EVALUATION OF IT SERVICE MANAGEMENT FROM AN ORGANISATIONAL PERSPECTIVE

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Abstract: Applying IT Service Management (ITSM) is now a key issue in the management of the Information Technology function. The Information Technology Infrastructure Library (ITIL) is perhaps the most popular and influential framework consisting of a set of 'best practice' processes for performing ITSM. With adoption growing globally it is important to understand the benefits that ITIL processes can bring an organisation. To date the benefits of implementing and using the ITIL processes have merely been inferred or assumed with very little academic research and only minimal anecdotal evidence available. Many organisations are planning to, or have already started implementing ITIL processes into their IT function with what would seem to be a lack of clear understanding into the tangible and more importantly intangible benefits that these processes can bring. Since organisations are investing millions of dollars over several years implementing ITIL it is important to evaluate the effectiveness of ITIL from the perspective of the businesses needs. This paper presents an overview of various approaches and evaluation methodologies with a view to develop an improved, holistic evaluation methodology for IT service management from an organisational perspective.

1 INTRODUCTION

Applying IT Service Management (ITSM) is now a key issue in the management of the Information Technology function. Transforming the traditional role of IT operations, help desk and network services into a well governed, integrated, efficient, reliable, user and business oriented, service delivery unit within the organisation is of primary concern for CIO's and IT Management today. ITSM is by no means a new phenomenon as it has gradually evolved from early beginnings in the 1980's. Essentially "IT Service Management puts the services delivered by IT at the centre of IT management and is commonly defined as a set of processes that cooperate to ensure the quality of live IT services, according to the levels of service agreed to by the customer. It is superimposed on management domains such as systems management, network management, systems development and on many process domains like change management, asset management and problem management." (HP Laboratories 2004).

Frameworks for applying ITSM such as the popular Information Technology Infrastructure

Library (ITIL) are now in existence and being implemented at an ever increasing rate. Research and an understanding into the range of different benefits that such best practice can bring, however, is far behind this wave of implementation. To avoid organisations spending resources and blindly embracing ITIL we need more solid research into the benefits of ITIL, not just financial but from a range of perspectives such as how it effects the user, technological efficiency and even the IT employees – those working with the processes. Some evaluation methodologies and their subsequent tools do exist such as the IT balanced score card and the IT Service Capability Maturity model, to name a few, however there are still many gaps that need to be filled in this area. This paper provides a discussion of these and several other evaluation methods and tools which can be applied to an ITIL implementation from an evaluation and benefits realisation lens. It also provides insight on directions for further research into developing better evaluation methods for this purpose.

This paper is organised as follows: First an overview of ITSM and ITIL is provided to bring the reader up to speed on what the best practice

framework is all about. Next it talks about research into ITIL and why more is needed. Then a discussion and analysis of existing assessment tools and methods is provided and finally it concludes with where this area of research is headed and what we plan to achieve.

Many Internet service providers and online services require you to manually enter information, such as your user name and password, to establish a connection. With Scripting support for Dial-Up Networking, you can write a script to automate this process.

2 OVERVIEW OF ITSM & ITIL

Throughout the last two decades a variety of ITSM related frameworks have been developed to help technology managers and employees better understand the IT function and perform ITSM. Predominantly these frameworks have been proprietary in nature with Microsoft (Microsoft Operations Framework), IBM (IBM Systems Management Solutions Lifecycle) and HP (Hewlett-Packard IT Service Management Reference Model) all developing their own frameworks over the years. The Information Technology Infrastructure Library (ITIL), however, is probably the most popular and influential ITSM framework. It is a collection of defined and published best practice processes for IT Service Management. ITIL was developed in 1989 by the British government in their Central Computer Telecommunications Agency – now the Office of Government Commerce (OGC) in an effort to improve the management and efficiency of Information Technology.

The IT Service Management Forum (itSMF), a non profit association, now owns and supports the ITIL framework with chapters in many countries around the world. ITIL is essentially a 'best practice' process framework for performing ITSM. "The ITIL philosophy adopts a process driven approach which is scaleable to fit both large and small IT organisations. It considers Service Management to consist of a number of closely related and highly integrated processes." (itSMF, 2001). With no defined international standards for ITSM, ITIL has become the de facto industry standard for ITSM and is currently in its 2nd version with a 3rd on its way. Predictions are that the ITIL process framework will become an ISO standard by the end of the decade. ITIL as a process framework can be seen below in Figure 1 at its highest level view with the seven key processes modules sitting between 'The Technology' and 'The Business'.

The core of ITIL is Service management made up of two key process modules: Service Support and Service Delivery. These are the two most commonly implemented areas of the ITIL framework and like the other modules break down further into their own set of defined processes. These processes are interrelated linking together to form a complete process map for the module. The processes within Service Support module are shown in figure 2 on the next page.
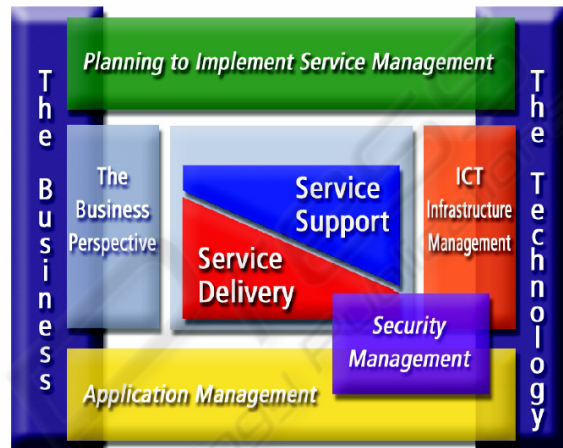

Figure 1: ITIL Framework. Source: (itSMF 2004, page 1).

