

THE EVALUATION OF EFFECTIVE ELEMENTS IN INFORMATION TECHNOLOGY SERVICE OPERATION BASED ON ITIL FRAMEWORK (CASE STUDY: SOUTH PARS GAS COMPLEX)

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Abstract:

Nowadays organizations need IT and its promotion in different dimensions to be successful in their organizational processes. Having benefited from information and applied it IT dominance has been known as successful factor to achieve goals in organizations. In relation to IT dominance general and international standards are developing. As a successful experience in field of IT ITIL framework including service strategy, design, implementation and operations may be used to take strategic decisions for business and may be a preventive factor effective in IT service before the occurrence and respond simultaneously business, clients' and users' demands in the organization and decrease the expenses in IT department. South Pars Gas Complex is one of the large companies in oil and gas industry which utilizes the IT extensively. In this article it is attempted to examine and assess different dimensions of operation service in ITIL framework by benefiting from available indexes in order to issue actual maturity of each dimension and finally by virtue of the findings from the collected statistical data the IT operation service position is defined in South Pars Gas Complex and then some proposals are recommended to improve IT processes in future.

Keywords: ITSM (Information technology service management), ITIL framework, organizational maturity, business strategy, IT dominance, information technology

1. INTRODUCTION

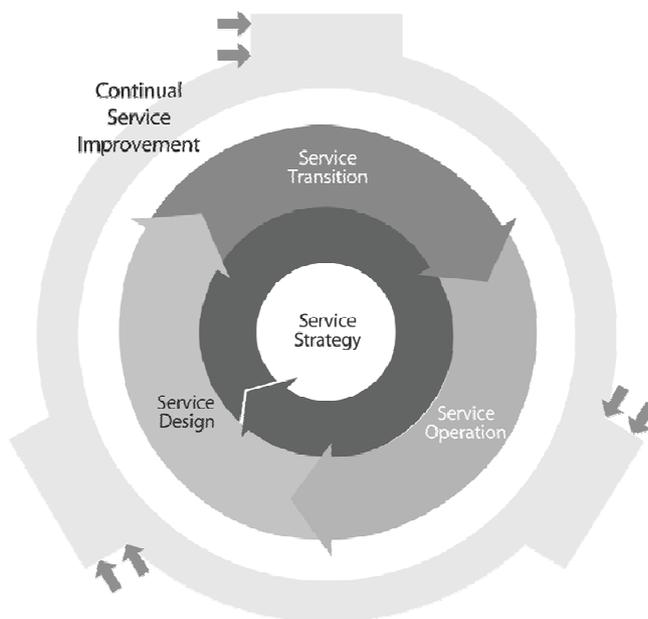
The greatest challenge of the companies and organizations presenting IT services is to have the least possible expense and the best quality; it penetrates into different parts of the organization such as increased human force efficiency, optimal use of available capacities and creating new facilities and potentials in accord with real needs of business (IT Governance Institute 2006). Advanced technology and specialist personnel are not enough and an important subject namely the management processes are important, too; in fact, they relate technology and people (Salle 2009), (Webb, Pollard & Rridley 2010). ITIL is a guideline for the IT managers to enable them direct and optimize IT substructures in their organization. ITIL allows the managers to be sure about the service rate presented in their organization so they may provide the necessary substructures according to a predefined program. Since late 1980s ITIL became an unofficial global standard in service management (IT Governance Institute 2010). First the standard was presented as a guideline for English government and finally it was concluded that organizations may benefit from the frame in all of their departments because the companies presenting IT service have accepted it as the basis of consultation, training and software support. Nowadays ITIL is known and has global utilization. The field to develop ITIL framework is a source of successful experience in service management. ITIL is used to stabilize and improve capacities in service management throughout the world by all organizations. The international standards organization and international electronic commission (ISO/IEC 20000) present an official, global standard for the organizations estimating and stabilizing their service management capacities while ISO/IEC 20000 is a standard to achieve the goal(s); ITIL is the configuration appropriate to achieve the standard; it has following qualities

ITIL core: Guidance system with the best experience and executable potential in different organizations presenting service and work (Itlibrary 2015).

