

Information Transparency in Admission Selection of State Islamic Higher Education in Indonesia Using Information Technology Approach

Linda Salma Angreani
Faculty of Science and Technology
Maulana Malik Ibrahim State Islamic University
Jalan Gajayana No.50, Malang
Indonesia
lindasalma@gmail.com

ABSTRACT

The right to information is one of fundamental human right essential. The transparency, availability and accessibility of information enable people to hold policy-makers to account and participate in the decision making process, promoting better governance, and reducing inefficiency and corruption. In Indonesia, there is an integrated system of student admission to State Islamic Higher Education, named SPMB-PTAIN. This kind of integrated admission selection model to enter State Islamic Higher Education in Indonesia through written examination conducted simultaneously nationwide involving 53 Islamic Higher Education Institution and coordinated by the Ministry of Religious Affairs of Republic of Indonesia. In 2013, this model are used by for about 200 thousands applicants. However, there is no such model that provides information about exams result tracking for users. These condition lead to some critical issues related to the transparency in SPMB-PTAIN exams results. The subject of this paper is proposing the monitoring system as part of system improvements of SPMB-PTAIN (named SMUPDA) in terms of monitoring and transparency. SMUPDA has been tested in SPMB-PTAIN 2013 and was made such a clear form of continuous improvement in data processing of SPMB-PTAIN. SMUPDA can also provide transparency of data processing on the implementation of SPMB-PTAIN. Therefore the similar model may be applied to other systems related to public services to provide transparency and gain the public trust of public services institutions itself.

KEYWORDS

Right to information, Transparency, Continuous Improvement, Data Processing, Work Flow, Admission Process, Monitoring System

1. BACKGROUND

The right to information is recognized as a fundamental human right essential for meaningful democracy and the advancement of other rights [1]. The transparency, availability and accessibility of information enable people to hold policy-makers to account and participate in the decision making process, promoting better governance, and reducing inefficiency and corruption [2]. The Freedom of Information Act in Indonesia adopted in 2008 named *Undang-undang No.14 Tahun 2008 tentang Keterbukaan Informasi Publik*, and it came into effect on 1 May 2010 [3].

In Indonesia, there is an integrated system of student admission to State Islamic Higher Education, named SPMB-PTAIN. This kind of integrated admission selection model to enter State Islamic Higher Education in Indonesia through written examination. SPMB-PTAIN conducted simultaneously nationwide involving 53 Islamic Higher Education Institution and coordinated by the Ministry of Religious Affairs of Republic of Indonesia. In 2013, this model are used by for about 200 thousands applicants. Figure 1 shown the new student admission process published by SPMB-PTAIN Committee.

However, there is no such model that provides information about exams result tracking for users. Therefore, users only have information about exams final result – whether their pass or fail the exams - as published by the admission committee, without knowing the detail results of the exams, especially the cause that make them fail the exams. These condition lead to some critical issues related to the transparency in SPMB-PTAIN student admission exams results.

The subject of this paper is proposing the monitoring system as part of system improvements of SPMB-PTAIN system in terms of monitoring and transparency. This monitoring system has been tested in SPMB-PTAIN 2013 and was made such a clear form of continuous improvement in data processing of SPMB-PTAIN.

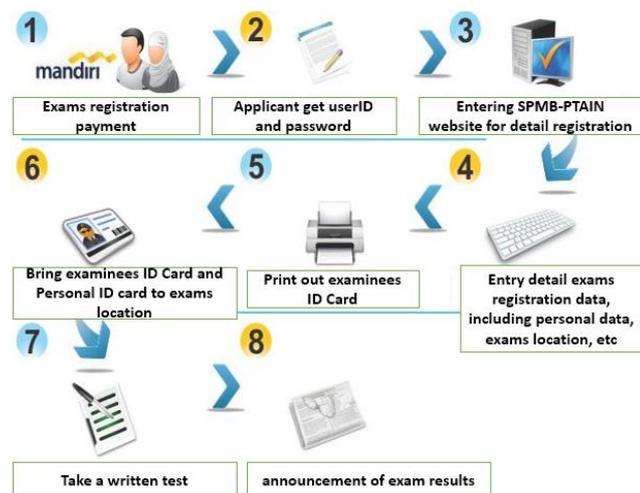


Figure 1. SPMB-PTAIN Admission Process
 Source: [4] with modification (steps translation)

2. DATA PROCESSING FUNCTION IN SPMB-PTAIN

As stated in SOP book of SPMB-PTAIN, the job description of Data Processing Team are [5]:

1. Scanning all of exam answer sheet (called LJU – *Lembar Jawaban Ujian*)
2. Receive all participant list from online registration (the data were provided by ICT coordinator team).