Each of the processes (shown in ovals) that can be seen within the service support module have specific goals, sub processes, workflows, routines, inputs and outputs. Each process also has defined roles and responsibilities associated with it and should have an assigned process owner. Sub-processes exist within each main process and all of this more specific information needed to properly understand and implement the ITIL framework is contained in detail within the ITIL books like a catalogue of best practice operational processes. Existing as a process framework ITIL has been designed such that it can be applied in any organisation regardless of size, industry or location.

3 ITIL IN INDUSTY & RESEARCH

Although IT Service Management has received some attention in the IS research literature over the years, ITIL has received very little, with only a handful of papers specifically published on the topic in the last 10 years. Much of this ITIL related academic research literature comes out of Europe as this continent has been to date the primary adopter.

Industry world wide on the other hand has been far more responsive to ITIL with a variety of companies now selling the ITIL books, running training courses, providing certification, and consulting. As organisations push for better IT governance and more efficient IT functions the ITIL framework invariably comes up as a potential solution. Popular help desk or IT Service Desk software vendors such as Heat, Remedy, and HP have already had their software products certified as being ITIL compliant and many more of these software products (around 20) exist in the market place already compliant.
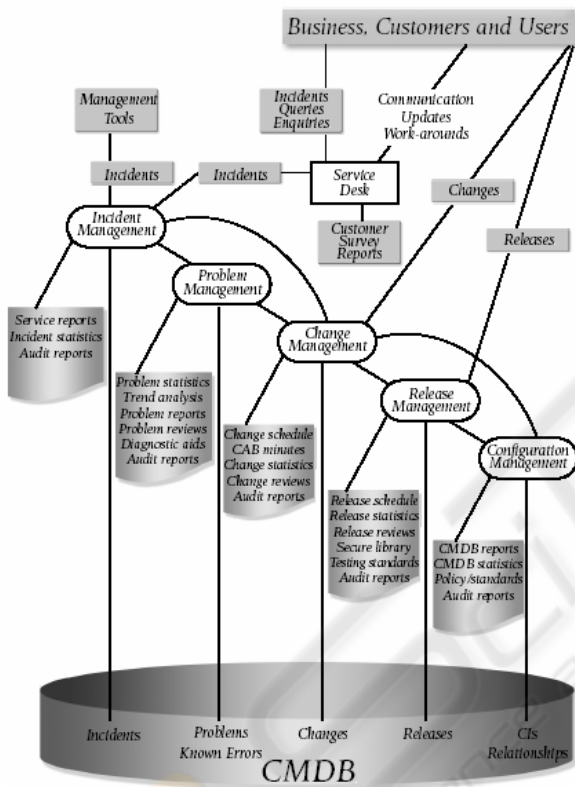

Figure 2: ITIL Service Support ModuleSource: (itSMF 2004, page 16).

In terms of ITIL around the world, organisations from the nations of Europe have been the primary adopters with countries such as the UK and the Netherlands leading the way. Germany and parts of Scandinavia have also been implementing ITIL as well. The USA, Australia, New Zealand and South Africa have all been initially slow adopters however more and more you hear or read about organisations from these countries who have already embraced ITIL or are in the process of implementing ITIL. To date there are 50,000 ITIL certified professionals world wide and around 24.1% of IT manager's at large organisations are familiar with the ITIL standards (HP Laboratories, 2004).

4 WHAT ARE THE BENEFITS OF ITIL?

With adoption growing globally it is important to understand the benefits that ITIL processes can bring an organisation choosing to embrace this best practice. Like a lot of 'best practice' out there for organisations to use, ITIL at first glance looks like an ideal framework of processes to help improve IT Service Management within an organisation. Without research targeted specifically at the benefits of implementing ITIL, however, it will risk the possibility of remaining an industry buzz word or fad implemented by management because its is the latest trend in IT Management demanded by stakeholders and discussed at conferences. Is it a silver bullet solution to improve the management, control and operations of IT within an organisation or is it more trouble than it's worth? These are questions organisations and researchers should be asking.

The objectives of implementing ITIL and hence Service Management are many but perhaps the key benefits an organisation would expect are; alignment of IT services with current and future business needs, improved quality of delivered IT services and a reduction in the long term costs of service provision. The itSMF states that one of the key reasons to implement ITIL is to "improve IT efficiency and effectiveness whilst improving the overall quality of service to the business within imposed cost constraints" (itSMF, 2004). These claimed benefits, however have not yet been demonstrated through practical research.

Basic survey research has been conducted in regard to ITIL by research companies such as TechRepublic, Forrester and Gartner, but as mentioned very little has been done in relation to organisations implementing ITIL and the benefits and value they have measured and gained. Only a handful of notable research papers seem to exist (Barafort, et al. 2002, Potgieter, et al. 2004, Hochstein, et al. 2005) on the topic of ITIL and its benefits, two of which are yet to be published in academic journals. It seems Industry has a reasonable understanding of ITIL in regard to implementation as evident by the amount of training, certification and consulting available, yet a lack of knowledge exists both in industry and academic circles as to the researched, measured, quantifiable benefits that the ITIL framework has brought organisations who have adopted it.

