DIGITAL LIBRARY SERVICE MODEL FOR INTERNATIONAL STANDARD

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Abstract - This research aim is to develop of Digital Library Service Model for International Standard which included 1) development of Digital Library Service Model for International Standard 2) Evaluating of Digital Library Service Model for International Standard. The sample group consist of 7 experts in arranging Digital Library Service for International Standard are selected by purposive sampling. The statistical methods used in the research are arithmetic mean and standard deviation.

Index Terms - Digital Library, Digital Library Service Management, ITIL 2011, Cobit 5

I. INTRODUCTION

The digital library provides an online service to increase service potential. Each library provides resources for service in digital library and connects it to digital resources for searching and accessing the information to connect with users.

Currently, digital library services and information technology has been approved that it is an important tool to increase the service efficiency and became tool for information technology service which under control international standards can be able to apply with digital library.

II. RESEARCH OBJECTIVES

To develop Digital Library Service Model for International Standard

III. RELEVANT THEORIES

A. Overview of Digital library

Digital library is important structures for access to information resources and maintenance of with standards based on providing data consistency have a vital role for digital library [1]. There is a component that needs to be in digital library service quality, delivery quality, outcome quality, standardand procedure for digital library[2]. Digital library consists of 7 key elements [3].

1) **Organization**: A Digital Library is an organization by its own, it is a social arrangement pursuing a goal.
2) **Content**: Content is a digital library collects, manages and deliversof information objects, including primary objects, annotations and metadata
3) **User**: Digital Libraries connect actors with information and support them in their abilityand make creative use of it to generate new information.
4) **Functionality**: Digital Library offers to its different users, whether individual users or usergroups.
5) **Policy**: Policies digital library by the Institution establishing the digital library.
6) **Quality**: Quality can be associated not only with each class of content or functionality but also with specific information objects or services to characterize and evaluate the overall digital library service.
7) **Architecture**: The Architecture is a digital library System and digital library service.

B. Overview of ITILL 2011

ITIL 2011 (Information Technology Infrastructure Library) is "an approach to Information Technology operations that is characterized by its emphasis on Information Technology services, customers, service level agreements, and an Information Technology function's handling of its daily activities through process"[4]. Information Technology Service Management helps manage the Information Technology function through a service and considered to be a process framework to achieve effective Information Technology Service management [5]. ITILL 2011 contains 5 process of service lifecycle, being the following processes [6].

1) Service Strategy
2) Service Design
3) Service Transition
4) Service Operation
5) Continual Service Improvement

C. Overview of COBIT 5

COBIT 5 (Control Objectives for Information and Related Technology) is a framework of Information Technology governance for important and sensitive data/information [7]. Cobit was developed from a base of several practices with different techniques and methods for efficiency of information technology internal control [8]. COBIT 5 contains 5 process of service lifecycle, being the following processes [9].

1) Align, Plan and Organise
2) Build, Acquire and Implement
3) Deliver, Service and Support
4) Monitor, Evaluate and Assess
5) Evaluate, Direct and Monitor

IV. METHODOLOGY

The research methodology is divided into 2 step which are:

1) Development of Digital Library Service Model for

International Standard with 5 process, being synthesis of element of Digital Library Service Management on international standard, passed two best practice standards which are ITILL 2011 and COBIT 5.
2) Evaluating of Digital Library Service Model for International Standard, being present the digital library service model for international standard by 7 experts and analyze the results of evaluation of digital library service model using means ($\bar{X}$)and standard deviation (S.D.)following the weighing criteria of using five rating scales of Likert.

V. RESULT

A. Digital Library Service Model for International Standard

Digital Library Service Model for International Standard can be applied to standardized best practice methodology, which passed two best practice standards 1) ITIL 2011and 2) Cobit 5 contains 5 process of service lifecycle, being the following processes [10] –[14].

1. Digital Library Service Strategy (DLSS)

Table 1: Digital Library Service Strategy (DLSS)

ITILL 2011	COBIT 5
1. Service Strategy Management	
Strategy Management	Manage Strategy
2. Service Portfolio Management	
Service Portfolio Management	Manage Portfolio
3. Service Financial and Costs Management	
Financial Management	Manage Budget and Costs
4. Service Demand Management	
Demand Management	Ensure Resource Optimisation
5. Service Relationship Management	
Business Relationship Management	Manage Relationships

1.1 Service Strategy Management: Vision, policy, or goals, being the service strategy for the digital library, in order to provide services according to users' needs.
1.2 Service Portfolio Management: Personnel development methods, process and purchasing of technology to improve services, through event or project management, connecting events or projects to meet goals set according to the strategy.
1.3 Service Financial and Costs Management: Budget and costs of events or service projects, as defined as costs within those events or projects which have been planned according to set systems, to confirm and ensure the value management of the events or service projects with efficiency.
1.4 Service Demand Management: Specification of user's short term and long term needs for use of the digital library, as management should be aware of user behavior in order to manage resources efficiently.
1.5 Business Relationship Management: Coordination within the Digital Library Service Strategy: DLSS for the service providers to understand their role and position.

