E-ISSN: 2962-6110
P-ISSN: 2964-7843
JSRET
Journal of Scientific Research, Education, and Technology
jsret.knpub.com

Information System Planning Integrated database of training in food and nutrition at SEAMEO RECFON Using Togaf *Architecture*

Dodi Suswandi, Ivan Hanfi, Muhammad Yusro
Graduate Program, Faculty of Engineering, Universitas Negeri Jakarta
Correspondence email: doddysiswandi@gmail.com

ABSTRACT

Southeast Asian Ministers of Education Organization Regional Center for Food and Nutrition (SEAMEO RECFON), is an organization of Southeast Asian ministers of education that focuses on food and nutrition. Currently, the application of SI / IT in the SEAMEO RECFON environment is not optimal, referring to the data base system that has not been integrated so that data and information exchange is not effective, the SI / IT investment made has also not given a good return, the training program in the field of food and nutrition each year is consistently not optimal, and several performance indicators are found not to meet their targets. Therefore, enterprise architecture planning is needed at SEAMEO RECFON which aims to formulate the principles and fundamentals of SEAMEO RECFON in accordance with the direction of its goals so as to produce healthy business processes, systems that can support training activities in the fields of food and nutrition, operations and infrastructure that can support the system to run well. This enterprise architecture planning is made using TOGAF (The Open Group of Architecture Framework) version 9.2 with the ADM (Architecture Development Method) method. This enterprise architecture planning produces a map of the main activities and support for food and nutrition training at SEAMEO RECFON, stakeholders, their focus, business objectives and basic principles, blueprints for business architecture targets, information systems architecture, technology architecture, and application implementation roadmap.

Keywords: *Enterprise Architecture, Information System, TOGAF 9.2, Architecture Development Method*

INTRODUCTION

Information systems and technology have become an important component for the success of businesses and organizations, information technology infrastructure is one of the information technology investments needed by companies in managing all information technology needs. The importance of data integration in a large-scale company called an enterprise has been widely discussed in various references.

The availability of well-formatted data, in one well-managed data source is also the goal of organizational development. To realize this, accurate strategy selection and planning are required. In developing Enterprise Architecture (EA), it is necessary to adopt or develop an EA framework for enterprise architecture (Deris Santika, 2016).

Enterprise architecture describes a plan for developing a system or set of systems. Logical organization of key business processes and Information technology (IT) capabilities that reflect the need for integration and standardization of operating models. Enterprise Architecture is a description of the Stakeholder's mission in this case is the head of the organization which includes information, functionality / usability, organizational location and performance parameters. Enterprise architecture describes a plan for developing a system or set of systems (Minoli, 2008).

Various methods and frameworks can be used, such as Zachman Framework, EAP, EAS, BEAM, TOGAF ADM, GEAF, and others. Comparison that has been done in previous research found that TOGAF ADM is a complex method that can meet all the needs of EA development, which is 92% (Hermawan & Sumitra, 2019). TOGAF ADM is also complex and can be used based on organizational needs. TOGAF ADM is also a general method, so if needed in practice TOGAF ADM can be adapted to certain specific needs, for example combined with other frameworks so that TOGAF ADM produces an organization-specific architecture (Setiawan, 2009).

Another effort to improve training support in the field of food and nutrition is the development of a database system to support the governance of the food and nutrition training sector of the organization. This application development is in the form of integrating information systems that have been built because it is still adhoc or SI / IT development is carried out without planning. However, this development has not been completed, meaning that the existing systems have not been integrated.

The formulation of the problem in this study is how to plan an integrated database system to support training in the field of food and nutrition at SEAMEO RECFON using TOGAF Architecture Development Method 9.2 (Group, 2018).

Furthermore, this research aims to plan an integrated database system to support training in the field of food and nutrition at SEAMEO RECFON. The framework used is The Open Group Architecture Framework 9.2 with the TOGAF Architecture Development Method (ADM) design method with Preliminary stages, Architecture Vision, Business Architecture, Information Systems Architecture, Technology Architecture, Opportunities and Solutions, Migration Planning. Tools used for model design are Mission Model Canvas (MMC),Value Chain Diagram, SWOT Analysis, Critical Success Factor (CSF) , 5W+1H Identification, Principles Catalog, and Implementation Roadmap. The archimate diagram used includes Fragment of Stakholder View, Principles Viewpoint, Business Use Case Service Realization Viewpoint, Business Process Viewpoint, Information Structure Viewpoint, Application Usage Viewpoint, Application Co- operation Viewpoint, Application Behaviour Viewpoint, Infrastructure Viewpoint, and Processing Diagram(Group, 2019).

LITERATURE STUDY

Research using the TOGAF ADM method in designing enterprise architecture but has different topics and objects and there is no validation of the results of the Enterprise Architecture design built. The problem raised in the study is focused on Opportunities and Solutions so as to make the company transform digital into Digital

Banking (Prawira et al., 2023). The research produced an Enterprise Architecture The purpose of this research is to create an Enterprise Architecture blueprint with all production components of information technology companies.

Research focusing on the design of Delima Point Enterprise Architecture (Gormantara & Emanuel, 2020), which is in accordance with the vision and mission of the organization for the development of PPOB (Payment Point Online Bank). The results of this research produce an enterprise architecture documentation or blueprint system.

In Sofyana's research (Sofyana, 2017), the research discussed is how existing data can be integrated without taking a long time, and can be accessed easily. The research produces a blueprint that can later be useful as a standard reference for companies in aligning information technology functions with business functions.

The selection of the TOGAF ADM framework is based on the needs of system design, because TOGAF ADM is fairly complete for creating blueprints. TOGAF ADM is used to develop enterprise architecture, where there are detailed methods and tools to implement it. One of the advantages of using the TOGAF framework is that it is flexible (Kurniawan et al., 2017). TOGAF is a framework with a more detailed methodology with a set of supporting tools for developing and improving IT infrastructure in business. TOGAF offers an approach to planning, designing, implementing, and managing EA in the company. TOGAF can be defined as a framework aimed at all types of organizations in the world by the Open Group (Prawira et al., 2023).