To date the benefits of implementing and using the ITIL processes have merely been inferred or assumed (Potgieter, et al. 2004, Hochstein, et al. 2005) Regardless of the fact that ITIL has been

around for the last 15 years, is now in its second version, may become an ISO standard by the end of the decade, and the existence of a complete supporting industry, (i.e. Training, Publication, Consulting, Websites and Software) little formal academic research into ITIL exists. Despite anecdotal evidence and positive claims made by organisations who have adopted ITIL practices there still seems to be a minimum of quantifiable data on the benefits and impact that ITIL will have on an organisation choosing to embrace the process. Small snippets of information such as how Procter & Gamble reduced help desk calls by 10% and the Ontario Justice Department cut support costs by 40% do little to create a holistic picture of what ITIL is doing for organisations, what about dimensions such as intangible benefits, technological efficiency and service quality?

Given that some organisations have already made the change to this best practice framework for IT Service Management, the apparent lack of research and understanding into the benefits and value of ITIL is somewhat surprising. Forrester Research reports that 2005 will be the year when ITIL goes mainstream and widespread adoption of ITIL best practices by internal IT departments will follow through to 2008 (Mendel, 2004). Many organisations therefore are planning to, or have already started implementing some or all of the ITIL processes into their IT function with what would seem to be a lack of clear awareness into the tangible and more importantly intangible benefits that these processes can bring. With some ITIL implementations taking a few years to fully implement and budgets running into the millions for large organisations wouldn't it make sense to avoid misunderstanding and unreal expectations? The need for evaluating organisational IT/IS investments is widely accepted as well as the reasons for undertaking a sound benefits realisation program to gauge the value of the organisational change, however "The tracking and harvesting of benefits is a weakness and a crucial priority for most organisations" (Pink Elephant, 2004). The importance and the management of evaluation for ITIL implementations should therefore be no different. But knowing how best to do this is the hard part.

ITIL's espoused benefits are far and wide ranging both long term and short term, tangible and intangible. Traditional single dimension measures such as Return on Investment (ROI) calculations will not suffice in completing the picture. An organisation may see little financial impact from implementing ITIL processes yet dramatically improve the quality of service provided to IT users and see increased morale in IT staff who are now

working to a standard framework and speaking a common language.

What is therefore needed is a prescriptive, multiple dimension framework with both objective and subjective means of capturing all the benefits of ITIL from a variety of perspectives or dimensions. As far as we are aware, no such evaluation framework exists but there are several good starting points in the form of existing assessment tools which have been designed for the ITSM domain or can be easily applied to this domain. We explore several of these next and discuss their advantages and disadvantages.

5 POSSIBLE EVALUATION METHODOLOGIES

Here existing evaluation methodologies from different spheres of literature encompassing ITIL, IT Service Management, Service Quality, IT functional assessment, IT evaluation and Benefits Realisation are first described. They each look at or can be applied to ITSM differently and therefore cover a variety of perspectives or ways of looking at the problem. Their potential use in an organisational context is also discussed through the introduction of business scenarios and demonstration against these. Finally their suitability as an evaluation tool for ITIL is analysed in terms of what exactly they assess, their ability to be applied to ITIL, relative complexity as used in an organisational context by management, how prescriptive they are, e.g. high level and abstract or detailed and specific, and finally the dimensions or perspectives that they assess on. A summary of this analysis is found in table 1.

Before we begin it is necessary to clarify the use of terms and definitions. A methodology is an encompassing guideline made up of models, processes, techniques and tools. A tool therefore is a mechanism to implement a methodology.

5.1 itSMF/OGC Self Assessment Tool

Designed specifically for ITIL, the self assessment tool aims at giving an organisation an idea of how well they are performing compared to ITIL best practice. It is a simple interactive questionnaire available for anyone to use online. It has a scoring system which determines what level of ability or assessment the organisation is currently performing at in terms of its ITSM processes compared to what ITIL prescribes. The goal of the self-assessment

questionnaire however is not to test whether there is complete conformance with ITIL, rather the degree to which the self-assessing organisation conforms in the hope of guiding future decisions. The questionnaire also aims to create awareness of management and control issues that may be addressed to improve the overall process capability.
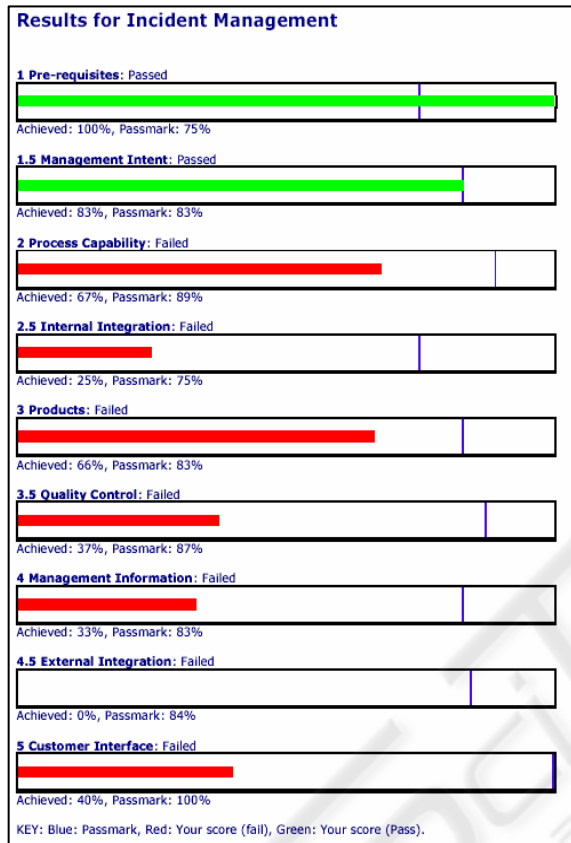

Figure 3: Sample results for itSMF/OGC ITIL Self Assessment Questionnaire – Incident Management.

