

IT Service Management and its Advantages in Technological Innovations - An Extensive Review

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Abstract - Nowadays the rapid migration of businesses and organizations towards service-based economy has intensified the focus towards IT service modernization. IT service management (ITSM) being a vital part of IT service modernization aims at defining, operating, delivering and regulating IT services for satisfying business objectives and customer demands. Though ITSM provides countless benefits, it simultaneously faces diverse hardships in service management. In this case, BMC software looms as a ray of hope for effective ITSM. BMC delivers smart, neoteric ITSM solutions that are affordable, accurate and rapid to operate in a hybrid framework, cloud and one's own data center. This review work signifies the principal role of ITSM and crucial phases involved in ITSM. It explores the distinct studies on ITSM. It then determines various technical hurdles encountered in ITSM. The paper finally provides the top-notch, valuable BMC solutions for achieving effective ITSM in the existing and forthcoming era.

Key Words: BMC remedy, ITSM, ITSM phases, Technological innovations, BMC solutions

1. INTRODUCTION

Recently, information technology (IT) is gaining ample attention at the commercial or business levels. The vast dependency on IT is drastically growing, forcing organizations and industries to progressively have efficient and effective management [1]. From this viewpoint, IT service management (ITSM) is receiving major interests. The ITSM deals with managing organizational resources, assets and capacities for delivering value to customers via IT services [2]. ITSM involves a deviation from handling IT as tons of individual elements to concentrating on delivering end-to-end services through proper practice process frameworks [3]. It facilitates capabilities and resources like technology, people and processes for supervising and delivering needed IT services [4]. ITSM is strongly related to IT infrastructure library (ITIL). The ITIL basically is an extensively approved best practice model for providing IT services and arranging IT resources as per business requisites. It is popularly adopted by various enterprises for achieving ITSM.

Despite various benefits of existing ITSM frameworks, the ITSM domain still suffers multifarious hurdles with regard to service process management, service request handling, service delivery and automation. Most often, automation of

IT processes and repeated tasks turns up as a critical hindrance affecting service management. Under these contexts, BMC software offers promising features for achieving automation and performing effective ITSM. BMC being a people-centric, powerful solution exploits looming technologies like machine learning and artificial intelligence for delivering intelligent and modern ITSM solutions. This study recommends BMC software as an appropriate remedy to tackle diverse service management issues and achieve effective ITSM.

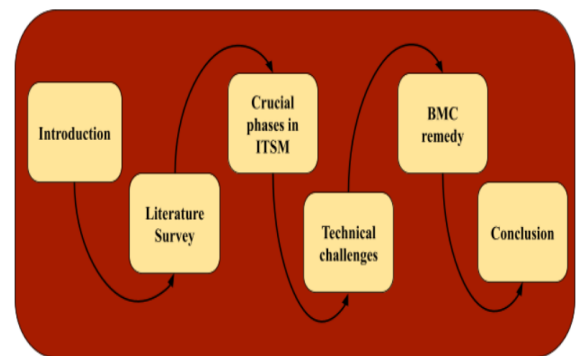


Fig -1: Paper Organization

2. LITERATURE SURVEY

IT services typically are a set of tasks [5] presented by an IT department or IT system [6]. They are featured as the implementation or application of idiosyncratic potentials on IT assets [7]. Generally, IT services hugely influence the IT enterprise budget, as their operability and maintenance is estimated between 80%-90% of the overall IT resource cost [8]. The ITSM's prime focus is effective management of diverse IT services [9]. It promotes service-enabled best practices for delivering value to enterprises [10-11] offering a systematic procedure for supervising IT services from design, deployment and operation to ceaseless improvement [12].

For the evaluation and implementation of processes [13], various ITSM standards and models have been created with ITIL being the highly adopted platform by several IT organizations [14-16]. Several studies on panaceas for certain ITSM challenges exist in literature. The work [17], describes a maturity framework particularly for incident management procedure through coupling several models and discarding overlapped practices for mitigating ITSM problems. Another

study [12] presents a technique for ITIL implementation depending on process supervision and simulation for fully or partially supporting enterprises implementing the ITIL model.

3. CRUCIAL PHASES IN ITSM

The important phases followed by ITIL in ITSM include service tactics, service design, service transfiguration, service operation and service upgradation.