METHOD

The research methods applied in this study are

A. Data Collection Methods

1. Literature study

Literature studies are conducted by searching, reading, and studying books, internet sites, and other references that support research and are related to the concept of enterprise architecture, information system strategic planning, information system concepts, TOGAF, TOGAF ADM, and tools used in strategic planning of this information system.

2. Literature Review

Literature review is done by collecting and comparing the results of several similar studies, such as theses and journals that have the same topic of enterprise architecture planning or the similarity of the framework methodology used, namely TOGAF ADM.

3. Observation

Observations were made by looking directly at the activities carried out by the Southeast Asian Ministers of Education Organization Regional Center for Food and Nutrition (SEAMEO RECFON) Jl. Utan Kayu Raya District. Matraman, East Jakarta City, Special Capital Region of Jakarta. Done on September 19, 2022

4. Interview

Interviews were conducted by asking a number of questions that researchers had previously compiled to ask related parties. Some interviews that have been conducted by researchers are:

- Mr. drs Agus Haryanto, M.Ed.,P.hD (Deputy Director for Administration)
- Dr. Jesus C Fernandez (Deputy Director for Programs)
- Dr. Grace Wangge, P.hD (Knowledge Mangement and Policy Support Unit Manager)

B. Enterprise Architecture Planning Method

The planning method used is the TOGAF Architecture Development Method (ADM). There are six of the eight stages in TOGAF ADM used by the author, the last two stages of the TOGAF ADM cycle are not used in this study because the last two phases require higher authority/action and coordination because they are related to implementing and managing change (Peppard & John Ward, n.d.). The six stages used in this study include:

Preliminary Phase

In this phase, defining how to design at SEAMEO RECFON The stages that will be carried out in this phase are:

a. Determine the principles as a reference for planning an integrated database system at SEAMEO RECFON
b. determine the scope of what will be created (What).
c. Determine who are the actors who will be responsible for working on the planning of the integrated database system to support training in food and nutrition (Who).
d. Determine the location where the planning of the integrated database system to support training in the field of food and nutrition is carried out (Where).
e. Determine the start time and completion target when the planning of the integrated database system to support food and nutrition training at SEAMEO RECFON will be completed (When).
f. Formulate the rationale for planning an integrated database system to support food and nutrition training at SEAMEO RECFON (Why).
g. Describe how the planning of this integrated database system to support food and
h. nutrition training at SEAMEO RECFON was conducted (How).

The tools that will be used in this preliminary phase are principles catalog table, 5W+1H identification, value chain diagram, and stakeholder map matrix.

Phase A: Vision Architecture

This phase aims to create a uniform view of the importance of planning an integrated database system to support training in food and nutrition to achieve SEAMEO RECFON's goals formulated in the form of a strategy, as well as determining the scope of the architecture to be developed based on the principles established in the preliminary phase. An integrated database system to support training in food and

nutrition is a strategic information asset base that defines the mission, information and technology needed (Abd.Rahim & Safie, 2017). The stages that will be carried out in this phase are as follows.

1. Define SEAMEO RECFON's vision, mission, objectives and tasks.
2. Define all activities in SEAMEO RECFON, including main activities and supporting activities.
3. Determine stakeholder relationships with main and supporting activities using stakeholder viewpoints to map the interests of each actor to the company's vision.

The tools used in this phase are stakeholder viewpoint and principles viewpoint.

Phase B: Business Architecture

In this phase, the author will determine the desired activity model (company history, processes, and functions) to determine the future direction of SEAMEO RECFON's training system through an organizational point of view. This activity model is a scenario of organizational activities from the information , functional and organizational aspects of the SEAMEO RECFON environment. The stages carried out in this phase are.

1. Explain and describe the system that is running at SEAMEO RECFON.
2. Describe the organizational structure, main tasks and functions at SEAMEO RECFON.
3. Mapping SEAMEO RECFON's business functions.
4. Mapping SEAMEO RECFON's business services.
5. Mapping SEAMEO RECFON's business processes.

The tools used in this phase are Business function, business process viewpoint, business use case viewpoint.

Phase C: Information System

This phase determines how to build an information system architecture that includes data architecture and application architecture that will be used at SEAMEO RECFON.

a. Data Architecture

The data architecture will identify all data components used by the application to generate the information needed by SEAMEO RECFON. The stages to create a data architecture are:

1. Identifying the current information flow structure at SEAMEO RECFON
2. Modeling the proposed data architecture.

The tool used in this phase is the information structure viewpoint.

b. Application Architecture

Application architecture is used to design an application that has been defined in the business architecture (tupoksi activity).

The stages used in this phase are:

1. Analyze the application that is currently running at SEAMEO RECFON

Phase F: Migration Planning

In this phase, preparation and migration planning will be carried out for the implementation of the new application architecture built in the previous phase. The stages in this phase this is:

1. Create a migration plan and prioritize application implementation.
2. Define and describe the application roadmap for SEAMEO RECFON.
3. The tool used in this phase is the application roadmap.
4. Determine and define the applications that SEAMEO RECFON needs.
5. Model the required applications and their relationship with each other.
6. Explain the benefits of the designed application.

The tools used in this phase are baseline application architecture, application use case, application communication, process/application realization.

Architecture Phase d: technology architecture

This phase describes the technology structure that SEAMEO RECFON needs to support the application operations that have been modeled in the application architecture. The stages for creating a technology architecture are:

1. Modeling the initial network configuration of SEAMEO RECFON.
2. Determine and define the technology infrastructure that SEAMEO RECFON needs.
3. Define the information technology infrastructure requirements to support the application.

The tools used in this phase are baseline technology architecture, Platform Decomposition Diagram, and processing diagram.

