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A Case Study on Implementing ITIL in Business Organization – Considering Business Benefits with ROI

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Abstract

This report presents a case study that leads to an analysis of IT strategy in telecommunication sector of Bangladesh for a case company. The case company is banglalink (BL), the one of the leading telecommunication service operator in Bangladesh, with over twenty-six million mobile subscribers. banglalink's nature of business is highly technology dependent. Its entire operation is directly or indirectly dependent on technology. So a consistent IT framework can ensure that IT investments would drive business areas to meet their goals. However, no IT framework was found adopted during my survey period in banglalink. The report includes the results found from both the interview and the survey conducted to collect the necessary data for a deeper analysis. The analysis is done using several well known methods and frameworks. Finally ITIL has been suggested as the possible IT framework which can be implemented throughout the organization. Adoption of a structured IT framework would enable the organization to perform its business in an orderly and effective manner benefiting the customers and, in the process, aid in its own competitiveness and growth.

Keywords: ITIL, ITSM, ROI , SLA, SLR

Introduction

Information Technology Infrastructure Library. A standard non-proprietary approach for managing IT that helps make business sense of tools, standards, and processes. A framework to best practices to manage ITSM (IT Service Management). Areas of focus includes service delivery and service support. Recently some features like Security and Risk Management, Infrastructure Management, Application Management are added. This is a framework that align IT services with current and future needs of business and customers as well as improve quality of IT services delivered. The main benefit of implementing ITIL is that of reducing the long-term cost of service provisioning.

Brief Overview of Relation ITIL with Business

The Information Technology Infrastructure Library is a set of concepts and policies for managing information technology (IT) infrastructure, development and operations. ITIL is the most widely accepted approach to IT Service Management in the world. It promotes a quality approach to achieving business effectiveness, economy and efficiency in the use of information systems. The ethos behind the development of ITIL is the recognition that organizations are becoming increasingly dependent on IT in order to satisfy their corporate aims and meet their business needs. ITIL is a cohesive best practice framework, drawn from the public and private sectors internationally. It describes the organization of IT resources to deliver business value, and documents processes, functions and roles in ITSM. ITIL is to be adopted and built upon by an organization as per its purposes and needs. ITIL is supported by a comprehensive qualifications scheme, accredited training organizations, and implementation and assessment tools. In today's competitive market, being ITIL complaint is a definitive edge over the competitors.

Information Technology Infrastructure Library (ITIL) is a series of books that are used to aid the implementation of a framework for IT Service Management (ITSM). Being a framework, it is completely customizable for application within any type of business or organization that has a reliance on IT infrastructure. The ITIL originated as a collection of books each covering a specific practice within ITSM. ITIL books are developed by Office of Government Commerce, U.K. (OGC). It is the world's de-facto standard best practice framework for ITSM. OGC also has qualification certification program for ITIL followers.

ITIL is cornerstone of good quality ITSM and a necessity for quality assurance. It provides a systematic, process-based approach, supported by procedures for key IT service management processes. ITIL is Technology independent. ITIL gives a detailed description of a number of important IT practices with comprehensive checklists, tasks and procedures that can be tailored to any IT organization.

The ITIL series consists of several books providing guidance on the planning, delivery and management of quality IT services to support business needs comprising issues pertaining to Service Support, Service Delivery, IT Infrastructure Management, Application Management, Business Perspective, Security Management. ITIL has clear definition of various terms used in ITSM in a concise yet comprehensive manner.

ITIL provides a comprehensive set of guidance to link the technical implementation, operations guidelines and requirements with the strategic management, operations management and financial management of a modern business. Among the benefits associated with adopting the ITIL which have been identified by the users are improved customer satisfaction with IT services, better communications and information flows between IT staff and customers, better management control over ITSM and reduced costs in developing and implementing procedures and practices within an enterprise. ITIL improves the performance of processes which are being followed in an organization leading to high quality output.

