Service and Help Desk Automation Streamlines Performance, Reallocates IT Resources

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Automation technologies are rapidly changing the way service management is applied to the help/service desk environment. Application of technologies like Artificial Intelligence (AI), Cognitive Computing, Machine Learning and Robotic Process Automation (RPA) can significantly streamline operations while simultaneously protecting data from cyber breaches. Tech support agents working with automation technologies have been able to provide both their government and commercial customers with a reduced number of manually processed service management tickets and reduced service management cost, all while improving productivity and customer satisfaction.

With more than 10 years of experience in staffing and managing help and service desks within the Department of Defense and other federal government agencies, Chameleon knows what works and what doesn't when it comes to service management performance. We understand that a help desk is an IT dependent, tactical function providing help and solutions, whereas a service desk is strategic function serving as the single point of contact between the service provider and the users managing incidents and service requests. Experience provides the expertise and wisdom to properly understand a customer's current environment and processes. This is key to applying new technologies that will improve future performance within a customer's environment and ultimately modernize the service management. While there is no substitute for experience, proven qualities like patience, empathy, active listening, good judgment and a reassuring friendly voice are essential to quickly resolving issues.

An organization contemplating automated technologies may initially be deterred by limited resources, policy changes or costs of maintaining existing IT operations. However, when properly applied, the efficiencies of automated technology provide the opportunity for organizations to reallocate much of their existing service management IT resources to other priority areas without increasing total IT spending. The common practice is for organizations to contract with companies specializing in service desk support because the companies have a great incentive to lower costs yet retain high customer satisfaction.

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Service Management Modernization Saves Money

IT Service Management (ITSM) is a system that manages the delivery of end-to-end IT services to customers based on best practices. ITSM methods include effective ways to support and optimize assessment, planning, and implementation of the Information Technology Infrastructure Library (ITIL), which is the most widely accepted best practice framework to ITSM. The Help Desk Institute teaches that effective service desks are organized around processes, procedures, tasks and checklists described in the ITIL. ITIL focuses on aligning IT services with business needs and helps organizations realize business change, transformation and growth. Organizations seeking to modernize and improve the performance of their service management operations should follow the five phases of the ITIL service lifecycle which are:

- **Service Strategy**: defining services as strategic assets, and then maintaining and implementing a coherent, deliberate strategy.

- **Service Design**: assessing the business management processes (service level, availability, capacity, etc.) to design and develop new service offerings or improve existing offerings.

- **Service Transition**: making the transition from development to production operations, including testing and quality control.

- **Service Operation**: defining how to manage service operational processes once they are in production use.

- **Continuous Service Improvement**: creating updated levels are based on operational feedback and documented service levels, requirements, policies and procedures. New service level requirements may also be created.

Chameleon's modernization and improvement approach applying ITIL principles was successfully implemented at the U.S. Defense Information Systems Agency (DISA) Global Service Desk (GSD) program over the past several years. GSD was restructured three years ago to promote an innovative approach, that ultimately saved the agency money while enhancing service management operational results. DISA's worldwide locations include the Pentagon and the White House Communications Office, two locations requiring continuous service. An organizational and technical structure was planned and implemented that enabled virtual consolidation of service management agents from 22 geographic locations to 5 and yielding approximately $75 million in cost avoidance by changing the way service management and desktop support is provided. The team also achieved a 200% increase in Tier II Desktop Support resolution coupled with a customer/user satisfaction rating of 4.8 out of 5 stars.

Chameleon's service management operations drove the development and implementation of the GSD's survivable service desk environment using an Active/Active architecture. This architecture allows two or more equally configured sites to operate independently while

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ensuring Continuity of Operations (COOP). Should one site go down or experience mission impacting degradations, switchover to another site can be accomplished in sub-seconds maintaining high availability. This architecture also meets the COOP requirements as defined in NSPD-51/HSPD-20.

Chameleon improved the service call resolution rate through a combination of queue management, resource analysis and realignment, standardizing processes and consolidation of multiple service desks. The service management team provided innovative solutions to consolidate six entirely different service desks into one Application Support desk and consolidated three IT End User desks to support the entire DISA agency. This team also enabled all employees in remote locations to diagnose, troubleshoot and repair issues experienced on the client-side end user environment and escalate unresolvable issues to specialized support environments.

To ensure the security of data within the GSD modernization, Chameleon implemented the Department of Defense Endpoint Security Solutions (ESS) for the DISA headquarters endpoint security compliance initiative. ESS enables integrated solutions, such as Comply to Connect (C2C), Containment, Visibility and Assessment tools, to remediate any security vulnerabilities found and ensures compliance with the latest Chief Technology Officer (CTO) and Security Technical Implementation Guides (STIGS) requirements.

Training of personnel is a key part of making service management modernization achieve its performance goals. Chameleon developed a series of training videos on Tier 0 content and provided e-learning opportunities for our agents, DISA employees and Mission Partners, allowing for standardized and always accessible information.

Innovation Drives Service Management Improvements

The innovation of automated technologies is sweeping through the industry and holds remarkable promise for the future of service management. Improving overall service management through innovative and creative solutions will result in meeting and exceeding customer Service Level Agreements.