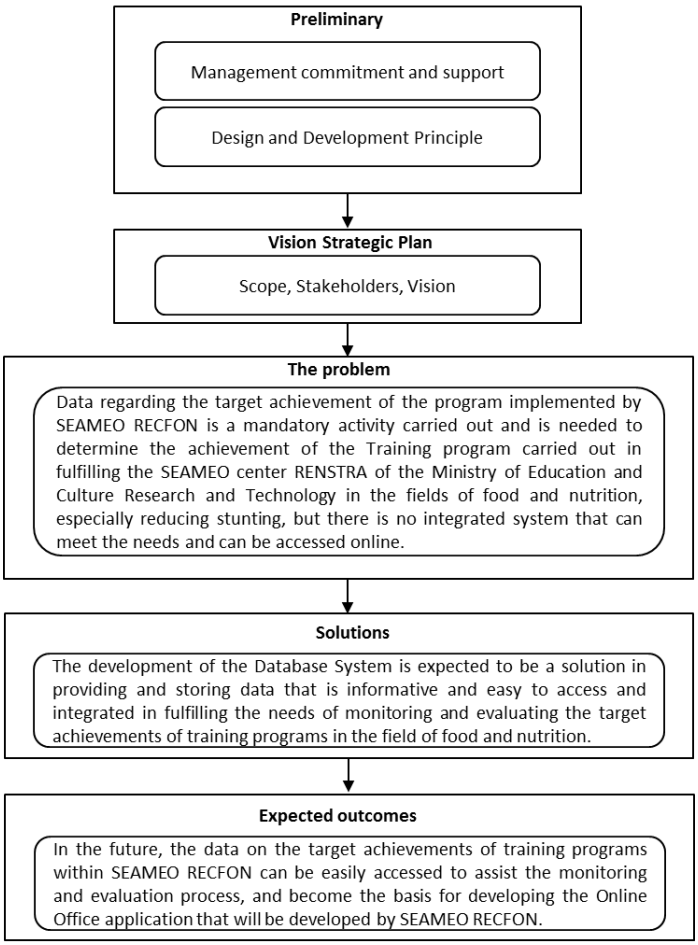

Figure 3.1. Research Framework

The researcher decided to use a Descriptive survey to conduct this research. According to Marguerite, Dean, and Katherine (2006, p.13), descriptive surveys seek to describe behavior and gather public views, attitudes, and opinions on current educational issues. This description is summarized by the number or percentage of people who report each answer. There are some steps in doing descriptive survey research. Cresswell (2018) defines steps in descriptive survey research: 1). Decide if a survey is the best design to use 2). Identify the population and sample 3). Administer the instrument 4). Analyze the data 5). Interpreting results. According to Mulyadi (2011) descriptive research which is also known as research taxonomic (taxonomic research), is intended for the exploration and clarification of a social phenomenon or reality, by way of describing several variables relating to the problem and the unit under study.

FINDING AND DISCUSSION

A. Preliminary Phase

1. Mission Model Canvas (MMC)

MMC analysis of the SEAMEO RECFON organization is used to examine the organization's business model. There are nine parts analyzed, namely *value proposition,buy-in/support, deployment, beneficiary, mission achievement, key partners, key activities, key resources,* and *mission budget*. From the results of document studies, interviews, and observations conducted at SEAMEO RECFON on the Enabling Instrument and Five Years Development 2023-2025 documents and interviews with the Deputy director of administration, the SEAMEO RECFON organizational business model was obtained (SEAMEO, 2019).

The SEAMEO RECFON organizational business model can be shown in Figure 1.

<table>
<tr>
<td>Key Partners
1. Ministries of Education in Southeast Asian countries
2. Education Service Institutions National, and Regional Education Offices
3. Health institutions in the food sector International</td>
<td rowspan="2">Value Propositions
1. Resilience, security,
2. MalnutritionInstitution
3. Demands of Industry 4.0 and Society 5.0
4. Food technology and digital economy
5. Increasing elderly population and young generation
6. Growing interest in food sources food sources by consumers
7. Increased demand fornutrition education
8. "New Normal" Lifestyle</td>
<td>Key Activities
1. Training of teachers, health workers in the field of food and nutrition
2. Training modules & videos on curriculum-based food and nutrition 21st century curriculum
3. Working area coverage in Southeast Asia</td>
<td>Deployment
1. Workshop
2. Discussion Forum/Group
3. Social Media
4. Website
5. Exhibition</td>
</tr>
<tr>
<td>Key Resources
1. HR
2. Infrastructure
3. Information System / Information Technology
4. Budget from APBN Republic of Indonesia</td>
<td>Buy-In/Support
1. Sosial Media
2. FGD
3. Monitoring & Evaluasi
4. MoU</td>
<td>Beneficiary
1. School
2. Teacher
3. Food and Nutrition Health Workers</td>
</tr>
<tr>
<td colspan="2">Mission Budget
1. Office operating expenses
2. Activity accommodation costs (Research, Training, Publication)</td>
<td colspan="2">Mission Achievement
1. Intensified IT-based Learning Modalities
2. One-stop stakeholder information platform
3. Food and nutrition-related educational materials are featured on national television and / or radio national
4. Intensification of Regional Publications, on NGTS and ECCNE
5. RECFON's Virtual Office6. Product and Service Development, IT/technology models /applications
7. Can organize quality International seminars and conferences attended by participants from Southeast Asia.
8. Produce language learning modules and videos
9. Increased cooperation with various educational institutions both domestically and abroad</td>
</tr>
</table>

2. *Value Chain Diagram*

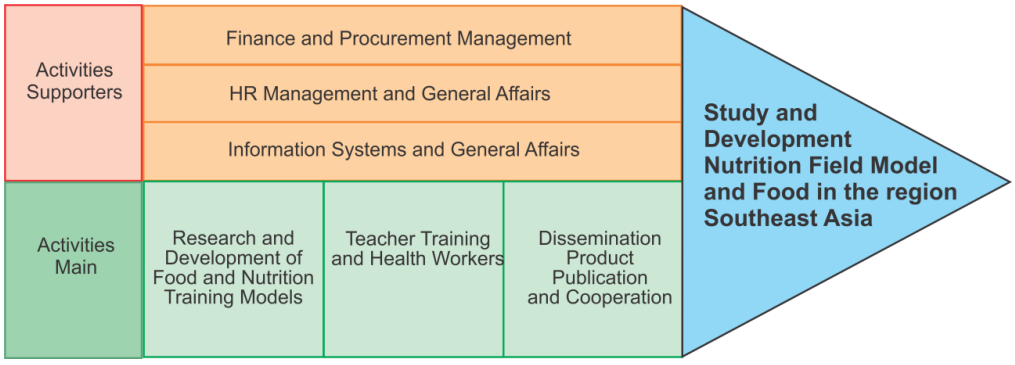

Figure 4.1 SEAMEO RECFON Value Chain Diagram

The value chain analysis is carried out to determine the relationship between business processes at SEAMEO RECFON. The organization's business processes based on the results of document studies, interviews, and field observations include main activities and supporting activities as described below:

1. Main Activities

1.1 Research and Development of Food and Nutrition Training Model

This activity includes the development of language learning programs, modules, and videos, product review, and evaluation of programs, modules, and videos related to food and nutrition training.