It goes into great detail regarding the process, implementation and the content of the key deliverable of the Service Level Agreement (SLA) and Service Level Requirements (SLRs).

ITIL contains tried and tested processes. It has a quick-start approach to help in making the best use of time and resources available and see quick results. It led to improved productivity of the organization itself and also of delivery of third party services through the specification of ITIL. The well defined ITIL processes also minimizes duplication of efforts, dropped hand-offs and unapproved work. Additionally, individuals gain a better understanding of roles and responsibilities and how they each contribute to the success of IT and the business. It separates administrative tasks and technical tasks to help in assigning the most appropriate resources. In short, ITIL improves efficiency, effectiveness and economy of the ITSM.

ITIL describes the management of IT Services in the context of the lifecycle of those services. The focus of ITIL today is integration of IT into the business, assuring the delivery of business value and the treatment of services as business assets. ITIL describes the life of a service from conception to retirement, within a Service Portfolio detailing aspects of planning and development as well as objects, specification, description and requirements of the services in use or being offered for use through means of the processes. Each process has a home in the lifecycle stage book where it is most active. The lifecycle approach gives an improved, holistic structure within which to describe all the functions, processes, roles and responsibilities that constitute ITSM Best Practice.

The two basic requirements of ITSM are:

(a) Service Delivery: ITIL's Service Delivery component includes tactical processes necessary for planning and delivering quality IT services, which is defined in SLA. Service Delivery best practices address Availability Management, Capacity Management, Service Level Management, Service Continuity Management (contingency planning) and Financial Management for IT Services.

(b) Service Support: ITIL's Service Support component focuses on the operational processes that enable companies to provide IT Support and maintenance activities on a day-to-day, around-the-clock basis. SeService Support Dicipline includes Service Support Service Support disciplines include Change Management, Configuration Management, Problem Management, Incident Management and Release Management (including software and hardware control and distribution). This includes service desk facility as single point of contact and disaster recovery mechanism. The objective is to minimize disruption to the business by proactive identification and analysis of the cause of service incidents and by managing problems to closure.

Organizations have significantly cut costs, have improved processing time and have enhanced their overall service provisions. Since IT is what drives business today, service provision to customers has a major bearing on the interests of CIOs. The accurate measurement of service provides them with strategic information for decision making in their quest for return on investment and the alignment of IT with the business.

From small organizations to multinational enterprises and anything in between, this best practice framework has helped many improve efficiencies and bottom line figures, putting IT back in business.

Objective

The main goal of this case study is to research on the case company and do some statistical analysis on a single unit of IT infrastructure i.e. IT Helpdesk unit and measure both quantitative and

qualitative way for the betterment of the service support by reducing cost but yet providing optimal services. Aligning IT with business goals and service objectives by focusing ITIL which separates administrative tasks and technical tasks to help in assigning the most appropriate resources.

Methods

In order to accomplish the aforementioned goal, following sequential methods have been used:

- Collection of information about overall situation, its impact and consequence in telecommunication sector in Bangladesh from secondary and unpublished sources, media, internet , articles, papers or the like.
- Study and review existing services provided by the case company and identifying proposed services(ITIL) as the best practices which can led to improved productivity of the organization itself and also of delivery of third party services through the specification of ITIL. As the well defined ITIL processes minimizes duplication of efforts, dropped hand-offs and unapproved work. Additionally, individuals gain a better understanding of roles and responsibilities and how they each contribute to the success of IT and the business.
- Interviewing experts from IT infrastructure and as well as Technical and Service support department of the case company.
- Design of a set of related components to provide these services.
- This case study was conducted for BL by considering the IT Auditor's feedback and recommendations.

Benefits Achieved by Implementing ITIL

Ultimately IT Service Management is about maximizing the ability of IT to provide services that are cost-effective and meet the expectations and needs of the business.

