1. Fairness principle, the use of e-voting should grant equal access to all voters at every election stage and secure the tenets of one voter, one vote and prevent voter's data duplication (IDEA 2011).
2. Honesty principle, e-voting should eliminate or minimise fraud and manipulation probability. For instance, in vote recapitulation, the technology should hinder inflating votes illicitly and augments transparency and openness of data and elections (IDEA 2011).
3. Confidentiality principle, e-voting should maintain voters' confidentiality, particularly in the process of registration, voting, and counting. Technology should not reveal voters' identities and display their vote on a screen other than the DRE machine, and if this is happening, the technology itself would be detrimental to the election process (IDEA 2011). Besides adopting e-voting, the voter registration mechanism would be more accurate and efficient and prevent data duplication, as had happened in the general election in 2019. According to Election Supervisory Agency (Bawaslu), there was approximately 2 million voters' data duplication; one person has a dozen data duplication (Kompas 2018).
4. Directness principle, e-voting should make the election process is more accessible and more straightforward for voters (IDEA 2011).

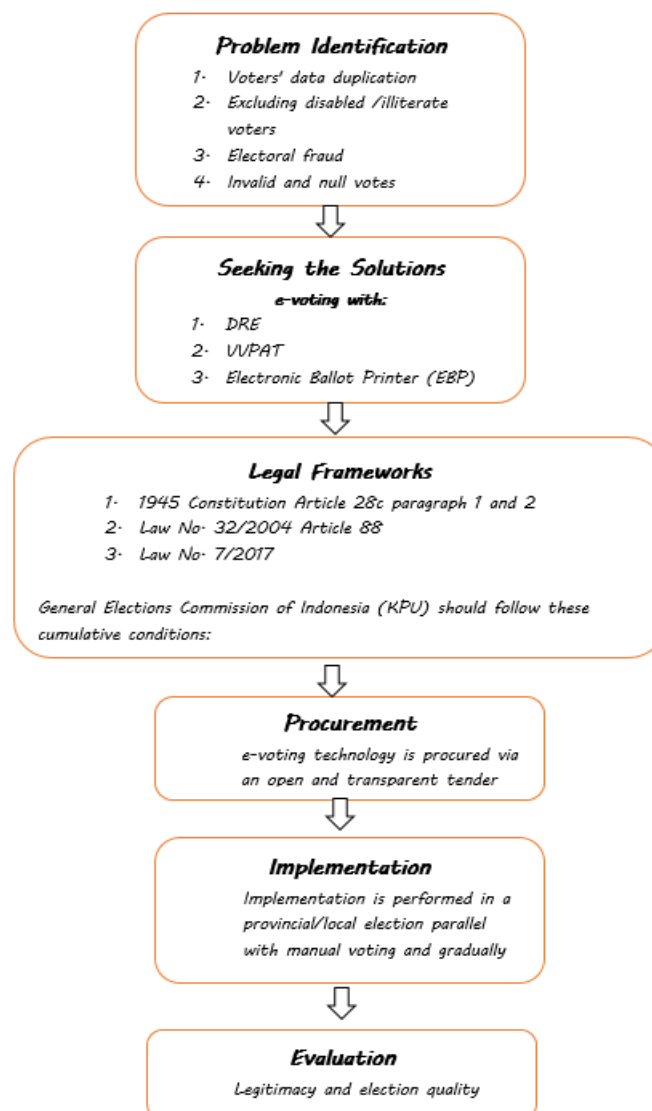


Figure 4. The process of policy transfer of e-voting in Indonesia's context
Adapted from IDEA 2020

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THE DEGREE OF POLICY TRANSFER OF E-VOTING

Indonesia will obtain the best benefits of the degree of policy transfer of hybridisation and synthesis; the e-voting technology applied in India, including the DRE and VVPAT, will be combined with other e-voting technologies, the Congo Electronic Ballot Printer (EBP). EBP technology consists of a ballot printer (to print out the ballot to authenticate a voter's choice) and a ballot scanner (to scan the ballots and then record them in the system). The token card printed by EBP serves an identical function to the VVPAT, generating physical evidence of votes cast by electors (Avgerou, Masiero and Poulymenakou 2019; IDEA 2011).

However, EBP provides more sophisticated technology and ensures voters select the intended candidate (minimises the error to vote). With the EBP technology, to cast the voters' choice, they insert the ballot paper into the EBP machine (via scanner), and the machine checks the QR code, and if the QR code is authentic, then the electors can proceed to cast their vote. The EBP machine will automatically store the votes in a database, and the voters put token cards into ballot boxes (Westminster Foundation for Democracy 2018). So, the EBP technology represents manual voting where voters cast their vote into the sealed ballot box, which secures direct, free, general, confidential, fair and honest principles.

