



An evaluation of the University of Gloucestershire's IT Service Desk in relation to Service Operation from the ITIL Framework.

Individual Research Project

Business Information Technology BSc

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Declaration

This Research Paper is a product of my own work and does not infringe the ethical principles set out in the University's Handbook for Research Ethics.

I agree that this research project may be available for reference via any and all media by any and all means now known or developed in the future at the discretion of the University.

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Date: 07/12/2016

Table of Contents

Declaration.....	2
1. Introduction	4
1.1 Objectives.....	5
2. Literature Review.....	5
2.1 Introduction	5
2.2 Service Operation	7
2.3 Service Desk	9
2.4 Incident Management.....	10
2.5 Problem Management	12
3. Methodology.....	14
4. Conclusion.....	15
References	16

1. Introduction

Today, most large organisations rely exclusively on their IT systems not only for competitive advantage, but also for the day-to-day running of their operations. Without effective IT systems, many organisations would cease to function. Indeed, Heathcote (2003) comments, “we live in an information age, and no business of any size can survive and compete without embracing information technology”. Clearly, computers and technology have revolutionised the way organisations operate, providing opportunities in new global marketplaces as well as speeding up the rate of change. Many authors (FNRSolutions, 2016; BusinessVibes, 2015; Ramey, 2014) agree that in today’s competitive, ever-changing marketplace, technology is a key element of business success. This increasing reliance on technology, means that organisations must have a structure of managing their IT systems in a way that achieves business value. BMC (2015) argues that one of the key ways to achieve this synergy between business value and the alignment of information systems is through information technology service management (ITSM).

The Information Technology Infrastructure Library (ITIL) is now the most widely accepted approach to ITSM worldwide (Tudor, 2008). Indeed, Tudor (2008) and BMC (2015) state that ITIL is a “best-practice approach” for service management as it gives guidance on the definition and enhancement of service management processes and it contributes to the managing of an organisation’s IT infrastructure. This point is further reiterated by BMC (2015) who states ITIL is used as a guide to help organisations improve the value of their services by focusing on solving business issues as well as improving IT capabilities. The ITIL framework features five disciplines of service management; service strategy, service design, service transition, service operation and continual service improvement. Within these five disciplines, each one stems and defines key processes, functions and roles. Out of the five ITIL disciplines, service operation is the most important which also incorporates the IT Service Desk.

The Service Desk is the most important element of service operation. Persse (2013) makes the claim, “when most people think of service operation the image that comes to mind is the Service Desk.” Service operation also includes the managing of applications and technology used in an organisation whilst building an infrastructure that supports the delivery of the services. Commerce (2010) views service operation as a guide to achieving

effective and efficient delivery and support of services. The service being for the customers and being able to get value both for the customers and organisation. Fry and Stationery Office (2010) agree that ITIL provides a guide, however believe it does not offer much advice on managing quality and accuracy. Mochal (2007) agrees stating ITIL is not project management and adding that ITIL does not focus on creating things like projects do, but it focuses on delivering IT services to the company. It is important that organisations remember that they need someone to be able to implement ITIL effectively and be a leader within the team and that by just following ITIL, you may not achieve your end goals without some strong and leadership-like personae. This suggests that the service desk has a lot more to offer if managed effectively.

This research project aims to understand the importance of the service desk to an organisation, finding out how these selected processes; incident management and problem management from service operation help the performance of the service desk and how the University of Gloucestershire adapt to the processes. This will be achieved by comparing written theory to current practice using the following objectives:

1.1 Objectives

- To investigate current literature on how ITIL Service Operation supports the performance of the Service Desk in large organisations
- Analyse how the use of service operation can be a driver for improved performance to the service desk at the University of Gloucestershire
- Evaluate the service desk at University of Gloucester to service operation stated by ITIL
- Produce recommendations to UoG for IT Service Desk future practices.

2. Literature Review

2.1 Introduction

Today ITIL has become an internationally documented set of best practices for information technology service management. Miller (2013) sees ITIL as a tool used to help with the efficient and financial responsible use of IT services for businesses and organisations seeking to improve service quality and make use of IT systems for their growth. Spasic and Markovic (2013) state the ITIL framework has been recognised by major companies across the world

to organise their IT systems for the better and to improve the relationship with the end user.

Although ITIL can clearly be a success for organisations, it is important to remember that the success of ITIL implementation is influenced by group efficacy and the resources available to the organisation. Esteves and Alves (2013) for example agree that ITIL is useful for increasing the overall quality of IT Service, but state that management can be difficult and add that within the organisation, people may be resistant to change that is then recommended by the ITIL framework. In addition to this, Miller (2013) states that management involvement can contribute to the success of ITIL within organisations. Fry and Stationery Office (2010) somewhat agree as they believe ITIL does not give advice on the management of ITIL, but more on how it helps to provide better IT function, so agreeing with Miller that the inclusion of management, such as effective management, management with defined processes, organisations are then able to effectively implement the ITIL framework.

Calvo-Manzano et al. (2015) claim that implementing ITIL can be complicated depending on the organisation. For example, Disney's adoption and implementation of ITIL was customer focused and there was a huge demand on their IT systems. With over 800 applications and over 1800 servers there was added pressure to make sure everything went well. ITIL is now used by Disney to make sure that their IT systems are always performing to a level that improves the guest experience and the guest experience is how Disney manages to keep 118 million people coming back every year (Charlie, 2012). However, with a company like Muller Dairy, their need for adoption and implementation of ITIL stemmed from a need to change the image of IT within the company. Muller found the implementation of ITIL complicated because they adopted elements of the ITIL framework all at once and after reviewing the implementation, they realised it would have been better if they had a phased implementation. But since the adaptation, Muller's IT service desk has hit 99% KPI performance in an average week and 4.5/5 satisfaction rating in an average month, completely changing the way IT has been perceived in the business (Charlie, 2012).

GS (2016) believes the new pressure that IT departments are facing, mainly having to meet the demands of aligning their services with business goals of the organisation, is making implementing ITIL complicated. GS goes on to say that the rapid changes in IT Service

Management (ITSM) has resulted from digitalisation and the need to keep up with the changes. Valiente, M.-C., Garcia-Barriocanal, E. and Sicilia, M.-A. (2012) add that ITSM permits the integration of business within IT and that IT services are assets that must be managed for business success. GS (2016) suggests that organisations need to be progressive and realise the importance of two factors, adaptability and agility. Organisations use service operation to support them with the everyday running of information technology service management.

2.2 Service Operation

Cruz-Hinojosa and Gutiérrez-de-Mesa (2016) view service operation as the most critical element in the ITIL framework. The purpose of service operation is to deliver services to agreed levels of service and to manage the applications, technology and infrastructure that support service delivery. Valentic (2015) agrees by stating service operation is the most important phase because of the processes such as incident management and the service desk. Valentic (2015) goes on to add that the processes are the most exposed, exposed in the meaning they are the ones mostly used by the end users. For example, in an organisation, they can have the best desktop administrator in the world and that administrator can do a superb job, however the end user will never get to see them. The end user will see the services they use and the people they interact with the services which in most cases is the service desk team. This why it is vital to have an organised service desk team, ready to support the end users as they are the important customers.

Gerdewal & Secim (2014) believe that it is the processes and capabilities from service operation that ensure the smooth operation of IT services, and within service operation there should be a high level of communication between the end users and the IT staff. In addition to this, service operation is seen by Gerdewal & Secim to be key to communication within the framework. Rivard (2014) agrees listing communications as one of the 6 critical success factors for service operation. Rivard (2014) adds to this by saying it is essential that workers within the service desk understand the value of what they are doing and why they are doing it and the potential benefits and issues. However, if they fail to understand this and see the value, that may not be able to develop themselves or deliver sufficient support to the end user.

Another factor from Rivard's (2014) 6 critical success factors are roles and responsibilities. Roles and responsibilities are a fundamental part of service operation and Rivard believes defining, documenting and assigning roles and responsibilities establishes clear expectations for individuals. Below are the common roles within a service operation team, however not all organisations will have every role within the team and this depends on the organisation's IT Service Management and the processes that they support. This list however provides a general overview of a common service operation team.



Figure 1 - Typical service operation roles

Valentic (2015) believes that each role in the team is important, and highlights the fact that there are no roles more important. Some roles within service operation are limited in scope to one specific process, others have responsibilities in several different processes. A given staff member may be required to be in different roles at different times, or several roles at the same time, depending on their specific job description, the specific situation, and the specific process(es) they are interacting with. This could then potential be an issue if a staff member is required to do more work than another and cause divided opinions in the organisation. However, Taylor (2016) suggests ways conflict and discontent can be avoided if employees are required to do more work. Taylor suggests that the added work can create a new career pathway for the employee benefiting both the organisation and the worker. It's important to be able to provide personal development, giving the worker training opportunities if they were to move to a higher role, this would a new role for someone else. Taylor (2016) also recommends that the organisation should ask for the employees input in

the new role so they feel valued and the employee can express how they feel and possibly advice back to the organisation if anything could be changed.

2.3 Service Desk

The service desk relies heavily on service operation as it is the most critical phase of the ITIL framework (Mackey, 2010; MyITstudy, 2013a; Spasic and Markovic, 2013). The key to an effective service desk is ensuring that there is clear accountability and as discussed above, that roles are defined to carry out the practice of Service Operation. Tudor (2008) sees the service desk as the 'front line' of service operation and Flynn (2013) views the Service Desk as the gateway between the IT department and the end users. Knapp (2013) describes to work on the service desk you must understand what is involved in delivering technical support services, have excellent communication and problem-solving skills and you must be able to deliver the needs to the end user.

Frost (no date) believes that training is key to an effective Service Desk and presents an opportunity to expand the knowledge of employees, a chance to address any weaknesses but also improve strengths and in total, improve overall employee performance. However, Punyateera et al. (2014) argues that workers within a service desk may need training to be able to sufficiently be productive and support end users on the service desk. Today, technology is rapidly developing and it's vital that staff are aware and able to adjust to the development. But Wheatcroft (2014) disagrees with Punyateera et al. (2014), as he states that there is no unique training path for staff working on the service desk and even goes on to say that they do not necessarily even need to have a background in IT. There is clearly a divided opinion on training regarding the service desk and maybe it needs to be identified whether there is any beneficial factor from it. Rivard (2014) adds by stating that training should be planned, comprehensive and concise. He focuses on the importance of feedback, providing feedback on what is working and what is not working. Rivard believes an employee acknowledging and responding to feedback is critical to their personal development and training.

The service desk is a useful asset for organisations, Conceicao et al. (2014) comments that the service desk needs several procedures to survive and without can suffer. One procedure needed is adequate IT service management. Gerbyshak and Brooks (2009) believe that employee engagement is one of the most important factors when managing a service desk.

Employee engagement is with the responsibility of the service desk manager and they need to be able to apply this within the work place. Gerbyshak and Brooks (2009) define employee engagement as “when given a choice, employees will act in the best interest of their company or their team, instead of working in their own self-interest.” Gerbyshak and Brooks (2009) see the benefits of being engaged mean less turnover, higher performance and more satisfied customers. Incident management is a process within service operation that requires employee engagement as employees within the service desk need to be proactive to restore service after an issue has been reported.

2.4 Incident Management

The objective of incident management is to manage and restore normal service operation after an interruption as rapidly as possible and with minimal impact on the business. An incident is an unplanned interruption to an IT service. Punyateera et al. (2014) states the importance of incident management is to reduce the time of incident analysis and operation time of restoring services to normal conditions but also mentions that this can be difficult using the example of the service desk at National Education Network (NEdNet). Factors that need to be considered when trying to restore normal service operations, is the number of service desk operators available and their working time. They mainly depend on the organisation, as the bigger the organisation, the greater the capability will be. For UoG it is important that they can deal with all incidents that arise and reported to the service desk and that they are dealt in the appropriate manner and time to resume service.

For all organisations that have a service desk, they make use of a Service Level Agreement (SLA). In the case of a university like UoG, SLAs are there to advise university students and staff what services information technology offers to the end users concerning the service desk (Sutton, 2016). SLAs also covers the IT team’s expectations of its end users to ensure speedy and accurate resolutions. The incident management process has objectives that are specific to the organisation, and are specified in the Service Level Agreement (SLA) that the organisation and its clients sign (Valiente, Garcia-Barriocanal, and Sicilia, 2012).

Orta et al. (2014) list the factors that they believe influence the process outcomes and the SLA fulfilment. These factors include, the organisation structure; the received incident trend; the configuration and efficiency of the support groups; the time required to perform the process activities; and the incident management strategies implemented in the

organisation. SLAs are there to support the organisation, to remind them of their aims and it can be a performance indicator. Organisation can see how they are doing, if they are meeting targets, and if they're not, why and how they can improve. SLAs can help drive the performance as it may indicate a reason to change how the service desk operates to meet SLAs. Therefore, it is important that UoG IT support decide how to organise their internal structure and which incident management strategies should be adopted to achieve their SLA targets.

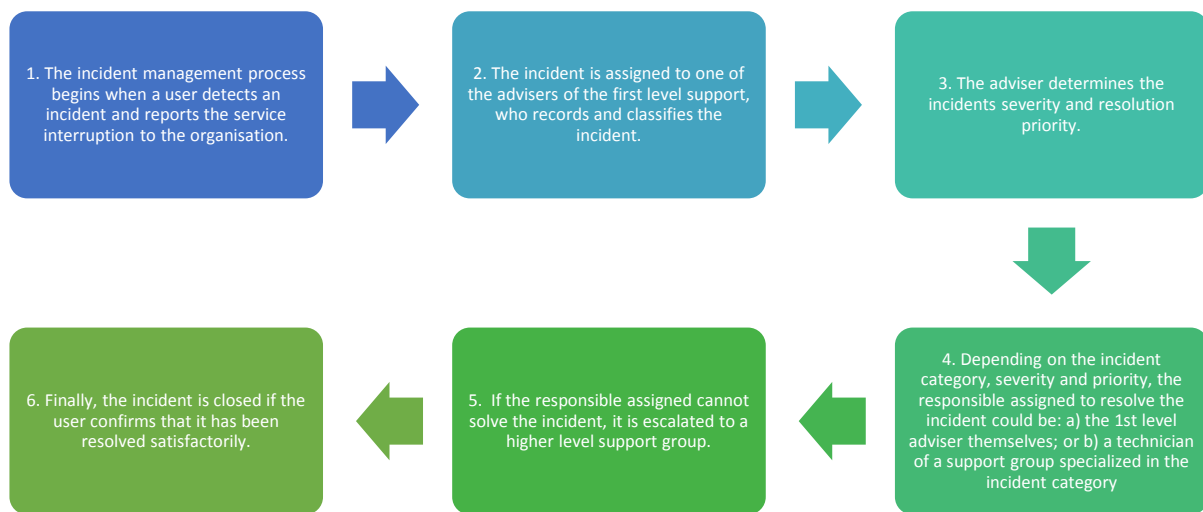


Figure 2 - Incident Management Process (Orta et al., 2014)

Most organisations process incidents in the format as the graphic above, however differs to each organisation, mainly due to the size of organisation. Orr (no date) states that the incident management process can be structured to management incidents depending on the organisation.