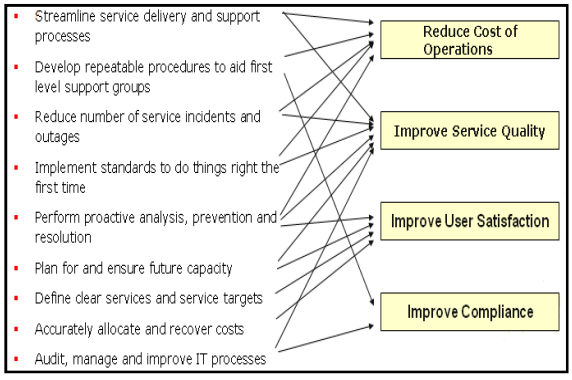

Figure 1: Major benefits of ITIL

Analysis of Usage of ITIL Service Management Processes

ITIL service management process comprises of two core service sets: Service Support and Service Delivery. These two core sets are made up of 10 disciplines listed below in Table 1:

S/L	Service Support	Purpose	S/L	Service Delivery	Purpose
1	Incident Management	Restore service quickly when incident occurs	6	Service Level Management	Maintain and improve IT Service quality
2	Problem Management	Minimize impact of incident on business	7	Financial Management	Stewardship IT assets and IT resources
3	Change Management	Utilize standard methods to minimize change related incidents	8	IT Continuity Management	Ensure that IT service can be recovered within agreed time frame
4	Release Management	Plan and oversee successful SW/HW rollout	9	Availability Management	Deliver required level of IT service availability
5	Configuration Management	Provide accurate information on system configuration	10	Capacity Management	Meet capacity and performance requirement

Table 1: ITIL service management process with purpose

Considering the above discussion on ITIL service management process below framework in Fig 2, with any third party vendor who implement ITIL can be adopted by BL to implement ITIL in their organization.

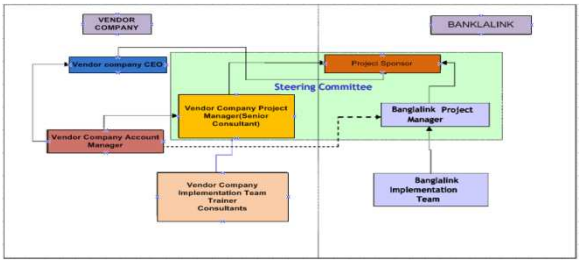

Figure 2: Sample ITIL implementation team structure

In Fig 2. there should be two project manager , one from BL and another from third party vendor. From vendor side there should be implementation team, trainer and consultants who will report project manager of vendor side. On BL side the implementation team member will be from different IT units. They will report to project manager during ITIL implementation stage. Both manager of two sides will work together and follow up the procedure jointly.

So if the case company wants to go for ITIL practice they should form a team with specific roles and responsibilities given in Table 2.

Role	Responsibility	Qualification
banglalink ITIL Project Manager	• The project manager will be the key contact for the assignment. The project manager will assist in the initial phase of the understanding , studying and gathering details for the project. • Responsible for implementation and control of ITIL processes. • Responsible for implementing the Change integration and transition. • Responsible for the overall development of ITIL. • Process Management providing and commenting on progress through status reports. • Lead the BL IT QA team.	• Should be a senior person and will be a full time for this project. • Should be Project Management trained (PMP). • Should be ITILV3 trained. • Should have executed at least 2 medium to large size projects. • Should have process management experience. • Should have good communication skills.
Banglalink Service Management Team (SMT) 4-5 Members	• The Service Management Project Team will consists of the initial working party, which will help in the initial study of the various functions, plus other staff appropriated from the Projects to provide balanced input without prejudice. • Process Documentation. • Process Review. • Audit Process Implementation. • Implementation Facilitation. • Making sure that the ITIL processes are implemented and followed as per the definition.	• ITILV3 trained. • Should have techno-functional experience. • Should have more than 3 yrs. Of experience in IT. • Should have process, framework knowledge. • Should be good at documentation. • Should have understanding of metrics and KPIs

Table 2: Proposed Team Structure with Role & Responsibilities

Typical ITIL Implementation Approach for Banglalink

To implement ITIL for the case company it will be convenient if they implement it in three different phases according to the suggestion of ITIL consultant as the case company is not using ITIL right now. This is shown in Fig. 3. The description of three different phases are :

Phase 1: This phase focused on awareness training for decision makers as well as different project teams.