Moreover, to tackle the deficiency in the DRE, VVPAT and EBP, the election organiser (KPU) should apply cryptographic techniques in the machine to allow the voters to know that their vote has been recorded successfully. In VVPAT, voters are given a chance to review a paper printout of ballot choices decided and match them to the options listed on the display of DRE before they cast their vote. However, the voters do not know whether the machine has recorded their vote successfully. This technology allows the voters to know that their vote has been recorded successfully by the machine with cryptographic techniques. Furthermore, if the voters find a discrepancy, they can cancel the ballot and restart new voting (Congressional Research Service 2007).

In addition, to ensure that e-voting in Indonesia can be executed throughout the archipelago (where there are 433 villages across Indonesia in which electric installation is still unavailable, CNN Indonesia 2020), the KPU can request the machine with battery power instead of a machine that requires power connection. This has also been available in India so that e-voting can be performed in the whole area in India since 2004 (Bailey and Sharma 2015; Biswas 2019).

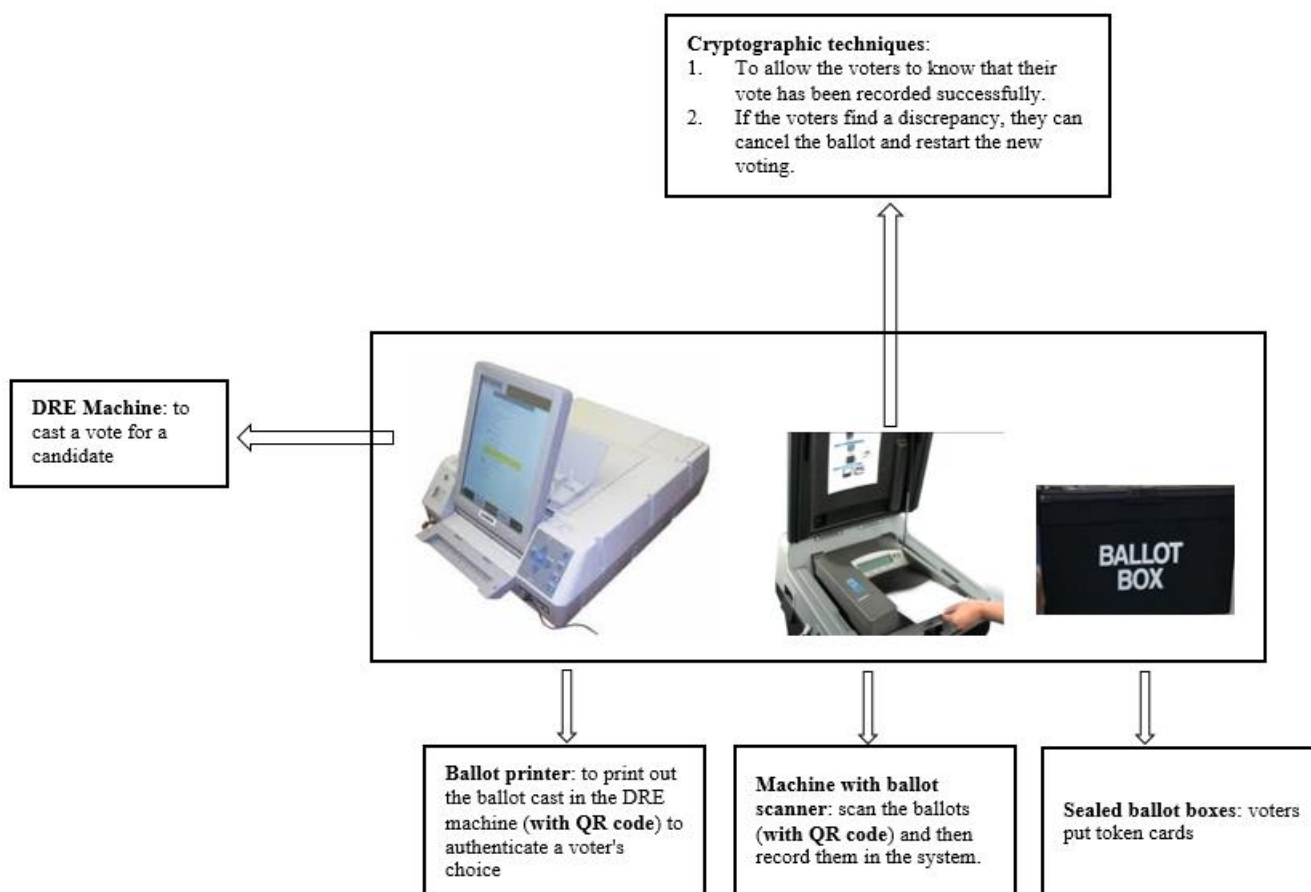


Figure 5. Illustration of hybridisation and synthesis of e-voting
(google source, the link available in the bibliography, accessed 22 April 2021)

HOW SUCCESSFUL WOULD BE THE ADOPTION OF E-VOTING?