5.1.1 Use in an Organisational Context

An organisation wishes to implement ITIL, so the relevant IT manager, CIO or head of IT services first goes online and completes the 'ITIL Service Management Self Assessment' questionnaire available at the itSMF website. A series of Yes/No statements are answered in relation to the processes of the two core ITIL modules – Service Delivery and Service Support, specifically targeted at several assessment areas based on capability levels and current operations. Results are generated for each assessment area of each ITIL process and scores are reported against a pass mark. See figure 3 for an example of the results generated for Incident Management

From this initial assessment the organisation realises that it is ready for ITIL having the given pre-requisites for ITIL and management intent as well as having over half the process capability already in place. This initial information and results proves useful in guiding the ITIL implementation effort. As part of an ongoing evaluation the same
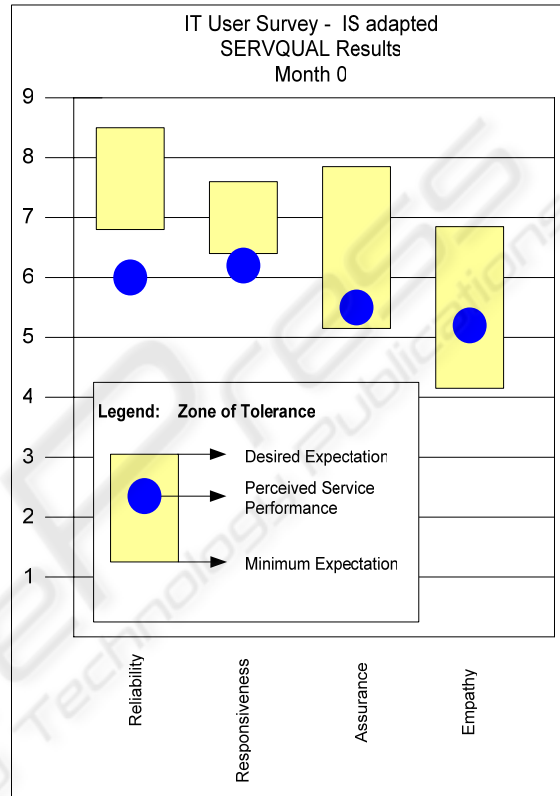

Figure 4: Sample results for IS Adapted SERVQUAL.

individual is directed by management to complete the self assessment every 2 months in the to demonstrate any continual improvement and attainment above and beyond pass marks for each assessment area of each ITIL process.

5.1.2 Analysis

This self assessment is both easy to use since it is offered free and available online. It is also relatively low in complexity and well explained. It is highly prescriptive as the organisation using this tool needs not define or select anything, as this has all been done for them. While this tool proves useful as a simple means for assessing the current state of IT operations in regard to ITIL prescriptions its usefulness as part of a larger methodology for ITIL benefits realisation is questionable. First the questions are very subjective if only one manager or individual completes the assessment it is likely to be

somewhat bias. Second with only yes/no answers a possibility there is no room for scaled responses. This means incremental improvement will be hard to demonstrate and gauging a yes/no response can become difficult since level of agreement to a statement can and does vary.

5.2 IS adapted SERVQUAL

SERVQUAL is a survey based instrument consisting of 45 questions, developed in the field of marketing to measure service quality through the constructs of tangibles, reliability, responsiveness, assurance and empathy. The IS adapted SERVQUAL is a tailored questionnaire created specifically for IT service contexts and has been shown by researchers (Pitt, et al. 1995) to be a suitable instrument for measuring user opinions of IS service quality. Essentially it compares user expectations of service quality against their perceptions and looks for correlation against a final overall quality rating as given by the respondent. Kettinger & Lee (1997) in response to debate over the IS adapted SERVQUAL expectation construct, its reliability and validity introduced the concept of a 'zone of tolerance' and derived a new short form 27 question survey over only 4 constructs; reliability, responsiveness, assurance & empathy.

5.2.1 Use in an Organisational Context

An organisation who has already implemented some ITIL processes wishes to evaluate the effect this investment in new work processes and best practice is having on the service quality given to users. After reading some literature an IT manager develops a survey based on the IS adapted SERVQUAL questions. The survey is issued via email to all IT users in the organisation asking them to rate aspects of the IT services based on their minimum and desired expectations and of course perceptions of current services. Responses come back and the method of a "Zone of Tolerance" is used to analyse the data and generate meaningful information, see figure 4. This survey is issued every 3 months to track over time any changes in user's opinions of service quality as indicated by the 4 constructs of reliability, responsiveness, assurance and empathy.

5.2.2 Analysis

The IS adapted SERVQUAL could easily be used to help managers track and evaluate changes in user opinions of service quality over the life of their ITIL implementations providing valuable insights into the more intangible benefits that ITIL can bring. It is

not a complex instrument; however there are different ways to analyse and interpret the data which need to be considered. The set of SERVQUAL questions can easily be found in literature and building a survey based on these is not too difficult.