2. Digital Library Service Design (DLSD)

Table 2: Digital Library Service Design (DLSD)

ITILL 2011	COBIT 5
1. Service Design Coordination Programmes and Projects Management	
Design Coordination	Manage Programmes and Projects
2. Service Availability and Capacity Management	
Availability Management	Manage Availability and Capacity
Capacity Management	
3. Service Information Security Management	
Information Security Management	Manage Security Services

2.1 Service Design Coordination Programmes and Projects Management: Project and event coordination within the digital library strategy system to align these with the digital library service design, for example, digital library systems, structures and architecture.
2.2 Service Availability and Capacity Management: Detailed service specifications and potential requirement levels by observation of incidents affecting digital library services, in order to improve readiness according to predetermined agreements, and future-proofing digital library service systems against unusual events, for the service to meet the needs of the digital library.
2.3 Service Information Security Management: Service Knowledge Management: Management of system services security for the digital library and specifying safety policies, for example, investigation and analysis, for use in the preservation of the safety of the digital library in the future.

3. Digital Library Service Transition (DLST)

Table 3: Digital Library Service Transition (DLST)

ITILL 2011	COBIT 5
1. Service Transition Planning and Support	
Transition Planning and Support	Manage Change Acceptance and Transitioning
2. Service Knowledge Management	
Knowledge Management	Manage Knowledge

3.1 Service Transition Planning and Support: Coordination of resources to the service management of the digital library and needs specifications in order to prevent risk occurring from process changes.
3.2 Service Knowledge Management: Knowledge management, or knowledge management within the work group servicing the digital library, by recording problems within the database for educational purposes.

4. Digital Library Service Operation (DLSO)

Table 4: Digital Library Service Operation (DLSO)

ITILL 2011	COBIT 5
1. Service Problem Management	
Problem Management	Manage Problems
2. Service Access and Process Controls Management	
Access Management	Manage Business Process Controls

4.1 Service Problem Management: Problem solving database structure service system for use in the digital library in dealing with frequently occurring problems, able to decrease the effects of unusual operating events, identify cause of the problems and fix them as they arise.

4.2 Service Access and Process Controls Management: Holistic access management, denying unauthorized access.

5. Digital Library Continual Service Improvement (DLCSI)

Table 5: Digital Library Continual Service Improvement (DLCSI)

Itil 2011	Cobit 5
1. Service Seven-Step Improvement	
Seven-Step Improvement	Monitor, Evaluate and Assess Performance and Conformance
	Monitor, Evaluate and Assess the System of Internal Control
	Monitor, Evaluate and Assess Compliance with External Requirements

5.1 Seven-Step Improvement: Specifying digital library system update methodology to maintain continual updates, to regulate adjustments made during the service cycle.

B. Evaluating of Digital Library Service Model for International Standard

The result from develop of Digital Library Service Model for International Standard are given in Table 1.

Table 6: The results from develop of Digital Library Service Model for International Standard

Questions Lists	Results		Level of Efficiency
	$\bar{X}$	S.D.	
1. Conception of Model	4.86	0.38	Very good
2. Component of Model	4.71	0.49	Very good
3.Terms of Model	4.71	0.49	Very good
4. Overview of Model	4.86	0.38	Very good
Summary	4.75	0.05	Very good

The Table 1 shows that the experts agree that Digital Library Service Model for International Standard from results as shown in table 1, the appropriateness of details in the Digital Library Service Model that the appropriateness was at the highest score ($\bar{X}$ = 4.75).

CONCLUSION

Digital Library Service Model for International Standard conclusions are as follows:

1. Digital Library Service Strategy (DLSS):DLSS provides how to develop service, policies and guidelinesfordigital library direction. It will enable an organization to a achieve and the most effective and efficient way to manage services.
2. Digital Library Service Design (DLSD):DLSD is to ensure that new or changed services are design and methods for the digital library into a design to realize digital library objectives.
3. Digital Library Service Transition (DLST): DLST is to ensure that new, modified or retired services of digital library include planning and supporting changes and releases.
4. Digital Library Service Operation (DLSO): DLSO is to deliver of service users and manage the applications, technology and infrastructure that support delivery of the services.
5. Digital Library Continual Service Improvement (DLCSI): DLCSI is concerned with maintaining value for users through the continual evaluation and improvement of the quality of services.

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