With the first step, most organisations would be like this, as the end user would report to the service desk via phone, email, in person or however the organisation selects. In step two, the incident is picked by first line support who would log the incident on a system, somewhat like a database. The system can be bespoke or organisations can buy already built software for logging jobs. Within the logging system, the incident is given a severity and resolution date by the first line adviser in step 3. The severity and resolution date all align with the organisations SLA. The incident then needs to be assigned in step 4. If the incident is not resolved in step 4 by the first line team, it is then assigned to a member

within second or third line to resolve in step 5. The first line support team are there to fix the problem in the first instance and are sometimes unable to do this. Although they may not be able to fix every job that comes forward, (Wright, no date) describes first line support members as the unsung heroes of organisation. And in the last step, if the incident is resolved it is then closed once there is confirmation from the end user that the issue is now restored to normal service operation. Orr (no date) believes that a user satisfaction survey is necessary after the process which many organisations are now implementing. He believes that this can be a performance indicator that can be matched against the organisations SLAs.

2.5 Problem Management

Problem management is another process just like incident management within service operation and just as important as incident management. Sanker (2013) and Orr (no date) both define a problem as the underlying cause of one or incident. Sanker (2013) continues and claims the goal of problem management is to identify, prioritise and systematically resolve these underlying issues. However, MyITstudy, (2013b) feels a problem is more serious than an incident as a problem is a condition from a number incidents that are related or have common issues. Greene (2016) believes that there is still confusion within ITIL and adds that the confusion is more apparent within the discussions about the differences between incident and problem management. BMC (2016) agrees with Greene as they mention how the implementation of problem management gives organisations headaches because of the similarity with incident management. Greene however goes on to describe the differences in his article, *"Incident management vs. Problem management - why it's critical you understand the difference"*, the difference between the two is that problem management aims to detect the underlying cause of an incident and find the best resolution and prevention. Whereas with incident management, the aim is to restore the service to the user as quickly as possible (Greene, 2016; Summers, 2014; Scarborough, 2012).

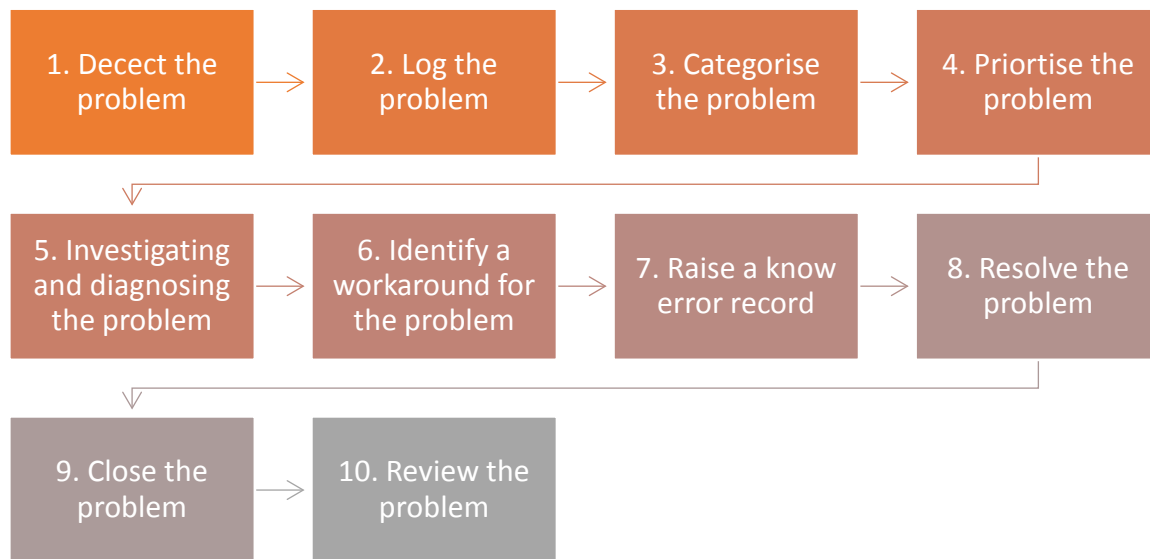


Figure 3 - Typical problem management process (BMC, 2016)

Problem management is essential for organisations that have a service desk because it is directly affected by and affects incident management. BMC (2016) believes the service desk is the most important function for problem management. Incident management and problem management need to work together and need each other within service operation as they both directly influence the service desk. For example, Sanker (2013) says incident management focuses on rapid recovery of service, but problem management identifies and resolves these underlying causes to eliminate future incidents. BMC (2016) views problem management as the process that is integral to long-term service delivery success and is vital for an IT service team for robust service. The benefit to customer organisations such as UoG is improved quality of service, higher service availability and improved user productivity. There is even a benefit for the service desk staff as they would have access to a knowledge database of known errors and corrective actions.

Service operation clearly plays an important part for the operation of IT services in organisations, delivering services to end users. The service desk is a vital asset that ensures the accountability of services and the guaranteed full level of support to the end user. Processes from incident management are there for guidance to deal and resolve incidents and it is a process that is there to restore normal service operation as soon as possible. There is a strong and essential relationship between incident management and problem management and sometimes a confusion. However, problem management works with

incident management to distinguish the fundamental issue of an incident and work with incident management to find the best fix and prevention.

3. Methodology

This research project aims to evaluate and understand the importance of the service desk to the University of Gloucestershire, how ITIL service operation supports the service desk and how processes such as incident management and problem management support the performance of the service desk. Current literature explains how service operation and the processes aid to an organisation and the service (Valentic, 2015; Punyateera et al., 2014; Spasic and Markovic, 2013). To be able to complete this evaluation, primary research will be required to determine if UoG are implementing service operation effectively to support this to the service desk and to improve the performance of their service operation.

Primary research will be conducted in accordance to a deductive approach making use of quantitative and qualitative research to collect data. Deductive research approach explores the literature/theory and tests if the literature/theory are valid in a given circumstance. (Dudovkiy, 2016). For this research, interviews and questionnaires will be used to understand how the service desk operators work and imply ITIL in their everyday work at UoG. Interviews and questionnaires are case study research methods which fall in part with the deductive methodology approach. Interviews will be held with at least one 1st line support member, more likely a senior member and another interview will be held the service desk manager. Questionnaires will be distributed to members of the service desk team. With interviews, the research will make use of unstructured interviewing. This allows flexibility and lets the interviewee give more informative feedback rather than being more respondent (Burns, 2000). Questionnaires will help collect a large quantity of data quickly and each respondent will receive the same questions, written in the same way, allowing for higher reliability (Burns, 2000). To evaluate the processes, incident management and problem management, statistical data is required to analyse performance and this statistical data will be obtained from UoG as it is a logical and reliable source of data. The use of interviews, questionnaires and statistical data will bring current and factual data. From the results of evaluating UoG and ITIL service operation, recommendations will be produced for future practices.

Large organisations such as the University of Gloucestershire are now using the ITIL framework, using service operation to provide support services such as the Service Desk to end users. UoG IT Service Desk and mostly other large organisation service desks have the same aim, and that is to provide the best service to their end users, but in UoG's case, primarily students and staff and they need to know how to deliver this. UoG is a small university compared to others, but is a growing university and the IT department is relatively small compared to others but they still have the same demands as larger universities. This shows the importance of management and why UoG would need to optimise their IT service to adapt to the activities of the department.

4. Conclusion

From the literature evaluation above, ITIL service operation appears to benefit any organisation that provides ITSM although every organisation is different so it is important that organisations that use ITIL evaluate and apply the guidelines in a way that fits the needs of their business. Used wisely, the benefits achieved can include improved service delivery and customer satisfaction whilst using the service desk. The service desk needs several procedures to survive, without which it can severely suffer with inadequate or non-existent ITSM. Since ITIL is a set of best practices and not a standard, organisations are free to adopt as much of the ITIL framework as is valuable to them. In the case of this research project, the focus is on UoG's adaptation of service operation to support the service desk and how they have used service operation in improving their IT service department. After evaluating the current process of UoG, this project will produce recommendations for UoG for future practice of service operation.

References

- Avison, D. (2002) 'Action research: A research approach for cooperative work', *The 7th International Conference on Computer Supported Cooperative Work in Design*. doi: 10.1109/cscwd.2002.1047641.
- BMC (2015) *Who uses ITIL?* Available at: <http://www.bmc.com/blogs/who-uses-til/> (Accessed: 30 November 2016).
- BMC (2016) *ITIL problem management: Best practices & processes flow*. Available at: <http://www.bmcsoftware.uk/guides/itil-problem-management.html> (Accessed: 30 November 2016).
- Burns, R.B. (2000) *Introduction to research methods*. 4th edn. Thousand Oaks, CA: SAGE Publications.
- BusinessVibes (2015) *The importance of information technology in business today*. Available at: <http://www.business2community.com/tech-gadgets/importance-information-technology-business-today-01393380#WQmvGd0ROtq8txTK.97> (Accessed: 30 November 2016).
- Calvo-Manzano, J, Lema-Moreta, L, Arcilla-Cobián, M, & Rubio-Sánchez, J 2015, 'How small and medium enterprises can begin their implementation of ITIL?', *Revista Facultad De Ingenieria Universidad De Antioquia*, 77, p. 127, Publisher Provided Full Text Searching File, EBSCOhost, viewed 15 November 2016.
- Charlie, A. (2012) *Case studies: Three big businesses using ITIL*. Available at: <http://www.itiltraining-uk.co.uk/big-businesses-using-til/> (Accessed: 28 November 2016).
- Commerce, O. of G. (2010) *The introduction to the ITIL service Lifecycle book*. 2nd edn. Norwich: Amnesty Intl British Section.
- Conceicao, F.S. da, Silva, A.P. da, Filho, A.Q. de O. and Filho, R.C.S. (2014) 'Toward a Gamification model to improve IT service management quality on service desk', *2014 9th International Conference on the Quality of Information and Communications Technology*. doi: 10.1109/quatic.2014.41.
- Cruz-Hinojosa, N.J. and Gutiérrez-de-Mesa, J.A. (2016) 'Literature review of the situation research faces in the application of ITIL in small and medium enterprises', *Computer Standards & Interfaces*, 48, pp. 124–138. doi: 10.1016/j.csi.2016.05.001.
- Dudovkiy, J. (2016) *Deductive approach (deductive reasoning) - research methodology*. Available at: <http://research-methodology.net/research-methodology/research-approach/deductive-approach-2/> (Accessed: 6 December 2016).
- Esteves, R. and Alves, P. (2013) 'Implementation of an information technology infrastructure library process – the resistance to change', *Procedia Technology*, 9, pp. 505–510. doi: 10.1016/j.protcy.2013.12.056.
- Flynn, WC. (2013) 'An Examination of the Career, Salary and Training Expectations of Information Technology Professionals Working in the Help Desk Field', *Proquest LLC*, ERIC, EBSCOhost, viewed 16 November 2016.

- FNRSolutions (2016) *The Importance of Information Technology in Today's World*. Available at: <https://www.linkedin.com/pulse/importance-information-technology-todays-world-fnr-solutions-inc> (Accessed: 30 November 2016).
- Frost, S. (no date) *The importance of training & development in the workplace*. Available at: <http://smallbusiness.chron.com/importance-training-development-workplace-10321.html> (Accessed: 18 November 2016).
- Fry, M. and Stationery Office (2010) *ITIL® Lite: A road map to full or partial ITIL implementation*. Norwich: The Stationery Office/Tso.
- Gerbyshak, P. and Brooks, J.M. (2009) *Help desk manager's crash course*. S.I.: Booksurge.
- Gerdewal, M, & Seçim, H 2014, 'A Business Communication Design for Information Technology (IT) Organizations based on Information Technology Infrastructure Library (ITIL)', *Business Management Dynamics*, 4, 5, pp. 12-35, Business Source Complete, EBSCOhost, viewed 9 November 2016.
- Greene, J. (2016) *Incident management vs. Problem management - why it's critical you understand the difference*. Available at: <https://www.cherwell.com/blog/what-are-the-differences-between-incident-management-and-problem-management> (Accessed: 30 November 2016).
- GS, P. (2016) *Key IT service management trends for 2016*. Available at: <https://www.simplilearn.com/it-service-management-trends-2016-article> (Accessed: 24 November 2016).
- Heathcote, P.M. (ed.) (2003) *'A' level ICT*. 3rd edn. Ipswich: Payne-Gallway Publishers.
- Mackey, C. (2010) *Service desk or help desk?* Available at: <http://www.arincmanageservices.com/blog/2010/11/service-desk-or-help-desk/> (Accessed: 29 November 2016).
- Miller, SP 2013, 'Information Technology Infrastructure Library (ITIL)', *Salem Press Encyclopedia*, Research Starters, EBSCOhost, viewed 9 November 2016.
- Mochal, T. (2007) *10 things you should know about ITIL*. Available at: <http://www.techrepublic.com/article/10-things-you-should-know-about-til/> (Accessed: 31 October 2016).
- MyITstudy (2013a) *Importance of ITIL service desk*. Available at: <http://www.myitstudy.com/blog/2013/08/importance-of-til-service-desk/> (Accessed: 29 November 2016).
- MyITstudy (2013b) *Incident vs problem – ITIL concepts*. Available at: <http://www.myitstudy.com/blog/2013/09/incident-vs-problem-til-concepts/> (Accessed: 30 November 2016).
- Orr, A. (no date) *The essential guide to ITIL incident management*. Available at: <https://www.cherwell.com/products/it-service-management/til-processes/essential-guide-to-til-incident-management> (Accessed: 29 November 2016a).
- Orr, A. (no date) *The essential guide to ITIL problem management*. Available at: <https://www.cherwell.com/products/it-service-management/til->

processes/essential-guide-to-til-problem-management (Accessed: 30 November 2016b).