1.2 Teacher and Health Worker Training

This activity includes preparation of accommodation, selection of participants, main activities in the form of training involving teachers and language education personnel in Southeast Asia, as well as making certificates and reporting. Training of teachers and education personnel can be carried out in the form of *training*, workshops, and seminars both offline and online. Training resource persons come from within SEAMEO RECFON as well as professionals from other collaborating institutions. Participants come from various regions both in Indonesia and outside Indonesia, targeting the Southeast Asia region.

1.3 Product Publication Dissemination and Cooperation

These activities include exhibitions, seminars, leaflet production, and dissemination of product information through websites and social media. Collaborating with several national and international institutions. This cooperation is in the form of organizing activities, providing resource persons and implementing educational exhibitions.

2. Supporting Activities

1.1) Financial Management and Goods/Services Procurement

Activities related to finance include managing the budget that comes from the state budget, monitoring the use of the budget, payroll, and also providing all facilities related to the needs of research, program development, publications, accommodation for the implementation of activities, and other office facilities.

1.2) Human Resources Management and General Affairs HR management activities include employee recruitment, employee data management, employee performance appraisal, internal training, and meeting the needs of employees. Other related matters are the management of correspondence and the management of office assets and assets attached to employees.

1.3) Information Systems/Information Technology

These activities include the development of information systems, data and information management, and the provision of SI/TI facilities and services to support the main activities.

SEAMEO RECFON's value chain has three main activities and three supporting activities that are interconnected to create superior language teacher competencies. After the value chain analysis, identification of the obstacles currently faced by the

organization and the need for information systems in each activity is carried out. The needs obtained from the results of document studies, interviews, observations with application searches, and discussions with related sections.

3. SWOT Analysis

For SWOT analysis, it is carried out as an identification of the strengths, weaknesses, opportunities, and challenges faced by the organization. Based on the study of the SEAMEO RECFON Strategic Plan document for the 2022/2026 period (RECFON,2020) and observations, a SWOT analysis is produced in the form of strategies to maximize strengths and opportunities as in Table and strategies to overcome weaknesses and threats/challenges (RECFON, n.d.).

Strength and Opportunity Analysis

Strength	**Opportunity**	**Maximizing Strategy Strengths and Opportunities**
It is part of a Southeast Asian regional organization that focuses on food and nutrition in the Southeast Asian Region.	• The issue of nutrition across all age groups is high on the global agenda, particularly in the *Sustainable Development Goals* (SDGs). • Provide ample opportunities for SEAMEO RECFON experts to collaborate with institutions in the Southeast Asia Region or beyond.	• Develop activities with current themes that are suitable and needed in the Southeast Asia Region. • Increased cooperation with various institutions, especially in Southeast Asia.
SEAMEO RECFON is recognized and supported by the Government of Indonesia through the Indonesian Ministry of Education, Culture, Research and Technology in terms of policies and operational budgets and the appointment of SEAMEO RECFON as the University of Indonesia's Center for Regional Nutrition Studies (PKGR).	SEAMEO RECFON's Vision, Mission and Program are in line with the ASEAN Vision 2020 program, especially regarding the sustainability of improving the quality of life in the Southeast Asian Region with adequate food and nutrition. This ensures that there is political support from ASEAN member countries.	• Improve the quality of websites and learning products for different languages as countries in Southeast Asia have similar nutrition and health issues related to malnutrition, anemia, etc.
SEAMEO RECFON has staff with commitment, competence and experience in research, capacity building, community development, information exchange and administration that can support partnerships and funding arrangements from funders.	Resource development human.	Provide training, and workshops to employees on a regular basis according to the needs of the organization.
A supportive environment to work professionally, creatively and innovatively.	Procurement of goods/services to improve work effectiveness and efficiency.	Carry out the procurement process of goods / services In accordance with the needs organization.
Learning technology development support from organization executives	• Advances in distance learning technology. • Activities can be conducted offline or online. • Accelerated development of scienceand technology including information technology (e.g. Artificial Intelligence, Cloud Computing, etc.) can provide wider applications for the implementation of nutrition science and nutrition programs in accordance with the Industrial Revolution 4.0	• Develop a distance learning system. • Automate the management of training activities.

Weakness and Challenge Analysis

Weaknesses (Weakness)	Threats	Strategies to Address Weaknesses and Threats
No expertise in Economics and Food Security, Technology, Policy, Human Resource Management, Legal and Public Relations.	• Limited number of services available • Opportunities for budget cuts and erratic staff changes have resulted in changes to planned activities and the quality of services provided.	• Collaborate with experts from outside the organization. • Establishment of business units/subsidiaries of SEAMEO RECFON engaged in research and scientific studies on food and nutrition in Southeast Asia.
Limited number of staff to effectively and efficiently implement the main tasks of the Centers resulting in work overload	• Strong competition for program funding from similar organizations. • The spread of hoaxes about food and nutrition through social media, however, cannot be responded to quickly because evidence-based information takes a relatively long time to create.	• Cooperation with international research organizations (outside Southeast Asia), to conduct multinational research in the Southeast Asia region.
Non-integrated management system in the planning and monitoring and evaluation process of SEAMEO RECFON program activities.	The next program to be run may not match the needs of the targeted participants.	Evaluate and monitor the program activities that have been carried out.
Work support facilities and skills are not optimally provided.	Unstable work productivity.	Provide various facilities and training required for the job.

