Designing a Budgeting Information System for Meal and Book Expenses Based on the Financial Information System for an Islamic Boarding School

Case Study at Al-Amin Islamic Boarding School in Mojokerto

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Abstract: An Islamic boarding school is an educational establishment under the leadership of a *kyai*, reserved for the *santri*. Based on data from the Indonesia Ministry of Religious Affairs, the number of Islamic boarding schools in Indonesia reached 27,230 at the end of 2011. Al-Amin Islamic Boarding School is one of the boarding schools whose leadership does not depend on a *kyai*. The management of this boarding school uses a budgeting system that covers educational costs, infrastructure costs, and welfare costs for the *asatidz* and *santri*. The problems found in the current budgeting system are inadequate funds for meal expenses and a lack of cash inflow due to the accounts receivable from the *santri*'s parents; funds are difficult to collect because of the parents' professions, i.e. farmers, food material sellers, etc. This research used a qualitative method with an ethnographic approach to analyze the typical and current budgeting culture. The results of this research show that there are some weaknesses in the current system. The weaknesses are an inadequate budgeting system, a small selection of vendors, and weaknesses in internal control. Therefore, Al-Amin Islamic Boarding School needs to implement a budgeting information system for meals and book expenses based on a financial information system.

1 INTRODUCTION

The number of Islamic boarding schools in Indonesia reached 28,961 in 2014 (Indonesia Ministry of Religious Affairs, 2014). Al-Amin is an Islamic boarding school located in Mojokerto. Based on the Decree of Al-Amin Financial Management Guidelines Letter number PPSA/003/OT-SK/2013, expenditure costs are divided into three categories: routine expenses (stuffs, energies, and services), activity expenses, and construction expenses. According to the expenditure data, around 37% of expenses at Al-Amin were used for meals, and around 10% were used for the *santri*'s books during 2016. In addition, there were problems related to expenses such as an inadequate financial information system, especially for budgeting for meal and book expenses, and the inability of the *santri*'s parents to paying the meal and book expenses.

Meal expenses are one factor that determines the monthly amount of *i'anah* (contribution to education coaching) that must be paid by the *santri*'s parents. However, this expense is determined by the Al-Amin Cooperative before the start of the academic year, which means that changes are only implemented at the start of the next academic year. In fact, the bills that must be paid by the Al-Amin Cooperative for meals expense are always changed every month. This fluctuation caused the difficulty of the accuracy of funds allocation in terms of operational activity (Table 1). Furthermore, the different amounts charged for meals between Al-Amin and the Al-Khadijah Cooperative lead to difficulty in predicting the liquidity of the available funds. On the other hand, book expenses are only determined by the Al-Amin Cooperative for both female and male *santri*. This expense is negotiated by the Al-Amin Cooperative with other institutions such as book publishers or shops, and uses a profit-sharing system of 10% from the total revenue (for

Al-Amin) in each of the odd mid-term semesters (after the start of the new academic year). Additionally, the Al-Amin Cooperative is only a negotiator in the billing system. The cash that is paid by the *santri*'s parents for books is directly accepted by the cooperation treasurer (Table 2). The period of payment is up to three months after the bill is received by the *santri*'s parents.

Table 1: Actual expenses for meals in 2016

January (in rupiah)	February (in rupiah)	March (in rupiah)	April (in rupiah)
172,374,900	176,470,800	188,641,280	183,011,200
May (in rupiah)	**June** (in rupiah)	**July** (in rupiah)	**August** (in rupiah)
108,381,000	209,305,800	110,569,750	209,305,800
September (in rupiah)	**October** (in rupiah)	**November** (in rupiah)	**December** (in rupiah)
184,846,800	195,832,800	198,467,550	123,778,800

Table 2: Cash paid by *wali santri* for books, 2016

Year	Amount (in rupiah)
2016	535,993,000
2015	458,446,500

To conclude, optimal budgeting for meal and book expenses through the implementation of a financial information system is expected to improve the current system at Al-Amin Islamic Boarding School. Budgeting can be an essential tool to manage the financial system of an Islamic boarding school in order to provide benefits for all organizations involved, such as helping with fund management, assisting in setting goals, evaluating performance, and motivating for future thinking. In addition, the system becomes a medium for communication and coordination. Therefore, this research has applied an ethnographical approach to develop the financial information system for the budgeting process for meal and book expenses at Al-Amin Islamic Boarding School. Further research on the internal control of the financial system can be conducted to develop an accurate financial report.