- Orta, E., Ruiz, M., Hurtado, N. and Gawn, D. (2014) 'Decision-making in IT service management: A simulation based approach', *Decision Support Systems*, 66, pp. 36–51. doi: 10.1016/j.dss.2014.06.002.
- Persse, J. (2013) *The IT service management process manual*. Netherlands: van Haren Publishing.
- Punyateera, J., Leelasantitham, A., Kiattitsin, S. and Muttitanon, W. (2014) 'Study of service desk for NEdNet using incident management (service operation) of ITIL V.3', *Signal and Information Processing Association Annual Summit and Conference (APSIPA), 2014 Asia-Pacific*. doi: 10.1109/apsipa.2014.7041752.
- Ramey, K. (2014) *Technology in the business world - new business technology 2013*. Available at: <http://www.useoftechnology.com/technology-in-the-business-world/> (Accessed: 30 November 2016).
- Reddy, V. (2013) *ITIL® v3 Roles and Responsibilities within the 5 publications*. Available at: <https://www.simplilearn.com/itil-v3-roles-and-responsibilities-article> (Accessed: 22 November 2016).
- Rivard, E. (2014) *IT operations governance: 6 critical success factors*. Available at: <http://focus.forsythe.com/articles/315/IT-Operations-Governance-6-Critical-Success-Factors> (Accessed: 22 November 2016).
- Sanker, G. (2013) *What is basic ITIL problem management*. Available at: <http://itsmtransition.com/2013/12/basic-itil-problem-management/> (Accessed: 30 November 2016).
- Scarborough, M. (2012) *How ITIL differentiates problems and incidents*. Available at: <http://blog.globalknowledge.com/2012/02/22/incidents-and-problems-part-one/> (Accessed: 30 November 2016).
- Spasic, B. and Markovic, A. (2013) 'Information and communication technology unit service management in a non-profit organization using ITIL standards', *Management - Journal for theory and practice of management*, 18(66). doi: 10.7595/management.fon.2013.0005.
- Summers, P. (2014) *Incident management vs problem management*. Available at: <https://support-works.com/incident-management-versus-problem-management-need/> (Accessed: 30 November 2016).
- Sutton, N. (2016) *Helpdesk service level agreement*. Available at: <https://help.evangel.edu/hc/en-us/articles/200932999-Helpdesk-Service-Level-Agreement> (Accessed: 1 December 2016).
- Taylor, N. (2016) *11 Secrets to Keeping Employees Happy (Without a Raise)*. Available at: <http://www.businessnewsdaily.com/6084-employee-happiness-without-raise.html> (Accessed: 29 November 2016).
- Tudor, D.J. (2008) *Agile project and service management: Delivering IT services using ITIL, PRINCE2 and DSDM Atern*. London: The Stationery Office/Tso.

- Valentic, B. (2015) *Which roles do you need for ITIL Service Operation?* Available at: <http://advisera.com/20000academy/blog/2015/06/16/which-roles-do-you-need-for-til-service-operation/> (Accessed: 22 November 2016).
- Valiente, M.-C., Garcia-Barriocanal, E. and Sicilia, M.-A. (2012) 'Applying an ontology approach to IT service management for business-IT integration', *Knowledge-Based Systems*, 28, pp. 76–87. doi: 10.1016/j.knosys.2011.12.003.
- Wheatcroft, P. (2014) *Service desk and incident manager: Careers in IT service management*. London, United Kingdom: BCS, The Chartered Institute for IT.
- Wright, N. (no date) *Nailing the incident management process*. Available at: <https://www.atlassian.com/it-unplugged/itsm/incident-management-process> (Accessed: 29 November 2016).



An evaluation of the University of Gloucestershire's IT Service Desk in relation to Service Operation from the ITIL Framework.

Individual Research Project

Business Information Technology BSc

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Declaration

This Research Paper is a product of my own work and does not infringe the ethical principles set out in the University's Handbook for Research Ethics.

I agree that this research project may be available for reference via any and all media by any and all means now known or developed in the future at the discretion of the University.

MNheta

Munyaradzi Shepherd Nheta

Date: 07/04/2017

Acknowledgments

Firstly, I would like to thank my IRP advisor, Julie Paterson for her continuous support and help throughout assignment 1 and assignment 2. Her drive and passion helped me progress with both assignments and her positivity was always key in giving me strength to carry on. I would also like to thank the University of Gloucestershire's 1st line support team for their time and support in completing the questionnaires and interviews. Without them, I would have not been able to complete my research.

Abstract

This paper investigates and analyses ITIL service operation from the ITIL framework and the University of Gloucestershire's (UoG) 1st line support team and evaluates UoG's IT Service Desk in relation to service operation. Areas considered within service operation are service desk, incident management and problem management. These areas were chosen as they reflected UoG's IT 1st line department and the fact the department was going through an ITIL implementation.

Literature suggests ways ITIL can be used in organisations, ways it can support IT services and ITILs importance within information technology service management (ITSM). However, ITIL is a complex framework, so it is a guidance for organisations and organisations adopt different parts of ITIL for their needs rather than ITIL being prescriptive.

UoG was investigated via interviews and questionnaires, covering all members from 1st line support. This included, 1st line support members, a senior 1st line member and the IT customer services manager (IT CSM). Data was collected to analyse how UoG match up to the recommendations suggested by ITIL literature and see if they were meeting the suggestions or if they need to start looking more at the suggestions. An investigation began to see how UoG adopt service operation. The reason behind this was because I had spent a year working with UoG on a placement and during that time they had not yet implemented ITIL. However, since finishing, UoG decided to become closer aligned to ITIL, giving me the opportunity to analyse their implementation.

Primary research results supported some of the literature as UoG are starting to align themselves to an ITIL environment and applying what the literature says. However, they conflicted with some of the literature, in ways they are doing tasks and procedures. UoG agreed with the literature in how ITIL service operation could improve the service desk and the importance of the service desk within service operation. Both UoG and literature understood what is required from incident management and the objective of incident management. However, UoG conflicted with literature as they did not stress to their 1st line members the importance of service operation, a factor literature believes to be essential and the difference between success or failure.

Recommendations are made to offer suggestions to help UoG with their alignment of ITIL. These recommendations are necessary as they can hopefully support UoG in becoming closer aligned with ITIL and bridge the short-comings.

Table of Contents

Declaration	2
Acknowledgments.....	2
Abstract.....	3
List of figures.....	6
1. Introduction	7
1.1 Objectives.....	8
2. Research Findings	8
2.1 Questionnaires.....	8
How many years of experience have you had with ITIL?	9
How many years of experience have you had with the Service Desk?	9
What are your feelings towards the proposed ITIL service operation implementation?	10
Do you understand what ITIL service operation requires you to do?	11
Do you feel there will be added pressure with meeting the needs and demands of ITIL service operation?	12
Are you ever required to do more than one role? - If so, how do you feel about this?	13
Do you think ITIL service operation will improve your quality of IT Service? - If so, what?	14
Have you received adequate training to prepare you for the ITIL implementation?	15
Do you think you will expand your knowledge of the service desk when ITIL is implemented?	16
Do you feel you have expanded your own personal knowledge whilst using the service desk?	17
Do you have adequate resources to carry out tasks? - If not, what do you think you could benefit from?	18
2.2 Interviews.....	19
2.2.1 Interview with Senior 1 st line support member.....	19
2.2.2 Interview with IT Customer Services Manager (IT CSM)	19
3. Analysis and Discussion.....	20
3.1 ITIL.....	20
3.2 Service Desk	21
3.3 Service Operation	22

3.4 Incident & Problem Management	24
4. Conclusion and Recommendations	25
4.1 Conclusion.....	25
4.2 Recommendations	27
5. References	28
6. Appendices.....	32
Appendix A – First Questionnaire	32
Appendix B – Revised Questionnaire.....	32
Appendix C – Interview with Senior 1 st line support member	32
Appendix D – Interview with IT Services Manager	34
Appendix E – Assignment 1 Feedback	37
Appendix F – Assignment 1 Feedback Response	39

List of figures

Figure 1 - ITIL experience within the 1st line team at UoG	9
Figure 2 - Service desk experience within the 1st line team at UoG.....	9
Figure 3 - Positive feelings towards ITIL service operation implementation	10
Figure 4 - Concerns towards ITIL service operation implementation	10
Figure 5 - 1st lines' understanding of ITIL.....	11
Figure 6 - Comments regarding ITIL implementation.....	11
Figure 7 - Responses when asked if 1st line feel added pressure with ITIL.....	12
Figure 8 - Additional comments regarding added pressure with ITIL	12
Figure 9 - Responses regarding doing more than one role	13
Figure 10 - Responses if service operation will improve IT Service.....	14
Figure 11 - Reasons from 1st line regarding service operation improving their IT service.....	14
Figure 12 - Responses to having received adequate training.....	15
Figure 13 - Additional comments to receiving adequate training.....	15
Figure 14 - If 1st line think ITIL will expand their knowledge of the service desk.....	16
Figure 15 - Additional responses of those that think ITIL will improve their service desk knowledge.....	16
Figure 16 - If 1st line feel they have expanded their knowledge whilst being on the service desk.....	17
Figure 17 - Additional comments of those that feel they have expanded their knowledge whilst being on the service desk.....	17
Figure 18 - Whether 1st line have had adequate resources to carry out tasks	18
Figure 19 - Suggestions on how to improve with the lack of resources.....	18
Figure 20 - Typical problem management process (BMC, 2016)	24

1. Introduction

The Information Technology Infrastructure Library (ITIL) is the most widely accepted approach to information technology service management (ITSM) worldwide (Tudor, 2008). More and more large organisations adapt ITIL within their services of IT support as it provides a framework of procedures and tools. This research focuses on service operation and three functions of service operation; service desk, incident management and problem management at UoG in full. Markovic (2013), Punyateera et al. (2014) and Sanker (2013) collectively state these components are some of the most important within service operation with the aim of being a performance guideline to organisations as well as supporting ITSM activity. The service desk is the most critical phase of the ITIL framework and relies heavily on service operation (Mackey, 2010; MyITstudy, 2013a; Spasic and Markovic, 2013). In addition, for organisations such as UoG, service desk members must understand what is involved in delivering technical support services. They must have excellent communication and problem-solving skills and deliver and meet the needs of the user (Knapp 2013).

Following the secondary research from assignment 1, primary research will be conducted within UoG IT Services' 1st line team, finding out how service operation from the ITIL framework is implemented or is being implemented. The research approach will be deductive. Questionnaires and interviews will be undertaken to understand how the service desk operators work and implement ITIL in daily activities. Deductive research explores the theory and tests if the literature is valid in each circumstance (Dudovkiy, 2016).

From prior secondary research, ITIL service operation implementation can benefit organisations that make use of ITSM. However, it is important to recognise organisations use ITIL to evaluate and apply the ITIL guidelines in a way that fits their needs, adapting the original guidelines to their specific practice. In this paper, UoG will be investigated to get a better understanding of how they run their service operation and how they go about full ITIL implementation. UoG will also be investigated to see if there are ways their implementation could be improved based on employee feedback. Indeed, there are benefits from the use of service operation and when used wisely, it can improve both service delivery and customer satisfaction.

With inadequate or non-existent ITSM, procedures associated with running the service desk may not be fully utilised, becoming less effective and question the ability of the service desk to survive to reach full potential. This is where ITIL comes into action. Organisations are free to adopt as much of the framework as necessary, particularly as ITIL is a set of best practices and not standard. In this research project, the focus is on UoG's adaptation of service operation to support the service desk and how they will use service operation in improving their IT service. After evaluating the current processes of UoG, this project will produce recommendations for UoG for future practice of ITIL implementation and service operation.

This research project aims to find out the importance of the service desk to UoG, finding out how these selected processes; incident management and problem management from service operation help the performance of the service desk and how the University of Gloucestershire adapt to the processes. This will be achieved by:

1.1 Objectives

- Investigating how ITIL supports the performance of the Service Desk at UoG
- Analysing if the use of service operation is a driver for improved performance to the service desk at the University of Gloucestershire
- Evaluating the service desk at University of Gloucester to service operation stated by ITIL
- Producing recommendations to UoG for IT Service Desk future practices.

2. Research Findings

This section presents the results from the primary research conducted. The findings will be analysed and discussed in more depth in "[Analysis and Discussion](#)". Overall, from the 12 1st line IT members at UoG, 10 responses were received, enough to conduct findings to provide a representative sample and with the aim to meet objectives stated at the start of this research project.

2.1 Questionnaires

The questionnaire was initially piloted and then revised with improvements. Please see Appendix [A](#) & [B](#). The purpose of the questionnaire was to get views from the 1st line support team at UoG with regards to ITIL, their personal feelings and experience. They have the most exposure to an ITIL environment compared to 2nd and 3rd line. They were all very

experienced within their roles as the following questions will show. The questionnaire addressed the objectives:

- Investigating how ITIL supports the performance of the Service Desk at UoG
- Evaluating the service desk at UoG to service operation stated by ITIL

How many years of experience have you had with ITIL?

Below are the results of ITIL experience within the 1st line team at UoG.



Figure 1 - ITIL experience within the 1st line team at UoG

How many years of experience have you had with the Service Desk?

Below are the results of service desk experience within the 1st line team at UoG.



Figure 2 - Service desk experience within the 1st line team at UoG

What are your feelings towards the proposed ITIL service operation implementation?

When asked how they felt about ITIL implementation, there were mixed responses. 2 members of the 1st line support had no opinion on the matter stating, “*I don’t know*”. However, the remaining 7 felt positive about the implementation and expressed their reasons. Below are some comments fed back:



Figure 3 - Positive feelings towards ITIL service operation implementation

From the 7 responses that stated their feelings, 3 voiced more feedback stating some concerns, suggesting the implementation may be a risk to the department and may not be the best option. Below are some concerns mentioned:

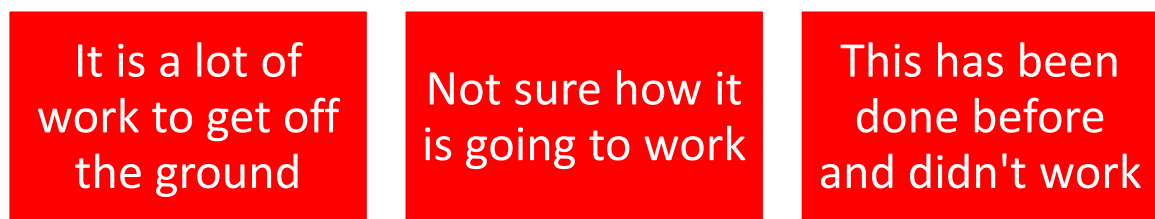


Figure 4 - Concerns towards ITIL service operation implementation

Do you understand what ITIL service operation requires you to do?

