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Asymmetric Effectiveness in Digital Electoral Administration: The Candidacy Information System for Indonesia's Regional Representatives

Dina[1*], Muhamad Yusup[1], Diki Suherman[1], Jamaliah Said[2]

1 Program Studi Ilmu Administrasi Negara, Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Al-Ghifari, Bandung, Indonesia
2 Accounting Research Institute, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

1 dina.shusein@unfari.ac.id
2 jamaliah533@uitm.edu.my

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ABSTRACT

Electoral management bodies increasingly digitise the stages of electoral administration, including candidacy. This study examines the effectiveness of the Candidacy Information System (Sistem Informasi Pencalonan, Silon) in the nomination of independent candidates for Indonesia's Regional Representative Council (DPD) for the 2019 election, and asks who gained from the system and who bore its costs. We conducted a qualitative single case study at the election commission of West Java, the province with the largest electorate, interviewing commission staff, candidates' liaison officers and system administrators, and voters, and analysing records of user complaints, stage recapitulations, and electoral disputes from 2018. Four measures of effectiveness were read through the lens of administrative burden. For the commission, Silon was effective, simplifying the collection, archiving, and checking of documents. Its records, however, showed 46 complaints at eight stages: 18 on system failures, 16 on verification results and speed, and 12 on user capability, with the lowest satisfaction in the most frequent category. The procedure grew from six to seven steps, while paper documents remained mandatory. Thirteen prospective candidates filed process disputes and all succeeded; four arose from support data that failed to upload although paper evidence existed. The public could not access the system. Effectiveness was therefore asymmetric, and digitalisation was additive, layering digital tasks on a paper procedure and shifting burdens to candidates. Assessments of electoral information systems should count costs borne by users and require audit trails accessible to supervisors. Interviews were retrospective, which limits recall.

Keywords: Candidacy Information System; Programme Effectiveness; Administrative Burden; Electoral Administration; Digital Government

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INTRODUCTION

Electoral administration is one of the fastest-digitising areas of government. Electoral management bodies use information systems for voter registration, candidacy, vote tabulation, and the publication of results. The expectation is that technology will speed up work, reduce errors, and increase transparency, all of which bear on electoral integrity (Norris, 2014). The digital government literature, however, has long warned that many government technology projects fail, wholly or partly, because of a

* Corresponding Author: Dina: dina.shusein@unfari.ac.id

gap between the design of a system and the reality of the organisation in which it runs (Heeks, 2002, 2003). The administrative burden literature adds a further warning. Digital services can shift administrative work from officials to citizens, who must enter, upload, and check data themselves (Madsen et al., 2022; Peeters, 2023).

In Indonesia, the General Elections Commission (Komisi Pemilihan Umum, KPU) introduced the Candidacy Information System (Sistem Informasi Pencalonan, Silon) for the nomination of members of the Regional Representative Council (Dewan Perwakilan Daerah, DPD) in the 2019 election. KPU Regulation No. 14 of 2018 defines Silon as an information system that supports the work of independent candidates and election officials in registration, administrative examination, and verification of candidates' requirements. The same regulation governs a companion system, the Individual Election Participant Information System (Sistem Informasi Perseorangan Peserta Pemilu, SIPPP), for submitting and checking voter support. DPD candidacy is worth studying because its candidates are individuals, not parties. Each prospective candidate must assemble the required documents and a minimum number of supporters spread across most regencies and cities. In provinces with more than 15 million voters, the minimum is 5,000 supporters spread across at least half of the regencies and cities (Law No. 7 of 2017, Article 183). The design of the system therefore determines how heavy a burden each individual candidate must carry.

Studies of KPU information systems in Indonesia usually assess effectiveness from the commission's point of view. They highlight network constraints, server capacity, and operators' understanding. Sari (2022), for example, notes that Silon in the 2019 election could not yet be used to process candidacy data and produce the provisional and final candidate lists, so the aim of simplifying work was not fully met. What is rarely asked is the distributive question. For whom is such a system effective, and who bears the costs when it does not work as designed?

