

IT Infrastructure Library (ITIL) framework approach to IT Governance

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Abstract: Managing and using IT services is considered very important for modern businesses to improve their performance. IT Governance supports businesses to plan and control the IT investments to achieve their business objectives. IT Governance is part of enterprise governance which contributes to the management of IT resources, with focus on prioritization and justification of IT investments, controlling, budgeting and defining authorization levels. IT Infrastructure Library (ITIL) is one of the IT Governance frameworks that provides a systematic approach to IT Governance. In reference to this research, the study is based on secondary data. The study is focused on understanding the ITIL framework in relation to IT Governance. Additionally, this paper contributes to IT investments and IT resource management in an organization, starting with technological changes, reduction of operating costs, maintenance, decision-making process with the focus to improve organization sustainability.

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1. INTRODUCTION

Nowadays, the usage of IT is a critical point to improve the business governance practices, which means that managing and using IT services is very important for the success of the businesses. IT Governance supports businesses to effectively manage IT resources by different frameworks (National Computing Centre, 2005). IT Governance support companies to manage and control IT-related projects, starting with prioritization and justification of IT investments, controlling, budgeting and authorization levels (Moeller, 2013). According to Moeller, IT Governance is the process of aligning IT investments with the business processes and governmental laws and rules including professional standards, and it manages and controls IT services.

IT Infrastructure Library (ITIL) is one of IT Governance frameworks, which supports organization to manage IT services effectively. ITIL is globally recognized as a set of best practice guidance for IT Service Management in organizations, and now it is considered the most widely accepted model for IT Service Management in all categories of the organization in the world (ItSMF, 2011).

IT Service Management focus is mainly concerned on the operational excellence of IT related services, whereas on the other hand IT Governance focuses on enabling, controlling and assisting with the decision making at the strategic level.

The research is related to some of IFAC objectives, in the context of managing technological changes, enhancing enterprise stability, reducing operational costs and

maintenance and decision-making process, which can be achieved through the application of ITIL.

The objective of this paper is to investigate and understand the ITIL Framework in relation to IT Governance.

2. METHODOLOGY

Due to the nature of the study, secondary data sources are referred, obtained from various sources to assist with the conclusion for this study. According to Sekaran, secondary sources are considered data that's already in existence, therefore an extensive research based was performed by acquiring data at various sources such as online databases of journals, papers, and other relevant credible sources. In this case secondary data provided sufficient information and was determinable to reach conclusion in reference to ITIL framework approach to IT Governance (Sekaran, 2013).

3. IT GOVERNANCE

IT Governance is an integral part of the enterprise governance in defining leadership, organizational structures and processes to achieve the planned objectives and to increase the sustainability of enterprises, with the focus to improve the management and control the information technology (IT Governance Institute, 2004; National Computing Centre, 2005). IT Governance covers five key areas for IT management and control, such as IT and Business Strategy Alignment, Value Delivery, Risk Management, Resource Management and Performance Measurement (IT Governance Institute, 2004).

There are different framework related to IT Governance, such as ITIL, COBIT, CMMI, COSO, and these are the best-practice approaches to regulator and corporate governance compliance where each of them on their own have specific strengths (Calder, 2008).

4. ITIL BACKGROUND AND ITS ROLE ON IT GOVERNANCE

ITIL describes the best practices approaches in IT Service Management, starting from strategy generation to the continual service improvements. ITIL was published in the 1980s, by the Central Computer Telecommunications Agency (now Office of Government Commerce). The first version of ITIL has 31 associated books covering all aspect of IT services. In the year 2000, was published the second version of ITIL as a set of revised books which become universally accepted for effective IT service provision and in 2007, ITIL V2 was enhanced and consolidated to the third version of ITIL which covers IT service lifecycle.

The current version of ITIL (ITIL V3) introduces a framework for IT Service Management lifecycle and highlights outcomes that must be achieved to successfully implement and manage IT services (ItSMF, 2011).

ITIL V3 is a library that contains a set of five books and 26 different processes inside different phases of its lifecycle that describes the processes that need to be implemented in an organization and provides a systematic approach in the area of IT Governance, management, operations and control of IT services. Each of the five ITIL books gives the best practices for providing IT services efficiently and effectively. ITIL V3 framework contains five phases: 1. Service Strategy; 2. Service Design; 3. Service Transition; 4. Service Operation; 5. Continual Service Improvement (ItSMF, 2011).



Fig. 1. ITIL Framework (Rivard and Smith, 2010)

4.1 Service Strategy phase

This phase can help IT planning by five key processes: Strategy management for IT Services, Service Portfolio Management, Business Relationship Management, Financial Management and Demand Management, to map current situation of the enterprises. It helps to identify the IT services that are needed by the organizations to understand how these services should be delivered, to define the customers, develop the offer, identify strategic assets, quantifying the value of service, financial forecast for the services and to analyse how changes in the business environment would affect the IT services. The outcomes are the detailed description of the IT service that is delivered to customers, IT planning to achieve institution objectives, financial budget and performance plan (ItSMF, 2011). Moeller, suggest that companies initially should assess their service strategy by answering themselves the questions below about their IT services (Moeller, 2013):

- Which of our IT services or service offerings are the most distinctive?
- Which of our services are the most profitable for the overall enterprise?
- Which of our customers and stakeholders are the most satisfied?
- Which areas or services are potential problem points or areas for dissatisfaction?
- Which of our activities are most different and effective?