3. Marking process (Flagging) any of unfair or cheating that was reported as well as the absence of exams participants and finishing the data validation from the scanning process of LJU based on participant online registration data.
4. Scoring and assess process on sampling participant exam answers for answer key analysis purposes.
5. Develop a statistical report of the appraisal value of the sampling participants for answer key analysis purposes.
6. Scoring process on all participant exam answers using the answer key that has been declared as valid answer key.
7. Setting up the all participant data forms that have been equipped with test scores with the format specified and sent it to the ICT coordinator.
8. Creating statistical reports for analysis of scoring results.
9. Creating an attendance report of all participants.

Figure 2 shows the workflow of tasks to be completed by data processing team based on Data Processing job description in the SPMB-PTAIN SOP book.

To run the workflow described in figure 2, the data processing work team was formed in small team consist of:

1. Verification and Validation Team.
2. Document Archiving Team.
3. Scanning Team.
4. Scoring Team.
5. Scoring Team.

When users finishing their written exams in SPMB-PTAIN (step 7 in figure 1), they will immediately receive the results within 2 (two) weeks after (step 8 in figure 1). However, there are several processes performed by admission committee start from step 7 to step 8 in figure 1.

In SPMB-PTAIN, there are at least 10 (ten) steps, as shown in figure 2, that are managed by data processing team of SPMB-PTAIN [6].

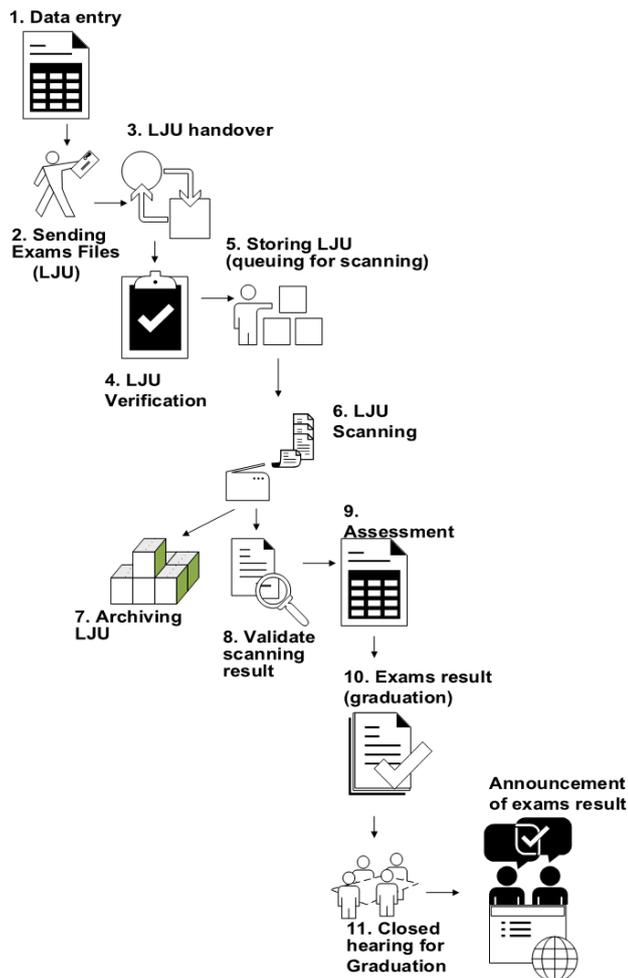


Figure 2. SPMB-PTAIN data processing

The processes that starts from LJU delivery along with supplementary files (letter of statement from exams implementer, attendance form, etc.) by the Local Committee (called Panlok – *Panitia lokal*) to the National Data Processing (steps 1 &2 of figure 2). Next process followed by the handover of LJU and proceeded with the verification & validation process (steps 3&4). After validation step, LJU will store and waiting for scanning process (step 5). After that LJU will followed the scanning process (step 6). The results of data captured by scanning team are revalidated (a quality assurance process) – step 8, while at the same time the physical of LJU then stored as archives (step 7). Captured data will submitted to the

scoring and passing team for scoring and rank them in accordance with the applicable regulations (steps 9&10). The results obtained from the scoring team set as baseline information in national graduation meeting agenda (step 11). The results of this national meeting will end with announcements of exams result to the public.

