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ITIL Self-assessment Approach for Small and Medium Digital Agencies

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Abstract – **In a growing world of Information Technology, entrepreneurs, start-ups and SMEs (small and medium-sized enterprises) require a good mechanism of delivering a good service. Information Technology Infrastructure Library (ITIL) is identified to be the best and most popular "best practices" framework. However, implementing ITIL not only is very difficult but there are also no best practices for implementing it. As a result, ITIL implementations are usually long, expensive and risky. This paper proposes an approach to identify and assess small business specific ITIL implementation and provide a roadmap for improvement based on the assessment results, business needs and guidelines. The proposed guidelines were used practically to assess and implement ITIL processes in a real-world digital agency.**

Keywords – **Digital agencies, IT service management (ITSM), ITIL, maturity model, self-assessment, service lifecycle, SMT.**

I. Introduction

In today's IT world, businesses rely on IT to enable them to achieve their companies' vision, goals and business strategy.

Organizations use the IT for various reasons but mainly to:

- Revolutionize the way they operate, communicate and do business;
- Develop and innovate, gain market advantage and differentiate themselves to their end customers;
- Drive increased productivity and efficiency, improve business processes, make cost savings, and increase sales and growth;
- Communicate with larger, more global marketplace [1].

All of the above-mentioned reasons fully correspond to the main use of IT by the digital agency, where its quality of IT is reflected in its reputation and brand, and has direct impact upon sales and revenue. In order to achieve benefits from the IT investment, the resulting IT service must be well planned, designed, managed and delivered. This is the key of a good IT service management.

IT service management has many definitions, but the one that is more specific is the following.

IT service management is the implementation and management of quality IT services that meet the needs of the business. IT service management is performed by IT service providers through an appropriate mix of people, processes and information management [2].

Providing a good IT service management is essential to gain business benefits through IT at an agreed and controlled cost.

II. ITIL Service Management Model

ITIL is a number of best practices that can be applied to managing and delivering IT service management (ITSM). It focuses on aligning IT services with the needs of business. ITIL provides a practical framework for identifying, planning, delivering and supporting IT services to the business. ITIL can be described as the mixture of many concepts and frameworks to produce a roadmap [3]. In implementing ITIL, it is crucial to understand the differences among the concepts and the frameworks [4]. The processes, procedures, tasks and checklists described by ITIL are used by an enormous number of organizations to establish the integration with their strategy, value delivery and maintaining their competency level. ITIL can be a solid backing for organizations that want to improve their IT services, reduce costs, improve customer satisfaction and enhance productivity. ITIL also helps the IT service providers to identify the effective approach for specifying metrics and measuring the outcomes.

ITIL approaches service management from the lifecycle aspect of a service. The service lifecycle is an organizational model that provides insights into:

- The way service management is structured;
- The way various lifecycle components are linked to each other;
- The impact that changes in one component will have on other component and on the entire lifecycle system [5].

The ITIL service lifecycle consists of five phases (shown in Fig. 1):

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

Each stage of the lifecycle also consists of a defined set of processes that have their own purpose (concept), activities and inputs/outputs. In total, there are 26 processes that are spread across the lifecycle and can be implemented separately from each other.

Service strategy delivers guidance with designing, developing and implementing service management as a strategic asset [5]. It describes principles underpinning the practice of service management, which are useful for developing service management policies, guidelines and processes across the ITIL service lifecycle. Two aspects of strategy are covered in the ITIL service strategy:

- Defining strategy whereby a service provider will deliver service services to meet a customer's business outcomes;
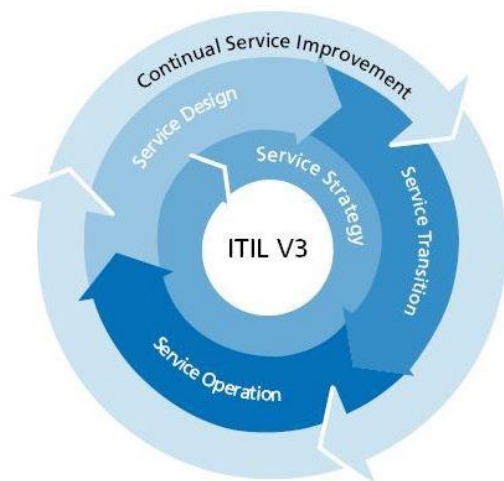- Defining a strategy for how to manage those services [10].