Below is a pie chart detailing the responses when asked if they knew what ITIL requires

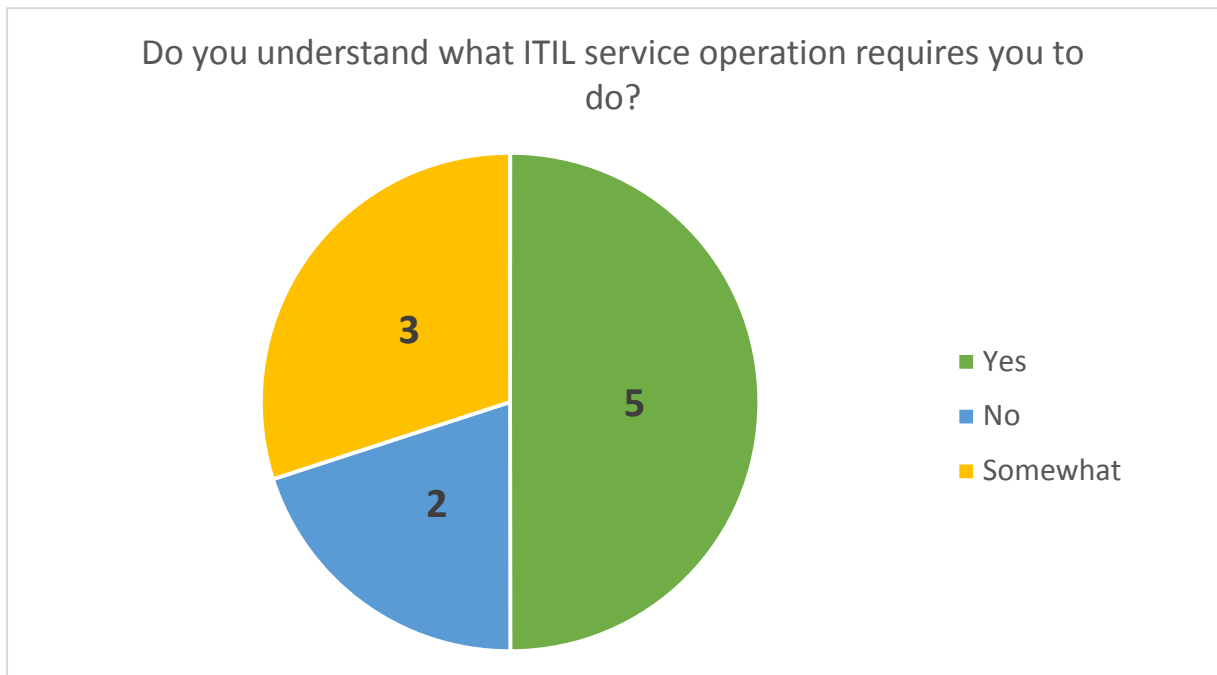


Figure 5 - 1st lines' understanding of ITIL

them to do.

In addition to the responses, some members had further comments, which are listed below, both positive and negative. These will be further discussed in [Analysis and Discussion](#).

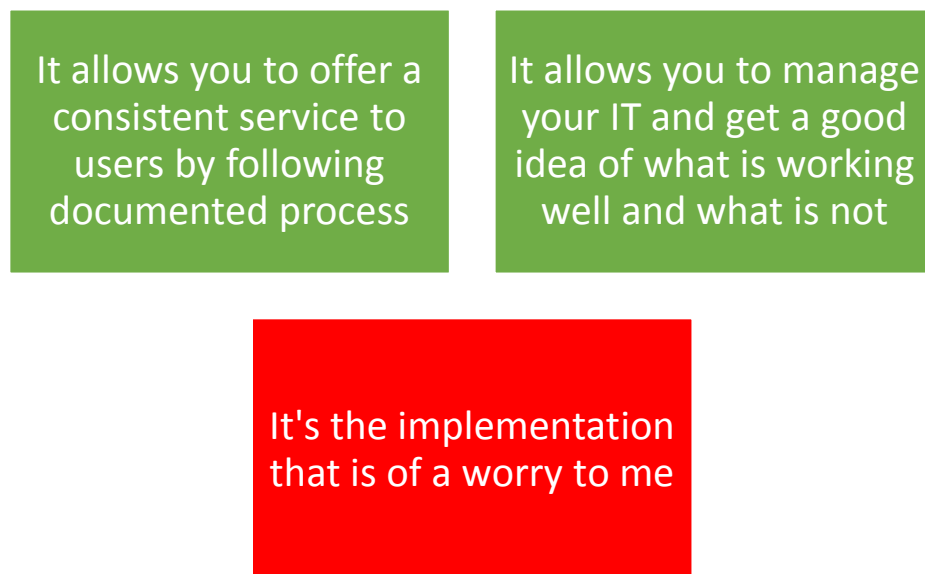


Figure 6 - Comments regarding ITIL implementation

Do you feel there will be added pressure with meeting the needs and demands of ITIL service operation?

The pie chart below shows the responses when asked if they feel added pressure with ITIL regarding demands on time and effort needed by the individual and whether they can cope with this.

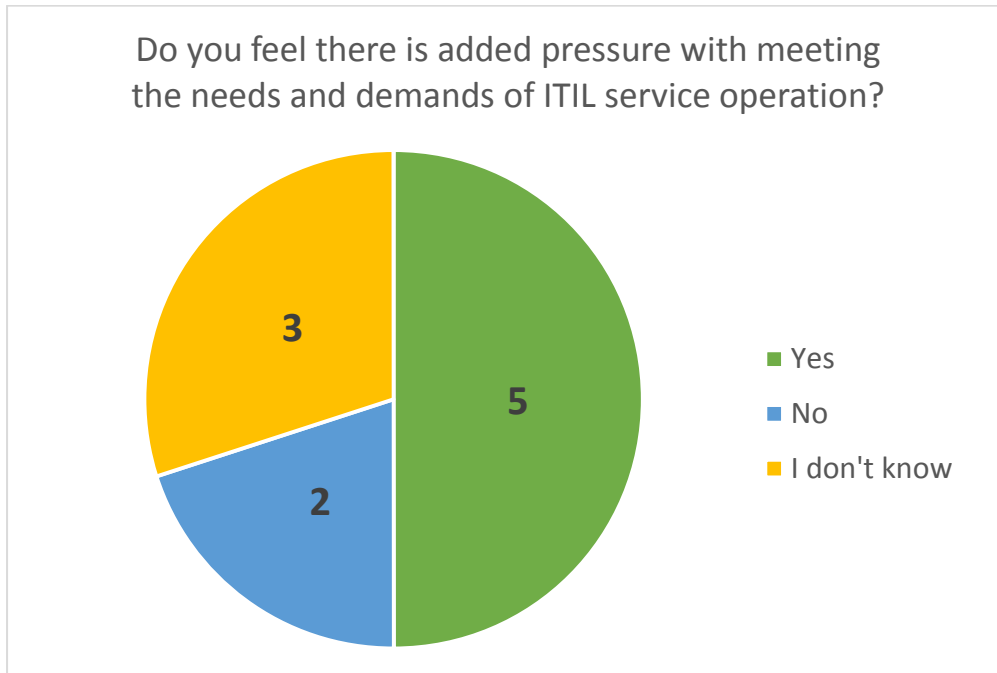


Figure 7 - Responses when asked if 1st line feel added pressure with ITIL

Again, there were addition comments from the responses. Some of the comments were:

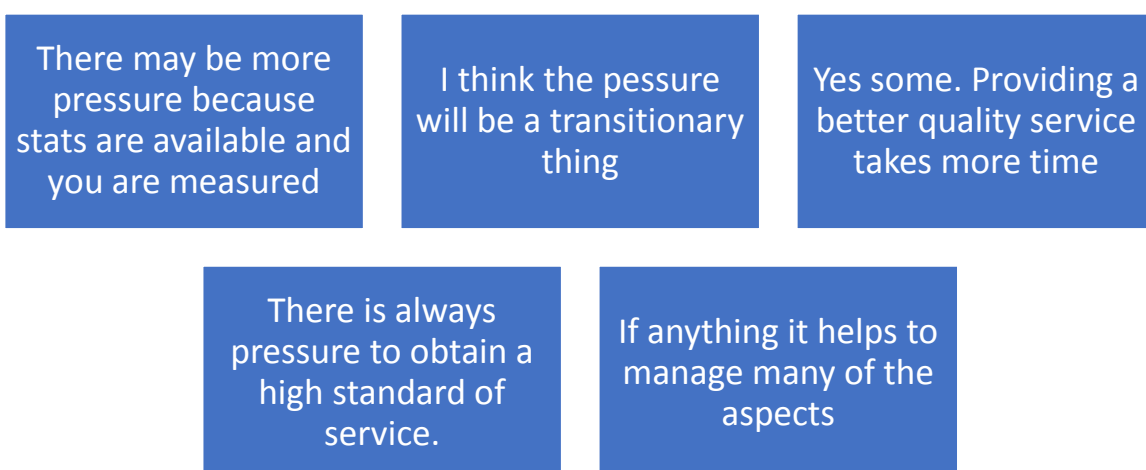


Figure 8 - Additional comments regarding added pressure with ITIL

Are you ever required to do more than one role?

- If so, how do you feel about this?

When asked if they are required to do more than one role, all but one respondent said yes.

When asked how they felt about this, there were positive and negative responses.

Responses included the following:



Figure 9 - Responses regarding doing more than one role

Do you think ITIL service operation will improve your quality of IT Service?

- If so, what?

The diagram below shows results when the 1st line team were asked if they felt ITIL will improve their quality of IT service. Interestingly, a majority said no as they felt ITIL wouldn't improve their quality of IT Service.

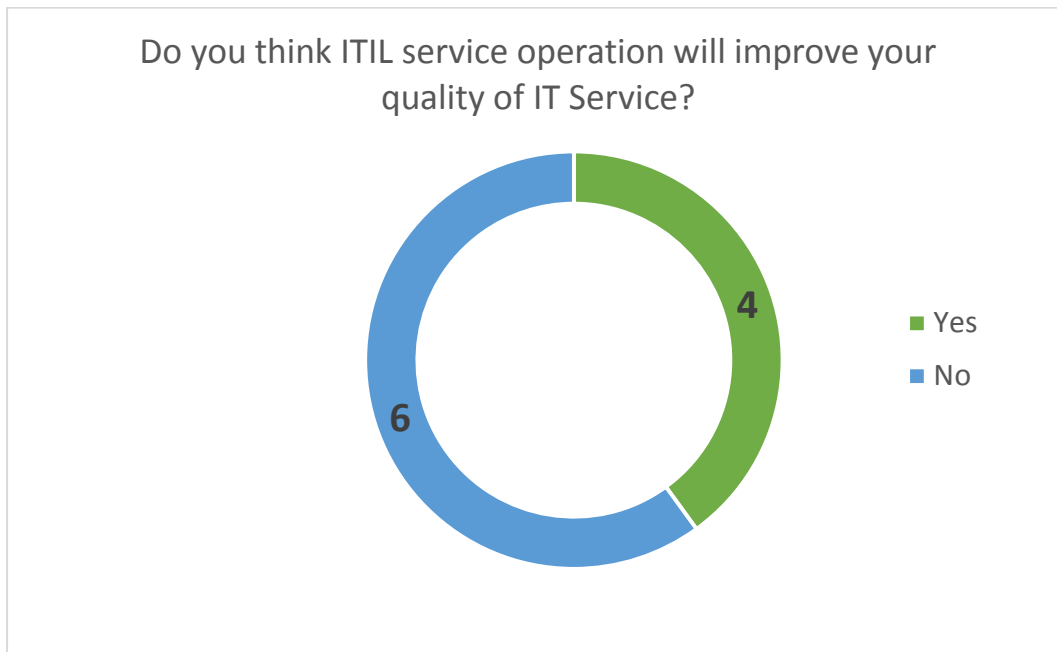


Figure 10 - Responses if service operation will improve IT Service

However, from those that said yes, they went on to state why. Their reasons are listed below:

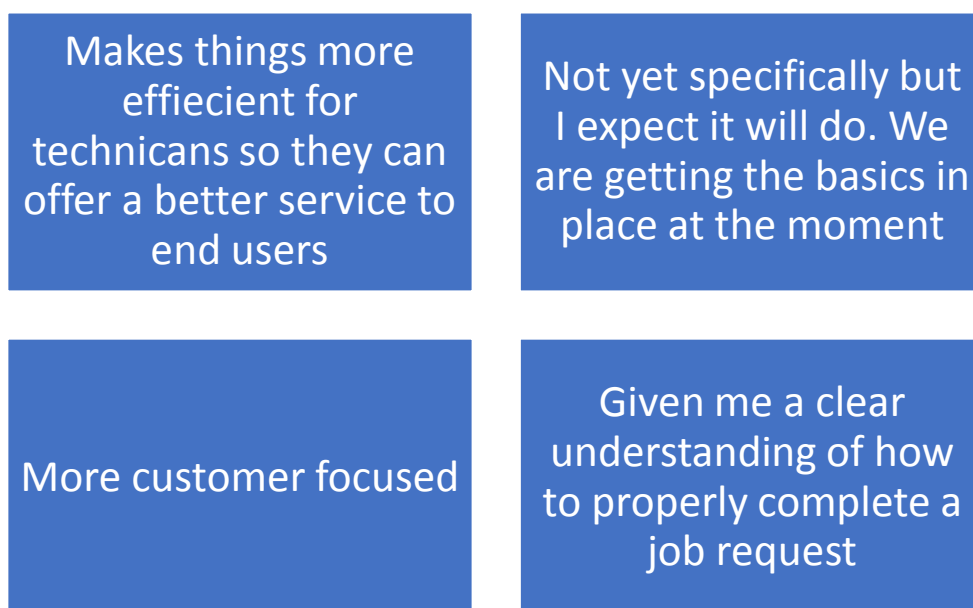


Figure 11 - Reasons from 1st line regarding service operation improving their IT service

Have you received adequate training to prepare you for the ITIL implementation?

Below are results in responses asking whether members had received adequate training.