4.2 Service Design phase

Service design phase includes eight processes: Design Coordination, Service Catalogue Management, Service Level Management, Supplier Management, IT Service Continuity Management, Information Security Management, Availability Management and Capacity Management. Service design phase ensures that all IT units can deliver quality services, meet all the enterprise requirements by alignment of IT and business needs, improve IT Governance, improve quality of service, improve consistency between IT units, and easier implementation of new services (ItSMF, 2011). According to Moeller, there are five key aspects of service design: 1. Design of each IT service offered; 2. Design of the service management systems and tools; 3. Design of IT architectures and management systems; 4. Design of processes needed to install, operate and improve IT services and processes; and 5. Design of measurement methods and metrics (Moeller, 2013). He classified activities into three categories planning, improving and measuring actions, with a focus on service delivery capacity management. These are depended from multiple inputs, including requirements regarding the availability of the business; information on reliability, maintainability, recoverability, and serviceability; and information from the other processes, incidents, problems, and achieved service levels (Moeller, 2013).

4.3 Service Transition phase

This phase helps to control and manage the risk of IT service failure by using contingency plans to manage the risk when new services are transitioned to a new operation level of service. It ensures that all changes comply with institution requirements to improve the consistency and quality of new service implementation (ItSMF, 2011). This phase includes seven processes: Change Management, Release and Deployment Management, Service Validation and Testing, Change Evaluation, Service Asset and Configuration Management, Knowledge Management and Transition Planning and Support. According to Moeller, this phase helps in utilized standardized methods and procedures to ensure safe change management and to minimize the impact of changes in service delivery quality (Moeller, 2013).

4.4 Service Operation phase

This phase contributes to perform the day-to-day operation of the processes that manage the IT services. This can be achieved by the application of five processes: Event Management, Incident Management, Problem Management and Request Fulfilment. It is also where performance indicators for the services are gathered and reported, and value is realized (ItSMF, 2011). Moeller divided this phase into these categories: Service Operation Event and Incident Management and Service Operation Problem Management.

4.5 Continual Service Improvement phase

Continual service improvement phase is responsible to identify and evaluate institution needs and implement improvements to IT services to support institutional goals (ItSMF, 2011). This phase helps to improve the process efficiency and effectiveness by these activities lifecycle: Service Strategy, Service Design and Service Transition and Service Operation.

ITIL helps companies in organizing the IT service activities inside the organization to improve the quality of IT services delivered from business and customer perspective (ItSMF, 2011). According to Moeller, ITIL is a framework designed to support IT functions and outlines the best practices that are crucial for IT Governance, starting from checklists, tasks, procedures, and responsibilities (Moeller, 2013). He identified some of the advantages of ITIL framework application: Increased user and customer satisfaction with the IT services provided; Improved service availability, directly leading to potentially increased business profits and revenue; Financial savings from reduced rework, lost time, improved resource management and usage; Improved time to market for the IT aspects of new products and services; Improved decision making and optimized risk for all IT-related processes.

ITIL implementation offers and requires a culture change, and institution should prepare employees and management of institution how ITIL implementation will help them in the working environment.

5. ITIL RELATIONSHIP WITH THE FIVE PILLARS OF IT GOVERNANCE

5.1 ITIL and strategy alignment

Nowadays, the usage of IT services is a crucial point to create a competitive advantage. The alignment of IT and business strategy plays an essential function in this aspect. According to Chen, Business-IT Alignment can be categorized into three dimensions: Architecture, Governance, and Communication (Chen, 2008). Esmaili et al. in their paper define the role of ITIL in IT and strategy alignment into two different approaches in the context of a business organization (Esmaili, Gardesh and Sikari, 2010). They declare that ITIL uses IT services as an enabler and a potential for new initiatives of business activities and as a supportive mechanism to meet the business strategies and goals to facilitate business maturity. Kashanchi and Toland in their research, declare that ITIL is an effective method of aligning IT and business objectives (Kashanchi and Toland, 2006):

Strategic alignment with the ITIL implementation can be achieved by improving IT services and enhancing communication between IT and business; ITIL it viewed as a mechanism that removes the boundaries and allows people in the organization to share knowledge; ITIL improve IT strategy, supports business strategy, and increase the competence of organizational infrastructure; ITIL provides consistency of all the activities in an organization; ITIL contributes to the availability of IT services and improved quality of service which results in satisfied customers and better competitive advantages.

5.2 ITIL and value creation

Values in the context of business are related to the design and business outcomes. According to Orr et al. values can be expressed in many ways as are presented below (Orr et al., 2016): Achieving service levels from a business outcome perspective; Delivering business metrics supported by IT quality measurements; Measuring IT quality in business/user terms, such as customer achievement of outcomes and customer satisfaction.