Fig. 1. The service lifecycle [6].

Service strategy is critical in the context of all processes along the ITIL service lifecycle. The purpose of the service strategy phase is to define the perspective, position, plans and patterns that a service provider needs to be able to execute to meet an organization's business outcomes. Service strategy is located at the center of the service lifecycle, where the value creation begins with understanding organizational objectives and customer needs. The development and application of service strategy requires constant revision, just as in all other components of the cycle.

ITIL service strategy is aimed mainly at executives and managers, who are responsible for defining the strategy of a service provider.

The processes specifically addressed in the service strategy are the following:

- Strategy management for IT services;
- Service portfolio management;
- Financial management for IT services;
- Demand management;
- Business relationship management [10].

ITIL service design provides guidance for the service design stage of the ITIL service lifecycle. It deals with the design and development of services and their related processes [5]. The purpose of the service design stage of the lifecycle is to design IT services, together with governing IT practices, processes and policies, to implement the service providers strategy and to facilitate the introduction of the service into supported environments ensuring quality service delivery, customer satisfaction and cost-effective service provision. Design encompasses the whole IT organization, for it is the organization as a whole that delivers and supports the services. Service design is the stage in the lifecycle that turns a service strategy into a plan for delivering the business objectives.

The service design phase in the lifecycle begins with the demand for new or changed requirements from the customer. Good preparation and an effective and efficient infusion of people, processes, products (services, technology and tools) and partners (suppliers, manufacturers and vendors) – ITIL's four P's – are necessary if the design, plans and projects are to succeed [11].

The processes specifically addressed in the service design are the following:

- Design coordination;
- Service catalogue management;
- Service level management;
- Availability management;
- Capacity management;
- IT service continuity management;
- Information security management;
- Supplier management [11].

Service transition consists of the management and coordination of the processes, systems and functions required for the building, testing and deployment of new and changed services [5]. It provides guidelines for the development and improvement of capabilities for transitioning new and changed services into the supported environment, including release planning, building, testing, evaluation and deployment.

Service transition establishes the service as specified in the design phase, based on the customer and stakeholder requirements. The purpose of service transition stage of the service lifecycle is to ensure that new, modified or retired services meet the expectations of the business as documented in the service strategy and service design stages of the lifecycle [12].

Service transition also introduces the service knowledge management system, which can support organizational learning and help to improve the overall efficiency and effectiveness of all stages of the service lifecycle. This will help people to benefit from the knowledge and experience of others, support informed decision-making and improve the management of services.

The processes specifically addressed in the service transition are the following:

- Transition planning and support;
- Change management;
- Service asset and configuration management;
- Release and deployment management;
- Service validation and testing;
- Change evaluation;
- Knowledge management [12].

Service operation involves coordination and carrying out activities and processes required to provide and manage services for business users and customers within a specified agreed service level [5]. Service operation is also responsible for management of the technology required to provide and support the services.

Service operation is a critical stage of the service lifecycle. Well-planned and well-implemented processes will be of no avail if the day-to-day operation of those processes is not properly conducted, controlled and managed. Nor will service improvements be possible if day-to-day activities to monitor

performance, assess metrics and gather operational data are not systematically conducted during service operation.

The processes specifically addressed in the service operation are the following:

- Event management;
- Incident management;
- Request fulfillment;
- Problem management;
- Access management [13].

IT departments must continually improve their services in order to remain appealing to the business. This is placed within a lifecycle phase of Continual Service Improvement (CSI) [5].