ITIL complementary guidance: A complete set of publications and special guidebooks for different industrial departments, applied models and technology architectures.

ITIL core: includes five volumes; each one has the guidance necessary to an integrated approach according to ISO/IEC 20000 standard measures Figure(1).

Figure 1: ITIL Core



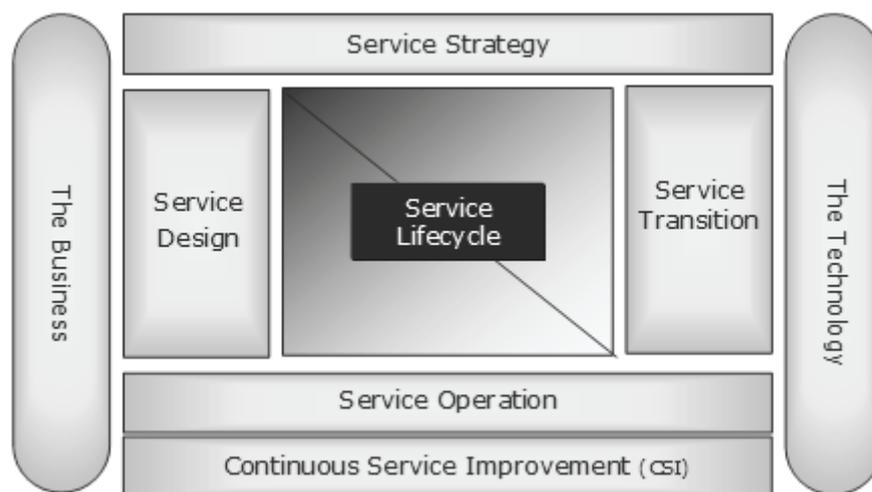
Source: IT Governance Institute 2006

- **Service strategy:** It presents the guidelines to design, develop and execute service management not only as an organizational capacity but also as a strategic potential.
- **Service transfer:** It presents guidance to improve and develop the potentials to transfer new and changed services to the operations.

- *Service design*: It presents service design and development guidelines and processes for service management.
- *Operation service*: It includes some guidelines to have effectiveness and enjoyment in presenting and supporting services and maintaining the values and rates for the service agents and clients.
- *Continual service improvement*: It composes the fundamentals, operations and methods from different sources of quality, study management and capacities improvement. The organizations are trained to promote in field of service quality, operations enjoyment and commerce durability in high scale (ITIL 2015).

Also it shows each ITIL field with service management processes into the frame; the processes are divided in two main fields: service delivery and service support. ITIL includes the sets of processes; each one includes some interrelated duties (Figure 2).

Figure 2: ITIL General structure



Source: IT Governance Institute 2006

In this article it is attempted to examine and assess different dimensions of operation service in ITIL frame by benefiting from available indexes in order to find actual maturity of each one and finally by virtue of the findings from the collected statistical data the IT operation service position is defined in South Pars Gas Complex and then some proposals are recommended to improve IT processes in future.

2. STUDY LITERATURE

Operation service is an important phase of IT service management lifecycle. If the well designed processes are not executed, controlled and directed properly, they are not useful and effective. Also the operation service personnel should have access to necessary processes and logistics at office to be able to have a general view concerning the operation service and serving manner and find any probable risk and failure in the service quality.

Service management is a set of organizational capacities special to create value to the clients in form of service. Such capacities appear as operations and processes to service management in a lifecycle with a function special to the strategy, design, transfer, operations and continual improvement. The capacities indicate the potential, competency and confidence in the organization. The process converting sources to valuable services is the central core of the service management; without such capacities a service organization is only a set of sources with a little inherent value to the clients.

Service management definition

Service management is a set of organizational capacities special to create value to the clients in form of service. Organizational capacities are formed by the challenges expected to overcome them. On the other hand, service management capacities are influence by the challenges (Mentioned later) distinguishing services from other value systems such as industries, mines and agriculture (Lloyd et al. 2003).