Electoral governance research reminds us that rule-making, rule application, and rule adjudication are distinct levels of electoral management, each with its own actors (Mozaffar & Schedler, 2002). An information system for candidacy touches all three. It embodies rules in its design, applies them through verification, and generates the evidence on which disputes are later adjudicated. Assessing such a system only from the perspective of the body that applies the rules leaves out the actors who must comply with them and those who adjudicate when compliance fails.

This article addresses the distributive question through a case study of Silon in DPD candidacy in a province with a very large electorate. Three research questions are posed: (1) how effective was Silon in facilitating the candidacy stages; (2) what factors constrained its effectiveness; and (3) how did the commission respond to these constraints? The article contributes by showing that the effectiveness of a candidacy information system can be asymmetric and that the digitalisation it brings can be additive. Both concepts can be used to assess other information systems of electoral management bodies, and the findings bear on the broader aim of building effective, accountable, and transparent institutions under Sustainable Development Goal 16 (United Nations, 2015).

LITERATURE REVIEW

Programme Effectiveness and Government Information Systems

Effectiveness has no single measure in organisational studies. Campbell (1977) compiled dozens of criteria used in research on organisational effectiveness, from productivity and efficiency to satisfaction and goal attainment, and concluded that effectiveness is a construct whose assessment depends on who judges it and for what purpose. This study operationalises effectiveness through four measures adapted from these criteria. The first is programme success, whether the programme achieves its intended results. The second is target success, whether its specific targets are met. The third is the ratio of input to output, whether the resources used are commensurate with results. The fourth is overall goal attainment, the programme's contribution to wider aims.

For government information systems, Heeks (2003) offers an explanation of why effectiveness is often not achieved. His design-reality gap model holds that systems fail when the designers' assumptions about information, technology, processes, skills, and resources differ greatly from the actual conditions of users. The greater the gap, the greater the risk of partial or total failure. Heeks (2002) shows that in developing countries these gaps are common, and that systems often survive only because local actors improvise around them. Stage models of e-government add that the value of a transactional system

depends on whether processes and databases are integrated behind it, rather than on the availability of an online channel alone (Layne & Lee, 2001).

Administrative Burden in Digital Services

Moynihan et al. (2015) define administrative burden as the costs that citizens experience when interacting with the state. These consist of learning costs (finding out about procedures and requirements), compliance costs (meeting requirements and spending time on them), and psychological costs (stress, frustration, and loss of autonomy). Herd and Moynihan (2018) stress that such burdens are not mere side effects but the result of design choices that determine who carries administrative work. Christensen et al. (2020) add that the ability to cope with burdens depends on human capital, so that the same requirements weigh more heavily on those with fewer cognitive and practical resources.

Studies of digital services extend this idea. Madsen et al. (2022) show that digital self-service turns citizens into "accidental caseworkers" who perform tasks that officials used to do, such as entering data, choosing categories, and checking completeness, without the training and support that officials have. Peeters (2023) adds that digital administrative burdens also arise from difficult interfaces, system failures, and the absence of channels for correcting errors. Peeters and Widlak (2018) describe how rigid information architectures can create a "digital cage" in which citizens cannot fix errors in a system that officials treat as authoritative. Bovens and Zouridis (2002) had earlier observed that as decisions move into information systems, discretion and accountability shift from the front desk to the system's designers. In DPD candidacy, the "citizens" who carry these burdens are independent prospective candidates and the administrators and liaison officers they appoint.

Technology in Electoral Administration

For electoral management bodies, technology has a dual function. It is a tool of internal efficiency and a means of building public trust through transparent processes. Norris (2014) treats candidacy as one of the points in the electoral cycle that determine electoral integrity. Undue barriers to candidacy and opaque procedures can reduce trust in election results. Candidacy information systems should therefore be assessed not only by the speed of administration but also by their ability to make the process verifiable by actors outside the commission, including election supervisors, participants, and the public. The literature reviewed so far offers tools for each part of this assessment, but it has seldom been combined to ask who carries the costs of an electoral information system and who can check its work.