2 LITERATURE REVIEW

2.1 Previous Research

In supporting this current research, we used three local journals and an international journal as guidelines or references to construct an effective budgeting system at Al-Amin Islamic Boarding School. The three local journals were published by the following:
1. Rahayu *et al.* (2015), who suggest that the cultural values of an institution should be implemented as a basis in the funds budgeting system, especially for school operational funds (SOA).
2. Ribka and Daniel (2016), who explain that the organizational structure and types of leadership affect the accountability practices and financial transparency in religious institutions.
3. Basri and Nabiha (2016), who describe the role of accounting in non-profit organizations as an instrument for internal and external stakeholders that can be used to manage and monitor development in accordance with the organization's mission.

In addition, the international journal used in this research was written by Starck and Bailes in 1996. They state that all administrators in an institution should know and understand the budgeting process, budgeting techniques, and the various types of budget.

2.2 Financial Information System

A financial information system (FIS) is a part of a computer-based information system (CBIS) that provides financial information for organizations (McLeod and Shell, 2011). A CBIS consists of three input subsystems (accounting information system, internal audit, and financial intelligence) and three output subsystems (forecasting, funds management, and budgeting or controlling). The central function

of a financial system is to facilitate the allocation and deployment of economic resources, over time and space, in an uncertain environment (Karyotis & Onochie, 2017).

2.3 Cash Receipt Information System

A cash receipt information system is an organizational structure designed to provide information flow and reports that consist of certain activities in order to support routine activities relating to billing and payment acceptance, to support financial problem solving, and to help create internal and external financial reports in accordance with the applicable standards (Gellinas and Dull 2008). It is designed to protect an organization from abuse, including fraud, so that cash can be collected and used in line with the organization's mission (Pasaribu, 2017).

2.4 Cash Disbursement Information System

Gellinas and Dull (2008) define the cash disbursement information system as a designed system that executes certain functions, such as accounts payable and the cashier department, supporting decision making in account payable and the cashier department, and providing internal and external reports.

2.5 Internal Control

An internal control refers to organizational rules and procedures used to safeguard assets and to detect fraud, waste, and abuse (Park *et al.*, 2016). Moreover, good internal control consists of five components: 1) control environment, 2) risk assessment, 3) information system and communication, 4) control activities, and 5) monitoring.

2.6 Database Processing System

The main feature of a relational database management system (RDBMS) is the use of key fields that allow connection between one table and another. This means that the developer does not need to specify the hierarchy (as in network databases).

Instead, the "key" fields identify one row and can be either surrogate or business-logic-driven. This allows the user to change the structure of certain tables (or to add columns, which are frequently called attributes) without changing the whole design (Tromifov *et al.*, 2017). They also implied that this system will integrate all independent files and has the ability to meet the needs of different activities. Furthermore, there are other reasons for creating this system: 1) using an entity-relationship model, 2) identifying entities, and 3) identifying the relationships between all entities.

2.7 Public Sector Accounting

International public-sector accounting is operationalized to provide accurate and comprehensive accounting information with a view to demonstrating appreciable levels of accountability, stewardship, and credibility (Ademola *et al.*, 2017). When managing a public fund, budgeting can be planned to predict the cash receipts and disbursements. In addition, the characteristics of public-sector budgeting can be explained as follows: a budget must be declared in financial and non-financial units; a budget must cover a specific time; a budget contains commitments and the ability of management; a budget proposal has been reviewed and agreed by related parties; and a budget can only be changed in special circumstances.