Only one person said yes mentioning they had been on training to give an overview of ITIL.

Only one person said neither yes or no, but instead said *"I do not think this will be an issue"*.

This suggests UoG may be lacking resources that would enable their members to work at their most efficient.

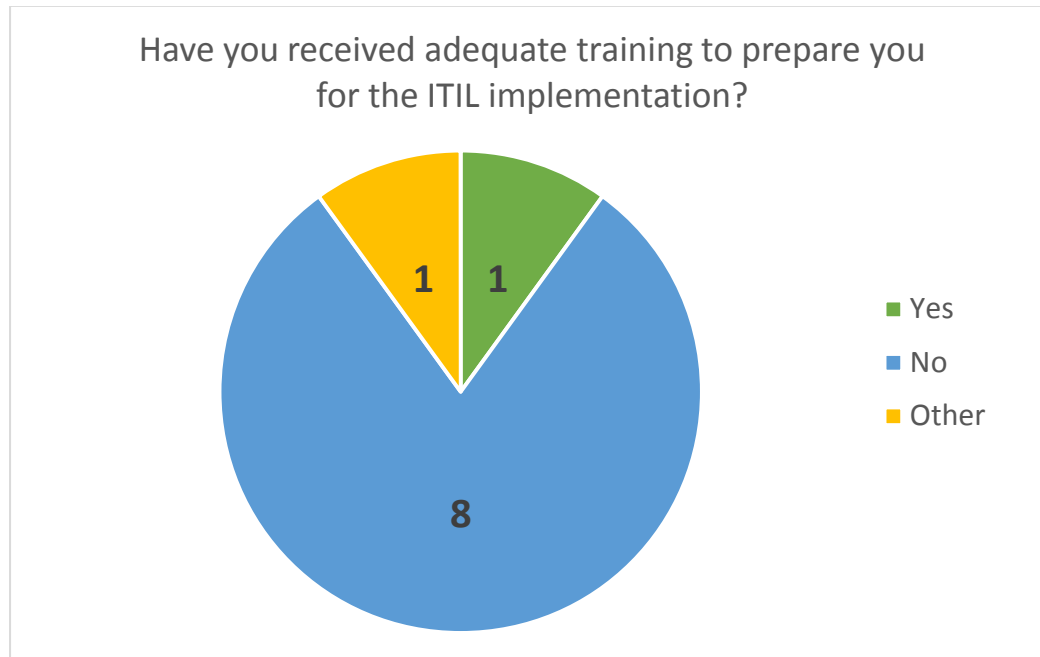


Figure 12 - Responses to having received adequate training

From those that said no, they had some interesting responses. Some comments where:

It has been left to myself to learn what I need to know. This has been achieved from asking colleagues and self-learning

I have received no formal training as of yet. I'm picking things up as I go via meetings and projects etc.

No, not as of yet. But I expect to recieve more in the near future

Figure 13 - Additional comments to receiving adequate training

Do you think you will expand your knowledge of the service desk when ITIL is implemented?

Below are the responses when asked if members felt their knowledge of the service desk will develop whilst using ITIL.

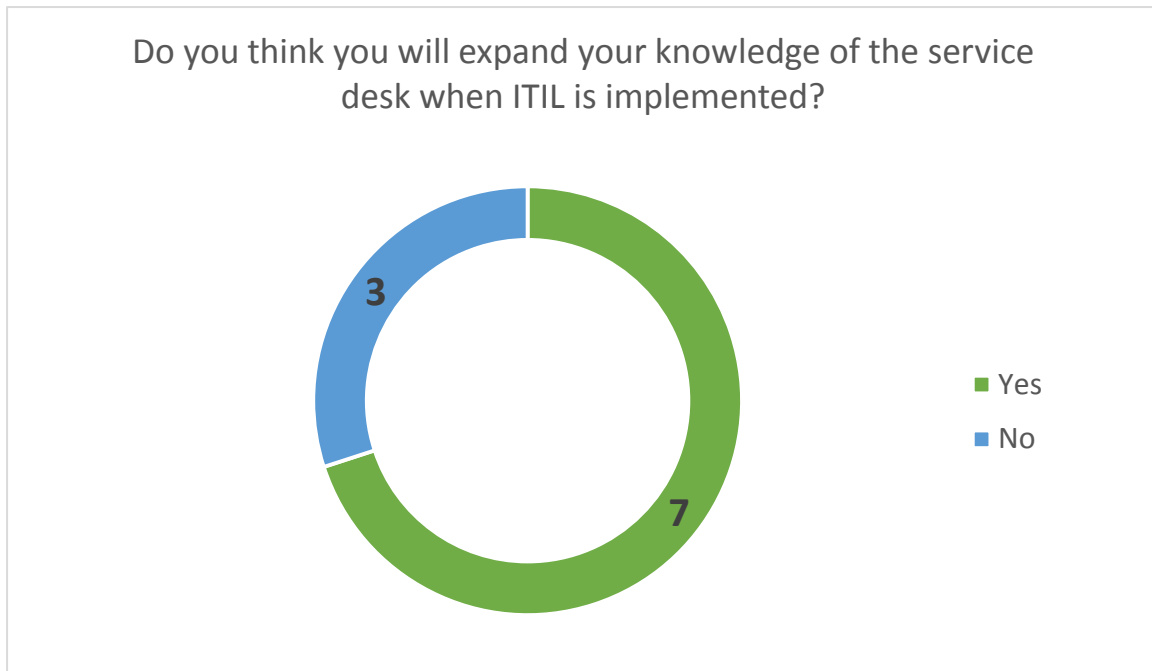


Figure 14 - If 1st line think ITIL will expand their knowledge of the service desk

Below are additional comments made by those who answered yes.

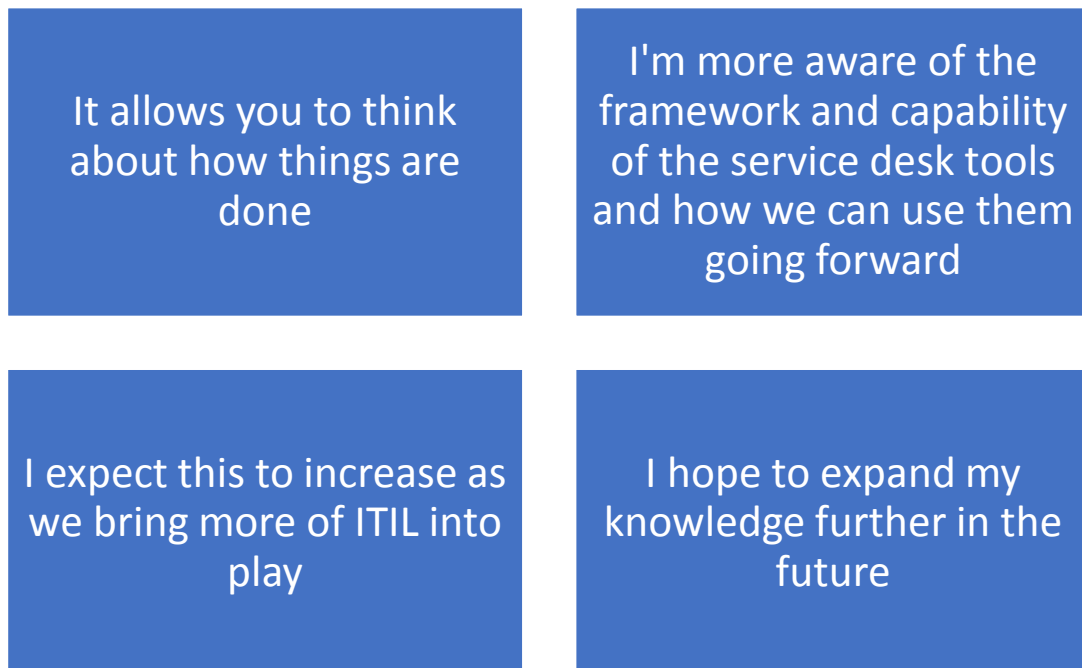


Figure 15 - Additional responses of those that think ITIL will improve their service desk knowledge

Do you feel you have expanded your own personal knowledge whilst using the service desk?

Below are the results when asked if the members felt their own knowledge had been developed whilst using the service desk.

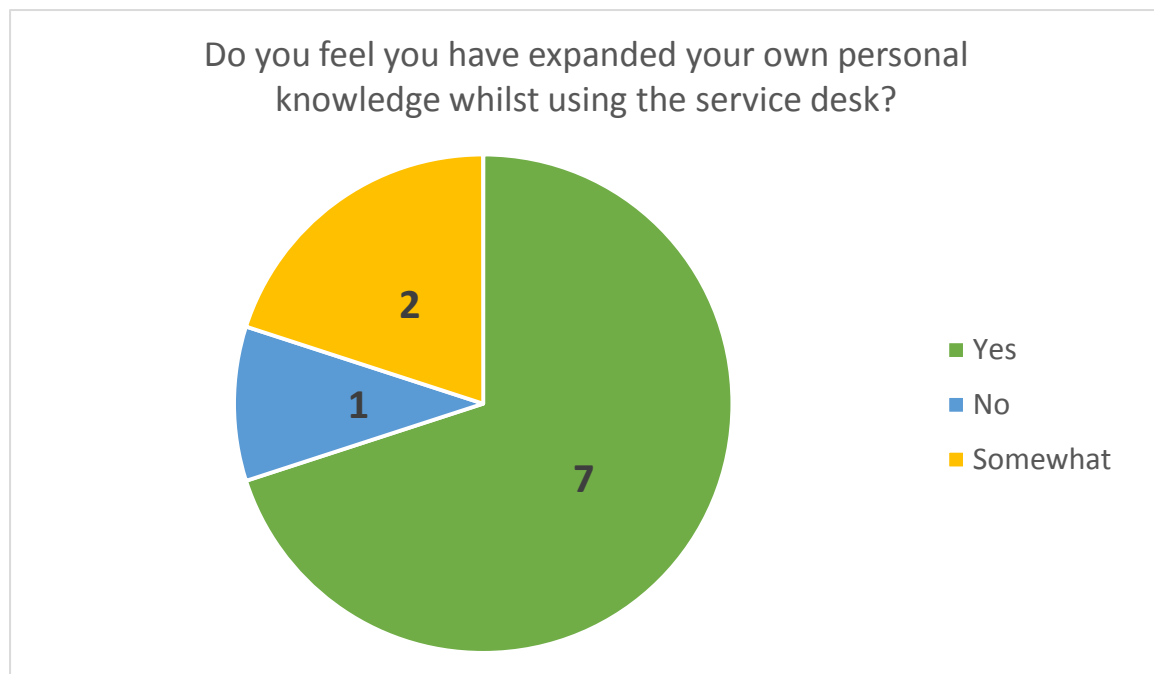


Figure 16 - If 1st line feel they have expanded their knowledge whilst being on the service desk

From those that answered yes, some made additional comments. Some comments were:

As new problems come in, you learn how to fix them and get better understanding of how everything works

We have been able to resolve more jobs on the service desk by remote connection as well

I believe my customer service skills have improved as well as my general IT knowledge

Expanded my knowledge of the service desk through using it and through regular updates and meetings

Figure 17 - Additional comments of those that feel they have expanded their knowledge whilst being on the service desk

Do you have adequate resources to carry out tasks?

- If not, what do you think you could benefit from?

Below are the responses when asked if the members have adequate resources to carry out tasks.

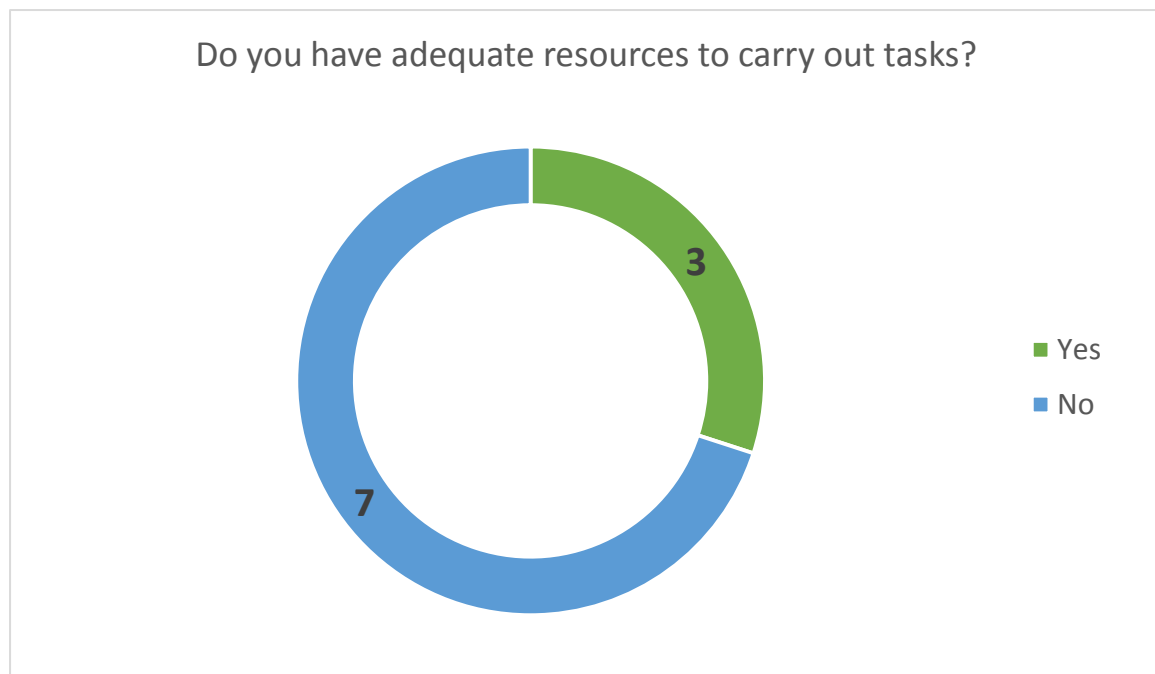


Figure 18 - Whether 1st line have had adequate resources to carry out tasks

For those that answered no, they were then asked what additional resources they could benefit from. Below are some answers fed back:

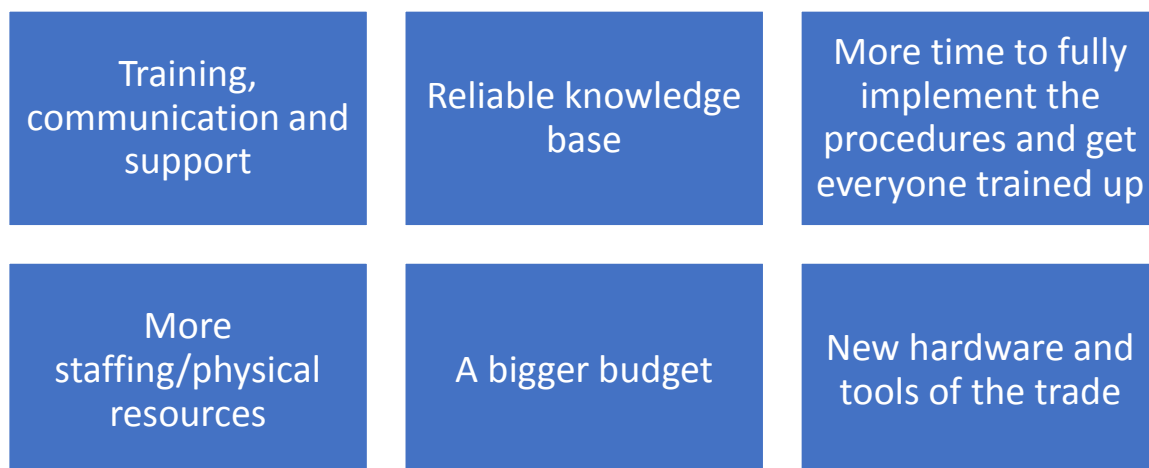


Figure 19 - Suggestions on how to improve with the lack of resources

2.2 Interviews

The interview questions were initially piloted and then revised with improvements. Please see Appendix [C](#) & [D](#). The purpose of interviews was to get in-depth views from the IT customer services manager (IT CSM), who is responsible of the 1st line team and a senior IT member of the 1st line support team. The interviews addressed the objectives:

- Analysing if the use of service operation is a driver for improved performance to the service desk at the University of Gloucestershire
- Investigating how ITIL supports the performance of the Service Desk at UoG
- Evaluating the service desk at UoG to service operation stated by ITIL

2.2.1 Interview with Senior 1st line support member

The senior 1st line support member identified their role within the implementation of ITIL. They have been aware of ITIL for several years but only had 6 months of experience. With the Service Desk, they had 9 years of experience. They mentioned they will be writing up the internal processes and what internal processes UoG were currently considering. They understood what ITIL requires them to do and felt there should not be any added pressure with meeting the demands of ITIL. They believe ITIL will improve the quality of IT Service at UoG. Being a senior 1st line support member, they had already received training, however believed once ITIL is fully implemented, they will not require more training. When asked if they have enough resources to carry out tasks, the biggest constraint was time. However, once implemented, the senior member believes ITIL will support the service desk for the better and stats will be used to measure the service performance.

2.2.2 Interview with IT Customer Services Manager (IT CSM)

The IT CSM had 3 years of experience with ITIL and 4 years' experience with the Service Desk. They stated ITIL had not always been implemented but they tried sticking to the principles. The reason for change was for closer alignment with ITIL. They mentioned how fortunate they have been Sunrise, a service desk software built to reflect the ITIL framework. The department recently had consultants come and review how they operate the service desk and evaluate how far off they were from being close aligned to ITIL. One of the first areas they are evaluating is incident management. The IT CSM aims to improve and better the service desk with ITIL. When asked about motivating staff, the manager

mentioned they were lucky to have highly skilled members who are good at what they do, adding they support staff with training and development. When asked about the departments SLAs, the manager identified what they were and how they were agreed. However, they noted they were out of date and need updating. When asked about measuring performance, the manager praised the Sunrise software as it's ITIL based, helping with everyday work.

All data and information collected from the questionnaires and interview will be analysed and discussed in the next section.

3. Analysis and Discussion

This section carries on from [Research Findings](#). Results from primary research will be analysed and discussed whilst considering findings from the literature review from assignment 1. Secondary and primary research will be compared to see if there are any new findings, similarities or differences. This section is based on ITIL and three key areas within service operation including service operation itself, service desk, incident management and problem management.

3.1 ITIL

It is clear from [Research Findings](#), UoG lack in ITIL experience. They are hoping to change this by having closer alignment with the implementation of ITIL. Although one member within the department had training, there were no signs of more being trained. Without full training, members may not understand what ITIL requires of them or do their job efficiently.

Over half the team felt there will be added pressure to meet the needs and demands of ITIL and aligning their services with ITIL. This is supported by GS (2016) who commented there is pressure to meet the demands of ITIL and aligning IT services with business goals of the organisation. UoG need to find ways to deal with pressure, if there is to be any added pressure, pressure in workload, time available or meeting performance targets. The senior 1st line support member could relate to the possibility of there being added pressure from ITIL. They believed meeting stats and being measured may give the team some possible pressure or put them under pressure. The IT CSM however commented although the team may feel pressure, the department needs to keep up with the changes in ITSM and ITIL played a part in this decision. This was supported by GS (2016) who highlighted the rapid

changes in ITSM and how departments need to keep up with changes, supporting the necessary implementation of ITIL.

Most 1st line support members felt they did not have adequate resources to undertake tasks. UoG are a relatively small university, so cost may be a factor. Esteves and Alves (2013) state ITIL implementation is influenced by resources available to the organisation. Clearly resources available is an issue for UoG, thus needing to find a way round this with a cost-effective option. The 1st line members had some suggestions, including having a knowledge base where the members could look up common issues, more training for members or new physical resources. The senior 1st line support member has gone out their way and dealt with the lack of resources. They are planning to create documentation to give the rest of the 1st line support team, helping, supporting and preparing them for when ITIL is fully implemented. This will hopefully provide the team with extra resources for work, supporting Gerbyshak and Brooks (2009) suggestions on employee engagement, in acting in the best interest of their organisation.

3.2 Service Desk

The 1st line support team are very experienced with the Service Desk, with half having more than 10 years' experience, making them a strong team. This was supported by the IT CSM who mentioned how fortunate he has been with the staff he recruited and how highly skilled they are. This helps with work procedures as everyone knows what they are doing or what they need to be doing to solve issues whilst having a positive work synergy as suggested by BMC (2015).

Worryingly, most 1st line support members felt they had not received adequate training to prepare for ITIL implementation. Training is key to perform effectively on the service desk as mentioned by Frost (no date). UoG may need to follow Frost's approach, which is providing training to address weaknesses and expand knowledge of employees. However, UoG have the perspective of no unique training path, similarly as recommended by Wheatcroft (2014) who suggests no training path is needed for workers on the service desk. This is supported by the IT CSM who commented staff learn on the go and he supports and mentors them in their development. Some 1st line members stated they pick things up as they go, ask colleagues and self-learn. This is a cost-effective method for UoG, but formal training should always be a consideration.

A more positive view, members of 1st line support believe when ITIL is implemented, they will expand their service desk knowledge. One member stated they will be more aware of the framework and capability of the service tools. This statement agrees with Spasic and Markovic (2013) that the key to an effective service desk is ensuring there is clear accountability. Also, if UoG follow Frost (no date) and Punyateera et al. (2014) views on training, it can help the development of the team as some mentioned they would hope to expand their knowledge further.

Working on the service desk has developed employees within 1st line support. Many agreed they had expanded their own personal knowledge whilst on the service desk. The IT CSM believes they have contributed to the development of the team, believing he supports them throughout. This agrees with comments from Gerbyshak and Brooks (2009) with their views on employee engagement. The IT CSM engages with the team by offering numerous support, agreeing with Gerbyshak and Brooks (2009) statement, that it is the managers' responsibility to make their workers engaged.

Flynn (2013) commented relationships will be improved with ITIL as ITIL supports the frontline communication between the end user and the support side. The senior 1st line support member agreed with Tudor (2008) in the view ITIL will support the Service Desk and identified the importance between the end user and the IT team.

3.3 Service Operation

Worryingly, most 1st line members felt ITIL service operation would not improve their quality of IT Service. This may have been a result of the members not being aware of what service operation can bring to the department. As previously mentioned, Gerdewal & Secim (2014) believe it is the processes and capabilities from service operation that ensure smooth operation of IT service. This shows service operation can have a positive impact on the department, improving day-to-day activities. However, this would be pointless if members are not aware. This is stressed by Rivard (2014) who commented if users on the service desk do not understand the importance of service operation, they may not deliver sufficient support to end users. Members of 1st line support need to understand the value of what they are doing and why they are doing it to see potential benefits and issues. Whereas the senior 1st line support member believed service operation would improve their quality of IT service. The senior 1st line support member however had been on ITIL training. This shows

the importance of training as the senior 1st line support member could see the benefits and how ITIL training could improve IT service at UoG supporting Rivard's (2014) statement because they had been exposed to ITIL training.

Interestingly, there seemed to be some contradiction from the 1st line members. When asked on their feelings towards ITIL implementation, more than half of the members were positive about it. One member mentioned it would be positive to have accountability and a process in place. This statement supports the importance of processes within service operation as stated by Valentic (2015). The processes are being evaluated by the senior 1st line member and hopefully improved.

Looking at the contrasting responses from the primary research, it gives an indication that possibly 1st line members are open to changes, feeling positive about change, but do not see the added benefit to what they currently do. It could be they feel change is not needed, but they all mentioned how they want to develop their knowledge by implementing ITIL. This emphasises Rivard's (2014) point, if users of the service desk do not see the value of service operation, they will not understand the importance.

Adding to the mix of thoughts, many 1st line support members understood what ITIL required them to do in their roles and responsibilities. This stems from the fact the 1st line team are approaching the implementation in a positive view. This is best suggested by Rivard's (2014) 6 critical success factors as he listed roles and responsibilities as fundamental parts of service operation.

Members of 1st line support were not keen with doing more than one job. This is likely to continue with full implementation of ITIL. Yet, it seems UoG have not found a way to deal with this. However, Taylor (2016) offers a shed of light suggesting UoG allow the team to input how they feel. This gives employees an opportunity to provide feedback back to UoG, express how they feel as a way of dealing with the matter. Together they can find a workaround. UoG could have regular meetings for the 1st line members to come and express their views and feelings. Taylor also suggests the added work can create new career pathways for the members.

With views from the IT CSM, they had sound understanding of what they wanted to achieve with ITIL service operation and its purpose agreeing with the comments from Cruz-Hinojosa

and Gutierrez-de-Mesa (2016) on the matter that service operation is the most critical element in the ITIL framework.

3.4 Incident & Problem Management

As previously mentioned, UoG are moving to a closer alignment with ITIL. They had consultants evaluate the department and processes are being reviewed, improved and rewritten. Valentic (2015) stressed the importance of processes within service operation. Incident management is one of the first processes being reviewed. The IT CSM and Punyateera et al. (2014) both agree on their view of incident management and what it sets out to do. But within incident management, the IT CSM admitted Service Level Agreements (SLAs) were out of date. Although ITIL implementation will not change the SLAs, it will more serve SLAs by supporting UoG, reminding them of their aims and being a performance indicator. UoG follow the literature with the manner SLAs were agreed as Valiente, Garcia-Barriocanal and Sicilia (2012) state incident management has objectives that are specific to the organisation, and are specified in the SLAs the organisation and clients sign.

With regards to problem management, the process has yet to be reviewed as the IT department are still at early stages of ITIL alignment. Currently, the department use an ITIL based software called Sunrise which helps them with problem management for the mean time. Having a service desk software that reflects an ITIL framework has supported the department in preparing for full ITIL alignment. Sunrise also reflects the problem management process as identified by BMC (2016) as shown below.

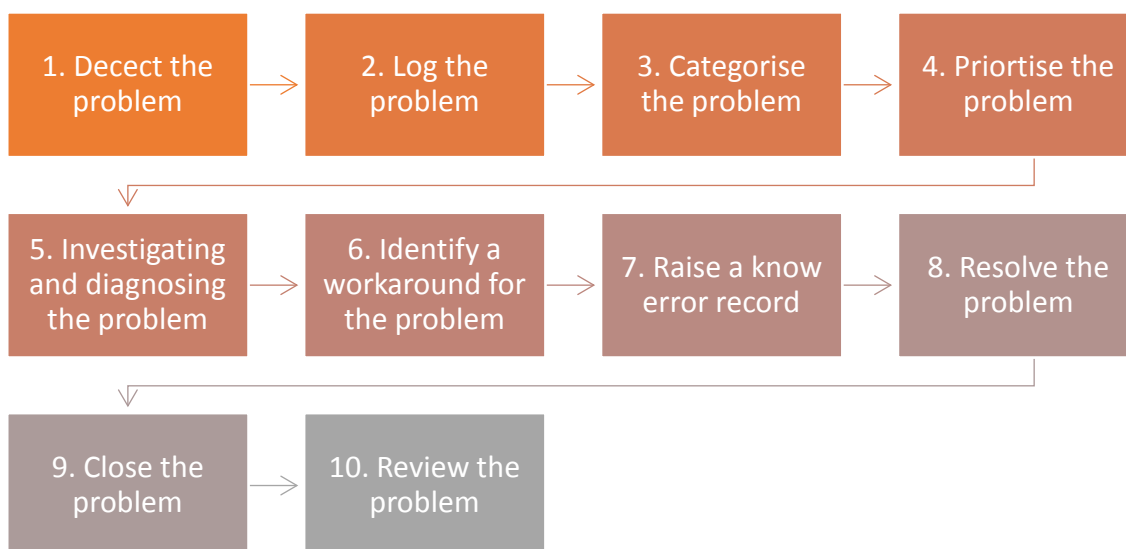


Figure 20 - Typical problem management process (BMC, 2016)

4. Conclusion and Recommendations

4.1 Conclusion

This paper's purpose was to investigate and evaluate UoG's IT department, including the service desk and relate back to ITIL and service operation. ITIL has become more relevant as it is now seen as a documented set of best practices for ITSM. Secondary research was undertaken to analyse and get an understanding of areas within ITIL, service operation and service desk. This was achieved as the investigation showed where UoG were in terms of ITIL implementation, what they have done and are doing, but as well as what they still need to do and are lacking. After carrying out the primary research, it became apparent the department were starting an implementation of ITIL.

The purpose of the research was to see how UoG were performing, comparing what the literature said and if UoG were meeting the suggested literature of ITIL. The focus was on the service desk and seeing if UoG were utilising resources from ITIL to be fully efficient.