Analytical Framework

The study uses the four measures of effectiveness as a deductive framework for organising the data. Findings on each measure are then read through two questions. Who enjoys the benefits: the commission, the candidates, or the public? And who bears the costs, in the form of learning, compliance, or psychological costs? This reading allows an assessment of effectiveness that distinguishes the perspectives of different stakeholders, as Campbell (1977) recommends.

MATERIALS AND METHODS

Research Design and Context

We used a qualitative descriptive approach with a single case study design. The case is the use of Silon in the nomination of DPD candidates for the West Java electoral district in the 2019 election, managed by the West Java Provincial KPU in 2018. West Java was chosen because it has the largest electorate in Indonesia; its provisional voter list for the 2019 election counted 35,910,407 voters at 140,472 polling stations, according to the provincial commission's records. The province also had one of the largest numbers of DPD candidates in the country, with about fifty candidates on its final list competing for the four seats that each province holds.

The regulatory framework consists of Law No. 7 of 2017 on General Elections and KPU Regulation No. 14 of 2018 on the Candidacy of Individual Participants in the Election of DPD Members. The regulation provides for two information systems. SIPPP is used for submitting and checking voter support, while Silon is used for registration, administrative examination, and verification of candidates' requirements. In practice, and in the commission's complaint records analysed here, both were referred

to as one ecosystem called "Silon". This article therefore treats the candidacy information system as a single ecosystem and refers to SIPPP specifically where relevant.

Informants and Data Collection

Informants were selected purposively according to their position in the candidacy process: the commission, the candidates' side, and voters. Their codes are given in Table 1.

Table 1. Research informants

Code	Position
K1	Head of the technical sub-division, provincial KPU
P1	Liaison officer of a prospective candidate
A1	Silon administrator of a prospective candidate
A2	Silon administrator of a prospective candidate
M1	Voter supporting a prospective candidate
M2	Voter
M3	Voter supporting a prospective candidate

Source: research data (2023).

Primary data were collected through semi-structured interviews and observation between March and August 2023. They were held in Indonesian, and the excerpts below were translated by the authors. Secondary data came from 2018 documents of the West Java Provincial KPU: a recapitulation of Silon user complaints and their follow-up, a recapitulation of the number of prospective candidates at each stage, and a recapitulation of process disputes filed with the Election Supervisory Agency (Badan Pengawas Pemilihan Umum, Bawaslu). KPU regulations on candidacy for the 2014 and 2019 elections served as a basis for comparing the procedures. Because the candidacy stages took place in 2018 while the interviews were conducted in 2023, informants' accounts were retrospective. They were compared with the 2018 documents to reduce recall bias.

Data Analysis and Trustworthiness

Data were analysed interactively through data condensation, data display, and conclusion drawing (Miles et al., 2014). Initial categories were derived from the four measures of effectiveness. Further categories on the shifting of burdens and on correction mechanisms emerged inductively from the complaint and dispute data. Trustworthiness was supported by source triangulation (commission, candidates' side, and voters) and method triangulation (interviews and documents) (Lincoln & Guba, 1985). Numerical documentary data were analysed descriptively. Interview excerpts were lightly edited for spelling without changing their meaning.

Research Ethics

Informants gave their consent to be interviewed after being told the purpose of the study, and their identities are replaced with codes in this article.

RESULTS AND DISCUSSION

The results follow the four measures of effectiveness, preceded by a description of where the information system sits in the candidacy procedure. The discussion then interprets the findings through the administrative burden lens.

The Information System in the Candidacy Procedure

Table 2 compares the DPD candidacy procedure for the 2014 and 2019 elections. The 2014 procedure had six steps: registration, submission of administrative requirements to the KPU, verification of completeness by the KPU, supervision by Bawaslu, determination of the provisional candidate list (Daftar Calon Sementara, DCS), and determination and announcement of the final candidate list (Daftar Calon Tetap, DCT). In 2019 the procedure had seven steps. Direct submission of documents was

replaced by two new steps, a request for access to Silon and the uploading of requirements by the prospective candidate. Verification, supervision, and determination remained unchanged.