The purpose of CSI stage of the lifecycle is to align IT services with changing business needs by identifying and implementing improvements to IT services that support business processes [14]. These improvement activities support the lifecycle approach though a service strategy, service design, service transition and service operation. Feedback from any stage of the service lifecycle can be used to identify improvement opportunities for any other stage of the lifecycle. CSI is always seeking ways to improve service effectiveness, process effectiveness and cost effectiveness.

In order to identify improvement opportunities, the measurement of current performance is an important factor. Despite the performance measurement, CSI also measures and monitors the following matters:

- Process compliance;
- Quality;
- Business value of a process [5].

The processes/functions specifically addressed in the CSI are the following:

- Seven-step improvement;
- Service reporting (function) [14].

ITIL is the world's most widely accepted and adopted IT service management and delivery approach, where real organizations have benefited in a number of ways.

From the business point of you, adoption of ITIL practices ensures many benefits, such as:

- IT services which align better with business priorities and objectives, meaning that the business achieves more in terms of its strategic objectives;
- Known and manageable costs, ensuring the business better plans its finance;
- Increased business productivity, efficiency and effectiveness, because IT services are more reliable and work better for the business users;
- Financial savings from improved resource management and reduced rework;
- More effective change management, enabling the business to keep pace with change and drive business change to its advantage;
- Improved user and customer satisfaction with IT;
- Improved end-customer perception and brand image [1].

Regardless of how big the organization is, whichever industry it belongs to or how many layers of management it consists of, there is always a space for improvement from ITIL.

III. FITSM – STANDARD TO LIGHTWEIGHT IT SERVICE MANAGEMENT

In order to assess the level of ITIL maturity within the organization, it is necessary to go through all 26 processes described in ITIL. It would be very time consuming and useless to go through all of them as they might not be relevant at all or might not even exist within a small or medium organization.

FitSM is a standard family aimed to facilitate lightweight service management implementation. FitSM is designed to be compatible with the International Standard ISO/IEC 20000-1 (requirements for service management) and the ITIL [7].

FitSM introduces several documents, providing guidance and input on ITIL, like overview and vocabulary, requirements, objectives and activities, role model, maturity and capability assessment schema etc. For the purpose of this implementation, only three are going to be used – process specific requirements document, process definition template, and maturity and capability assessment schema. The requirements document sets a minimum set of requirements for effective ITSM. This is intended to be achievable and useful in a small digital agency that may have existing but not entirely defined or implemented ITIL processes. The process specific requirements document targets an overall ITIL maturity and is composed of 14 ITIL processes from across all five service lifecycles phases. The processes are the following:

- Service Strategy
    - Service Portfolio Management
    - Business Relationship Management
- Service Design
    - Service Level Management
    - Service Availability & Continuity Management (FitSM describes Availability and IT Service Continuity Management as one process)
    - Capacity Management
    - Information Security Management
    - Supplier Management
- Service Transition
    - Service Asset and Configuration Management
    - Change Management
    - Release and Deployment Management
- Service Operation
    - Incident Management
    - Problem Management
- Continual Service Improvement
    - Service Reporting (function)
    - Seven-step Improvement.

The process definition template will facilitate the documentation and organization of ITIL processes. It will capture such relevant information as goals and objectives, role model, activities, key performance indicators (KPI), potential service management tools etc. These 14 documents will be

kept as a source of truth and reference during the assessment process. In capability assessment schema it is considered that there are 6 capability levels (0 to 5) as described in ISO/IEC 15504 standard but only levels 0-4 will be described. This is done as only levels 0-3 are considered in the implementation scenarios FitSM addresses. Level 4 is included in the assessment schema largely to show the difference from level 3. Within the scheme we have two kinds of requirement: Tasks/activities are things that are done while output/achievement are things, which are produced.

IV. EXPERIMENTS

ITIL self-assessment within a small or medium-sized digital agency requires a new, efficient, easy-to-use and lightweight approach. The purpose of this study is to describe and apply the approach to a live digital agency.

The approach to ITIL process self-assessment usually covers three key areas on which ITSM is implemented, namely: people, processes and technology [9].

In this study, the main focus will be on processes and technology.