5.3 IT Service Capability Maturity Model

The IT Service Capability Maturity Model (IT Service CMM) put forward by Niessink & Vliet (1998) is similar to the widely known Software CMM for software process improvement in which an organisations software process capability is measured against a five-level ordinal scale being: Initial, Repeatable, Defined, Managed or Optimized. Each maturity level has its own characteristics and processes and the goal is to eventually reach the optimized level. The IT Service CMM thus extends this original concept into the context of IT Services, to be used in assessing the maturity of IT service processes and identify directions for improvement. It was designed with ITIL specifically in mind as ITIL was seen to lack an overall approach to the improvement of service processes. With its classification of levels the IS Service CMM provides organisations with a mechanism for step-wise improvement.

5.3.1 Use in an Organisational Context

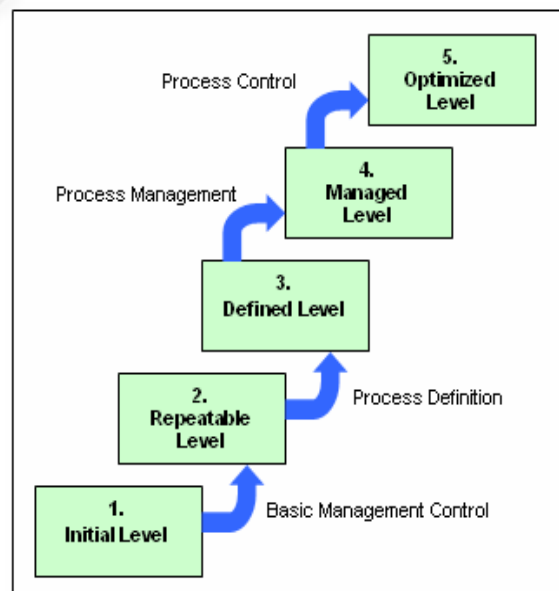An organisation has adopted only a few of the ITIL

Figure 5: The 5 levels of the IT Service CMM.

processes and wishes to implement more to help the running of their IT operation's function. An IT manager comes across the IT Service CMM and after reading all about it and the suggested criteria which should be met at each level decides that her organisation is currently at the 2nd maturity level – Repeatable in terms of IT services. The IT Service CMM is discussed with other managers and a goal is set to reach level 3 within 12 months and level 4 – managed within 24 months. This goal is to complement the ITIL implementation. From readings of literature they develop their own criteria for each level based on what the key process areas of each level recommend.

5.3.2 Analysis

The IT Service CMM is a useful tool to complement ITSM improvement efforts. It is average in terms of its complexity with a lack of specific guidance on how exactly to use it. Again the problem of objectively determining wether a maturity level has been met arises. Setting quantifiable targets for the process areas within each maturity level would be required by the organisation. The IT Service CMM also steers away from benefits realisation focusing only on maturity of processes.

5.4   IT Balanced Scorecard

The IT Balanced Scorecard (IT BSC) is an extension of the traditional Balanced Scorecard developed by Kaplan and Norton back in 1995, being a performance management system that enables businesses to drive strategies based on measurement and follow-up. The IT BSC is essentially a business-oriented process that drives goal-oriented investments in IT. It generally applies to the whole IT function and its goal is to derive strategies, direct funding and resources to always keep the 4 perspectives (User orientation, Business Contribution, Operational Excellence and Future Orientation) in balance. "Each of the perspectives has to be translated into corresponding metrics and measures that assess the current situation" (Grembergen, & Saull. 2001) Repeated overtime with regular reassessment the IT BSC can be a great performance management system.

5.4.1   Use in an Organisational Context

A medium sized organisation wishes to improve their IT service delivery and support. Currently they rely primarily on summary financial indicators which provide only a delayed 'snapshot' of performance and are not proving very useful in the overall management of IT. This organisation decides to try and use the concepts of the IT balanced scorecard to create a new performance management system. They develop measures, objectives and targets for each perspective monitoring and keeping each perspective in balance over time as they try to improve their IT service support and delivery over time.
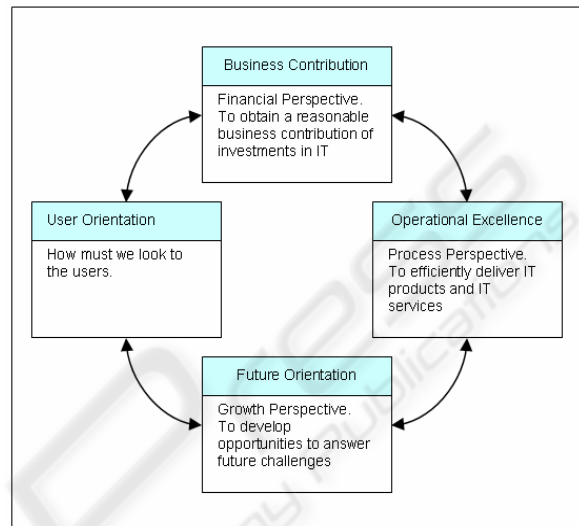

Figure 6: The 4 perspectives of the IT balanced scorecard.

5.4.2 Analysis

The ideas of the IT BSC in analysing and balancing multiple perspectives may be a useful technique to be applied to ITIL evaluation. It provides a more thorough and holistic approach. There is a lack of guidance on how exactly to use it as it is not very prescriptive. Metrics and measures must be developed by the organisation using it - examples do exist, yet there is little in the literature on what works best.