Table 2. Comparison of DPD candidacy procedures

No	2014 election	2019 election
1	Registration with the KPU	Registration with the KPU
2	Submission of administrative requirements to the KPU	Request for access to Silon
3	Verification of completeness by the KPU	Upload of administrative requirements by the candidate
4	Supervision of completeness by Bawaslu	Verification of completeness by the KPU
5	Determination of the DCS	Supervision of completeness by Bawaslu
6	Determination and announcement of the DCT	Determination of the DCS
7		Determination and announcement of the DCT

Source: compiled from the KPU regulations on individual DPD candidacy for the 2014 election and KPU Regulation No. 14 of 2018.

KPU Regulation No. 14 of 2018 did not abolish paper documents. Lists of supporters had to be entered into SIPPP as electronic copies and also submitted in print, and the content of the electronic copy had to match the printed document. The statement of submission of support was downloaded from the system, printed, signed, and submitted physically together with photocopies of supporters' electronic identity cards. The information system, in other words, was added on top of a paper-based procedure rather than replacing it.

Programme Success: Efficiency for the Commission

From the commission's side, Silon was judged successful in reducing manual work. K1 described the change as follows:

> *"Silon [...] has helped us automate many steps in the administrative process. In the past we had to collect physical documents, verify them manually, and archive them. With Silon everything can be uploaded and managed digitally. This minimises the risk of losing documents, speeds up verification, and reduces printing costs. We can focus on checking the validity of information rather than on repetitive administrative tasks." (K1)*

In another interview, K1 emphasised savings in labour and time: "unlike manual data collection, which takes a lot of resources and time [...] and is prone to error, Silon saves labour and time and minimises mistakes" (K1). K1 also named automatic alerts as a key benefit: "The system warns us if information is incomplete or invalid. This helps us identify and deal with potential errors before they become bigger problems" (K1).

The candidates' side also saw benefits, mainly fewer visits to the KPU office. A liaison officer stated:

> *"We used to go back and forth to the KPU to submit files and to get and pass on the latest information from the various parties involved. With Silon our role as contact person is easier, communication is faster, more accurate, and better coordinated." (P1)*

A1 considered the system helpful though imperfect: "we can track the verification status and submit corrections if needed, all online without being physically present, although Silon still has shortcomings" (A1). On the measure of programme success, all informants directly involved in candidacy judged Silon more effective than the manual process. This judgement was perceptual, however. The

commission did not provide data on processing time, staff numbers, or costs that would allow a quantitative comparison between the 2014 and 2019 elections.

Target Success: User Complaints and Verification Accuracy

The target of Silon was to ensure that candidacy requirements were met accurately and to facilitate the submission and verification of documents. The complaints compiled by the commission show that this target was not fully achieved (Table 3).

Table 3. Silon user complaints in DPD candidacy, 2018

Stage	Type of complaint	Complaints	Satisfaction score	Commission follow-up
Initial stage	System error or unresponsive	8	45	Technical system repair
Initial stage	Slow loading due to many users	6	70	Server capacity and infrastructure optimisation
Administrative verification of support	Human error or lack of understanding of Silon features	9	30	Technical guidance for Silon administrators
Correction 1	Uploaded documents lost from the system	4	75	Document recovery and system strengthening
Factual verification 1	Documents not recorded or not verified	7	40	Re-verification and clarification
Factual verification, correction 2	Verification results inconsistent or inaccurate	5	50	Review and more careful verification
Registration of candidate requirements	Difficulty uploading documents or data	3	80	Guidance and technical assistance
Registration of corrected requirements	Delays in verification	4	70	Faster verification and updated information
Total		46		

Source: West Java Provincial KPU (2018), as compiled in the research data. The commission's records do not specify how the satisfaction score was measured.

The complaints fall into three groups. System failures, namely errors, slow loading, and lost documents, accounted for 18 complaints (39%). Complaints about the results and speed of verification, namely unrecorded documents, inaccurate results, and delays, accounted for 16 (35%). Complaints about user capability, namely human error and difficulty uploading, accounted for 12 (26%). The single most frequent category was lack of understanding of Silon features (9 complaints), and this category also had the lowest satisfaction score (30). In general, categories with more complaints tended to have lower satisfaction. As a descriptive illustration, the correlation between the number of complaints and the satisfaction score across the eight categories was $r = -0.89$. The figure was calculated by the authors from Table 3 and is not intended as an inferential test.