The ITIL processes will be assessed using the approach introduced by Tudor IT Process Assessment (TIPA) framework [8]. The framework describes how to document the assessment that includes individual process SWOT analysis, analyze the results and produce a road map for ITIL process adoption and next steps. The maturity level will be defined using the FitSM approach of a standard ISO/IEC 15504 scale and process criteria against a reference model that is defined in terms of purpose, expected results, base practices, inputs and outputs. To identify the extent to which the process is performed, achieves its purpose and produces its outcomes, a workshop will be conducted to go through each process assessment criteria. All of the above-mentioned activities will help to facilitate the assessment and have a documented result of each assessed process and see where its strengths, weaknesses, opportunities and threats are.

While carrying out the ITIL process maturity assessment, it is also important to look at the process assessment from a technological point of view.

Carrying out each management process in scope of ITSM may require the concurrence of appropriate service management tools (SMT), which can range from documentation describing the process till sophisticated software that assists the service provider. [9] The lack of these tools may limit the value of maturity of ITSM or even make it not possible. The assessment process will follow the framework introduced by FedSM organization. The idea is to assess the identified 14 service management processes by appointing them to one of three levels:

- Level 0: No tools;
- Level 1: General tools;
- Level 2: Specific tools [9].

All three levels have different criteria for every process that needs to be assessed. Levels that are defined in this way are helpful for the organizations that provide service to make a decision to improve the tool support in case it is needed as

well as facilitating the maturity of service management within the organization.

The analysis of both process maturity and service management tool assessment will allow identifying if there is a mismatch between ITSM process and the technology used to facilitate it and produce a more accurate process assessment.

The overall ITIL process assessment plan is the following:
- Get the organization acquainted with the service management processes that are going to be assessed and the methods used;
- Perform the assessment of a target level of each process maturity using the workshop approach;
- Perform assessment using the TIPA approach and FitSM process maturity model and predefined criteria;
- Perform SMT assessment using FedSM tool maturity baseline assessment framework;
- Analyze both assessment results to identify processes that need to be improved/implemented;
- Define the improvement plan based on the analysis results.

The organization will be introduced to the ITSM and the processes being assessed via a handout that will contain the description of each process and the overall approach to the assessment. The process description will contain the following:
- Introduction and overview;
- Goals and objectives;
- Inputs/Outputs;
- Activities;
- Key performance indicators.

The next step is to have a workshop and perform the assessment of a target maturity level of each process that will help to identify the processes that require improvement or need to be implemented later on. Following the description of each level of process maturity, the target level will be identified and recorded as described in Table I below, showing the target level for two service strategy processes.

FitSM describes maturity level criteria for all 14 processes that will be used during the assessment. To identify to which extent a particular level has been achieved, the process will be rated using a scale shown below:
- "Fully" achieved: Achieved between 86 % and 100 %
- "Largely" achieved: Achieved between 51 % and 85 %
- "Partially" achieved: Achieved between 16 % and 50 %
- "Not" achieved: Achieved between 0 % and 15 %

The percentage will be calculated based on the process criteria. The representation of the assessment results will be captured in a table. See Table II as an example.
The table presents assessed processes horizontally, levels and attributes vertically.

The results of the assessment will be shown in a spider diagram (Fig. 2). The example diagram shows the result of only 5 processes out of 14.

TABLE I

TARGET LEVEL ASSESSMENT

		Level 1 Ad-hoc/Initial	Level 2 Repeatable/Partial	Level 3 Defined/Complete	Level 4 Managed/Aligned
Service Portfolio Management	Target	F	F		
Business Relationship Management	Target	F	F	F	