Phase 2: It focused on real implementation, efforts required considering ITIL framework.

Phase 3: It deals with obtaining ITIL certification for the case company through ISO 2000 audit team.

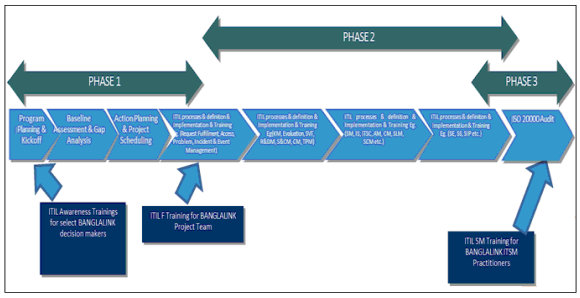

Fig 3: Proposed implementation plan

The total plan is divided into eight different sections which is shown in Fig.3, should be implemented in sequential order in three different phases. The eight different sections are:

1. Program Planning & Kickoff.
2. Baseline Assessment & Gap Analysis.
3. Action Planning & Project Scheduling.
4. ITIL processes & definition & Implementation & Training. Ex: Request Fulfillment, Access, Problem, Incident & Effort Management.
5. ITIL processes & definition & Implementation & Training. Ex: KM, SWT, R&DM, S&CM, SM, TPM.
6. ITIL processes & definition & Implementation & Training. Ex: SM, IS, ITSC, AM, CM, SLM, SCM etc.
7. ITIL processes & definition & Implementation & Training. Ex: SE, SS,SIP etc.
8. ISO 20000 Audit.

For the proposed three phases discussed above the case company has collected budgetary quotation from local vendor company which is given in the Table 3.

S/L No	Activities	Duration (Business Days)	# of Consultants	Phases	Budget USD $
1	Program planning and kickoff.	2	1 Sr. Consultant	Phase 1	1,800
2	Baseline assessment & Gap analysis	7	1 Sr. Consultant		6,300
3	Action Planning & Project Scheduling.	2	1 Sr. Consultant		1,800
4	ITIL Process Definition & Implementation (Group 1)	15	1 Process Consultant	Phase 2	
5	ITIL Process Definition & Implementation (Group 2)	20	1 Process Consultant		63,000
6	ITIL Process Definition & Implementation (Group 3)	1	1 Process Consultant		
7	ITIL Process Definition & Implementation (Group 4)	20	1 Process Consultant		
8	Process area & ISO 20000 Training	8	1 Trainer		7,200
9	ISO 20000 Audit & Certification Charges (valid for 3 yrs)		1 ISO Auditor	Phase 3	11,500
				Total USD K	91,600
				Buffer (20%)	109,920
				Vat & Tax for consultancy service(15%~10%)=25%	137,400
				Grand Total Budget in USD K	137

Table 3: Budgetary quotation from local vendor

ROI (Return on Investment)

From the budgetary quotation presented in Table 3, it is found that the case company requires USD 137K to implement it. So for getting optimum Return Of Investment, I took several interview with Helpdesk unit General Manager and some other helpdesk executives to collect business data for my study purpose.

Based on the gathered information the following calculations are made:

- Average monthly salary of Help Desk executive is $600/month.
- Average cost per employee $7 per hour.

The example, shown in Table.4 the following assumption are also made based on one year data from Helpdesk Trouble Ticketing

System(TTS is a SW by which the case company provides IT support to users through this workflow management software. User raised problem ticket through this software and their support agents resolve problem through built-in workflow, so that they can quantify how many tickets per month, per day, per year resolved through how many agents and which SLA time).

Table 4 also provides ticket information of one year and from that table the following information is found.