The commission's follow-up also showed a pattern. For system failures, it repaired the system and expanded server capacity. For complaints about user capability, it offered technical guidance and manuals to candidates' administrators. The gap between the system's design and users' capabilities was thus addressed by raising users' capabilities rather than by simplifying the system.

The experience of candidates' administrators supports this reading. A2 stated:

> *"This application actually brings more benefits than manual candidacy, which was less efficient and effective in collecting the required files. Using Silon is easier, cheaper, and more accurate. But*

no application is perfect; there are still shortcomings, such as frequent system failures when entering data, a poor network, errors, and limited knowledge of how to use the application." (A2)

The excerpt holds two judgements at once. Overall, Silon was considered better than the manual process. In daily use, however, data entry was often disrupted by system failures and by users' limited knowledge.

Input and Output

On the measure of input and output, the commission considered that Silon saved time, labour, and printing costs, and the candidates' side considered that it reduced travel costs because documents no longer had to be delivered. The data, however, do not allow a genuine efficiency calculation. The costs of developing and maintaining the system were not available. Processing time per stage was not recorded. The obligation to submit printed documents also remained, so the costs of photocopying and delivering support documents did not disappear.

The output of the candidacy stages could not be assessed precisely either. The stage recapitulation recorded 84 prospective candidates at the initial stage and 50 candidates on the final list, but the figures for the intermediate stages were inconsistent, with some later stages showing more candidates than earlier ones. Because of these inconsistencies, we draw no conclusion about the stage at which most candidates dropped out. The lack of a consistent recapitulation is itself a finding: the system did not yet produce stage performance data usable for evaluation. This finding agrees with Sari's (2022) observation that Silon in the 2019 election could not yet process candidacy data into the provisional and final lists.

Process Disputes as a Correction Channel

Table 4 summarises the process disputes filed with Bawaslu by prospective candidates in 2018.

Table 4. Process disputes in DPD candidacy, 2018

Stage	Subject of dispute	Applicants	Outcome
Administrative verification of support (5,000 identity cards)	Candidate had physical proof of support, but the support was not uploaded because of difficulty understanding the system and system errors	4	All proceeded to the next stage
Administrative verification of support	Objection to the rule on the minimum number of supporters	1	Proceeded to the next stage
Factual verification of support	Supporters not found during sampling	2	All proceeded to the next stage
Factual verification of support	Sample size not as the candidate expected	4	All proceeded to the next stage
DCT	Ballot number not as the candidate wished	1	Confirmed as a final candidate
DCT	Candidate declared ineligible at the DCS stage	1	Confirmed as a final candidate
Total		13	

Source: Bawaslu (2018), as compiled in the research data.

Three points stand out. First, all 13 applicants obtained a favourable outcome. Second, four disputes were directly related to the information system. The candidates' support was not uploaded because of system errors and difficulties in understanding the system, although physical proof of support existed. At this stage support was submitted through SIPPP, which in practice was also called "Silon".

Third, in these four cases the outcome was decided by physical evidence, not by data in the system. System errors were corrected by printed documents through the dispute mechanism.

Overall Goal Attainment: Transparency and Participation

One of the overall aims of Silon was to increase transparency and public participation in candidacy. The data show that this aim was not achieved through Silon. K1 explained that Silon was a closed system:

> *"Yes, that's right, the candidacy information system can only be accessed by the KPU and the prospective candidates, but we help the public and relevant institutions to obtain information on candidacy by spreading it through internet-based media, news, mass media, and others." (K1)*

The voters interviewed did not know that Silon existed. M2 said: "I didn't know that the DPD candidacy used Silon, but information about the candidacy stages was available from several online news sites and newspapers, and there was often news about it on the radio as well" (M2). Voters' experience of participation took place through face-to-face channels and public announcements. M1 and M3 were supporters of prospective candidates who were visited by officers of the village-level election committee (Panitia Pemungutan Suara, PPS) for factual verification of their support. M3 later checked their name in the announcement of the provisional list:

> *"I once gave my documents to a prospective DPD candidate, and afterwards PPS officers came to verify that I was a supporter of that candidate. Then I read in the media that the KPU had put the candidate on the provisional list, and there was a menu for public responses, and I could also check which candidate my name was listed under." (M3)*

On the measure of overall goal attainment, transparency towards the public was not produced by Silon. It was produced by existing electoral mechanisms: factual verification by field officers, the announcement of the provisional list with its period for public responses, and media coverage.