3. ISSUES FROM CURRENT STATE

From the results of evaluation of SPMB-PTAIN 2012, some issues are found in the implementation of data processing in 2012 [7] and also reported by data processing team [8]. Table 1 shows details of that issues.

Table 1. Issues in Data Processing of SPMB-PTAIN 2012

No.	Issues
1	There is a delay in delivery of LJU and disrupting the flow or process and queue of the next process of data processing.
2	There are some errors in the recording report by exam supervisors in field, such as: <ol style="list-style-type: none"> The number of participants presence in the exams location was not match with the actual situation. Exams supervisors are fill biographical data of exams participants that did not attend in the Exam Answer Sheet (LJU)
3	There is some discrepancy between the physical LJU and number of LJU reported that make the matching control of LJU is not running
4	There are some participants who make a mistake to fulfill biographical data, including a crucial data such as: <ol style="list-style-type: none"> Participant Test Number Exams Code

4. DATA MATCHING CONTROL IN DATA PROCESSING

From several issues that occur as shown in Table 1, the data processing team propose steps of recommendations for improvement of that issues. Recommendations are made based on the factors causing that issues. Presumptions of the

main factors that causes some issues in table 1 is came from the large number of documents that handled by exams implementer team in field (such as number of LJU, statement of purpose, participant attendance list, etc.), and large people involved in the data processing. This make a data matching control in data processing are needed.

Here are the recommendations and tools needed to control data processing issues [7]:

1. *Recommendation:* Better planning coordination are needed in delivery of LJU to reduce the possibility shipping delays.
Tools: LJU delivery schedules and time arrival estimation with delivery reporting features are needed.
2. *Recommendations:* for evaluation No. 2 and 3 (table 1) is Develop and Implement Exams Reporting Applications with benefits:
 - a. Find out more detailed information early about exams participant attendance list
 - b. Attendance list report can be used as a data control of physical LJU received and processed
 - c. Simplify the process of verification and validation of LJU.
 - d. Detection and reporting of unfairly information.
 - e. Perform grouping of unfairly acts as a justification for graduation meeting.
 - f. Find out more information early about mismatches amount of LJU and perform data tracking.
 - g. Avoid the occurrence of errors and irregularities in LJU information, such as no/incompatibility examinee number, etc.*Tools needed:* Develop and Implement Reporting Exam applications, with features:
 - a. Online apps, and fulfill as soon as possible after the exam ends
 - b. Have notification function when it was not fulfill yet after the exams done and sent it to the relevant parties.

- c. Attendance list of examinees
 - d. Provide comparison list of examinees with database
 - e. Have notification function when there are discrepancies on the comparison results
 - f. Printing results of attendance report list for LJU admission control tool.
 - g. Scan attendance list report evidence
 - h. Unfairly report and Grouping levels of unfairly acts
3. *Recommendation:* Scanning team does conduct intervene in the LJU who has been filled by exam participants. LJU are left as its original condition.
 4. *Recommendation:* Do a socialize campaign about the importance of the accuracy of LJU by exam participants.
Tools needed:
 - a. Socialize campaign can be done using several medias such as Poster, Email, Web announcement, etc.
 - b. The announcement shall submit the statistics data that there are many students who fails the exam due to an error of filling exams numbers, etc. The campaign can also be done by submitting LJU fulfillment tips.