- Average total number of helpdesk Tickets is 12,000 per year.
- Average Downtime related incident Tickets is 1080 per Year (9% of total tickets).

- Average Recurrent related incident tickets is 1080 per Year (9% of total tickets).
- Average Configuration related incident tickets is 2880 per Year (24% of total tickets).
- Average other tickets is 7000 per year (58% of total tickets).

Months	Total Monthly Tickets	Total Downtime Incidents Ticket (Qty)	Total Recurrent Incidents Ticket (Qty)	Total Configuration Incidences Ticket (Qty)	Other Tickets (Qty)
October'10	927	65	136	271	455
November'10	775	27	30	180	538
December'10	1022	72	131	361	458
January'11	1240	262	282	351	345
February'11	571	48	78	216	229
March'11	918	51	108	253	506
April'11	950	60	50	149	691
May'11	940	55	38	129	718
June'11	920	36	50	536	298
July'11	853	79	24	123	627
August'11	1162	130	77	120	835
September'11	1340		17	122	1089
Total Tickets	11618	997	1021	2811	6789
% of Total Tickets		9%	9%	24%	58%

Table 4: Counting and measuring tickets from TTS software

Using the information given on Table 4, I just tried to find out best ROI, worst ROI and average ROI scenario on four different ITIL processes(i.e. configuration management, incident management, problem management & capacity management) which is given in Table 5.

From the analytical data in Table 5, it is clear that if the case company will use ITIL only on their Helpdesk unit they can return their investment within 3year 5 months in best case scenario, 4 year 10 months for worst case scenario and 3 year 7 months for average case scenario. This case study is done only on a single unit (IT Helpdesk) of the company. But ITIL can be implemented on entire IT department even for whole company. In that case ROI can be achieved more quickly and will get more benefit.

Limitations

In absence of proper IT framework, it may not be ensured that banglalink's information and related technology supports its business objectives, its resources are used properly and its risks are managed appropriately.

- ITIL has been proposed to implement on IT helpdesk unit based on one year data of trouble ticketing system but its pros and cons would only be projected when it is deployed.
- Another limitation is that in the absence of adequate data due to the confidentiality of the case company the result obtained is not the optimum one.

Conclusion

Implementing ITIL is not a quick fix nor will it be easy to implement. It takes a lot of thought, commitment and hard work to successfully change the way the IT organization does business. There needs to be upfront planning, training and awareness, ongoing scheduling, roles created, ownership assigned, and activities identified in order to be successful. Implementation and credentialing the ITIL in ITSM requires knowledge and training. ITIL is intended to be non-prescriptive, expecting that organizations will have to engage ITIL processes with their existing overall process model.

Even with a successful service operation in place, there is still a need to consider improvements at every opportunity. This will help protect against losing competitive edge and will ensure that the best possible outcomes are being achieved. Continual Service Improvement focuses on the process elements involved in identifying and introducing a cycle of service management improvements.

This survey provides approximate benefit that can be achieved but true outcome is not quantifiable until or unless any company do proper practice of it. The real benefit is vast than that is estimated in my paperwork.