Asymmetric Effectiveness

Judged from the commission's point of view, Silon was effective. Collecting and archiving files became simpler, automatic alerts helped checking, and the risk of losing physical documents fell. From the point of view of candidates and the public, the picture was different. Candidates faced 46 recorded complaints at eight stages, four had to resort to disputes to restore support that had failed to upload, and the public could not access the system at all. This finding supports Campbell's (1977) view that effectiveness depends on who judges it. Assessments that rely only on the commission's accounts, as is common in studies of KPU information systems, tend to overstate a system's success.

The asymmetry can be explained by the design-reality gap model (Heeks, 2003). Silon was designed on the assumptions that candidates had administrators able to operate the system, stable connections, and servers able to absorb surges of users before deadlines. The complaint data show that these assumptions were not fully met. The gap in users' skills produced the most complaints and the lowest satisfaction, and the gap in technology produced errors, slow loading, and lost documents.

Additive Digitalisation and the Shift of Burden to Candidates

The procedure described above shows that digitalisation in candidacy was additive. Steps were added, and the obligation to submit paper documents remained alongside the digital one. For the commission, the added steps, requesting access and uploading, were steps performed by others. For candidates, they were new work. Candidates had to appoint operators, learn the system, enter the data of thousands of supporters with their identity numbers and addresses, and make sure that the electronic copy matched the printed one.

In the terms of Moynihan et al. (2015), Silon reduced certain compliance costs, especially travel and queuing, but added learning costs, understanding the features and procedures of the system, and compliance costs of another kind, entering data twice in two formats. Candidates' administrators acted as "accidental caseworkers" (Madsen et al., 2022), performing the entry and preliminary checking of data that KPU officers had done before, and they were the first to bear the consequences of failure. The commission's response, technical guidance for candidates' administrators, confirms the direction of this shift, because problems of capability were solved on the users' side. The psychological cost appears in the lowest satisfaction score for the category related to users' understanding (Peeters, 2023).

This shift has distributive consequences in individual candidacy. Candidates with trained administrators and resources to support the process carry a lighter burden than candidates with limited resources, a pattern consistent with the role of human capital in coping with administrative burden (Christensen et al., 2020). The design of a candidacy information system is therefore not merely a

technical matter. It helps determine how open the arena of candidacy is to individual candidates, a dimension that Norris (2014) links to electoral integrity.

The Commission's Responses in Light of the Framework

The third research question concerned how the commission responded to the constraints. Its responses followed the two kinds of gap identified above. Technological gaps were met with repairs, server optimisation, and document recovery, which addressed the system itself. Gaps in skills were met with guidance and manuals, which addressed the users. Both responses were reactive, taken after complaints had been lodged, and neither altered the design choices that produced the burdens in the first place: the added steps, the requirement to enter data twice, and the absence of a record that candidates or supervisors could use to prove a failed upload. In Heeks's (2003) terms, the commission narrowed the design-reality gap by moving reality towards the design rather than the design towards reality. This is a reasonable short-term strategy under deadline pressure, but it leaves the distribution of burdens unchanged for the next election.

Paper Documents and Disputes as a Safety Net

The dispute data reveal a function of the dual-document requirement that is rarely discussed. The obligation to submit printed documents looks inefficient from a digitalisation standpoint. In the four cases of support that failed to upload, however, printed documents became the evidence that restored the candidates' rights. Process disputes at Bawaslu functioned as a mechanism for correcting system failure, with Bawaslu weighing physical evidence where digital data were incomplete. Without such a channel, candidates would have faced what Peeters and Widlak (2018) call a digital cage, in which the record held by the system prevails over the facts that citizens can show.