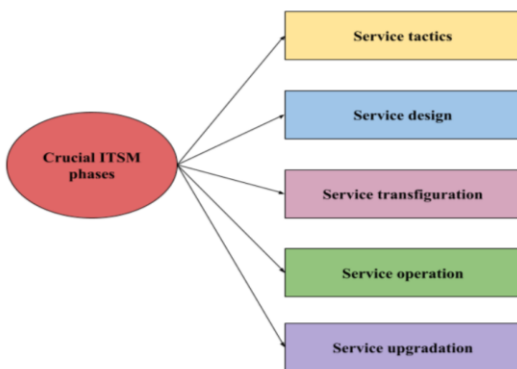


Fig -2: Vital phases of ITSM

3.1 Service tactics

The service tactics deals with deciding the complete organization policy for diverse IT services [18]. Generally, procedures at the policy level do not follow regular policies. Therefore, the automation chances for procedures at the policy level are often limited. However, cognitive automation capacities could be exploited for certain operations in portfolio management, business relationship and demand management processes for assisting the organizations in determining the future service demand.

3.2 Service design

Through considering the service continuity, security, capacity and availability aspects into considerations [krishna], the service design stage addresses the modified and new service design. Generally, automation can be applied for availability, capacity management and service catalogue. Recently, the emanation of cloud technology has opened new vistas for automation of multifarious service design countenances.

3.3 Service transfiguration

The service transfiguration phase aims at constructing and deploying IT services [18]. The release management, configuration management, change management and deployment procedures involve frequently occurring or repeatable activities. Automation of these activities can be realized through exploiting common automation potentials of macros, scripting and automation techniques. Moreover, cognitive automation potentials of cutting-edge machine learning (ML) paradigms can also be exploited in release

decision taking, change evaluation, testing and validation processes.

3.4 Service operation

Service operation basically is an ongoing and regular activity. This phase ascertains whether the organizations are dispensing the desired IT services at the anticipated service level [18]. Many activities in the operation phase are recurrent in nature. Automation of service operations can be realized through both cognitive automation and standard automation. The standard automation potentials can be effectually exploited in all operation procedures excluding problem management. Moreover, cognitive automation potentials can be exerted in all procedures for identifying and reporting the ingrained archetypes for automation.

3.5 Service upgradation

This phase aims to unceasingly boost the IT service efficacy and effectiveness. Ceaseless improvement allows IT service delivery organizations to elevate the prolificacy of ITSM and to curtail several unintended service outages, maintenance expenses and service operations. This inturn augments the organization's competitiveness and increments the client/customer satisfaction [19]. Organizations adopt a 7-stage improvement procedure for service upgradation [20] as depicted in Figure 3.

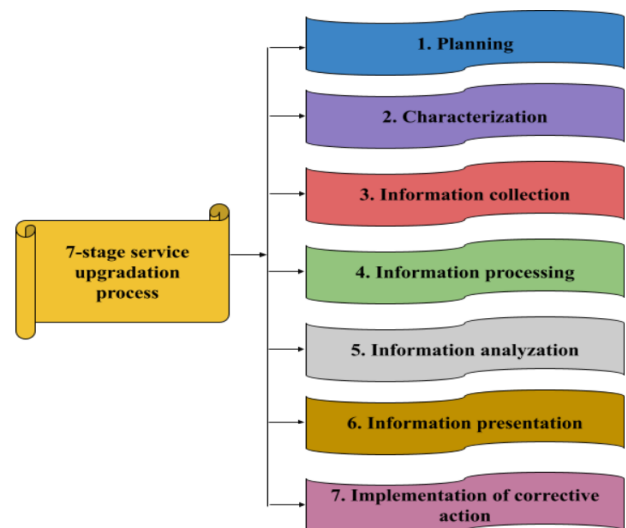


Fig -3: Flow of 7-stage service upgradation process [18]

This 7-stage improvement procedure offers quantifiable and systematic scheme for organization seeking to implement ceaseless service upgradation. Cognitive automation potentials of ML, big data analytics and analytical modelling techniques can abet in automating information collection, processing, analysis and demonstration phases in the 7-stage service upgradation process.

4. TECHNICAL CHALLENGES

Organizations often face diverse challenges in implementing or realizing automation solutions. For successful realization of automation tasks, the organizations must follow the methodical approach and procedures. As initially, organizations face rejections towards implementation of any automation projects, it is paramount for organizations to bring in an extensive cultural change for realization of widespread automation successfully. In adoption of widespread automation, training manpower or human resources using contemporary automation tools turns up as the chief bottleneck. Moreover, execution of recurrent manual tasks not just involve huge time consumption but even requires organizations to re-skill their workforce with the cutting-edge technologies. This further creates huge challenges for organizations to upgrade their workforce skills. Altogether, for settling these issues, an automated ITSM software is desired.