3 RESEARCH METHOD

This research used a qualitative approach by applying an ethnography method to find descriptive information about the budgeting system at Al-Amin Islamic Boarding School. Ethnography investigates societies and cultures by examining the human, interpersonal, social, and cultural aspects in all their complexity (Shagrir, 2017). The design of this research was adopted from the ethnography steps of Spradley's (1997) Development Research Sequence. The steps are as follows:
1. Determining the informants by using five minimum requirements: 1) full enculturation, 2) direct involvement, 3) unknown cultural situation, 4) sufficient time, and 5) non-analytics.
2. Interviewing the informants and paying attention to five elements: 1) explicit purpose, 2)

ethnographical explanation, and 3) ethnographical questions.
3. Making ethnographical notes, including field notes, image recording devices, artifacts, and other instruments, in order to describe the cultural situation. In addition, ethnographical notes should contain a short report, an expanded report, field research journals, and analysis and interpretations.
4. Asking descriptive questions that can be selected from five types: grand tour questions, mini tour questions, example questions, experience questions, and original language questions.
5. Analyzing the ethnographical interviews by applying the following sequences: 1) identifying the problem, 2) collecting cultural data, 3) analyzing the cultural data, 4) formulating an ethnographical hypothesis, and 5) writing the ethnography.
6. Making sure the domain analysis consists of certain elements, such as a cover term, a semantic relationship, included terms, and boundaries.
7. Asking structural questions based on certain principles, such as concurrence, explanation, repetition, context, and cultural framework.
8. Carrying out a taxonomic analysis by applying the following steps: 1) choosing the domain, 2) identifying the substitute framework, 3) searching the subset, 4) looking for the large domain, and 5) making a temporary taxonomy.
9. Asking contrasting questions in order to find different symbols.
10. Conducting a component analysis that is related to the cultural symbols.
11. Finding the cultural theme.
12. Writing the ethnography.

4 ANALYSIS

4.1 Determining the Informants

In this research, we selected informants from Al-Amin Islamic Boarding School as follows:
1. Ustad Najib is the Head of the Association and Social Secretariat Office, and has the authority to organize the fund of the *santri*'s parents or other parties, managing expenses over one million rupiah, controlling the staffing system, managing meal expenses, and building cooperation with outside parties.
2. Ustad Abu Abbas is the Head of the Caregiver Board Secretariat Office and the Coordinator of

the Al-Amin Cooperative, and has the authority to compile all budgets for book procurement proposed by *madrasah* and *pesantren*.
3. Ustad Imaddudin is the Head of *Madrasah Aliyah* (senior high school) and Al-Amin Pesantren Cooperative (Al-Amin Koppontren), and is responsible for authorizing the proposed budgets for book procurement.
4. Ustad Agung is one of the teachers at Al-Amin Islamic Boarding School, and is responsible for creating the budgets for book procurement, along with other teachers.

4.2 Informant Interviews

In the process of interviewing the informants, we selected related staff who have been actively involved with Al-Amin Islamic Boarding School for the past three years. The detailed explanation of the interview process is as follows:
1. The first informant was Ustad Najib, who was interviewed twice, on August 16, 2016, and December 28, 2016. The interview took place in the Secretariat Office of the Association (Mojokerto). Ustad Najib talked about the general budget system for meal and book expenses.
2. The second informant was Ustad Abu, who was interviewed on November 20, 2016. The interview resulted in a specific description related to the budgeting system for meal and book expenses.
3. The third informant was Ustad Imaddudin, who was interviewed on December 25, 2016, in the *Madrasah Aliyah* office. He discussed the budgeting process for book expenses.
4. The fourth informant was Ustad Agung, who was interviewed on December 28, 2016. He explained the components of the book expenses budget.

4.3 Ethnographical Notes

This field research was conducted during the period of April 2016 to October 2017. At the beginning of the process, we conducted an initial survey of the budgeting system at Al-Amin Islamic Boarding School. Then, the research topic of budgeting for meal and book procurement expenses was determined based on the results concerning the percentage of spending costs, as mentioned in the introduction section. Later, participatory observation by Kafani Irawan has been done through joining as a member of the finance department on April 4, 2016.