S/L	Process	Purpose	Realization Benefit	Cost benefit Example	Cost Saving in Best ROI Scenario USD k	Cost Saving in Worst ROI Scenario USD k	Cost Saving in Average ROI Scenario USD k
1	Configuration Management	Provide accurate information on system configuration	Reduction in configuration level incidents: 25% to 36% (According to research study of Glomark-Governan, Source: www.glomark.com)	If banglalink IT Helpdesk got on an average 12,000 tickets per year and out of that if we have 2,880 tickets (25% of total) related to software and configuration related incidents and if the downtime per user is 60 min/ticket (1hr) then according to realization benefit survey by Glomark-Governan, this would save the organization ((2880*0.36)*$7*60/60)/1000= $7.66k per year (Best ROI scenario) (assuming $7/hr cost/employee). ((2880*0.25)*$7*60/60)/1000 = $5.04k per year (Worst ROI scenario). ((2880*0.31)*$7*60/60)/1000 = $6.25k per year (Average ROI scenario).	7.66	5.04	6.25
2	Incident Management	Continuity of the service levels underpin Service Desk function.	Decrease in user downtime as a result of better incident management: 10% to 29% (According to the research study of Glomark-Governan, Source: www.glomark.com)	The implementation of Incident Management has resulted in a decrease in downtime per user. This is defined as the amount of time a user cannot work because of a failure. Let's assume that out of 12,000 tickets per year, there are 1,080 tickets (6% of total) related to downtime of user service due to incident and if the downtime per user is 90min per ticket then according to realization benefit survey by Glomark-Governan, this would save the organization ((1080*0.26)*$7*90/60)/1000= $3.16k per year (Best ROI scenario). ((1080*0.10)*$7*90/60)/1000= $1.13k per year (Worst ROI scenario). ((1080*0.24)*$7*90/60)/1000= $2.72k per year(Average ROI scenario).	3.16	1.13	2.72
3	Problem Management	Minimize disruption of the service level.	Reduce the number of recurring incidents: 7% to 13% (According to the research study of Glomark-Governan, Source: www.glomark.com)	Suppose that the number of recurring incidents is 1,200 (10% of total) per year. If the downtime per user is 45min per recurring incident then according to realization benefit survey by Glomark-Governan, this would save the organization ((1080*0.13)*$7*45/60)/1000 = $0.74k per year (Best ROI scenario). ((1080*0.07)*$7*45/60)/1000 = $.40k per year (Worst ROI scenario). ((1080*0.10)*$7*45/60)/1000 = $.57k per year (Average ROI scenario).	0.74	0.40	0.57
6	Capacity Management	Ensure the optimal use of IT.	ITIL adaptation will improve 36% to 47% productivity : (research study of Forrester's online survey for itSMF)	BL IT team consists of 13 Helpdesk Agents. Average Salary per Helpdesk employee is $600 per month . If Helpdesk team's productivity increases between 36% and 47% due to ITIL adaptation than we reduce Helpdesk HC and Operational cost as follows: Best ROI scenario: Resource= (13-(12000/((12000/13)*1.47)= 4.15 rounded to 4 HCs Operational cost = (4 * $600 *12)/1000 = $28.8k per year Worst ROI scenario: Resource= (13-(12000/((12000/13)*1.36)= 3.44 HCs rounded to 3 HCs Operational cost = (3 * $600 *12)/1000 = $21.6k per year Average ROI scenario: Resource= (13-(12000/((12000/13)*1.41)= 3.78 HCs rounded to 4 HCs Operational cost = (4 * $600 *12)/1000 = $29.8k per year	28.80	21.60	28.80
7				Yearly ROI in Helpdesk Unit USD k	40.37	28.17	39.34
8				ITIL Project Implementation cost USD k	137		
9				ROI in Years	3.39 3 Years 5 Months	4.86 4 Years 10 Months	3.57 3 Years 7 Months

Table 5: ROI calculation based on Table 3 & Table 4

Future Work

Although this study was done on part of IT Infrastructure department i.e. service support. For achieving optimum result it can be implemented on the whole ITIL Service Strategy; ITIL Service Design; ITIL Service Transition; ITIL Service Operation; and ITIL Continual Service Improvement. A sound service strategy is essential in the creation of high quality IT services. It provides a base upon which to build a successful service management function and ensures that best value is delivered to business customers. Being a framework, it is completely customizable for application within any type of business or organization that has a reliance on IT infrastructure. ITIL series consists of several books providing guidance on the planning, delivery and management of quality IT services to support business needs comprising issues pertaining to Service Support, Service Delivery, IT Infrastructure Management, Application Management, Business Perspective, Security Management. As per my study there are few organizations in Bangladesh that are using a standard framework for their IT infrastructure. So my case study will act as a reference to promote them in using ITIL.

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