All of these recommendations then leads to development of application of Exams Monitoring and Data Processing System named SMUPDA (*Sistem Monitoring dan Pengolahan Data*). Some important things that need to be maintained the compliance in information and data control including:

1. Number of Applicants.
2. LJU Delivery date.
3. Number of Examinees.
4. Number of LJU.
5. Number of LJU scanned
6. Number of data capture in scanning process
7. Number of data for scoring process
8. Number of data scoring result

9. Number of participants who pass the exams

5. EXAMS MONITORING AND DATA PROCESSING SYSTEM (SMUPDA)

There are 2 (two) main objectives that leads to SMUPDA development:

1. Developed a system for SPMB-PTAIN committee and national exams data processing that provide tracing function in LJU processing. Thus the possibility of lost, scattered, or misplaced of LJU can be minimized.
2. Provide transparency of information related to data processing. This information transparency aims to improve public confidence of student admissions process of SPMB-PTAIN. In the other side, for each examinees who did not pass the exams, they will know exactly the cause of their failure and can make improvements in the future.

There are three main area that improved while developing SMUPDA system: process, people, and technology.

5.1. Process

Based on SPMB-PTAIN data processing steps (figure 2), SMUPDA create new additional process through that steps. Basically, that new additional process are designed to provide information for monitoring process function of exams results (LJU), including number of LJU and its comparison through each steps, detail exams result, scoring, etc. After all, aggregate of these information can be show to examinee as an executive summary of their own data. Figure 3 show the workflow of information entry and tracking in SMUPDA.

At the beginning of the process (step 1), all related information of exams, such as log book, attendance list, number of LJU, and so forth, are enter in SMUPDA database performed by

Panlok The results of that initial data will be set as baseline in the database. For data processing team, that information then will be matched with the physical documents sent by *Panlok*. After verification process, that data will also be a baseline information for next processes. Each steps in data processing then followed by examination of suitability at the time of handover between every steps within data processing.

Information that was stored in database are also can be extracted for appropriate information to examinees, i.e. detail information of exams scoring. With this information, examinees will receive transparent information regarding determination of exams result or admission graduation for them.

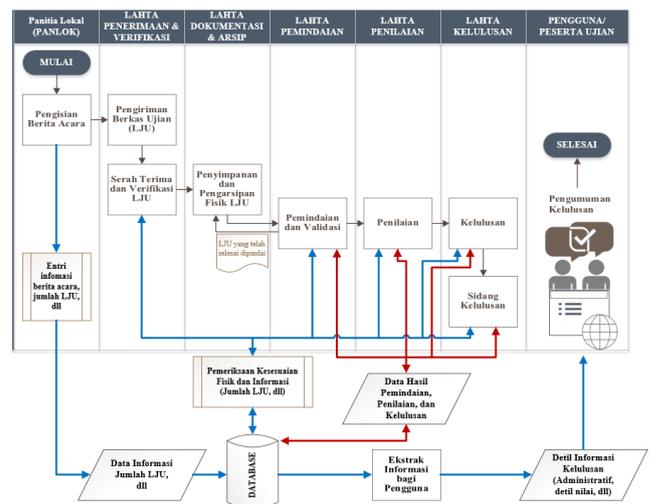


Figure 3. SMUPDA process

5.2. People

One of successful key of SMUPDA implementation is the discipline of people who run and manage the system to follow their role and responsibilities. Based on SMUPDA workflow (figure 3), the role and responsibilities of every actor in the system are:

1. *Actor*: Exams Local Committee (*Panlok*)
Role and responsibilities:
 - a. Filling log book, attendance list, number of LJU, etc.

- b. Monitor the exams processing results conducted by data processing team (Lahta).
2. *Actor: Lahta* Retrieval and Verification
Role and responsibilities:
 - a. Accepting LJU submissions and other supplementary documents from *Panlok*
 - b. Conformity checks of number of LJU between data in the sistem and physical LJU that sent by *Panlok*
3. *Actor: Lahta* Archive and Documentation
Role and responsibilities:
 - a. LJU conformance checks with the received physical LJU
 - b. Manage storing process of LJU before scanning
 - c. Manage and archive LJU after scanning
4. *Actor: Lahta* Scanning
Role and responsibilities:
 - a. Number of LJU conformance checks between data in the system with physical LJU LJU to be scanned
 - b. Perform LJU scanning
 - c. Perform results inspection and validation of scanned LJU
 - d. Submit scanned result data to the *Lahta* scoring team
5. *Actor: Lahta* Scoring
Role and responsibilities:
 - a. LJU conformance checks between data in the system with LJU scanned result.
 - b. Perform scoring process.
 - c. Submit scoring results to *Lahta* Graduation team.
6. *Actor: Lahta* Graduation
Role and responsibilities:
 - a. Perform LJU conformance check with LJU scoring result.
 - b. Perform ranking process.
 - c. Set up data and information of exams result for admission graduation meeting agenda.