There are clear positives with full implementation of ITIL within IT Services at UoG. The 1st line members are open to implementation but are wary that they will need support and guidance. Senior levels have prepared to address this in the form of training guides. It is important senior levels prepare to support the 1st line members as many felt the department lacked resources. This could also deal with the added pressure some 1st line members feel. If the team have support and backing from senior levels, the implementation of ITIL will be easier.

There seemed to be confusion around ITIL. 1st line support members believe ITIL will not improve their quality of IT service. Literature states if workers are unaware of benefits of ITIL, they may not deliver a sufficient service. However, the 1st line support team have a positive approach to the implementation which will make training and understanding ITIL easier. Some members have little understanding of what ITIL requires them to do and at UoG, it is clear everyone learns from each other, so the department could train each other, which saves costs. The senior member of 1st line support and IT CSM see benefits of ITIL within the organisation and how it will improve the service desk. However, this has not been communicated to the 1st line support team. Literature suggests training is needed for the whole department to understand what ITIL can bring. Several suggestions of proposed

training are put upfront and it is up to UoG to select the appropriate method, but UoG need to consider cost as they are a small university.

Overall, the investigation of the University of Gloucestershire IT department was a successful one. Feedback was obtained from three different levels, getting a mixture of views and responses. After research and analysis, it is clear ITIL will support the performance of the service desk at UoG. UoG are in control of how they will implement ITIL, which is probably the best idea. They can tailor the implementation to meet their needs. From literature, it is clear service operation is a driver for improved performance to the service desk and UoG's service desk is in the process of improvement as ITIL implementation sets clear guidelines with processes from service operation.

4.2 Recommendations

Below are some recommendations and suggestions UoG could consider with the ITIL short-comings as they continue their ITIL implementation.

Issue/Factor/Problem	Recommendations	Potential Outcome/ End results
The fact 1 st line do not see the importance of ITIL service operation is worry. UoG need to convey this effectively to their employees for them to see the benefits.	UoG could do regular meetings and presentations to discuss issues or give an opportunity for questions within service operation. 1 st line members can express views and opinions.	The 1 st line members can start to understand service operation and why it's needed. They can start to see the added benefits and the importance service operation plays on the service desk.
Only a few members of the IT 1 st line team have received ITIL training	Get more 1 st line members on ITIL training. If cost is an issue, members could get general ITIL training. Also, UoG could just send one person from each campus to go on training and feedback to the rest of the team.	The 1 st line team can get more of an understanding of ITIL and share knowledge within department.
Some 1 st line member were unhappy with the fact that they were doing more work than their role stated.	Unfortunately, we're always going to have to do more than our job role, but the key is looking at the positives. UoG could offer career/skills progression option to workers making use of the added work they're doing	By doing this, this could benefit both UoG and the work member. The department will become a stronger workforce and the worker will become highly equipped with skills and knowledge.
The customer services manager mentioned the fact the SLAs were out of date.	Review SLAs and Update the SLAs	A better understanding between the IT and end user as times and technology has changed.
Not having enough resources to carry out tasks	<ul style="list-style-type: none"> • More training for 1st line members • A knowledge base for the members. They can look up common issues with their fixes. • More physical resources 	This will give the 1 st line members many avenues of resources, to help them with everyday tasks.

5. References

- Avison, D. (2002) 'Action research: A research approach for cooperative work', *The 7th International Conference on Computer Supported Cooperative Work in Design*. doi: 10.1109/cscwd.2002.1047641.
- BMC (2015) *Who uses ITIL?* Available at: <http://www.bmc.com/blogs/who-uses-til/> (Accessed: 30 November 2016).
- BMC (2016) *ITIL problem management: Best practices & processes flow*. Available at: <http://www.bmcsoftware.uk/guides/itil-problem-management.html> (Accessed: 30 November 2016).
- Burns, R.B. (2000) *Introduction to research methods*. 4th edn. Thousand Oaks, CA: SAGE Publications.
- BusinessVibes (2015) *The importance of information technology in business today*. Available at: <http://www.business2community.com/tech-gadgets/importance-information-technology-business-today-01393380#WQmvGd0ROtq8txTK.97> (Accessed: 30 November 2016).
- Calvo-Manzano, J, Lema-Moreta, L, Arcilla-Cobián, M, & Rubio-Sánchez, J 2015, 'How small and medium enterprises can begin their implementation of ITIL?', *Revista Facultad De Ingenieria Universidad De Antioquia*, 77, p. 127, Publisher Provided Full Text Searching File, EBSCOhost, viewed 15 November 2016.
- Charlie, A. (2012) *Case studies: Three big businesses using ITIL*. Available at: <http://www.itiltraining-uk.co.uk/big-businesses-using-til/> (Accessed: 28 November 2016).
- Commerce, O. of G. (2010) *The introduction to the ITIL service Lifecycle book*. 2nd edn. Norwich: Amnesty Intl British Section.
- Conceicao, F.S. da, Silva, A.P. da, Filho, A.Q. de O. and Filho, R.C.S. (2014) 'Toward a Gamification model to improve IT service management quality on service desk', *2014 9th International Conference on the Quality of Information and Communications Technology*. doi: 10.1109/quatic.2014.41.
- Cruz-Hinojosa, N.J. and Gutiérrez-de-Mesa, J.A. (2016) 'Literature review of the situation research faces in the application of ITIL in small and medium enterprises', *Computer Standards & Interfaces*, 48, pp. 124–138. doi: 10.1016/j.csi.2016.05.001.
- Dudovkiy, J. (2016) *Deductive approach (deductive reasoning) - research methodology*. Available at: <http://research-methodology.net/research-methodology/research-approach/deductive-approach-2/> (Accessed: 6 December 2016).
- Esteves, R. and Alves, P. (2013) 'Implementation of an information technology infrastructure library process – the resistance to change', *Procedia Technology*, 9, pp. 505–510. doi: 10.1016/j.protcy.2013.12.056.
- Flynn, WC. (2013) 'An Examination of the Career, Salary and Training Expectations of Information Technology Professionals Working in the Help Desk Field', *Proquest LLC*, ERIC, EBSCOhost, viewed 16 November 2016.

- FNRSolutions (2016) *The Importance of Information Technology in Today's World*. Available at: <https://www.linkedin.com/pulse/importance-information-technology-todays-world-fnr-solutions-inc> (Accessed: 30 November 2016).
- Frost, S. (no date) *The importance of training & development in the workplace*. Available at: <http://smallbusiness.chron.com/importance-training-development-workplace-10321.html> (Accessed: 18 November 2016).
- Fry, M. and Stationery Office (2010) *ITIL® Lite: A road map to full or partial ITIL implementation*. Norwich: The Stationery Office/Tso.
- Gerbyshak, P. and Brooks, J.M. (2009) *Help desk manager's crash course*. S.I.: Booksurge.
- Gerdewal, M, & Seçim, H 2014, 'A Business Communication Design for Information Technology (IT) Organizations based on Information Technology Infrastructure Library (ITIL)', *Business Management Dynamics*, 4, 5, pp. 12-35, Business Source Complete, EBSCOhost, viewed 9 November 2016.
- Greene, J. (2016) *Incident management vs. Problem management - why it's critical you understand the difference*. Available at: <https://www.cherwell.com/blog/what-are-the-differences-between-incident-management-and-problem-management> (Accessed: 30 November 2016).
- GS, P. (2016) *Key IT service management trends for 2016*. Available at: <https://www.simplilearn.com/it-service-management-trends-2016-article> (Accessed: 24 November 2016).
- Heathcote, P.M. (ed.) (2003) *'A' level ICT*. 3rd edn. Ipswich: Payne-Gallway Publishers.
- Mackey, C. (2010) *Service desk or help desk?* Available at: <http://www.arincmanagementservices.com/blog/2010/11/service-desk-or-help-desk/> (Accessed: 29 November 2016).
- Miller, SP 2013, 'Information Technology Infrastructure Library (ITIL)', *Salem Press Encyclopedia*, Research Starters, EBSCOhost, viewed 9 November 2016.
- Mochal, T. (2007) *10 things you should know about ITIL*. Available at: <http://www.techrepublic.com/article/10-things-you-should-know-about-til/> (Accessed: 31 October 2016).
- MyITstudy (2013a) *Importance of ITIL service desk*. Available at: <http://www.myitstudy.com/blog/2013/08/importance-of-til-service-desk/> (Accessed: 29 November 2016).
- MyITstudy (2013b) *Incident vs problem – ITIL concepts*. Available at: <http://www.myitstudy.com/blog/2013/09/incident-vs-problem-til-concepts/> (Accessed: 30 November 2016).
- Orr, A. (no date) *The essential guide to ITIL incident management*. Available at: <https://www.cherwell.com/products/it-service-management/til-processes/essential-guide-to-til-incident-management> (Accessed: 29 November 2016a).
- Orr, A. (no date) *The essential guide to ITIL problem management*. Available at: <https://www.cherwell.com/products/it-service-management/til->

processes/essential-guide-to-til-problem-management (Accessed: 30 November 2016b).

- Orta, E., Ruiz, M., Hurtado, N. and Gawn, D. (2014) 'Decision-making in IT service management: A simulation based approach', *Decision Support Systems*, 66, pp. 36–51. doi: 10.1016/j.dss.2014.06.002.
- Persse, J. (2013) *The IT service management process manual*. Netherlands: van Haren Publishing.
- Punyateera, J., Leelasantitham, A., Kiattitsin, S. and Muttitanon, W. (2014) 'Study of service desk for NEdNet using incident management (service operation) of ITIL V.3', *Signal and Information Processing Association Annual Summit and Conference (APSIPA), 2014 Asia-Pacific*. doi: 10.1109/apsipa.2014.7041752.
- Ramey, K. (2014) *Technology in the business world - new business technology 2013*. Available at: <http://www.useoftechnology.com/technology-in-the-business-world/> (Accessed: 30 November 2016).
- Reddy, V. (2013) *ITIL® v3 Roles and Responsibilities within the 5 publications*. Available at: <https://www.simplilearn.com/itil-v3-roles-and-responsibilities-article> (Accessed: 22 November 2016).
- Rivard, E. (2014) *IT operations governance: 6 critical success factors*. Available at: <http://focus.forsythe.com/articles/315/IT-Operations-Governance-6-Critical-Success-Factors> (Accessed: 22 November 2016).
- Sanker, G. (2013) *What is basic ITIL problem management*. Available at: <http://itsmtransition.com/2013/12/basic-itil-problem-management/> (Accessed: 30 November 2016).
- Scarborough, M. (2012) *How ITIL differentiates problems and incidents*. Available at: <http://blog.globalknowledge.com/2012/02/22/incidents-and-problems-part-one/> (Accessed: 30 November 2016).
- Spasic, B. and Markovic, A. (2013) 'Information and communication technology unit service management in a non-profit organization using ITIL standards', *Management - Journal for theory and practice of management*, 18(66). doi: 10.7595/management.fon.2013.0005.
- Summers, P. (2014) *Incident management vs problem management*. Available at: <https://support-works.com/incident-management-versus-problem-management-need/> (Accessed: 30 November 2016).
- Sutton, N. (2016) *Helpdesk service level agreement*. Available at: <https://help.evangel.edu/hc/en-us/articles/200932999-Helpdesk-Service-Level-Agreement> (Accessed: 1 December 2016).
- Taylor, N. (2016) *11 Secrets to Keeping Employees Happy (Without a Raise)*. Available at: <http://www.businessnewsdaily.com/6084-employee-happiness-without-raise.html> (Accessed: 29 November 2016).
- Tudor, D.J. (2008) *Agile project and service management: Delivering IT services using ITIL, PRINCE2 and DSDM Atern*. London: The Stationery Office/Tso.

- Valentic, B. (2015) *Which roles do you need for ITIL Service Operation?* Available at: <http://advisera.com/20000academy/blog/2015/06/16/which-roles-do-you-need-for-til-service-operation/> (Accessed: 22 November 2016).
- Valiente, M.-C., Garcia-Barriocanal, E. and Sicilia, M.-A. (2012) 'Applying an ontology approach to IT service management for business-IT integration', *Knowledge-Based Systems*, 28, pp. 76–87. doi: 10.1016/j.knosys.2011.12.003.
- Wheatcroft, P. (2014) *Service desk and incident manager: Careers in IT service management*. London, United Kingdom: BCS, The Chartered Institute for IT.
- Wright, N. (no date) *Nailing the incident management process*. Available at: <https://www.atlassian.com/it-unplugged/itsm/incident-management-process> (Accessed: 29 November 2016).

6. Appendices

Appendix A – First Questionnaire

1. What were your feelings when ITIL service operation was implemented?
2. Do you understand what ITIL service operation requires you to do?
3. Do you feel there is added pressure with meeting the needs and demands of ITIL service operation?
4. Are you ever required to do more than one role? (Yes/No)
- If so, how do you feel about this?
5. Has ITIL service operation improved your quality of IT Service? (Yes/No)
If so, what has stood out for you?
6. Have you received adequate training prior to ITIL implementation?
7. Do you feel you have expanded your knowledge whilst using ITIL?
8. Do you feel you have expanded your knowledge whilst using the service desk?
9. Do you have adequate resources to carry out tasks?
If not, what do you think you could benefit from?
10. How many years of experience have you had with ITIL?
11. How many years of experience have you had with the Service Desk?

Appendix B – Revised Questionnaire

1. What are your feelings towards the proposed ITIL service operation implementation?
2. Do you understand what ITIL service operation requires you to do?
3. Do you feel there will be added pressure with meeting the needs and demands of ITIL service operation?
4. Are you ever required to do more than one role? (Yes/No)
- If so, how do you feel about this?
5. Do you think ITIL service operation will improve your quality of IT Service? (Yes/No)
- If so, what?
6. Have you received adequate training to prepare you for the ITIL implementation?
7. Do you think you will expand your knowledge of the service desk when ITIL is implemented?
8. Do you feel you have expanded your own personal knowledge whilst using the service desk?
9. Do you have adequate resources to carry out tasks?
If not, what do you think you could benefit from?
10. How many years of experience have you had with ITIL?
11. How many years of experience have you had with the Service Desk?

Appendix C – Interview with Senior 1st line support member

1. **What is your role during the implementation of ITIL?**

Okay, so myself and a couple of others went on a training course, about ITIL. And our role is basically to learn about it and write up our internal processes based on ITIL and then get that confirmed and demonstrate it to the rest of the team and put the process in place.

NEW – What is the internal processes?

Incident, request, problem and change management. Hopefully over time we'll do

more processes.