Information system needs from the results of SWOT analysis

Activities	Strategy	Data Requirement & Information	Needs Information System
Activity Program Development by conducting research and evaluation.	Evaluate and monitor the program activities that have been carried out.	Participant Data Activity Data Interviewee Data Evaluation Data	Provide a system to evaluate activities that can be done online.
Learning Product Development (Module/Video).	Work with experts from outside the organization to develop attractive products.	Partner agency data Product data Cooperation data Activity data	Provide a system to manage data on product development cooperation activities.
Implementation of training activities or workshops in offline and online forms.	Automate the management of training activities.	Activity data Participant data Resource data Material data Committee data Certificate data Evaluation data	• A system that can manage Activity accommodation data. • Automate the process of training activities from registration to evaluation.
	Develop a system that supports distance learning.	Activity data Participant data Resource data Material data Committee data	• *Developing a Learning Management System* (LMS) that supports asynchronous distance learning.
Disseminate the publication of learning products and SEAMEO RECFON profile	Improve the quality of websites and diverse language learning products	Product data Organization profile data Partner agency data	An attractive website to showcase SEAMEO RECFON products.

	Expanding information on the benefits and positive impacts of learning about food and nutrition for schools, teachers and students.	Nutritional status data Social media data Product data	Social media has a function and role as an educational medium for food and nutrition education.
Conduct product publication learning and profile SEAMEO RECFON	Promotion and marketing of the Organization's products and services through various means and activities.	Product data Social media data Website data Profile data Exhibition data	Provide an information system to manage exhibition activities, as well as improve services delivered through social media.
Collaborate with various agencies from within and outside the country in the procurement of products or activity programs.	Increase cooperation with various institutions, especially in Southeast Asia.	Cooperation data Product data Partner agency data	Provide a system to manage data and cooperation documents.
	Strengthening cooperation with schools and implementing programs outside of school activities.	Cooperation data Product data Partner agency data (school)	Provides a database of teachers and schools in the Southeast Asia region.
Procurement of Goods & Services	Carry out the procurement process of goods / services in accordance with the needs of the organization.	Asset data Provider data Goods/services data Budget data Managing official data procurement Activity data	Optimizing the use of SIRUP, SiRenBaJa, SPSE, and SIMPeL.
Office Asset Management	Optimize the various facilities required for work.	Asset data Employee data Activity data	Provide an office asset management system, especially non-BMN, to find out existing and non-existing facilities needed by the organization.
Improvement and Assessment Employee Performance	Provide training to employees on a regular basis according to the needs of the organization.	Employee data Employee performance Activity data	Provides automation of the process of managing personnel data and employee performance appraisal.

4. Critical Success Factor (CSF)

CSF analysis is conducted to find out the main factors that must be done in achieving organizational goals. Based on the SEAMEO RECFON Strategic Plan 2021-2025 (2021), the main goal to be achieved is "promoting quality life span for stakeholders at various levels through multi-sectoral and inclusive food and nutrition programs and activities that are appropriate to the specific context in Southeast Asia". To achieve this goal, there are three main work areas in which each area is analyzed for its information system needs. Based on the results of the analysis of the Organization's Strategic Plan documents and interviews, a CSF analysis was obtained at SEAMEO RECFON

CSF Analysis of SEAMEO RECFON

Work Area	Activities	CSF		Data Requirements & Information	Information System Requirements
Research and Development	Product and Activity Program Development by conducting research and evaluation.	1	Selection of the type of training, curriculum and learning products Suitable for schools, teachers and health workers in Southeast Asia.	Curriculum Data Teacher data Training data Product data	• Database of teachers and schools in Southeast Asia. • Provide a system that can analyze training needs for language teachers in Southeast Asia.
Training & Capacity Building Program	Implementation of training activities or workshops in offline and online forms.	2	Ease of implementation of the teacher professional development program in the form of training, workshops, seminars, and other activities. conference.	Activity data Participant data Resource data Material data Committee data Certificate	Provide a system to manage training activities that can be done in *synchronous* or *asynchronous*
Improving relationships and stakeholder access to products and programs SEAMEO RECFON	Publicizing SEAMEO RECFON activities and learning products	3	Improved quality of journal products and conference participants	Journal data Participant data Activity data Presenter data	• Attractive and interactive websites and social media, along with customer information and complaint services. • System for managing journal products.
		4	Improved quality of publication media and number of website and social media visitors.	Organization profile Activity data Training data	
	Collaborate with various agencies from within and outside the country in the procurement of products or activity programs.	5	Increase in the number of national and international institutions that collaborate.	Cooperation data Product data Partner agency data	System for managing cooperation documents and activities.
			Increased activities carried out in collaboration with partners, both research grant programs, exhibitions, and training activities.		

B. Phase A: Vision Architecture

This section will describe the fragmentation of stakeholders with their focus of attention after previously identified and analyzed who the stakeholders are and their respective focus of attention.