This finding qualifies the common recommendation to abolish paper documents for the sake of efficiency. As long as the system cannot be fully relied on, paper documents and the dispute channel form a safety net that prevents technical errors from becoming restrictions on the right to stand for election. The safety net is costly, however. Candidates must go through disputes, and commissions and supervisors must handle cases that are rooted in system failure. Before paper documents are abolished, the system needs an audit trail that can show when and why an upload failed.

Transparency Inwards, Not Outwards

Silon increased transparency within the relationship between the commission and candidates, who could track their verification status, as A1 noted. The system was, however, closed to the public. Transparency towards the public still depended on the announcement of the provisional list, the period for public responses, factual verification in the field, and media coverage. The limitation did not concern the public alone. During the candidacy stages for the 2024 election, Bawaslu's access to Silon was still debated, and civil society groups urged that supervisors be given access for digital oversight (Antara, 2023). If supervisors cannot inspect the system's records, correction of system failures depends on evidence held by candidates, as the disputes summarised above show. In Bovens and Zouridis's (2002) terms, discretion had moved into the system without a matching move in the means of holding it to account.

From the perspective of electoral integrity, candidacy information systems should be assessed by their ability to make the process verifiable, not only by their speed. This does not require disclosing supporters' personal data to the public. What is needed are activity logs, records of failed uploads, and consistent stage recapitulations that supervisors can access and that can be published in aggregate form.

Theoretical and Practical Implications

Theoretically, the article shows the value of combining a programme effectiveness framework with the administrative burden perspective. The effectiveness framework asks whether the programme's aims were achieved; the burden perspective asks who paid for that achievement. The concepts of asymmetric effectiveness and additive digitalisation can be applied to other information systems of electoral management bodies, such as those for political parties, voter data, and tabulation, and to government digital services that require users to enter data themselves.

Four practical recommendations follow for electoral management bodies. System performance should be recorded in measurable terms, such as response times, upload failure rates per stage, numbers of complaints, and resolution times, so that effectiveness is not judged by perception alone. Audit trails accessible to election supervisors should be provided, so that disputes rooted in system failure can be resolved on the basis of system records. Proactive technical assistance and load testing of servers before deadlines should replace reliance on guidance after complaints arise. The dual-document requirement

should be reviewed gradually, and paper documents can be reduced once system audit trails are strong enough to serve as evidence.

CONCLUSION

This article analysed the effectiveness of Silon in the nomination of independent DPD candidates. From the commission's point of view, Silon was effective because it simplified the collection, archiving, and checking of files. That effectiveness, however, was asymmetric. Candidates and their administrators bore 46 recorded complaints, most of them about system failures and verification, and the most frequent category also had the lowest satisfaction. The procedure gained a step, and the obligation to submit paper documents remained. System failures were corrected by printed documents through process disputes, all 13 of which succeeded, four of them rooted in support that failed to upload. Transparency towards the public was produced not by the system but by existing electoral mechanisms.

The lesson is that digitalising electoral administration does not automatically reduce burdens; it can move them from the commission to the participants. Assessments of electoral information systems should include the costs borne by users outside the commission and the system's capacity to be inspected by supervisors.

SUGGESTION FOR FUTURE RESEARCH

The study has several limitations that point to further research. Interview data were retrospective, collected about five years after the candidacy stages took place, and may be affected by recall despite comparison with documents. Future research could study candidacy as it happens, for example by observing the 2029 candidacy stages and interviewing administrators while they work with the system.

Informants from the candidates' side were limited to one liaison officer and two administrators, so the experience of candidates who failed was not represented. Interviews with candidates who dropped out, and with Bawaslu officials who handled disputes, would show how often system failures shape the outcome of candidacy. The commission's quantitative data also contained inconsistencies and did not explain how satisfaction was measured. Comparative research on DPD candidacy in the 2019 and 2024 elections across several provinces, using system logs where available, would allow the concepts of asymmetric effectiveness and additive digitalisation to be tested more systematically.

CO-AUTHOR CONTRIBUTION

The authors declare no conflict of interest in this article. All authors contributed to the conception and design of the study, the analysis and interpretation of the data, and the writing and revision of the manuscript, and all authors approved the final version.

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