ITIL can contribute to the value creation by using the Service Strategy phase, with the alignment of IT and business strategy, by increasing effectiveness, competition, and market spaces.

5.3 ITIL and performance evaluation

Service capacity management is one of the components which is part of the Service Design phase of the ITIL. This is responsible for ensuring that the performance of IT services are within the parameters which are defined in service level agreements, which defines the performance and expectation between IT and its customers (Moeller, 2013). ITIL is a framework that helps when changes are proposed and after they are implemented to optimize IT performance. The ITIL impact on performance evaluation is described in Moeller

book, on availability management process which contains the following objectives: Engage adequate needed resources including updates of the current and future organization needs; Ensure continuous oversight of services and guidance to entire areas of organization IT functions; Ensure presence by achieving or at least meeting and eventually exceeding benchmarks by managing services and resources related to the availability performance; Enable on-time diagnosis and problem resolution of availability related of incidents and other related problems; Enable continuous assessment of the impact of any changes in the availability, performance including capacity of all services and resources; Proactive measures shall be implemented wherever those actions can be cost-justifiable.

5.4 ITIL and information asset management

Asset management purpose is to identify, control, record, report, audit and verify the business service assets, and is responsible to manage and protect the integrity of service assets by ensuring that only authorized components and authorized changes are used. It supports the ITIL processes by providing accurate configuration information to help in the decision-making process, to resolve incidents and problems (UCISA, 2014). According to UCISA, service asset and configuration management principles includes: The framework and main principles are set out against which assets and configurations are developed and maintained; The resources are controlled so assets and configuration management operations are continually in check; Requirements to bring corporate governance, e.g. software asset management; The need for availability, reliability, and cost-effectiveness services are present; Focus change in the transformation from detect and fix into an advanced system by predicting and proactive approach; Establish control level to capture all requirements on time as far as traceability and auditing; Accurate asset and configuration management for business and the process of service management; Introduction of further automation by reducing costs.

5.5 ITIL and risk management

ITIL is a framework that helps to identify the need for information security in an organization, it views security not just as an IT issue, but as management issues as well, with a focus to achieve the following goals (Moeller, 2013):

- Availability objective – timely information availability and usability whenever the need arises – a system that can successfully repel attacks and recovery from potential failures;
- Confidentiality objective – refers to provide access only those authorized in reference to information sharing
- Integrity objective – Information stays intact, fully complete, accurate and always protected;
- Authenticity and nonrepudiation objective – All transactions and information sharing between organizations or business partners can be trusted.

According to Hertvik, IT risk management is a continuous process that has its lifecycle (Hertvik, 2017). He declares that risk can be identified in the Service Design and Continual Service Improvement phase of ITIL Framework. Also, he declared that ITIL framework with the continual service improvement practice can contribute to follow and update the risk management plan for improvement.

6. CONCLUSIONS

IT and Business Alignment have an important role on the strategic level. IT Governance can contribute to a better business environment by improving the business performance focused on managing and controlling IT services. ITIL is a framework of IT Governance which has five stages that describes the best practices in IT service activities inside the organization. According to the literature, ITIL is related somehow to the five pillars of IT Governance, as presented below:

- IT and Business Alignment with ITIL can enhance the communication between IT and business, knowledge sharing, increase competence, and consistency of activities inside the organization. Strategy Management for IT Services process contributes to identifying the IT services which organization need to fulfill the strategy and to improve the sustainability. Also, Service Level Management helps to define how the IT services should be delivered for a specific period of time. On the other hand, Knowledge Management supports the decision-making by collecting information and spreading that as a knowledge. Demand Management as the process of ITIL defines how changes in the business environment would affect the IT Services;
- Value Delivery is supported with ITIL, by increasing the effectiveness, competition and market space, with increased customer satisfaction. There are many processes in ITIL which can contribute to generating the value by identifying and prioritization of the IT services which are important to improve the stability of the organization, preventing the incidents or to identify the weakness inside the organization in order to react before an incident happens;
- Risk Management and ITIL framework can help in identifying the risks and can contribute to follow and update the risk management plan for improvement. Specifically, the Service Operation phase plays an important role in monitoring and controlling, of IT services which allow to identify and manage the risks, also in defining the authorization policies;
- Resource Management provides accurate configuration information and is responsible for protecting the integrity of service assets by ensuring that only authorized components and authorized changes are used. Capacity Management ensures that the organization have enough capacity to run the services;
- Performance measurement can be done in the Service Design and Service Operation phase of ITIL, to ensure the performance of IT services, assist in diagnosis and

resolution of availability of incidents and problems to ensure that service availability is achieved.

As per the above stated, it can be concluded that the ITIL framework provides a holistic approach in the context of IT Governance. ITIL application contributes in many aspects of organization sustainability, by controlling and managing technological changes to improve the usage of IT services and increase the stability of the organization.

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