Results obtained from the field research included information on: organizational structure, vision and mission, the process of cash receipt and disbursement, transaction recording, general budgeting, the meal expenses budget, and the book procurement expenses budget. Furthermore, a number of primary and secondary informants were selected in order to investigate in-depth information relating to the budgeting system for meal and book procurement expenses.

4.4 Descriptive Questions

The descriptive questions were asked in an attempt to understand the culture of budget making for meal and expenses based on the procedures of cash receipt (Figure 1.1) and cash disbursement (Figure 1.2), and also the personnel involved in the process. In addition, we were able to obtain more detailed information from the related parties and the selected informants on the culture applied to compose a budget over a certain period.
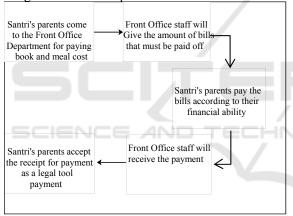

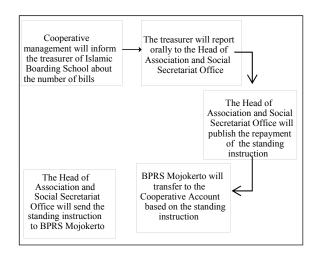Figure 1: General description of cash receipt procedure (Internal Process, 2016).

Figure 2: General description of cash disbursement procedure (Internal Process, 2016).

4.5 Analysis of the Ethnographical Interviews

All of the directions that were given by all of the informants must be followed in order to describe the business process and environmental management of Al-Amin Islamic Boarding School, in particular for meal and book procurement expenses. For meal expenses, the cash disbursement process begins when all bills are received from the supplier (orally passed on to the treasurer) and the repayment of all bills will be transferred from the PPSA account at BPRS Mojokerto to the bank account of the Al-Amin and Al-Khadijah Cooperative. On the other hand, the cash disbursement process for book procurement expenses was not found because of the direct management of Al-Amin Cooperative without the involvement of Al-Amin Islamic Boarding School.

4.6 Domain Analysis

The domain of this research encompassed the overall components in the budgeting process for meal and book expenses, including the budgeting report, the budgeting procedure and database, the cash disbursement process, the cash receipts process, and the relationship between all terms used.

4.7 Structural Questions

The structural questions helped to obtain all knowledge from the informants in order to sharpen the information on why the budgeting process for meals always fluctuates and why there is no budget

for book expenses. In obtaining further information, we learned that the process for meal budgeting is started from the analyze of entire budget components. Payments for meals are transferred on the tenth of each month by the treasurer to the account of the Al-Amin and Al-Khadijah Cooperative. In contrast, book expenses do not have a budget because this is managed by the treasurer of the Al-Amin Cooperative.

4.8 Taxonomic Analysis

The process of taxonomic analysis consisted of two steps, which are explained in detail in the following:
1. The first step is to determine the domain of the research. The domain is the budgeting information system for meal and book expenses.
2. The second step is to identify the proper substitution framework for analysis. This research used an accounting information system framework using a financial information system approach in an attempt to analyze the existing budgeting system for meal and book expenses.

4.9 Contrasting Questions

The contrasting questions were put to the highest authority at Al-Amin Islamic Boarding School, who was responsible for the book and meal expenses budget. These questions covered the existing budgeting systems and procedures, the use of documents, the implemented technologies, the aims and values of the existing system, the related staff, the sources use, and contingency.

4.10 Component Analysis

The components of the meal expenses budget, i.e. material costs and labor costs, that were analyzed in this research describe the connection between the condition of the current budgeting system and the culture within Al-Amin Islamic Boarding School. On the other hand, there is no component for the book expenses budget because the management of book procurement was the responsibility of the Al-Amin Cooperative. The contrasting conditions for the meal and book expenses budgets were formulated to draw up suggested procedures for the meal and book expenses budget.

4.11 Finding the Cultural Theme

The current cultural theme of the budgeting system for meal and book expenses at Al-Amin Islamic Boarding School is the *Gotong Royong* culture. This is inspired by Islamic values, as stated in the holy book of the Quran. This cultural theme will be implemented as a basis for the new system.