- d. Perform control and monitoring process of data processing through announcement exam result.
 - e. Coordinating the admission graduation meeting agenda.
7. *Actor: Information* Management
Role and responsibilities:
 - a. Organize and manage the flow of information on the system
 - b. Manage information for *Panlok*, *Lahta*, and users, as well as other stakeholders.

5.3. Technology

In general, technology that used in SMUPDA divided into 4 (four) areas:

1. *Panlok* area; used by *Panlok* to entry first data as baseline data and communicate and perform information transaction electronically.
2. *Lahta* area; used by *Lahta* to be able to perform information tracking related to processing exams result.
3. Service and Management area; used by information management people to manage all information and service to be used by all stakeholder.
4. User area; used by examinee to get transparency of information from SPMB-PTAIN committee.

Figure 4 shown the composition scheme of that areas.

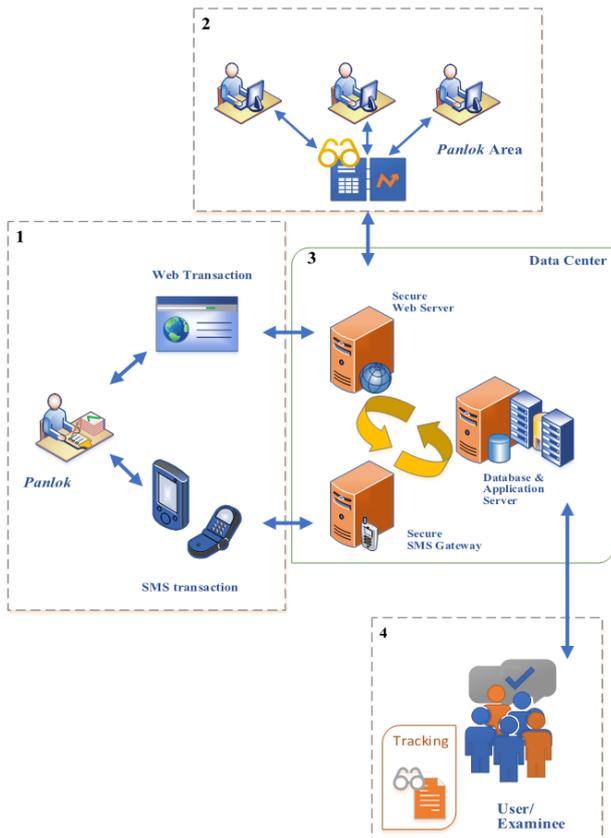


Figure 4. SMUPDA technology implementation areas.

Techlogy in *Panlok* area is facilitated *Panlok* to perform information transaction with SMUPDA. Information transaction may include data entry of exams supplementary files or perform process tracking of data processing. Information tracking or process tracking are limited to their own exams region. All transaction are provided in secure web mode. For those *Panlok* who cannot access SMUPDA from web (still happen in some area in Indonesia due to lack of internet access) some information transaction can be done using short message service (SMS).

No	ID Siswa	Nama Siswa	[] Check
1	1330100001	RASYIAH FITRIYAH	[x]
2	1330100002	HURUL FAZZA	[x]
3	1330100003	RESKIANA	[x]
4	1330100004	HURLENI	[x]

Figure 5. SMUPDA looks at *panlok* area [9].

Each *Panlok* activity will always be associated with SMUPDA in form of information, including log book entry, attendance list entry, exams sheet collection process, etc. Each of these activities will always be recorded including PIC that responsible to that activities, so each activity that performed in *Panlok* area will have a specific person in charge that recorded in the system. Thus, the expected security and suitability of LJU can be further improved.

In *Lahta* area, *Lahta* operator can track all information related to data processing of exams result. Information tracking and reporting process that perform in this area are also based on *Lahta* team personal account. Track changes function in the system are activated to log every activities of data processing, including person who done that activities and the time when the activities was done.