TABLE II

PROCESS PROFILE

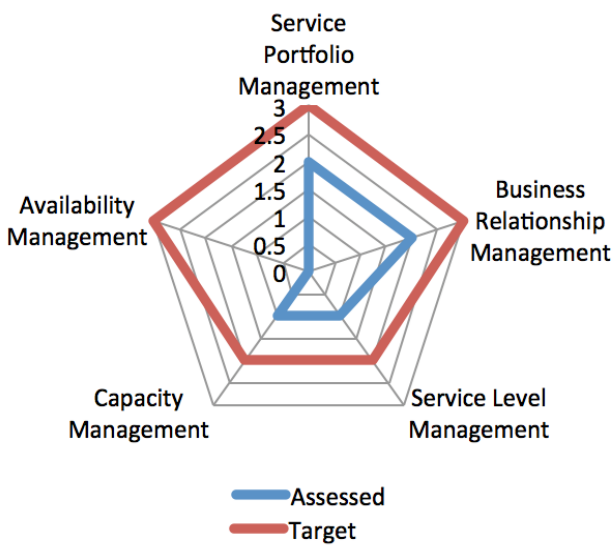|		Level 1 Ad-hoc/Initial	Level 2 Repeatable/Partial	Level 3 Defined/Complete	Level 4 Managed/Aligned
Service Portfolio Management	Assessed	Largely	Largely	Partially	Not
Business Relationship Management	Assessed	Fully	Largely	Partially	Not

Fig. 2. Results of maturity assessment.

Fig. 3. Results of SMT assessment.

Each radial arm of the web represents a service management process. The diagram shows strengths in some areas and weaknesses in other as well as the comparison between the assessed and target level.

Similar approach will be taken to perform SMT assessment, but without assessing target levels. Assessing SMT and producing a spider graph will help to identify processes with a good and poor set of SMTs to perform the process phases (Fig. 3).

Analysis of both assessments will cover the explanation of maturity and SMT level achieved, process inputs and outputs, process SWOT analysis, recommendations and expected outcomes.

The final step of the assessment approach is to define the improvement or implementation plan. Based on the results of the assessment, the organization (together with all those involved) has to prioritize the order in which processes will be improved or implemented and put in place a high-level plan (which usually is a typical project plan).
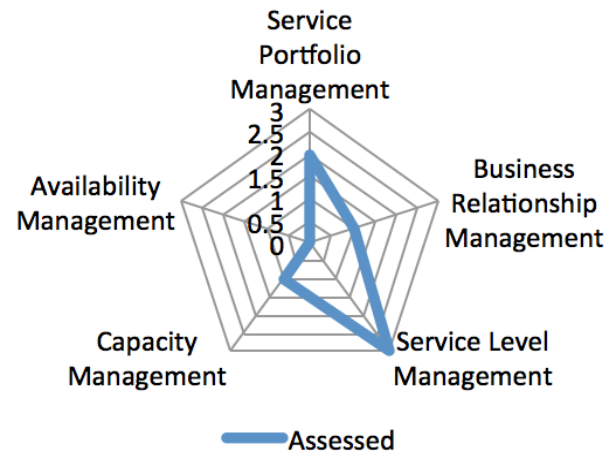
The implementation/improvement of a particular process needs to realize the following steps:

- To review process objectives/outcomes;
- To write process policy;
- To define process triggers;
- To define process KPIs;
- To defining process roles and responsibilities;
- To designing process flow;
- To write process procedures;
- To define SMTs (Service Management Tools).

V. CONCLUSION

The described approach will be implemented in a real life small digital agency. While conducting the assessment, all the necessary documentation and notes will be taken for post-assessment analysis, to identify if the approach needs improvement.

The results of this approach will allow the organization to identify the service management processes that need to be improved or implemented and the method of how to actually accomplish that. The approach itself can be used by any small IT organization (SME) that would like to improve or implement ITIL service management and benefit from it. The

future work will be focused purely on the implementation/improvement of the identified processes based on the recognized obstacles to the target levels that organization has indicated. The next challenge would be to focus on the third area of ITSM – people. Dealing with people involves performing an organizational change, plan to involve people and communicate effectively in order to finalize the ITIL implementation.

