

Mapping a Six Phase Lifecycle Model of SOA Governance and ITIL v3.0

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Abstract: Movement of Organization to Service Oriented Architecture had those used advantages such as expense reduction by reuse, better unity by standardization and new Business Opportunity by agility. Therefore, Failure of SOA projects is expected, unless organization architecture is managed correctly. There are different model to implementation SOA Governance. One of the models considered is a six-phase lifecycle of SOA Governance. As core of Service Oriented Architecture is service. SOA governance, therefore, focuses on service management. On the other hand, ITIL v3.0 focuses on activities related to creation and service management with reuse ability. By considering service importance in these two areas and by achieving more impressive management and governance on an organization, the new map of SOA governance with ITIL v3.0 has been introduced. So that considers more details for Identification, creation and management of services. Mapping six phases of SOA governance and five phases of ITIL v3.0 are done to improve organization governance by combination of phases and processed connected to any phase in any step of map. So that towards previous work, the purpose as accurate and detailed Investigates, in order to Resolve some weaknesses in SOA governance.

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Key words: IT governance, SOA governance, ITIL v3.0 framework, service.

1. Introduction

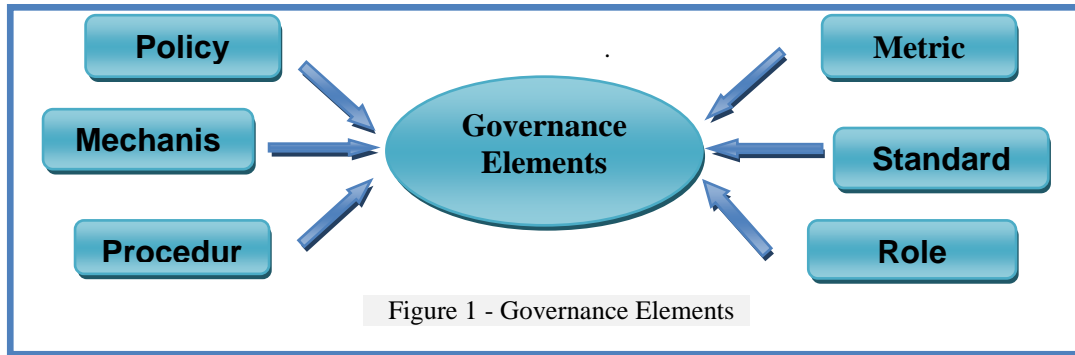
On the of latest achievements in software production is service oriented architecture. The reason why the architecture was created was ideas that occur to its architectures and that was “software as a service”. In software as service model, you can design your software as it can be used by different systems in various organizations [6]. Main contents in service oriented architecture are service, cooperation ability, weak coupling. SOA has been developed to increase efficient, agility and commercial technology. The key matter in SOA is to reuse service. The successful creation not only needs protocols and technologies such as SOAP and WSDL but also needs to support in creation processes, validity checking and services management in an organization [5]. Tools for creation of SOA governance and services management are being considered, as core of an organization using SOA architecture. SOA governance is a part of IT governance [8]. Process and component of IT governance can be used as Guide for service management [9]. Reusing service can be efficient to start service and commercial agility is obtained. In ITIL v3.0 framework, the key point is service [3]. Available aims and process in the framework focus on creation and management of services having reuse ability. Information Technology Infrastructure

Library is best method of IT governance framework [3]. Processes in ITIL v3.0 can support SOA governance processes, and complete [1]. Subscription between SOA governance and ITIL v3.0 cause to Creation a general model for SOA governance and make more effective management ability possible in an organization and able to find a solution for available difficulties and weakness in SOA governance model.

2. Check of SOA governance model

Governance is a framework that on the basis it, management operates to access these specified purposes [7]. In SOA governance, organization chart, roles skills, rules (standards, principles, policies, and reference architecture), restoring processes and correspondence ones, leadership of program management, controls regulation and IT processes, defined frame for governance decision, creation a perspective and purposes for centers are allowed for. In accordance with these cases and [1,4] main elements in SOA governance shown in figure 1.

1. Policy: policies explain that access level and service quality characterize SOA source. A username defines people, user group or organizations and determines a role for service access or quality level. Policies can be defined in production level, module level, client level, and service level.



2. Standard: it includes acceptable and made rules that act as guide to governance on other elements in an organization. Some of main standards in SOA are as follow:

- a) SOAP is a standard in order to interchange information and to support communication among service. It defined main components and the way how the interchange information among services is chosen.
- b) WDSL is web definition standard language. WDSL determines a method that defines interface of service for service representative.
- c) UDDI defines characters of service that may be used to search it. These components have features including information about service representative, place of service description and information as to trade communication. Potential users are registered by using UDDI and can find accessible services.
- d) WS_BPEL is a standard for working language that defines processing programs involved with various services.