Service desk issues are typically resolved through a process based on their complexity, starting with automated only support and continuing down to those requiring expert technician support. The further down in the process that automation technology can be applied to resolve the issue, the larger the saving will be. Chameleon has now streamlined this tiered process by creating a single point of contact for addressing all levels of deskside support and system administration support.

Chameleon's experience provides a unique view and understanding of the technologies shaping tomorrow's service management operations. Highly automated service management operations are preparing organizations for a prosperous future while protecting data from

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cybersecurity risks. Developing the best approach to modernizing services, operations and systems will ultimately free up service management IT resources for other key uses.

> Innovative Quality Assurance (QA) Programs are based on ITIL v3. Using standard repeatable processes promotes standardization, improved metrics, knowledge transfer and streamlined training, which ultimately leads to consistent desired outcomes and continual service improvement throughout an organization. Chameleon developed a quality assurance scorecard system that monitors quality and provides trending feedback to managers. We continually use the score card data to test and accurately measure the quality of our services.

Service Management of the Future: Cognitive Computing, AI and RPA

Imagine a service management system that can process large amounts of disparate data (service tickets), learn from each interaction and interact with users in a native, natural language. Because of new machine computing technologies, this system is on the horizon, and in some commercial cases is already here. It has the capability to speed up operations and enhance the user experience simultaneously.

There are several emerging technologies that can reduce the number of service and help desk tickets processed by tiered resources, improve efficiency and productivity, reduce cost and in the end improve customer satisfaction. Artificial Intelligence (AI) is one of the technologies that is driving these changes. AI is the umbrella for machine intelligence, machine learning, neural networks, speech recognition and cognitive computing. AI technology will make service management a more intelligent process, while being less time consuming and resource intensive.

AI is positively impacting all aspects of IT service management, from initial user contact to intelligent chat bots that help resolve issues. Sophisticated analytical algorithms are being developed to extract pertinent data from service tickets, chat logs, and other structured and unstructured data. Algorithms further reduce the number of tickets by implementing self-service capabilities.

These algorithms encompass Machine Learning (ML) which is a method of data analysis that automates analytical model building based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. ML enables processes to be developed that can analyze ticket data to predict peak service demand, identify reoccurring user issues, system failures before they occur and identify current and future support needs. Data Science uses AI technology such as deep learning to extract information from huge data clusters. This data can be used for descriptive (What happened), diagnostic (What caused it) and predictive (What may happen) analysis. AI also identifies trends through call auditing that can enhance the user experience.

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Robotic Process Automation (RPA) is an emerging form of process automation based on software robots. RPA in conjunction with artificial intelligence and data analytics is being used to automate mundane, time-consuming, and repeatable tasks. This automation frees up valuable IT resources and reduces cost. These sequences are often called 'bots' since they perform their actions robotically. There two types of bots currently being deployed in industry. Attended bots are used when the entire end-to-end process can't be automated, initiated by a user and act on that user's privilege. Unattended bots execute tasks and interact with applications independent of human involvement. Both types require sufficient care to ensure the bots have the correct authority and are following security policies. The possibilities for RPA to automate operational efficiency are nearly unlimited.

Artificial intelligence provides the intelligence to understand a problem and act as a trusted advisor to the service desk agent. Automated technologies provide opportunities to improve quality control metrics, transfer knowledge, streamline training, monitor quality control, pinpoint inefficiencies and provide feedback to managers. The advances provided by AI and machine-learning to service management have been anticipated by many ITSM professionals. A 2017 AXELOS survey found 77% of respondents believe these technologies would have a profound impact on the IT workforce, liberating ITSM professionals from routine tasks. That impact is currently happening according to a 2019 Gartner CIO Survey that found the deployment of AI has tripled in the past year--rising from 25% in 2018 to 37% today.

The pace of technological changes presents both an opportunity and a challenge for organizations to implement new innovations and enhance their operations. There is a growing recognition that these advancements bring an increased level of risk, as exemplified by the increased security concerns around AI and machine-learning.

Apply Automation Technology with Care

While AI technologies are growing on a rapid basis in the government and commercial industries, the promise of new technologies can lead eager organizations into overly ambitious projects that try to change everything at once, resulting in many unintended consequences. While AI and RPA technologies hold remarkable promise for the future, they are relatively new and need to be intelligently applied in an incremental fashion. Automating a poor process will result in a faster, but still poor, process. Improperly using RPA to "fix" poor processes, means that not only are the underlying process not fixed, but the resulting errors and bottlenecks are typically moved

further down the process chain, creating new problems that prevent the real transformation intended by the RPA project.

Understanding our customer's environment, and the technologies to improve their mission performance, are critical to any service management enhancement program. In order to provide tailored support to an environment through AI and RPA, best practices based on lessons learned must be utilized. When done properly, automation of service management operations will enable organizations to reallocate scarce IT resources to other priority functions and more effectively pursue their overall missions.

About Chameleon Integrated Services

Chameleon Integrated Services is a small business prime contractor to the United States Department of Defense and other federal agencies that provides a wide range of Information Technology consulting, support and services to worldwide. The company focuses on helping clients successfully capture and deploy critical opportunities in IT modernization, cloud computing and building the workforce of the 21st century, while enhancing information assurance by mitigating cybersecurity risks. Founded in 2003 and based in St. Louis, Chameleon is a minority and SBA-certified Small Disadvantaged Business (SDB). For more information, visit www.chameleonis.com.