4.12 Writing an Ethnography

The Al-Amin Islamic Boarding School was established based on the initial ideas of K.H. Mas'Ud Yunus in 1998, to change the orphanage into a formal education institution, namely, *Madrasah Tsaniwiyah* and *Madrasah Aliyah*, in an attempt to prepare young Muslim generations of Nahdlatul Utama in Indonesia to have a quality, a noble personality, self-reliant, a soul of independent, and many advantages for homeland and nation. Then, the idea was developed and approved by Bambang Prayitno, the leader of the orphanage. Next, a meeting of the founders and committee members was held to build the Al-Amin Education and Social Foundation (YPSA), which became the Al-Amin Education and Social Association (PPSA) in 2008. Then, an organizational structure was formed, combining the national education curriculum and the Islamic boarding school. Finally, all *santri* activities and soft-skills training were facilitated.

Based on the research, Al-Amin Islamic Boarding School accommodates all the needs of the *santri*, including meals and books. Amount of meal expenses were determined at the beginning of boarding school curriculum. This amount always fluctuates into tens of millions of rupiah each month because of the imbalance between the funds receiving and spending. The imbalance occurred due to the irregular meal system, which means that meal expenses cannot be calculated clearly. In addition, the two cooperatives (Al-Amin and Al-Khodijah) never explained the bills for meals transparently and give formal documents as a legal payment tool. On the other hand, there is no budget determination for book expenses because the management of this budget has been passed to the Al-Amin Cooperative. The cost estimation only can be accepted when the Al-Amin Cooperative gives confirmation. Although the management of Al-Amin Islamic Boarding School is not involved in book expenses, they must help to ensure payment from the *santri*'s parents as a requirement to take the examination.

In conclusion, the different conditions of the meal and book budgets can be traced to the cash receipts and disbursement at Al-Amin Islamic Boarding School. The cash receipts for meal expenses are divided into two systems: the receipt

system represented by BPRS Mojokerto and the direct receipt system by the PPSA Secretariat. The cash disbursement for meal expenses uses only spoken information from the treasurer of the PPSA Secretariat. In contrast, cash receipts and the disbursement of book expenses were not found because of the direct management by the treasurer of the Al-Amin Cooperative, who also acts as the treasurer of the PPSA Secretariat.

5 CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

Based on the results of the analysis and the implemented theory in this research, there are some conclusions, which can be summarized as follows:

1. The current budgeting system for meal expenses still has weaknesses in certain aspects, including: the internal control aspect, e.g. the lack of a separation function for the determinant and the implementer; the uncertainty of management in the function; confusion between the main task and the function; the effectiveness aspect, e.g. the lack of direction in the budgeting process; and the efficiency aspect, e.g. the absence of a vendor list as a reference to set the budget, which can lead to inefficiency in future budgets.
2. The existing cash receipts system has the following deficiencies: an absence of segregated duties for the cashier and bookkeeper; the possibility of corruption in the future because there are no policies on the cash amount that can be carried or the party who has the right to issue cash; no periodical review of cash receipts; and the income received is never deposited into the right account.
3. The cash disbursement system running at this time faces a number of threats, including: fraud and misstated financial statements as an effect of the lack of supporting documentation on cash disbursement transactions; unpredicted fluctuation that causes doubts about running other activities; and high meal costs that would increase the load of *santri* parents.

5.2 Recommendations

Based on the conclusions of this research, the following recommendations are suggested:

1. A financial information system with strong internal control and a complete database should be implemented as a guide for: budget setting, fund management, and forecasting.
2. Organization restructuring should be carried out, with new positions added, i.e. accounting, which will provide benefits such as the separation of the cashier and bookkeeper, and an increase in effectiveness.
3. Payment in the form of "*natura*", e.g. rice, red onions, white onions, etc., could help to supply the raw foods needed and act as a payment tool for *santri* meal and book expenses.
4. The development of a food distribution system for the *santri*, such as fingerprint usage to mitigate the risk of increasing shopping costs. This system will detect which *santri* take meals out of their quota and this will be recorded as an account receivable to be billed as an additional *i'anah*.
5. The use of a costing method in meal production will be helpful to calculate meal expenses independently.

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