3. Process: processes are method to regulate elements of SOA governance in order to correspond with SOA goals. Process is a method that makes a distinction between governance and managements of service and service. Governance processes aim at coordinating among different management processes

4. Role: there are 3 roles in SOA lifecycle as follow:

- a) Production manager: determines customer's needs and it fixes on a service to commercial logic and is responsible for appointment a service into production.
- b) Developer: is responsible for service performance and making decision about condition of service structure in technical level, in technical level that it may involve allocation a service into service model (service model are units of development).

- c) System manager: performs operation related to final acceptance of created service and coordination among elements to achieve a correspondence between consumer's needs and services.

5. Metric: in the majority of reactive systems metric is necessary for the whole observation of system and permissible reactions to specific group of operation in system and their components (such as policy and service) or their variation. These metrics can be used to manage a source for control applications and to balance expense regulation.

6. Mechanism: it is combination of method and processes like mode. SOA governance is used for doing specific works on elements. These elements are related to SOA governance lifecycle. SOA governance lifecycle contains SOA lifecycle and SOA lifecycle contains service lifecycle and all of them are subset of IT governance [5]. This relationship is shown in figure 2.

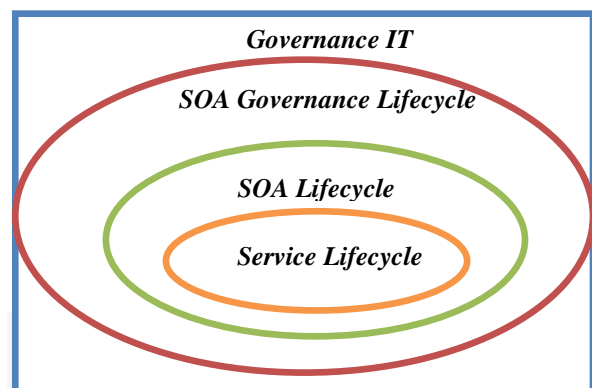


Figure 2 - Connections between services, SOA, SOA Governance and IT Governance

SOA governance lifecycle discussed includes, creation of SOA strategy, alignment organization with SOA, Management Service portfolio, Control service Lifecycle, Enforce policies, Management service levels (figure 3)[2].



Figure 3: phases in the SOA governance lifecycle

In phases of the model, as it concentrates on service management, it can investigate the problem of governance and its implementation in organizations.

The lifecycle model applied for SOA governance and investigation in any phase clarifies communication between these phases and phases of IT governance lifecycle. Phases of IT governance

lifecycle include strategic direction, product delivery, risk management, source management and evaluation of effectiveness [10,11]. By analyzing SOA governance lifecycle and IT governance, result as shown in table 1 is summed up.

According to the table 1, phases of SOA governance and IT governance aren't mapped one by one. As Respectively phases of service strategy creation and organization alignment whit SOA Associated with phase of strategy direction, control and management of portfolio service and control of service lifecycle Associated with phase of service delivery, Enforce policies Associated with phases of risk management and source management, and finally management of service level Associated with phase of effectiveness evaluation are in contact with each other. According to working limit of each phase and communication among done service way of derivation and creation of relationship among these phases have been done. In creating this relationship Try is as much as possible Communication between the phases to be done according to nearby working field and moving to have better management and governance.

Table 1 – Connection Between SOA Governance Lifecycle and IT Governance

SOA Governance Lifecycle	Governance IT	Description
Create SOA strategy and Align organization with SOA	Alignment Strategy	Determine Long-term goal & organization Strategy and service
Manage Service portfolio and Control service Lifecycle	Accountability	Creation and management services proportional to customer requests for delivery as a product
Enforce policies	Risk Manager & Make Change	Appropriate implementation of services & Management on how implement and implement order In order to reduce error and Appropriate use of resources
Manage service levels	Performance Measurement	Management on service of quality & its impact on efficiency and performance

3. Mapping SOA governance and ITIL v3.0 framework

SOA governance and ITIL v3.0 have service in common and their activities concentrate on service. Service is a software component having effectiveness of weak coupling and reuse and contains broken functions. This component can be accessible by distribution and program. ITIL v3.0 enforces delivery and management of IT service and SOA governance enforces delivery and management software as a service. Phases of ITIL v3.0 framework are as follow: service, strategy, service design, service transfer, service operation and alternating development of service [1].

As mentioned, it is clear that ITIL v3.0 phases and lifecycle of SOA governance are able to map to improve governance activity t the same time. In fact, ITIL v3.0 framework resolves available weakness in SOA governance. So that service lifecycle, a key point in SOA governance, is controlled appropriately and SOA governance weakness is obviated by better management of services. Soma key question as to SOA governance answered by ITIL v3.0 are as follow [1]:

- What items should be allowed for designing a service?