2. Do you understand what ITIL requires you to do? If so, what is this?

We think we understand. So basically, to make things more organised and also easier for everyone in the department so they understand how incidents and requests work and how they are managed. Hopefully it should enable our staff to do jobs quicker and offer a consistent same service to everyone.

3. Do you feel that there will be added pressure to meet the demands of ITIL?

The stats will be more visible, there may be some more pressure. But then if the stats are slipping you can work out why they are. So, you'll be able to improve the stats by seeing what the problems are. So, there shouldn't be any pressure although some staff may feel a bit of pressure if they feel they're being measured a bit more

4. Will there be an improved quality of IT Service once ITIL is implemented?

Yes, it should be as we should be able to get stuff done quicker and everyone should have all the information and processes they need. So, they can do stuff quicker which means they can do more stuff in the same time.

5. Have you received adequate training prior to ITIL implementation?

Yeah, I think it was a good overview and we were given documentation that we could keep and could refer back to.

NEW – Do you think once ITIL is fully implemented, will you need follow-on training

I think the training we've been on was an overall on the whole ITIL lifecycle which should be fine for us. If we want to keep up-to-date with the processes, you may need more training.

6. Do you have adequate resources to carry out tasks since ITIL?

Yes, I think the key thing is the time. We know all about incident and request processes, but we need the time to write them up, confirm them, train all the staff, which does take quite a bit of work. I think it's just taking the time to implement it really.

7. How many years of experience have you had with ITIL?

I've sort of been aware of it for quite a number of years, but I've only really learnt it and got to grips with it in the past 6 months or so.

8. How many years of experience have you had with the Service Desk?

So that would be about 9 years or so.

NEW – With the implementation of ITIL, how do you think that will work with the service desk?

It will be a lot better because service desk staff will have a reference to follow, and they should be able to find the information they need to pass it on to the users quickly. If you've got a service desk you need ITIL.

9. How do you measure your service performance?

Yes, we'll use the stats. We can bring out the stats from our response and resolution times and then break that down into separate categories. So overall you may be offering a good service but then if you break it down, you may see that one area is quite poor and so then you can go into a bit more detail and find out why that is happening and try improve it. We measure the response and resolution times and the number of calls against each category. You can also measure the number of calls against each team to see what they workload is like as well. that helps with project work and seeing if we got enough staff doing all the jobs.

10. Anything else you would like to add?

No

Appendix D – Interview with IT Services Manager

1. Have you always implemented ITIL service operation?

So no, we haven't always implemented it, we've always tried to stick to the principles of it and to the large extent that's been guided by the service desk software we use which is called Sunrise and that is built to reflect really an ITIL framework. So, we haven't. Since Nick Moore, the IT director, has come into post about 2 or so years again, his aspiration really has been for us to move more closely align with a proper ITIL service desk standard. To that end, I've well even before Nick came in I had ITIL foundation training. We sent a couple of first line staff on ITIL service desk training foundation course. At the moment, just before Christmas, we had some consultants in to review how we operated our service desk and really to map how far away we were from being more close align to ITIL standard where we should concentrate our efforts to be more aligned. So, we've got that report, the first area we're looking at is really under the umbrella of service design is incident management. So, at the moment first line have developed and outlined incident management process. We'll be reviewing that in a management meeting and we're planning also in parallel developing a service desk manual where we're going to identify probably the top 10 most common incidents we get. In the service desk manual, would be a step-by-step guide on how to resolve those incidents.

- If not, what was the reason for change?

Close alignment with ITIL.

2. What do you aim to achieve with ITIL service operation?

To improve and better the service desk. Service operation is a fundamental element and I believe it supports the service desk.

3. How do you motivate your staff for change?

So, I think it's really ensuing they still focus on those tasks that they are very good at, they're experts at. Obviously, they're highly technically skilled staff and you want to ensure they're still doing those highly technical skilled jobs that they enjoy. So, I think I've been very lucky because of the staff I've recruited, as they have very good technical skills but also very good customer service skills. I very rarely get negative feedback. So, in a way we ran a very successful service desk function within the university. There was no real framework or structure and that's where ITIL came in.

4. Do you have a change process? If so, what is it? How do you manage this process?

So we had consultants that came over Christmas and we looked at 5 key areas. Those areas were incident management, request management, problem management, change management and configuration management. The way we're working through those processes, we focus on incident management, then move to request management and so on.

NEW – can you tell me more about your incident management

So we regard an incident as anything that means that a customer isn't able to do their normal job. So, that could be anything from a broken keyboard, a broken mouse to something more serious like WIFI being down or emails being down. Multiple incidents create a problem, serious problem turns into major incident management.

5. How many years of experience have you had with ITIL?

I would say 3 years' experience

6. How many years of experience have you had with the service desk?

4 years

7. What are your SLAs?

This is within problem management. They SLA don't fundamentally change. With SLAs we have critical, high, medium and low. Within response times and resolution times with SLAs, I don't think they change.

8. How are your SLAs agreed?

So, our SLAs are agreed by an IT user group. This consisted of representatives from the student union, academic staff and support staff. I presented a paper on what the proposed SLAs should be.

They are out of date, they've been around for a long time, they haven't changed since the new director of IT came in. I don't think ITIL will change the SLAs, ITIL in a way is there to serve the SLAs. SLs are more driven by customer needs, requirements and expectations and what we can reasonably give them with the way we are resourced. In a way, ITIL is a tool just to really make sure you work to those SLAs and you to measure your performance.

9. How do you measure your service performance?

So, the good thing about having an ITIL based service desk software system means that virtually every single incident request is recorded within that and we can measure how the incident was handled. Also in our business plan, we have KPIs, KPIs in terms of response time, resolution times, student and staff feedback and we have a bi-annual customer service feedback survey for staff and for student an annual survey.

10. How do you assess training and skills?

So, for my staff, I'm a technical person and I've done a bit of programming but I've never it's never been a major part of my job. That's just a bit of background. So, me and my team, I've always felt, hopefully rightly that those technical skills hopefully I can teach. I've always thought I can coach, train, mentor staff, what I can't do is to fundamentally change people's attitudes, people skills and approachability.

11. Anything else you would like to add?

By moving to an ITIL service desk standard, it will allow us to give a strong foundation to the good team and work we already had made.

An evaluation of the University of Gloucestershire’s IT Service Desk in Relation to Service Operation from the ITIL Framework

“The Information Technology Infrastructure Library (ITIL) is the most widely accepted approach to information technology service management (ITSM) worldwide.” (Tudor, 2008)



Service Desk

The service desk relies heavily on service operation as it is the most critical phase of the ITIL framework (Mackey, 2010; MyITstudy, 2013a; Spasic and Markovic, 2013). UoG 1st line support team are very experienced with the Service Desk with half having more than 10 years’ experience. The team believe when ITIL is implemented, they will expand their service desk knowledge as they will be more aware of the ITIL framework and capability of the service tools. Training will be needed during the implementation and Frost (no date) believes training is key to an effective service desk. Worryingly, most 1st line members felt they had not received adequate training. From primary research, it was realised that UoG have the perspective of no unique training path. This agrees with Wheatcroft (2014) who suggests no training path is needed for workers on the service desk. This was also supported by the IT customer service manager (IT CSM) who commented there is no unique training path, staff learn on the go and he supports and mentors them in their training.

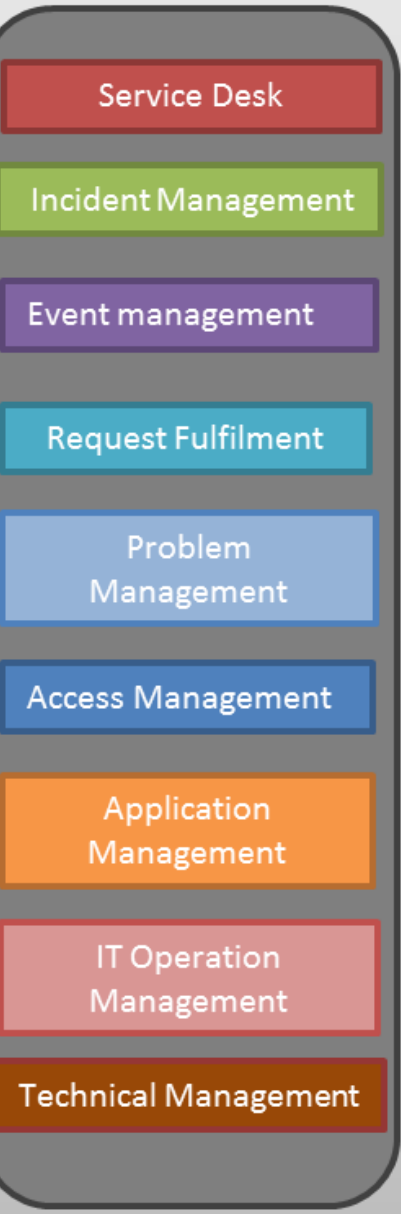
Operation (Support)

Service Operation

ITIL

Conclusion

Recommendations



Incident and Problem Management

Service Operation is seen as the most critical element in the ITIL framework by Cruz-Hinojosa and Gutiérrez-de-Mesa (2016). Service operation is there to ensure smooth operation of IT service as stated by Gerdewal & Secim (2014). This is what UoG were aiming for with the implementation of service operation. However, the 1st line members did not feel that ITIL service operation would improve their quality of IT Service. Literature suggests the reason behind this is because they do not understand the importance of service operation and what it will bring to the department. Rivard (2014) adds that the 1st line members need to understand the value of what they are doing and why they are doing it to see potential benefits of service operation.

ITIL has become an internationally documented set of best practices for ITSM, ideal for UoG. UoG however lack in ITIL experience and hope to change this with ITIL implementation. From primary research regarding ITIL there were some worries. Some of these worries were added pressure to meet the needs and demands of ITL and resources available to the department. Literature states why there may be added pressure, and this mainly due to rapid changes in ITSM and organisations such as UoG keeping up with the changes as stated by GS (2016). Resources available to the organisation is a key factor within ITIL implementation. Esteves and Alves (2013) state ITIL implementation is influenced by resources available to the organisation. With the lack of resources, UoG are finding ways of dealing with the matter with some suggestions of having a knowledge base, more training for staff and new physical resources.

Incident management (IM) and problem management (PM) are processes within service operation that support UoG with the service desk. Valentic (2015) stresses the importance of processes within service operation. As part of a closer alignment with ITIL, UoG had consultants review the processes, improve them and rewrite them. With regards to IM, primary and secondary research showed that the IT CSM agreed with Punyateera et al. (2014) with what IM aims to do. They both agreed IM reduces the time of incident analysis and operation time of restoring services to normal conditions. However, with regards to PM, the process had not yet been reviewed. Nevertheless, primary research found that UoG use an ITIL based software called Sunrise that reflects an ITIL framework. It also reflects the typical PM process as identified by BMC (2016).

Overall, the investigation of the University of Gloucestershire IT department was successful. Feedback was obtained from three different levels, getting a mixture of views and responses. After research and analysis, it is clear ITIL will support the performance of the service desk at UoG. UoG are in control of how they will implement ITIL, which is probably the best idea. They can tailor the implementation to meet their needs. From literature, it is clear service operation is a driver for improved performance to the service desk and UoG’s service desk is in the process of improvement as ITIL implementation sets clear guidelines with processes from service operation.

The recommendations listed below relate to the points discussed in this poster. In the full project, more recommendations are offered to UoG.

Issue/Factor/Problem	Recommendations	Potential Outcome/ End results
1 st line do not see the importance of ITIL service operation.	Regular meetings and presentations to discuss issues or give an opportunity for questions about service operation.	1 st line can understand service operation and why it’s needed. They can see the added benefits and importance service operation plays on the service desk.
Only a few members of the IT 1 st line team have received ITIL training	Get more 1 st line members on ITIL training. Also, UoG could just send one person from each campus to go on training and feedback to the rest of the team to save costs	The 1 st line team can get more of an understanding of ITIL and share knowledge within department.
Not having enough resources to carry out tasks	<ul style="list-style-type: none">More training for 1st line membersA knowledge base for the members. They can look up common issues with their fixes.More physical resources	This will give the 1 st line members many avenues of resources, to help them with everyday tasks.

References

- Cruz-Hinojosa, N.J. and Gutiérrez-de-Mesa, J.A. (2016) 'Literature review of the situation research faces in the application of ITIL in small and medium enterprises', *Computer Standards & Interfaces*, 48, pp. 124–138. doi: 10.1016/j.csi.2016.05.001.
- Esteves, R. and Alves, P. (2013) 'Implementation of an information technology infrastructure library process – the resistance to change', *Procedia Technology*, 9, pp. 505–510. doi: 10.1016/j.procy.2013.12.056.
- Gerdewal, M. & Secim, H. 2014, 'A Business Communication Design for Information Technology (IT) Organizations based on Information Technology Infrastructure Library (ITIL)', *Business Management Dynamics*, 4, 5, pp. 12–35, Business Source Complete, EBSCOhost, viewed 9 November 2016.
- Mackey, C. (2010) *Service desk or help desk?* Available at: <http://www.arincmanageservices.com/blog/2010/11/service-desk-or-help-desk/> (Accessed: 29 November 2016).
- MyITstudy (2013a) *Importance of ITIL service desk*. Available at: <http://www.myitstudy.com/blog/2013/08/importance-of-itil-service-desk/> (Accessed: 29 November 2016).
- Punyateera, J., Leelasantham, A., Kiattitsin, S. and Muttitanon, W. (2014) 'Study of service desk for NEdNet using incident management (service operation) of ITIL V.3', *Signal and Information Processing Association Annual Summit and Conference (APSIPA)*, 2014 Asia-Pacific. doi: 10.1109/apsipa.2014.7041752.
- Rivard, E. (2014) *IT operations governance: 6 critical success factors*. Available at: <http://focus.forsythe.com/articles/315/IT-Operations-Governance-6-Critical-Success-Factors> (Accessed: 22 November 2016).
- Spasic, B. and Markovic, A. (2013) 'Information and communication technology unit service management in a non-profit organization using ITIL standards', *Management - Journal for theory and practice of management*, 18(66). doi: 10.7595/management.fon.2013.0005.
- Valentic, B. (2015) *Which roles do you need for ITIL Service Operation?* Available at: <http://advisera.com/20000academy/blog/2015/06/16/which-roles-do-you-need-for-itil-service-operation/> (Accessed: 22 November 2016).
- Wheatcroft, P. (2014) *Service desk and incident manager: Careers in IT service management*. London, United Kingdom: BCS, The Chartered Institute for IT.