5.5   Stakeholder Process Approach

Adelakun and Jennex (2002) put forward a process framework for evaluating Information Systems, using the stakeholder approach. They stress the need to "understand the various stakeholders' expectations from the system at every stage of the systems development process" (Adelakun & Jennex 2002). They propose a continuous process that has the outcome of one phase serving as the input for the next. This idea of incorporating all stakeholder expectations into an evaluation is similar to the multiple constituency approach of Chang and King (2000), and is a useful idea for evaluating ITIL or any ITSM improvement effort.

5.5.1 Use in an Organisational Context

An organisation implementing ITIL best practice wants a method for capturing the benefits to the organisation. They comes across literature on stakeholder process approach and conduct meetings with various stakeholder groups such as users, IT employees, help desk and support staff, process owners, Management etc. From this, goals and targets are created with associated means of measurement for each stage of implementation and the wheels are set in motion for benefits realisation.

5.5.2 Analysis

The usefulness of the stakeholder approach appears high since success in satisfying multiple interests, rather than meeting conventional economic and financial criteria, would constitute the ultimate test of corporate performance. The drawbacks are that the literature on this method is very high level and somewhat abstract with no direction on how best to undergo this method. Again measures have to be developed by the organisation.

5.6 Criteria Catalogue Based Methodology

A Criteria Catalogue based Methodology for Analysing Service Management Processes was put forward by Brenner, Radisic and Schollmeyer in 2002 for the purpose of analysing existing ITSM processes. Their goal was to develop an efficient and practical technique for evaluating processes in the area of IT service management. They focused on deriving a single quality rating through establishing a hierarchy of criteria or attributes, assigning them weights, enacting a measurement methodology and then compiling them into a catalogue. As a proof of concept application, a generic catalogue for analysing ITIL's incident management process (from the Service Support Module) at the BMW User Service Centre was created. A measurement methodology consisting of a 0-3 rating scale and 1,2,4 weighting scheme is also provided.

5.6.1 Use in an Organisational Context

An organisation implementing ITIL wanted a means of evaluating the success of each process over time. An IT manager came across the criteria catalogue methodology. He liked the way criteria and sub criteria could be defined, rated and weighted to determine a final score for the performance of the
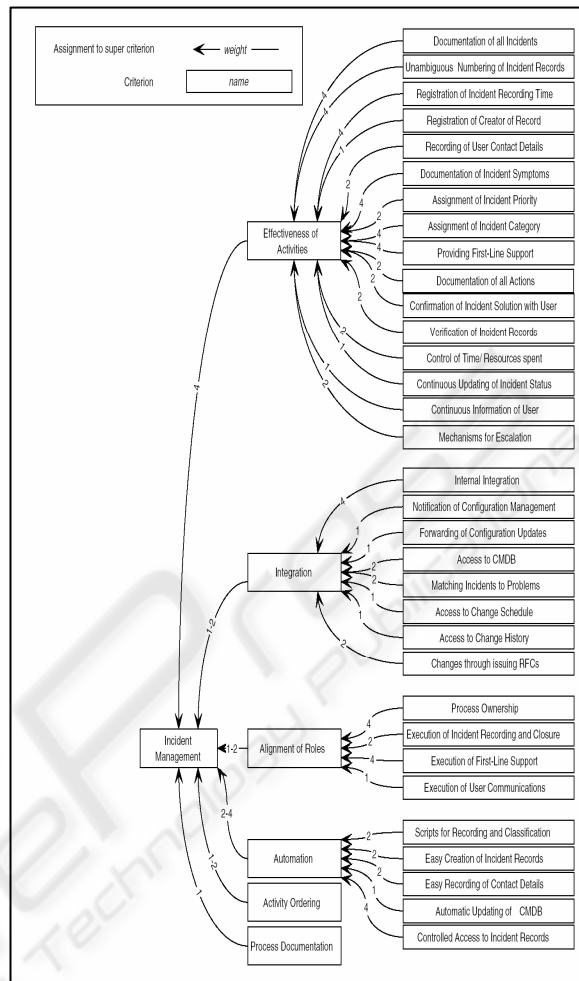

Figure 7: Generic Criteria Catalogue for Incident Management. (Source: Brenner et al. 2002 p.150).

process. They went about establishing criteria catalogues for each ITIL process. Figure 7 gives a generic catalogue for incident management. Every month the scores were calculated and this provided an excellent means of assessing performance over time and directing resources for future improvement.

5.6.2 Analysis

Many useful ideas and concepts can be drawn from this work including the idea of weighted criteria to establish a quality rating for a process and the use of a hierarchy of assessment criteria. Essentially any dimension or perspective can be assessed as criteria are defined by the organisation and their simple rating system provides for ease of use and weighted calculations. It is low in complexity, being easy to understand and use, and average in its level of prescription since criteria must be defined by the

organisation how ever a rating scale and weighting scheme is available.

5.7 Service Level Agreements

SLA's are a principle tenant of ITIL and have risen in both importance and use within organisations over recent years. Essentially they are a contractual obligation between service provider and customer specifying agreed upon service levels and penalties for when these service levels are not met. "The purpose of a SLA has recently shifted from being a financial contract towards an instrument for the management of the customer's expectations" (Bouman, et al. 1999) SLA's are more a tool for ensuring adherence to given performance targets of an IT Service yet can also provide input for analysis. As Rautenstrauch & Scholz (2001) point out "a sufficient specification of performance requirements is the basis for a comprehensive performance analysis of an information systems". This important idea regarding SLA's is where organisations may find them useful for evaluating the benefits of ITIL processes over time.