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Zigurds Binders, Andrejs Romanovs. ITIL pašnovērtējuma pieeja mazām un vidējām digitālām aģentūrām
Informācijas tehnoloģiju pasaulē, jaunem uzņēmējiem un MVU (maziem un vidējiem uzņēmumiem) ir nepieciešams labs mehānisms, lai spētu nodrošināt labu pakalpojuma piegādi. Uzņēmumiem, kas ignorēs IT pakalpojumu vadības principus, būs arvien grūtāk attaisnot ieguldījumus IT un konkurēt ar citiem tirgus dalībniekiem. ITIL (Information Technology Infrastructure Library jeb Informācijas tehnoloģiju infrastruktūras bibliotēka), tiek uzskatīta par vislabāko un vispopulārāko "labo prakšu" kopu, ko var lietot IT pakalpojumu pārvaldības nodrošināšanai. Tas ir atvērts procedūru un ieteikumu apkopojums, kurā apkopotas zināšanas un pieredze, kas uzkrāta gadu gaitā dažādu iestāžu un organizāciju iekšienē. ITIL ieviešana ir grūts un laikietilpīgs darbs, pie tam vēl neeksistē "labo prakšu" ITIL ieviešanā. Tādējādi, ITIL ieviešanas process ir dārgs un riskants pasākums. Šajā rakstā tiek aprakstīta pieeja, ko var pielietot mazajos un vidējos uzņēmumos, lai novērtētu ITIL brieduma līmeni un sniegtu ITIL procesu uzlabojumu un/vai ieviešanas plānu. Pieeja balstās uz divām no trim galvenajām IT pakalpojumu pārvaldības jomām – procesiem un rīkiem. Ir novērtēti tikai 14 ITIL procesi, kurus apraksta FitSM un tika izmantota pieeja, ko apraksta TIPA un FedSM, kas par pamatu izmanto ISO/IEC 15504 standartu, bet ar nelielām izmaiņām kritēriju un brieduma līmeņu aprakstā. Pakalpojumu pārvaldības rīku novērtēšanā tiks pielietota līdzīga pieeja, kas par pamatu izmanto FedSM definētos kritērijus un līmeņus. Aprakstītā pieeja tiks pielietota reālā digitālā aģentūrā, izvērtējot un īstenojot ITIL procesus. Turpmākais darbs būs identificēto ITIL procesu implementācija vai uzlabošana, kā arī aģentūras darbinieku kā organizatorisko pārmaiņu elementu izpēte.

Зигурдс Биндерс, Андрей Романов. Подход самооценки ITIL для малых и средних цифровых агентств
В мире информационных технологий новым предпринимателям и малым и средним предприятиям необходим адекватный механизм для обеспечения поставки услуг хорошего уровня. Предприятиям, которые будут игнорировать принципы управления ИТ услугами, будет все труднее оправдать инвестиции в ИТ и конкурировать с другими участникам рынка. ITIL (Инфраструктурная библиотека информационных технологий) является наилучшим и наиболее популярным подходом использования «лучших практик», который может быть применен для обеспечения управления ИТ услугами. ITIL является открытым обобщением процедур и рекомендаций, в котором собраны знания и опыт, полученные за многие годы в различных организациях и учреждениях. Внедрение ITIL является тяжелой и трудоемкой работой, к тому же еще не существует «лучших практик» для внедрения ITIL. Следствием этого является высокая стоимость и риск всего процесса внедрения ITIL. В данной статье описан подход, который может быть применен малыми и средними предприятиями для оценки уровня зрелости ITIL и для составления плана улучшения и/или внедрения процессов ITIL. Подход основан на двух из трех главных областях управления ИТ услугами – на процессах и средствах. Оценены только 14 процессов ITIL, которые описываются FitSM, и использован подход, описанный в TIPA и FedSM, который как основу использует стандарт ISO/IEC 15504 с небольшими изменениями в описании критериев и уровня зрелости. В оценке средств управления услугам применяется похожий подход, за основу принимающий критерии и уровни, заданные в FedSM. Описанный подход будет применен для оценки и реализации процессов ITIL в реальном цифровом агентстве. Дальнейшая работа будет направлена на внедрение или улучшение идентифицированных процессов ITIL, а также на исследование работников агентства как элементов организационных перемен.