In terms of process success, Constitution and legislation about general and regional elections in Indonesia do not specify/regulate the technological use in electoral. Nonetheless, the decision of the High Court No.147/PUU-VII/2009 suggests that Law no 32/2004

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Article 88 is constitutionally dependent on the 1945 Constitution Article 28c paragraph 1 and 2. So, in this case, the terminology of 'vote' in law no 32/2004 Article 88 can imply that employing a conventional/manual method or using technology like e-voting should follow these cumulative conditions to meet the process's success (Ali and Widjaja 2018). They are, firstly, underpinning the election principles as stated in Law No.7/2017 regarding general elections; fair, direct, free, confidential, public, and honest. Secondly, technologically and financially adequate, readiness in software, human resources, community in the area concerned and other essential requirements (IDEA 2020). Therefore, by following these aspects, KPU will obtain legitimacy in adopting e-voting.

The programmatic success of e-voting could be achieved if KPU reflects on an evidence-based policy that includes the benefits resulting from e-voting. For instance, it is claimed that e-voting significantly reduces the cost of the election (e.g. Congo's election in 2018, the cost was reduced by USD 100 million). Besides, KPU could prove that e-voting reduces the margin of error in voting, counting, recapitulation and significantly reduces the probability of invalid votes, effectively hindering fraudulent practices like vote-buying during recapitulation and preventing dropping illegal ballots into the ballot box (IDEA 2020). Political success is achieved if KPU can show that e-voting guarantees its reputation.

| Why transfer e-voting | | | Who will be involved in policy transfer | What will be transferred ? | From where? | | Degree of transfer | Challenges of transfer | How to demonstrate transfer | How transfer could lead to failure |
|--|----------|----------|---|--|------------------|-------------------|-----------------------------|---|---|---|
| Voluntary | Mixtured | Coercive | | | With in a nation | Trans - national | | | | |
| Lesson drawing (perfect rationality) | - | - | - General Elections Commission of Indonesia (KPU) - Bawaslu | Policies instruments DRE VVPAT Electronic Ballot Printer (EBP) Cryptographic techniques | - | India and Colombo | Hybridisation and synthesis | The complexity of policy (e-voting technology is exceptionally complex, i.e. security issues) | Commissioned Elections Commission of Indonesia (KPU) Bawaslu | Uninformed transfer |
| It was inspired by technology's advancement with sophisticated Artificial Intelligence to solve election problems. The political will to increase the legitimacy of elections To make a legacy | | | Political Parties | Policy Ideas Planning Procurement (transparent tender and certified via a rigorous testing process) Implementation (from local to gradually implement e-voting) | - | | | | | Incomplete transfer like removing VVPAT could erode election legitimacy |

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| | | | | | | | | | | |
|---|--|--|--------------------------------|--|---|--|--|--|--|---|
| To create an individual mark in history | | | | | | | | | | |
| | | | Legislatures | | - | | | | | Inappropriate transfer like changes VVPAT with a device with lower security |
| | | | Non-governmental organisations | | | | | | | |

Figure 6. The framework of policy transfer of e-voting

Adapted from Dolowitz and Marsh (2000)

TRUST ON E-VOTING: THE CHALLENGES AND STRATEGIES TO SECURE PUBLIC TRUST AND ELECTION INTEGRITY IN INDONESIA.

Adopting e-voting faces fundamental challenges; organisational and technological characteristics are the most important consideration and thus need to be scrutinised in order to be able to draw voters' trust (McCormack 2016; Norris 2014; Sances, Stewart and Charles 2014). Maladministration suspicion or fraudulent in e-voting caused voters to doubt the accuracy of the election results; consequently, these doubts will lead to the legitimacy of the elections of the elected governments (McCormack 2016; Norris 2014). Research in e-voting incline to refers to confidence instead of trust. The distinct difference between trust and confidence in political science, economics, and sociology is debatable (Luhmann 2000; Newton & Norris 1999; Tonkiss 2009). A general perspective is that confidence does not entangle a choice over alternatives and does not presuppose risk perception, while trust is essentially a matter of risky choice (Pieters 2006). So, when adopting e-voting, trust is an appropriate concept since citizens choose an action based on the trustworthiness perception of e-voting. Non-trust is evidenced by action challenges the arrangements of the election, the challenge of the results of elections, or non-participation in e-voting (Avgerou, Masiero and Poulymenakou 2019).