5.7.1 Use in an Organisational Context

An IT department is planning to make some improvements to ITSM. As part of this they formulate a whole range of SLA's with particular user groups and management. Within each SLA is defined metrics and targets which must be met and minimum service levels which they must not go under. Penalties are incurred for breaching these agreements. As a means of evaluating ITSM performance over time they use these very metrics and measures and track the results over time on graphs and charts.

5.7.2 Analysis

There is some guidance when it comes to defining SLA's, however almost anything can be incorporated in them. Again, organisations must take the time to define criteria and metrics within an SLA. In addition having lots of metrics may become cumbersome especially if they are all treated differently with no way of knowing which are more important.

5.8 Ramaswamy's 8 Stage Model for Service Process Design and Management

Ramaswamy's 1996 book – 'Design and Management of Service Processes' provides great insight into the management of services through 3 stages of his 8 stage model. Chapters on stage 6 measuring performance, stage 7 assessing satisfaction and stage 8 improving performance all contain valuable information on data collection, defining metrics, analysis and reporting, assessing customer/user satisfaction, statistical methods and improving performance based on collected data for any type of service. ITIL focuses on improving service provision to the IT users and most of his concepts as discussed throughout the pages of his book can be well applied in this ITSM context of evaluating the benefits of ITIL.
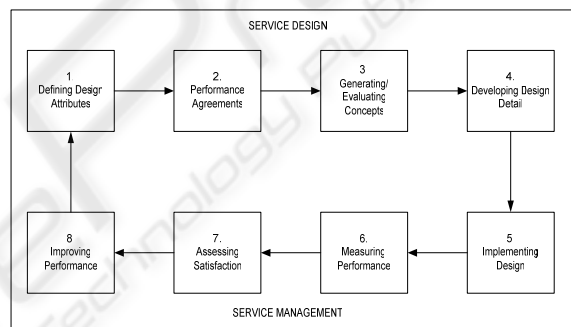

Figure 8: 8 stage service design and management model.

5.8.1 Use in an Organisational Context

A small-medium organisation has very much ad hoc IT support. It therefore plans to adopt some of the ITIL processes and is concerned with evaluating the benefits that they bring the organisation. A manager has a copy of Ramaswamy's book and likes the ideas expressed in the 8 stage model. Since ITIL is already defined, stages 6-8 seem most useful. After reading the appropriate chapters he has a clear understanding of how to measure performance through efficiency, effectiveness and capability metrics, assess user satisfaction and work with this information to set goals and ultimately improve performance. A useful set of metrics to do with the help desk e.g. calls per user for the month, first level support resolution rate, and average time to close calls are formulated as well as other more technically oriented metrics and ITIL process specific metrics. A user satisfaction survey is also created and distributed every 3 months. Goals are set based on baseline results and ITIL is

implemented with a simple way of measuring performance, assessing satisfaction and constantly improving performance.

5.8.2 Analysis

The concepts expressed by Ramaswamy are of average complexity and fairly well understood. Some experimentation would probably be required to find out what works best for the organisation. The level of prescription is again average with many examples given yet room for organisational choice. It's applicability to ITIL comes from the fact that the concepts can be applied to any service process not just IT related.

5.9   Financial Measures & Methods

Financial measures and methods include more traditional evaluations such as looking at budgets, expenditures, Total Cost of Ownership (TCO), Return on Investment (ROI) and Economic Value Add (EVA) for investments and projects. Such measures are commonly used to evaluate IT function performance and also IT investments.

There is a lot of literature out there on these financial assessment topics. Financial metrics should be considered when evaluating the benefits of ITIL as it is inferred that improved ITSM processes should generate cost efficiencies. There is a constant battle that exists between reducing TCO and maximising IT function performance in particular service levels. "Previous research showed the reduction of IT operations costs is often associated with a reduction in IT service levels". Yet it is argued that by exercising control in the form of centralisation and standardisation TCO can be minimized and IT service levels improved. This is essentially the premise of ITIL. A configuration management database helps in tracking and standardizing the many configuration items of an organisations IT infrastructure and a dedicated Service Desk helps centralises service support and service delivery. David et al. also discuss the many cost factors for the IT function and metrics around both financial costs and service levels, some of which can be used for the purpose of evaluating ITIL.

Organisational change efforts can never escape the stranglehold of financial assessment and nor should they as any new processes introduced to a business especially best practice should bring some effect to the bottom line whether it be positive or negative and this needs to be measured. The trick is to not let these be the only means of assessment.

5.9.1   Use in an Organisational Context

A large IT Department is planning to Implement ITIL. Since this will be a substantial investment and use of company resources this implementation effort will be subject to financial assessment and formal benefits realisation. This is in line with all projects and initiatives costing over $50,000. A Financial cost benefits analysis will be conducted as well as calculating Return on Investment and the Pay Back period. Other financial metrics such as cost of support per user and cost of downtime will be assessed before and after the adoption of the processes. 3 years after ITIL processes were put in place the organisation finally starts to see some financial benefit from the ITSM improvement effort.