- Intangible nature of the products yielded by service processes: they make such processes measurement, control and validation very difficult.
- Demand has a high correlation with the client's capital; such demand enters the consumers' and clients' assets including processes, devices, deeds and operations in the market and includes the service productions.
- Direct relation and contact between the service agents and clients.
- Transient and rapid corruptible nature of the service yield and capacity: Stable quality is a value to the clients; on the other hand, the service agents need permanent clients' demand, but service management is only a set of capacities; in fact, it is a professional function fed by a vast configuration of knowledge, experience and skill.

What is service?

It is a method and device to present the values to the clients through facilitating products presentation to the clients who demand it without any expense or risk. By developing and improving related tasks' execution and decreasing the limits the services improve the yields so final yield desired by the clients increases (Lloyd et al. 2003).

Lifecycle functions and processes

Functions are organizational units formed to execute some predefined works with special yield; independently they benefit from available capacities and sources for the operation to achieve defined goals (Berkhout et al. 2003).

Principles of operation service

Operation service is to harmonize and execute activities and processes necessary to present and manage service acceptable to the commercial users and clients. Also operation service is to manage the technology to be used to present and support services.

Optimizing operation service

Operation service is optimized in two ways:

- Long term increasing optimization based on assessing function and yield of all processes and operation functions. The reports are analyzed and decided if improvement and optimization are necessary; if so, what is the best way to execute and implement it by transferring and designing service.
- Short term optimization of the works done through the operation service, functions and processes and technology and usually includes less terms executed without any change in the process or technology principles (Bartlett et al. 2003; The art of service 2015).

3. COMPONENT OF STUDY

Study goals:

- Knowing the dimensions effective on IT operation service in the organization.
- Localizing and prioritizing operation service dimensions according to their importance in the organization.
- Presenting mechanisms to improve and promote the service operations in the organization.

Study questions:

- What IS Mechanisms to improve and promote the IT service operations in South Pars Gas Complex?

- What is Strength and Weakness of IT service operation in South Pars Gas Complex?

Study territory”

In field of IT this study examines and assesses different dimensions of operation service in ITIL framework by benefiting from the indexes localized in South Pars Gas Complex.

Study method

The study is of applicable type and classified as a correlative-measurement one; also questionnaire (As the main device) and library (As the complementary) were used to collect related data.

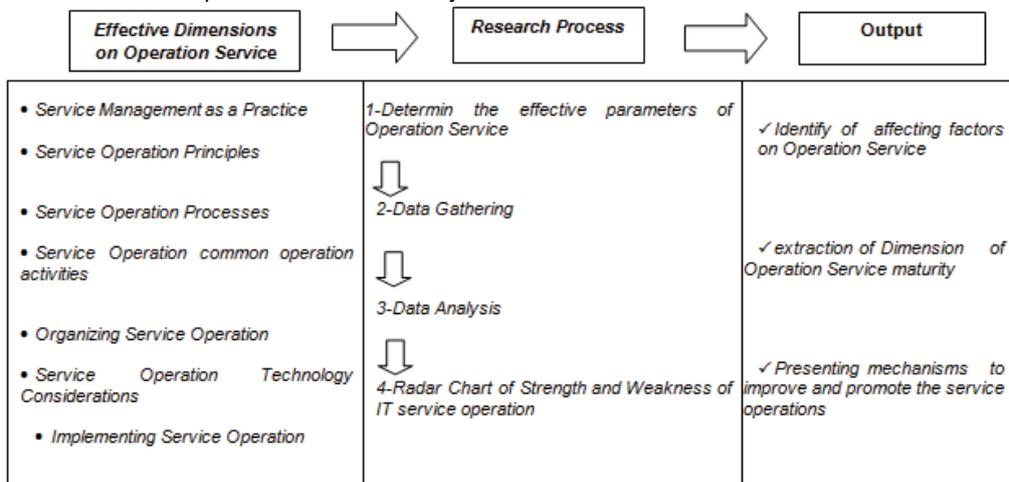
4. STUDY CONCEPTUAL MODEL

Operation service is a phase responsible of business operation in ITIL lifecycle; operation service is considered as the information technology factory; this fact requires more exact concentration on daily substructures and activities to present and execute services and the operational substructure and activities should always follow this goal. Also the operation service personnel should have access to necessary processes and logistics at office to be able to have a general view concerning the operation service and serving manner (And do not depend only on separate elements such as hardware, software and networks following only commercial goals) and find any probable risk and failure in the service quality. In this study having taken into consideration the dimensions presented by Art Of Service Company studied ITIL framework as a source of successful experience in service management used in service management throughout the world by all the organizations to stabilize and improve capacities a global and official standard is presented to the organizations examining and registering their service management capacities; on this basis following seven dimensions were defined and mentioned as the most effective ones on operation service:

- Service Management as a Practice
- Service Operation Principles
- Service Operation Processes
- Service Operation common operation activities
- Organizing Service Operation
- Service Operation Technology Considerations
- Implementing Service Operation

Implementing Service Operation each dimension has some indexes and each index is ranked according to the organizational capacities and assets and finally localized. These indexes were given as questionnaire to related experts and specialists of the organization. Then the received data were analyzed by the software presented by Art Of Service Company; the findings indicated that all the related dimensions play some role in the operation service and have some weight which are sometimes weak or strong points and then examined the effect of each dimension on the operation service and finally some strategies presented to improve and promote the operation service in organization. Table 1 shows the conceptual model of the study.

Table 1: the conceptual model of the study



Source: The art of service 2015

5. IDENTIFYING EFFECTIVE FACTORS ON OPERATION SERVICE

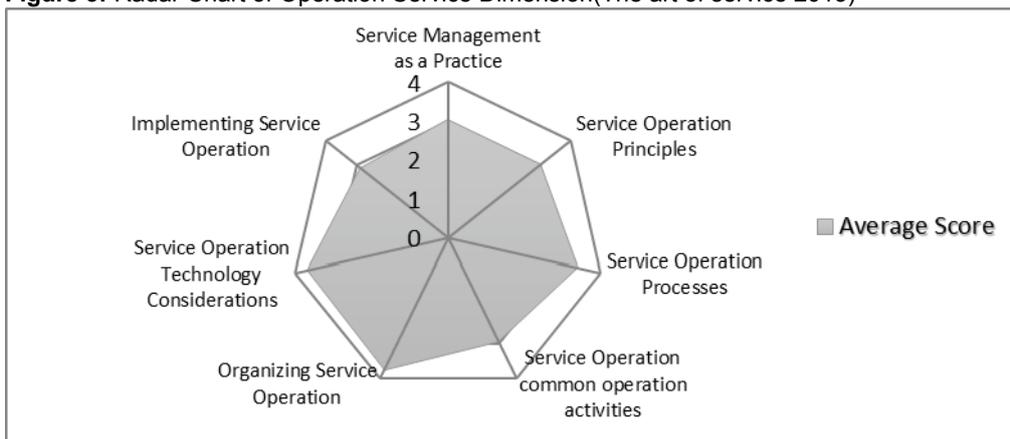
When the actual organizational conditions are tested during the study different dimensions of operation service are analyzed in IT section and at the same time, a method appropriate to assess each one's maturity and actual operation service management including processes, investment and human force is analyzed, too. The maturity levels were compared in different dimensions including the numerical interval from zero to four where zero and four indicate the lowest and highest maturity levels, respectively; the findings indicate the levels 3, 3, 3.40, 2.80, 3.90, 3.60, 2.60 and 3.90 Service Management as a Practice, Service Operation Principles, Service Operation Processes, Service Operation common operation activities, Organizing Service Operation, Service Operation Technology Considerations in field of service management, Implementing Service Operation, respectively so our highest and lowest points are in the way organizing operation and operation service public activities (namely 3.90 and 2.80), respectively while the most mature field is the way organizing operations with 3.90 points. Following table shows the questions concerning each dimension, related points and total dimensions' mean. The total mean is 28 with 22.30 points indicating desired situation for service operation in South Pars Gas Complex.