1. *Training Viewpoint Process*

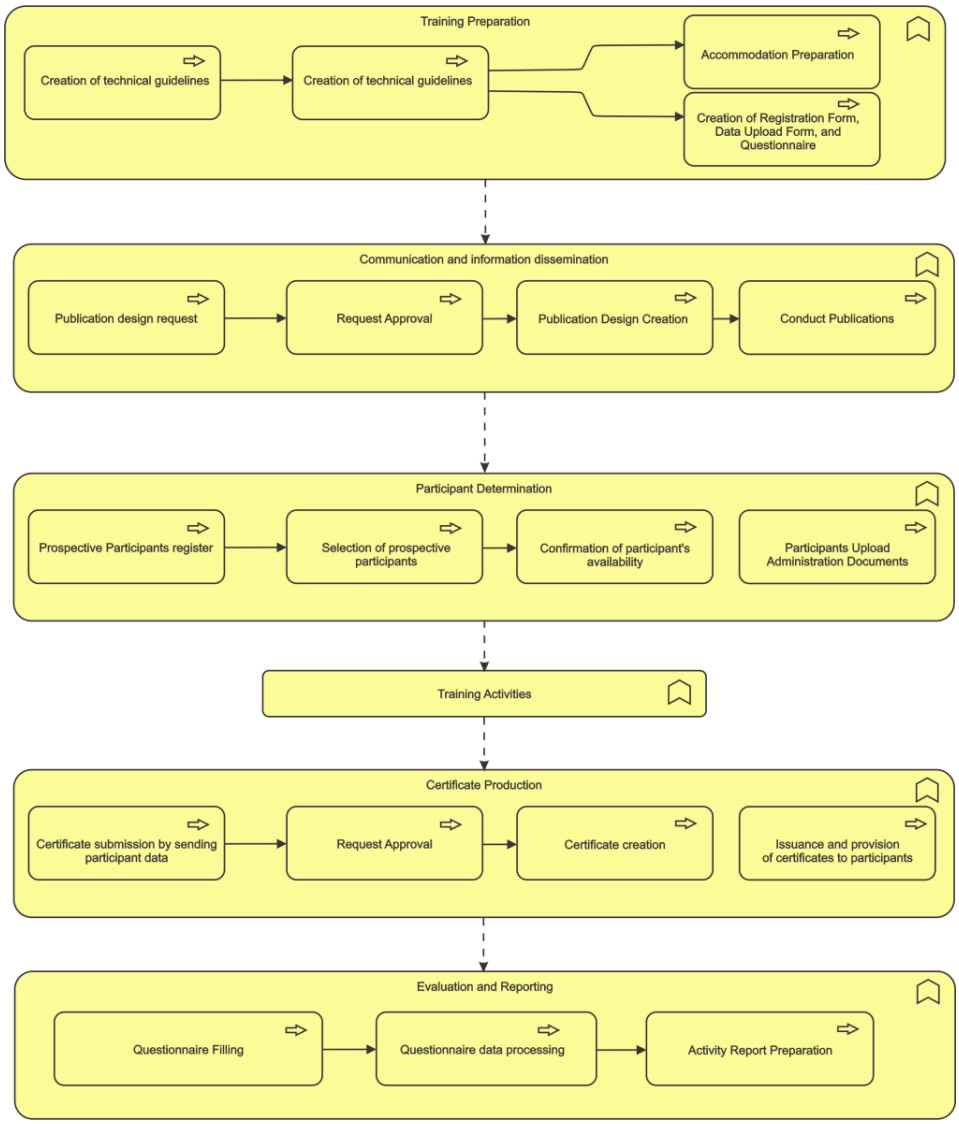

Figure. 2 SEAMEO RECFON Viewpoint Process Training

It is explained that in conducting training activities there are several key business functions that must be carried out, starting from preparation to evaluation and reporting. Each activity is described as follows.

1. Training Preparation

Preparation began with the process of making technical guidelines for the implementation of activities. Based on these activities, a committee was formed. The committee that was formed carried out the process of preparing the required accommodation both related to administration and technical in the field. This accommodation preparation is done through other interactions with employees in the required business unit, for example, requests for venue accommodation, equipment and IT facilities to the HR & General Affairs unit, publication design to the Cooperation and Public Relations unit. Another thing that the committee needs to prepare is the creation of registration forms, forms for uploading participants' administrative documents, and evaluation forms using the google form application. The process of making this form must be repeated for each activity carried out.

2. Communication and Information Dissemination

In disseminating information about activities, the process carried out by the committee is to submit a publication design to the publication department. If it has been approved, then the publication section carries out the design making process and carries out the process of disseminating information through various media.

3. Determination of Participants

In the function of determining prospective participants, the process is started by prospective participants by registering and filling out the biodata form. The training committee selects the participants, then confirms whether or not the participants have passed. Selected participants upload the required documents such as a letter of assignment, photo pass, npwp, and several other documents. If there are teachers who want to participate in several activities, they must register and fill in their biodata again. This makes the registration and selection process ineffective.

4. Training Activities

This is the function of implementing training activities in offline or online classrooms conducted by participants and resource persons.

5. Certificate Creation

The certificate creation function is carried out in the partnership & publication section. Starting from the submission process carried out by the committee by sending participant data. If the submission is approved, proceed with the process of making certificates, issuing, and providing certificates to participants either by email or share folders on the google drive application.

6. Evaluation & Reporting

This function is carried out by the Research and Development Unit by processing survey data that has been filled in by participants. The weakness of this process is that teachers can fill in the evaluation form several times, or even if there are parties who know the link to the evaluation form, they can also fill in the survey answers This risks invalid survey data. Evaluation of survey data processing results is used as one of the bases for preparing activity reports.