With track shanges and tracking function, each sub section of data processing team can perform physical check of LJU number with the data that stored in the system. If there is a shortage of LJU that was sent to the next team than fixing process can be done immediately. This process can also be followed by the other parties related to SMUPDA system. Figure 6 show SMUPDA looks in *Lahta* area [10].

Rekam Jejak LJU		Anda hanya diperkenankan melakukan rekam jejak LJU untuk siswa yang ujian di PTAIN Anda masing-masing					
Cari Berdasarkan ID Siswa		Materi Ujian	Lap Panlok	Lap Verifikator	Lap Scanning	Lap Skoring	Kelulusan
ID Siswa	1330300005	TPA & Studi Dasar	Hadir	Hadir	Hadir	Absen	Tidak
Nama Siswa	BQ ISMI JANMATHIN SOLEHA	Wawasan Keislaman	Absen	Absen	Absen	Absen	
Kelompok	IPC	Studi IPA	Absen	Hadir	Hadir	Absen	
Ruang	1	Studi IPS	Absen	Absen	Absen	Absen	

Figure 6. SMUPDA looks at *Lahta* area [10].

5.4. SMUPDA Modules and Features

Overall features contained in SMUPDA are as follows:

1. Login, user login/logout to SMUPDA
2. *Panlok* Module, contains:
 - a. Attendance list, entry of examinee presence/absence
 - b. Recap, including
 - i. Start, exams rooms related to examinee list
 - ii. Rooms, attendance list by exams room and examinees
 - iii. Examinee, detail data of examinee list per location and exams room
 - iv. Notes, notes or log book of exams per room and examinees.
 - c. History, tracking function of LJU in data processing
 - d. Send, entry and sending number of LJU data as baseline information for SPMB-PTAIN committee
3. Verification Module, data entry of physical verification of LJU equipped with

comparison function with data submitted by SPMB-PTAIN Committee

- a. Rooms and student, which show attendance list for verification
 - b. Notes, which contains notes and information per exams room or student
 - c. Exams, which contains recap exams information per location, exams rooms, or student
 - d. Receive, which contains list of PIC that responsible for LJU retrieval and submission.
4. Scanning Module, scanning result upload function and comparison function with verification information.
 - a. Rooms, Student, and Notes; contains attendance list per location, exams rooms and students with detail notes for each (if available).
 - b. Exams, contains recap of number of examinees per exams location
 - c. Import, contains utility to import scanning result.
 5. Scoring Module, scoring result upload function
 6. Graduation Module, admission graduation data upload function
 7. Admin Module, contains admin and monitoring function of each process in SMUPDA, including *panlok*, verification, scanning, scoring, track changing, statistical dashboard, etc.

6. SUMMARY

1. Data processing monitoring system (SMUPDA) that implemented in SPMB-PTAIN 2013 have been reviewed and can be implement in next SPMB-PTAIN process.
2. The implementation of SMUPDA as Data Processing improvement in SPMB-PTAIN 2013 is part of governance activities.

3. SMUPDA are also part of transparency in public service activities.
4. SMUPDA provide detail information of examinees and any obstacles to be reported in field in real time.
5. SMUPDA are also act as tracking model in each phase of data processing process.
6. SMUPDA have functionality of early detection of discrepancies.
7. SMUPDA act as information recapitulation report in real time on each phase of data processing.
8. SMUPDA made the control and monitoring function are based on system, rather than on personal.
9. SMUPDA is a model in realization of continues improvement of the previous year activities.

7. DISCUSSION AND NEXT RESEARCH

Although the improvements model has been implemented in the SPMB-PTAIN 2013, in fact the system is still in the testing phase. The full implementation of such a system is also needs to be improved especially with the human resources that involved in data processing activities.

Therefore, as a continuation of this study, the evaluation process are needed on the successful implementation of the system in at least 2 things. First, from SMUPDA application, whether it is ready meet the data processing needs of SPMB-PTAIN, in this case is the control of information and data. Secondly, the evaluation of any factors that related to successful implementation of the system due to capability of people who using the system.

Finally, SMUPDA is intended as a solution to some issues that happened earlier as part of improvement process. Moreover this system can also be used as a model that provides transparency of information. Similar systems can be developed to provide transparency of

information and data processing on other public services.

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