- What kind of service should be carried out in order to support effectiveness of service refuse?
- What kind of process is necessary to achieve service?
- What kind of policy should be considered?
- Who is responsible for service creation, design and management?

We have mapped among phases of SOA lifecycle and ITIL v3.0 to answer these questions that in proportion to previous work, answer them carefully. The result of the map is shown in table 2.

In this table (2) are available main elements in SOA governance that were introduced in part 2 and also key elements of ITIL v3.0. In the map because of being parallel and corresponding phase of service strategy creation of SOA governance with phase of ITIL v3.0 service strategy have been mapped in part next phase to advance compatibility of organization requirement with service, organization alignment with SOA and service design phase are mapped in parallel. Following phases control and management portfolio service and control lifecycle service shared as with phase transfer service of ITIL v3.0 are mapped. In phase control and management portfolio service, management of existing services is considered. If need be we investigate service promotion. In phase control lifecycle service manage new services in proportion to customer's requirement. In contrast to these two phase SOA governance; there is phase service transfer ITIL v3.0 that supports control and management of services. Mapping these phases at the same time, lead to increase accuracy in management of services of SOA governance.

Although, ITIL v3.0 concentrates more on service, therefore combination of these two phases of SOA governance lifecycle and its map with phase service transfer of ITIL v3.0 can increase concentration of SOA governance on service management that is key center of service oriented architecture. Phase of enforce policies examines way of policies function and on the other hand, phase of service operation examine policies related to service function and specification of processes and method for functions. Combination of these two phases can answer for enforce of correct policies by actual

function of services. Finally, management of service levels and alternating development of service are mapped concurrently. In management of service levels the quality of presentation of service in response to customer requirement is investigated in continual service improvement if need be, promotion and development of services are examined, so that responsibility to customer's requirement is in desired quality level. The map indicates importance service in governance area and also shows if ITIL v3.0 as a series of activities is used concurrently with governance phases, SOA governance model will be led to progress in management and to achieve success in SOA projects.

4. Conclusion

In the article, six phases of SOA governance lifecycle, SOA strategy create, alignment organization with SOA, control and management of portfolio services, control service lifecycle, enforce policies and management of service levels were investigated and ITIL v3.0 framework with phases service strategy, service design, service transfer, service operation, continual service improvement have been mapped. To resolve existing weakness in SOA governance, the map mentioned was done by ITIL v3.0 Ability in controlling and managing services. Governance model for SOA is a six-phase lifecycle that facilitates control and management problem and according to a range controls each phase. On the basis of working limit of any phase and support ability of ITIL v3.0 phases out of relevant phases, mapping among phases of SOA governance lifecycle and ITIL v3.0 governance is done. The map support service as basic SOA. The map between SOA and ITIL v3.0 can be summarized as follow:

1. SOA strategy creation along with service strategy.
2. Alignment organization with SOA along service design.
3. Control and management portfolio service and control service lifecycle along service transfer.
4. Enforce policies along service operation.
5. Management of service levels along continual service improvement.

Table 2 – The Mapping SOA Governance Lifecycle and ITIL v3.0

SOA Governance Lifecycle		ITIL v3.0 Framework	
Phases	Main elements	Phases	Main elements
Create SOA strategy	Policy	Service strategy	Policies to determine service accordance with the needs
	Procedures and mechanisms		Service methods and processes
	Roles and Responsibilities		Roles and responsibilities in the service
	Standard		Rules governing the service strategy
	Metric		Metric, CSF and KPI in service strategy
Align organization with SOA	Policy	Design Service	Policies for service design
	Procedures and mechanisms		Methods and processes related to service design
	Roles and Responsibilities		Roles and responsibilities in service design
	Standard		Rules governing the service design
	Metric		Metric, CSF and KPI in service design
Manage Service portfolio & Control service Lifecycle	Policy	Transition Service	Policies for control and change service
	Procedures and mechanisms		Methods and processes related to transition service
	Roles and Responsibilities		Roles and responsibilities in transition service
	Standard		Rules governing the transition and change service
	Metric		Metric, CSF and KPI in transition and change service
Enforce policies	Policy	Service Operations	Policies relating to how Service operations
	Procedures and mechanisms		Methods and processes for determining service operations
	Roles and Responsibilities		Roles and responsibilities relating to the operation and implementation of service
	Standard		Rules governing the operation and implementation of service
	Metric		Metric, CSF and KPI in how Service operations
Manage service levels	Policy	Continual Service Improvement	Policies to The dimensions Service Development
	Procedures and mechanisms		Methods and processes for Service Improvement
	Roles and Responsibilities		Roles and responsibilities for reviewing service levels and its development
	Standard		Managerial rules governing Service levels and its development
	Metric		Metric, CSF and KPI in determining service levels and how to develop

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