7. All functions require data and information services supported by Information Systems (IS).

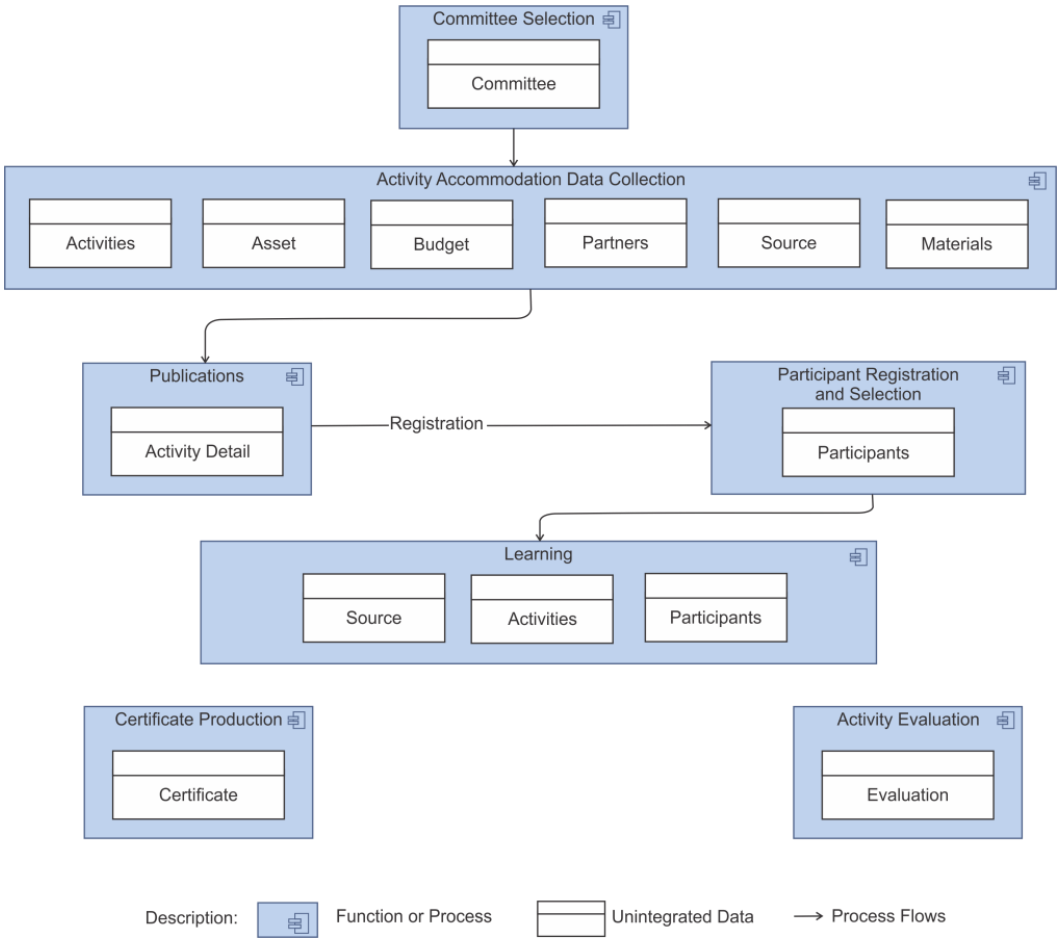

Figure 3. Data Diagram of Current Training Activity Dissemination

The data architecture of the main business of training activities is depicted in a dissemination data diagram that describes the relationship between data entities, business services, and application components in the main activities/business of the organization.

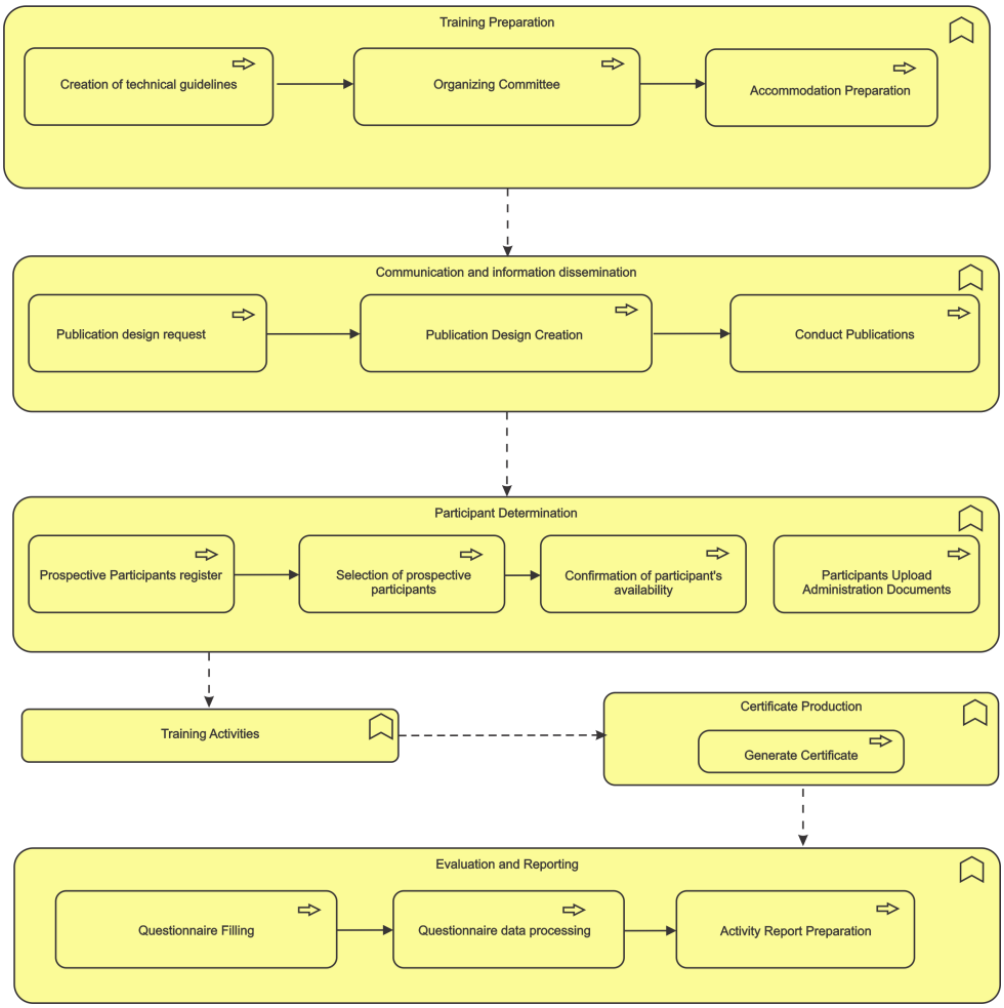

Figure 4. Target Training Business Process Diagram

Process simplification in training activities is carried out by automating several business functions that will have an impact on the ease of accelerating process time. Some of the simplifications made, namely: 1) The process of creating registration forms, data upload forms, and survey forms in the training preparation business function no longer needs to be done semi-manually because it already uses automation by the system. 2) Requests for approval by superiors are not done manually by face-to-face but can already be done through the system. 3) The business function of making certificates manually is no longer needed, because it is automatically generated from the system when participants complete all administrative requirements.