5.9.2   Analysis

Financial analysis is a common tool and is often applied to ITSM improvement efforts. It has already been applied to ITIL implementation with costs being tracked and benefits expressed financially. Managers have a good understanding of financial metrics and they are not too complex to use provided you have the right information. The important thing is to ask are these the only benefits that ITIL can bring.

6   DISCUSSION

With all these assessment tools and methods existing out there, some more useful, complex, ITIL appropriate and prescriptive than others the question must be asked, which one is best when dealing with the evaluation of ITIL implementations. Should IT managers select one only, based on their specific needs, or rather combine some of these? Would it be best to create your own methods and tools for evaluation, or contract costly consultants to do all this for you? The answer will inevitably be one of organisational choice. However simple guidance should be noted. ITIL should be evaluated from multiple perspectives with multiple methods to capture the range of tangible and intangible benefits that it can bring.

Since non of the discussed methodologies completely cover every perspective that should be looked at when evaluating ITIL it is suggested that what needs to be done is to combine elements from each, extend some, make them more prescriptive and specific to ITIL, rather than starting from scratch to create something new.

Table 1: Summary analysis of possible evaluation methodologies for ITSM methodologies.

Assessment Tool/Method	What is Assessed	Applicability to ITIL	Complexity	Level of Prescription	Perspective/ Dimensions
itSMF/OGC ITIL Assessment Tool	Level of ITIL compliance. Gives the organisation an idea of how well it is performing compared to ITIL best practice.	High: Designed for ITIL	Low: Based on a framework and series of capability levels. Can be done by anyone on website	High: Set questionnaire available online and offline in excel spreadsheet format.	Pre-requisites Management intent Process Capability Internal Integration Products Quality Control Management Information External Integration Customer Interface
IS Adapted SERVQUAL	Users opinion of IS service Quality	Medium: Useful for assessing any ITSM improvement effort	Low: Only Survey construction and Analysis of data required	Medium: Survey Questions already defined yet method of analysis a managerial choice	Users Expectations and Perceptions
IT Service Capability Maturity Model	Maturity of IT service processes. Directions for further improvements of service capability	High: Designed with ITIL in mind	Medium: Lacking guidance on how to use it	Low: Requirements of each Maturity level well explained but not measurable	Management Process Maturity
IT Balanced Scorecard	4 perspectives Balanced. Strategic management and measurement system for improving performance	Low: Originally for wider organisational strategic purposes only recently tailored for IT purposes	Medium: Detailed yet Lacking guidance on how exactly to go about using	Medium: Measures are generally defined by the organisation although examples are prevalent	IT Value/Financial User IT Processes Future Orientation
Stakeholder Process Approach	Stakeholder expectations in relation to a system and its evaluation	Medium: Originally for Systems Evaluation can be used for ITSM improvement efforts	Low: Ambiguous yet principles easily understood	Low: Very high level concepts	Different Stakeholder groups
Criteria Catalogue for analysing Service Management Processes	Existing processes analysed based on criteria for high quality processes	High: As a Proof-of-concept it was tested against ITIL's Incident Management	Low: Appears simple enough to use	Medium: Criteria and weights must be self defined, however a weighting scheme and rating scale is provided.	Anything, all criteria categorised and defined by organisation
SLA Comparisons	Level of adherence to SLA's between IT and the Business and or improvement in performance measures within SLA	High: ITIL calls for the use and monitoring of SLA's	Medium: Definition of SLA's and specification often a lengthy procedure	Low: Organisations must decide upon and define SLA's. Measures with SLA must also then be defined	Anything as defined within each SLA
Ramaswamy's 8 Stage Service Design and Management model	Service Quality Stage 6: Measuring Performance Stage 7: Assessing Satisfaction Stage 8: Improving Performance	Medium: Concepts can be applied to any service process	Medium: Metrics required, Satisfaction measures required. Descriptive and inferential statistics	Medium: Somewhat high level, extensive examples given	Effectiveness Capability Efficiency Satisfaction Financial
Standard Financial Assessment and Measures	Change in financial metrics over time and or the financial impact of implementing ITSM improvement efforts. e.g. ROI, TCO, EVA, Cost tracking, Budgets	Medium: ITIL brings many intangible benefits which will be missed from this approach	Low: Managers seem to have a good grasp of financial measurement	Low: What to measure is decided by the organisation	Financial

7 CONCLUSIONS & FUTURE WORK

We hope to lead research into this area of ITIL, assisting managers and organisations alike by developing a holistic framework for evaluating the benefits of ITIL for any organisation implementing these best practice processes helping to guide future service improvements. Things that need to be considered are from what perspectives organisations need to consider benefits - Management, Technology, User or even to look back internally at the effect on IT employees. Any framework must be easy to use, comprehensive, flexible and relatively prescriptive. It should combine objective and subjective means of assessment. It should consider benefits in the long term and short term and at multiple levels of operation such as the process level and higher management level. It should also be useful for employees working with the processes, process owners, upper management and of course specific to ITIL itself.

Frameworks and methodologies need to be drafted and tested against real life ITIL case studies and discussed with industry experts, until workable solutions to this problem are created. Our research will attempt to follow this journey to create a methodology and such a tool.

ITIL is a complex piece of best practice and managers need to be careful when deciding if they want to invest in these processes to get them up and running in their organisations and IT departments. Stricter guidance on ways of evaluating ITIL implementations, and gauging the subsequent benefits can only help organisations now and in the future. Hopefully a new evaluation framework will be designed and tested in the not too distant future.

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