It is also essential to address the public and politicians who are suspicious the e-voting. Filho and Marcacini (2015) suggest that even with e-voting technology with VVPAT, the possibility of fraud is still open; the technology itself is inclined to a technical error and slows down the process of voting. Besides, the functionality, easiness, security, propensity, or robustness for malfunctioning should be considered to establish elections' trustworthiness (Altman & Pérez-Liñán 2002; Kallinikos 2012; Selker & Goler 2004; Stewart 2004). It is also true that the most challenging aspect of e-voting technology is the security system. Nonetheless, the reliability and security issues of e-voting were minor problems until 2003 (Congressional Research Service 2007), and as implemented in India, e-voting technology with VVPAT has no issues in the security system. Of 542 electoral areas across India, there was no discrepancy between manual counting and e-voting (Nambiar 2019). However, the opposition challenged the results of the elections in the Supreme Court, nonetheless unable to prove that e-voting technology has a security problem and eventually accepted the election results (Biswas 2019).

In the context of Indonesia, the strategy of hybridisation to integrate the DRE, VVPAT, and Electronic Ballot Printer (EBP) will maximise the security of the technology, secure transparency and ballot secrecy, ensure the tenets of direct, free, general, confidential, fair and honest, and thus increase election integrity. EBP technology includes two electronic devices: a ballot printer (to print out the ballot to authenticate a voter's choice) and a ballot scanner (scan the ballots and then record them in the system). The EBP prints a token card and serves a similar function to the VVPAT, creating physical evidence of votes cast by voters (IDEA 2011). EBP secures that electors select the intended candidate (this is to prevent the error to vote), and the voters cast their choice by inserting the ballot paper into the EBP machine (through the scanner). The scanner will authenticate the QR code; if the QR code is genuine, the voters can cast their vote. The EBP stores the voters' votes in a database automatically, and the voters put token cards into ballot boxes (Westminster Foundation for Democracy 2018). Hence, the EBP technology serves an identical function with manual voting; electors cast their vote into the sealed ballot box, securing direct, free, general, confidential, fair and honest principles.

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In addition, to improve ballot secrecy and technology security, the election organiser (KPU) could add cryptographic techniques in the machine to enable the electors to know that their vote has been successfully recorded. In the VVPAT, the machine indeed allows the voters to review a paper printout of ballot choices selected and match them to the options listed on the display of DRE before they cast their vote. Nonetheless, the electors do not know whether the machine has recorded their vote successfully. Hence, by using cryptographic techniques, if the voters find a discrepancy, they can cancel the ballot and restart new voting (Congressional Research Service 2007). Moreover, VVPAT generates physical proof of votes selected by voters. Therefore, VVPAT secures the election principles, free and fair election (Bailey and Sharma 2015) and ensures an efficient method for transparency since the election commission could verify the election result by comparing the data generated by the machine and manual counting from printed documents of VVPAT.

Apart from technological aspects, social theories of technology usage also secure people's trust and elections integrity (Dourish 2004). The socio-technical implementation of technology requires not only material properties or the functionality of the technology but also how people make sense of this technology and the context of the organisational process (Leonardi, Nardi and Kallinikos 2012; Mutch 2010; Volkoff, Strong, and Elmes 2007). Hence, to gain the citizens' and politicians' trust in e-voting, the electoral management body (KPU) should consider and embeds the socio-technical entity in Indonesia's socio-economic circumstances and political institutions. The socio-technical perspective of e-voting is that e-voting implementation is the arrangement of techno-organisational embedded in socio-economic circumstances and political institutions where the e-voting is implemented. This includes how the electoral management body (KPU) includes technology-mediated practices related to the actors involved in the e-voting process, such as political parties, technology providers, media, election observers and other actors (Avgerou, Masiero and Poulymenakou 2019).

CONCLUSION

The policy transfer of e-voting is a complex mechanism driven by technological advancement and the necessity to solve election problems. Two aspects are the most relevant to transferring India's e-voting system into Indonesia; policy instrument (hard transfer) and policy ideas (soft transfer). The degree of policy transfer of e-voting is hybridisation and synthesis; the e-voting technology used in India, including the DRE and VVPAT, will be combined with other e-voting technologies like Electronic Ballot Printer (EBP) and Cryptographic techniques to obtain the maximum benefits. The success of policy transfer of e-voting relies on how well the KPU as an elector management body achieve process success, programmatic success and political success.

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