Target *Data Architecture*

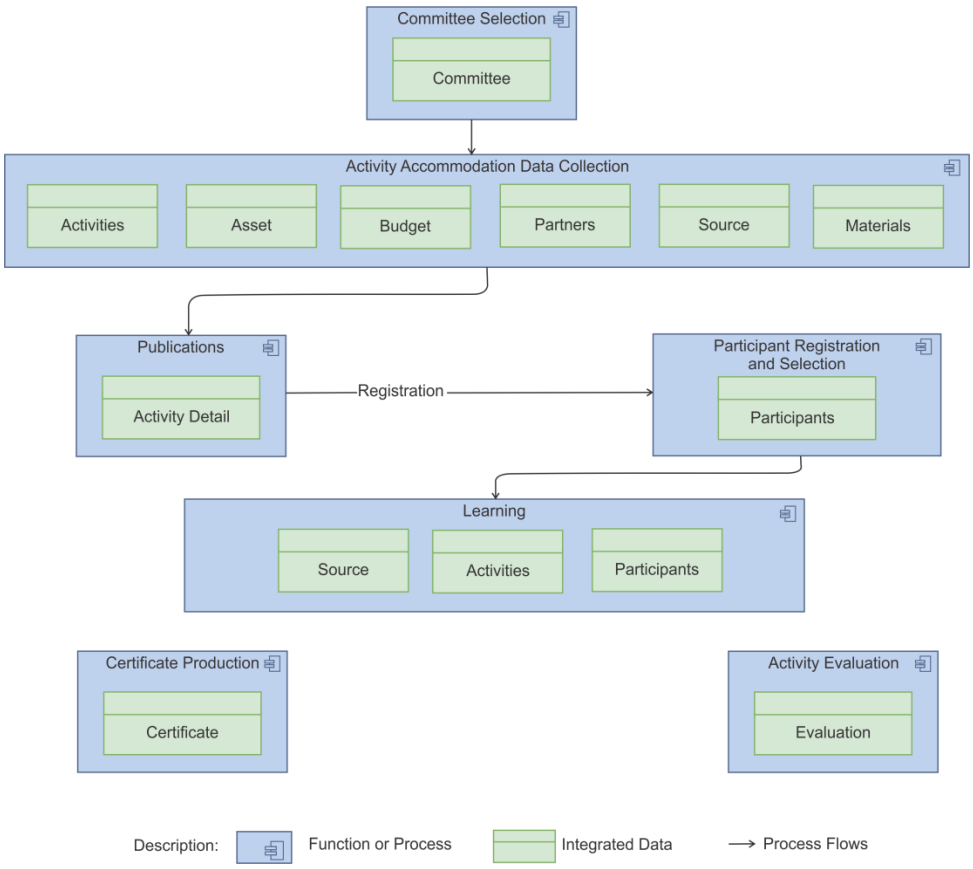

Figure 5. Data Diagram of Dissemination of Target Training Activities

The future state of data is data integration that facilitates data exchange between business units.

CONCLUSION

=An overview for SEAMEO RECFON to integrate systems that are able to create a barrier-free flow of data and information exchange across sections because of the mapping and redesign of existing business processes contained in the *business architecture* phase.

The guidelines for SEAMEO RECFON to invest in SI/TI development as in this study are contained in the application portfolio by taking into account the alignment of the basic concept of SEAMEO RECFON's goals with business processes and the system development *roadmap* so that the direction of investment made is well planned.

A reference for SEAMEO RECFON to develop an integrated database system to support training in food and nutrition at the existing SEAMEO RECFON to be better by harmonizing business processes with information systems as stated in this research in phase B & phase C.

Guidelines for SEAMEO RECFON to create a more efficient data management process so that operational productivity, especially to support training in food and nutrition, increases so that the strategic objectives through each of its performance indicators can achieve their targets nationally and regionally.

REFERENCES

Abd.Rahim, Y., & Safie, N. (2017). Enterprise Architecture Framework : Basics and Ideas for Selection. MALTESAS Multi-Disciplinary Research Journal (MIRJO), 2(3), 37–46.

Deris Santika. (2016). Enterprise architecture design of school information system using TOGAF ADM (case study: SMK Informatika Sumedang). Jurnal Ilmu-Ilmu Informatika Dan Manajemen STMIK, 10(2), 12. https://www.neliti.com/publications/293496/perancangan-arsitektur-enterprise-sistem-informasi-sekolah-dengan-menggunakan-to#id-section-content

Gormantara, A., & Emanuel, A. W. R. (2020). Enterprise Architecture Planning Using TOGAF-ADM at Scoob Telur Company. INTENSIF: Jurnal Ilmiah Penelitian Dan Penerapan Teknologi Sistem Informasi, 4(1), 38–50. https://doi.org/10.29407/intensif.v4i1.13197

Group, T. O. (2018). the TOGAF® Standard, Version 9.2, a standard of The Open Group. https://pubs.opengroup.org/architecture/togaf9-doc/arch/

Group, T. O. (2019). ArchiMate® 3.1 Specification, a Standard of The Open Group. https://pubs.opengroup.org/architecture/archimate3-doc/toc.html

Hermawan, R. A., & Sumitra, I. D. (2019). Designing Enterprise Architecture Using TOGAF Architecture Development Method. IOP Conference Series: Materials Science and Engineering, 662(4). https://doi.org/10.1088/1757-899X/662/4/042021

Kurniawan, H., Rosidi, A., & Al Fatta, H. (2017). Integrasi Sistem Informasi Akademik STMIK Pontianak Dengan Metode Togaf Architechture Development Method. Sisfotenika, 8(1), 1. https://doi.org/10.30700/jst.v8i1.160

Minoli, D. (2008). Enterprise Architecture A to Z: Frameworks, Business Process Modeling, SOA, and Infrastructure Technology. CRC press. https://doi.org/10.1201/9781420013702

Peppard, J., & John Ward. (n.d.). The Strategic Management of Information Systems: Building a Digital Strategy (4th ed.).

Prawira, K. T., Makmur, A., & Santoso, H. (2023). Enterprise Architecture for Payment System Industry in Industrial Era 4.0. Sinkron, 8(1), 517–525. https://doi.org/10.33395/sinkron.v8i1.11933

RECFON, S. (n.d.). SEAMEO RECFON Strategic Plan document for the 2022/2026.

SEAMEO. (2019). Southeast Asian Ministers of Education Organization. Higher Education, January, 2019.

Setiawan, E. B. (2009). Pemilihan EA Framework. Seminar Nasional Aplikasi Teknologi Informasi (SNATI), 2009(SNATI), 114–119. journal.uii.ac.id/index.php/Snati/article/view/.../979?

Sofyana, L. (2017). Perencanaan Arsitektur Enterprise Dengan Kerangka Kerja TOGAF (The Open Group Architecture Framework). PROZIMA (Productivity, Optimization and Manufacturing System Engineering), 1(2), 64–70. https://doi.org/10.21070/prozima.v1i2.1288