5. BMC REMEDY

BMC being an industry-leading, latest generation service management remedy, offers best panaceas for major ITSM problems. It provides top-notch ITSM solutions for greater than 6500 IT organizations [21]. Some of BMC's top-class solutions are illustration in Figure 4.

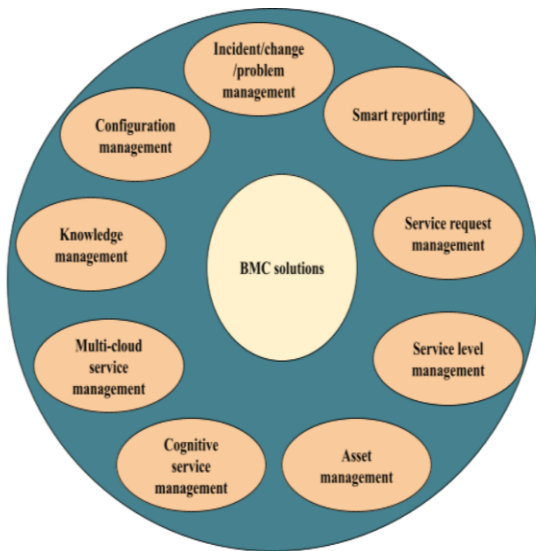


Fig -4: Top-notch BMC solutions

- **Incident/change/problem management**
Generally, incident management is strongly linked with change and problem management. Therefore automation of incident management functions can enhance resolution times and thereby avoid future incidents. Using BMC software, incidents can be resolved rapidly with intelligent, proactive and context-aware incident matching [22]. Change management involves understanding and reducing threats while executing IT changes [21]. BMC allows documentation

and coordination of change request activities across the complete IT landscape.

- **Smart reporting**
BMC transforms reports into staggering dashboards easily and quickly [22]. BMC contains out-of-the-box reports and storyboard features for creating slide shows using functional report information. Moreover, it provides automated insights depending on relevance of information.

- **Knowledge management**
Through presenting right information at right time to right people can substantially boost the user/customer satisfaction and decrease the load on IT. BMC provides embedded knowledge-centric service for delivering accurate, rapid support and service [22]. It offers strong multimedia content/data for improved support and performs lifecycle monitoring of knowledge articles for up-to-date information and effective curation.

- **Multi-cloud service management**
BMC provides multi-cloud management panaceas for optimizing modern IT mechanisms while guaranteeing a cost-effective, secure transition to clouds of customers choice [22]. It collaborates efficiently with service dealers for fixing and troubleshooting issues. It provides configurable and flexible multi-vendor incident brokering and cloud-directed multi-service.

- **Cognitive service and Asset management**
BMC embodies cognitive technologies into conventional ITSM, transforming every service delivery layer for developers, end-users and agents. Additionally, it offers asset management service for discovering IT assets across the environment and connects them to services for rapid issue resolution and ameliorate change management [22].

- **Configuration management**
Generally, configuration management repository (CMR) contains every configuration item or component that is to be managed for providing IT service. At any time, assurance of accurate data is desired. BMC's CMR offers an up-to-date, accurate and complete vision of the technologies, people and processes linked with IT environments and business [22]. BMC decreases cost through automating tasks which formerly required manual assistance.

- **Service request management**
Customers conventionally rely on service catalog for accessing or requesting desired IT services. BMC provides a core catalog of requests (involving service-range targets, price, approval rules for supervising and automating standard requests [22].

- **Service level management**
BMC monitors performance, targets and acquiescence with dashboards specifically for IT and business [22]. It employs trend data for proactively spotting issues and tracking

against consistent service improvement programs. Through automating the presentation, analysis and collection of service level data, it allows the workforce to hugely focus on delivering top-class service.

6. CONCLUSION

This paper mainly focused on ITSM and elaborated its scope in technological innovations. It explained the crucial phases linked with effective service delivery of ITSM. It investigated certain vital technical barriers persisting in ITSM. This work then presented BMC software as a remedy for tackling diverse ITSM challenges encountered during process management, service delivery and service requests. This paper highlighted the terrific scope of BMC solutions in multifarious ITSM levels including incident/problem management, smart reporting, knowledge management, multi-cloud service, cognitive service, asset management, configuration management, service level and service claim management, thereby indicating the superiority and usefulness of BMC remedy over existing ITSM frameworks for supporting effective ITSM in current and looming generations.

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BIOGRAPHIES



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