Table 2: Examining Operation Service Position with Dimensions Assessment

<i>Dimension</i>	<i>Question</i>	<i>Rank</i>
<i>Service Management as a Practice</i>	12	3
<i>Service Operation Principles</i>	12	3
<i>Service Operation Processes</i>	19	3.4
<i>Service Operation common operation activities</i>	18	2.8
<i>Organizing Service Operation</i>	12	3.8
<i>Service Operation Technology Considerations</i>	16	3.6
<i>Implementing Service Operation</i>	9	2.7
<i>Total</i>	98	22.3

Source: The art of service 2015

Figure 3: Radar Chart of Operation Service Dimension(The art of service 2015)



In continuation the radar chart figure showing operation service management dimensions.

6. ANALYZING THE RESULTED FINDINGS

As you see we are in good conditions in the way organizing operation service, service execution operation technology considerations and operation service processes, but we have some deficits in other four fields; we have the lowest point in service implementation operations indicating our deficits in some fields and it requires a comprehensive and complete management. We manage actively the

changes in operation service execution, but we are weak in assessing the changes so we should improve it and find the risks in the executive service and execute the programming and implementation technologies concerning service management completely. Also we should know the capacities concerning service management. Supervision and control are in operation service public activities as a permanent cycle and a case and have some inefficiency. We should define the points where the best data should be used and send the information data to defined persons, groups or devices. We should have a qualitative equilibrium between the service quality and its costs in field of operation service principles so complete equilibrium is created between the preventive and on time activities. Also we should recognize the function report. Finally as an experience and skill the service management should become clear in the field and measure the processes concerning the subject; the problems management process and occurrence should be defined completely. Also we should define clearly the management' duties executing IT.

7. CONCLUSION

The study was done with cooperation of South Pars Gas Complex to examine the operation service by ITIL framework. By virtue of the resulted findings South Pars Gas Complex is in relative good condition in field of technology operation service management and has some deficits in some dimensions, but total questions mean in operation service field with 22.30 point of total 28 indicates proper operation management installation. Having assessed properly the operation service dimensions based on the resulted maturity model it is possible to access the most important part of IT operation service, find and manage easily the gaps concerning weak point's identification and develop the executive plans and processes to desired level. The findings indicate we have included the procedures, policies and essential concepts in South Pars Gas Complex. The goals and tasks of service desk have been defined. The service desk personnel are managed. We have the roles in IT process management. The servers' management and logistics, saving, archive, databases and network management are of matured ways. All the personnel of operation service execution organization are aware of most of the service related to business completely. The operation service execution limits have been defined, related goals and the processes and functions in the service lifecycle have been defined clearly and the completion process is a defined demand, too. Also having benefited from this study South Pars Gas Company would be able to help the organization to know actual condition and design the desired one to use the model as a frame to control and distinguish the processes of the organization though the frame and process model application reflects moderate findings from the field in the organization, but it may be hoped having used an approach based on harmonizing IT and business which are of basic principles of the frame the Company would be able to define successfully the strategies and IT goals.

REFERENCE LIST

1. Bartlett John, Hinley David, Johnson Rian, Jhnsn David, Keeling Chris, Lioyd Vernon , Mclaughlin Gerry. (2003). *Service Support* OGC publishing.
2. Berkhout Michiel, Harrow Roy, Johnson Brian, Lacy shirley, Lioyd Vernon, Page Don. (2003). *Service Delivery* OGC publishing.
3. IT Governance Institute, (2006). *IT Governance Executive Summery*.
4. IT Governance Institute, (2010). *IT Governance Global Status Report*.
5. ITIL. (2015). [www.ITIL.co.uk](http://www.itil.co.uk)
6. Itlibrary. (2015). <http://www.itlibrary.org>
7. Lioyd Vernon, Peters Louk, Rupchock Kathryn, Wilkinson Paul, (2003). *Implementing IT Service Management*, OGC publishing.
8. Salle, M., (2009). *IT Service Management and IT Governance*, Review, Comparative Analysis and their Impact on Utility Computing, HP Labs Technical Report.
9. The art of service. (2015). <http://theartofservice.com>
10. Webb, P., Pollard, C. & Rridley, G. (2010). *Attempting to Define IT Governance: Wisdom or Folly?* Proceedings of the 39th Hawaii International Conference on System Sciences.