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IT Service Management and Strategy

EXPLORE COVID-19 AFFECTED THE IT SERVICES AND HOW PUBLIC RESPONSES SUPPORT THEIR LIVES

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Table of Contents

1.0 Introduction 1

2.0 How IT Service Management helps the IT Service Operations Staff work on remote and impact on them 1

3.0 Evaluation of the Financial and Asset Management and how salaries, budgets and assets were managed during COVID-19 3

4.0 Analysis New Security and Governance issues and the impact of ongoing work from home and how IT service providers manage it? 4

5.0 Recommendations for service delivery through New Technologies 6

6.0 Improvement of the Service desk to provide better IT services 8

7.0 Conclusion 10

References 11

1.0 Introduction

COVID-19 virus had affected the socio economic and cultural aspects. Employees, IT infrastructure and IT service providers had great contributions to overcome and provide tailor made IT solutions. This study denotes impact focus on remote accessibility, finance and profitability with solutions provided based on IT infrastructure ruled out with IT framework to deliver service for best practice and best IT governance.

2.0 How IT Service Management helps the IT Service Operations Staff work on remote and impact on them

COVID-19 pandemic situation has forced to shift from the office working locations to working from home (WFH) to ensure business continuity. Technological limitation and social isolation was a challenge in the inception (Green, Tappin, and Bentley, 2020). And maintaining the social distance was regulated and monitored closely (Sun and Zhai 2020). There are potential and possible paths for the risk of Cyber attacks and incident on data hacking due to system vulnerabilities arising from unsafe systems and related system applications. Further continuous network connectivity will ensure system accessibility without uninterrupted services and adverse and weak connectivity will diminish system integrity evaluating the technological scope. The ratings for the cyber security will there by review the confidentiality, integrity, and availability (Okereafor, Manny, and Syed, 2020). On a remote functionality the organization must revamped the business processes focusing the data validation and data transmission. The IT infrastructure needs to improve the activities relating to process automation along with digitalization considering to the organization specific IT service management functioning on rule based. The feature of reviewing of data entry logs will enhance the data integrity concept to ensure information confidentiality and enabling to arrive at accurate and update decision making by the authorities (Revina, 2022).

Organizations compelled to deploy their staff to avoid direct contact with public as per governing health regulations. As a result service oriented organization had to replace the staff from the customer interaction points and introduced online accessibility, web based queries and digital chatbots. This IT infrastructure needs to support with continuous connectivity and uninterrupted network connections. Due to aggressive demand for remote accessible requirements made by service seekers the bandwidth need to be expanded with enabling to cater and respond to business driven queries and solutions (Choong et al. 2020).

Innovative solutions were provided by banks for digitalization for alternate banking activities such as online banking, ATM services, Virtual payment systems and IT staff need to configure the infrastructure along with the integrated payment systems for enabling to precede transactions and for easy reconciliation. IT services therefore need to assist the client inquiries and improve the IT service standards continuously (Sang, 2021). The remote accessibility need to configure the IT based devices in according to the organization policies and IT system frameworks (Richter, 2020). IT service need to ensure that there's not configuration error during infrastructure handling processes. The automotive process for configuration in operating systems linking with network systems allowing standardization for efficient configuration. The IT assets and devices therefore need to be guided by the internal policy guidelines enabling to proceed with the system stability and non-violation of non-compatible device usage during the routing operations (Pires et al. 2022). Remote accessibility during COVID pandemic situation at to develop the internal infrastructure capabilities enabling to link through internet for Software-as-as-Service (SaaS) collaborating through cloud computing. The digital transformation need to continuous develop the process application with proper IT staff involved in planning, implementing to act as a solution that allows users to access to data (Singh et al. 2021).

3.0 Evaluation of the Financial and Asset Management and how salaries, budgets and assets were managed during COVID-19

The Innovative IT software solutions were provided during the pandemic situation to monitor patient care and health information enabling to provide health management and enhance quality of life especially for elderly, child and women. Software application relating to medical services were developed enabling them to provide valuable suggestions. The virtual software and telemedicine facilities developed through IT infrastructure and a capital investment was allocated for continuous developments (Bokolo, 2021). E-health systems are developed with collaboration of new information systems along with IT service infrastructure. A standardize e-health system expectation is to perform subject to intense discussions with IT service providers and medical authorities. The quality improvement relating to competency and integrity in an e-health system depends on training and educating medical authorities through IT staff. (Novak and Djordjevic, 2019).

Sophisticated computing model ensure delivery of extensive experience with vase range of Internet of Things (IoT) applications. The network edge on computing will give an assurance a new market based framework on capacity limited Edge Nodes (EN). IT resource utilization reach efficient resource bundle to provide IT services within an allocated budget. The maximizing net profits will be based on proposed IT framework in Market Equilibrium (ME). (Nguyen et al. 2018).

The software purchasing needs to be decided and tailor–made in solutions with the assistance of in-house IT service developers, and a significant amount of cost can be saved with budget controls and subsequent IT developments in software, and applications can be performed with the internal staff. The return from internal staff software developments can be great but however, the significant amount of time consumed needs to be accounted (Jackson and Brannon, 2018).

4.0 Analysis New Security and Governance issues and the impact of ongoing work from home and how IT service providers manage it?

Following are the cyber security threats and challenges and the procedures and how it was mitigated during the work-from-home period.

Malicious attacks

Unauthorized access to the systems by hackers or fraudelunt internal staff attemption for abused practices to inject malicious cords in form of mining phase has increased a trend. The unauthorized access can damage or corrupt and misuse the sensitive data and business work flows (Li et al. 2021). To mitigate this risk, organizations designed prominent IT infra-structure and multiple layering to deploy for data protection, and introduce protocols names as firewalls and VPNs (Al-Harrasi, Shaikh, and Al-Badi, 2021).

Phishing attacks

Phishing is identified as a social engineering risk within organizational cyber space. To prevent the same a high standard level or awrereness training programs are to be performed and enforced and identified vulnerable activities of employees to avoid future threats. Further need to educate the employees to be alert on insolated messages receiving from attachments links and login pages (Shahbaznezhad, Kolini, and Rashidirad, 2021).

Tracking and compromising passwords

Using weak password results unauthorized users to crack the password effortlessly and login in to high and vital secured applications and explore sensitive data and information. It is recommended to use high security passwords with multiple security features (Sun and Zhaim, 2020), It is important to avoid mentioning the passwords in exploring to the public and avoid same to prevent unauthorized access in to systems. (Pearman et al. 2019)

Ransom ware attacks

Ransom ware makes an adverse strike to the business with high extortion. Malignant programs creating deny entry makes adverse and interrupt functionality with restriction to operate. Releasing the restraints will release subjects to monitory demands. To prevent such attacks the data encryption to perform in the systems to control similar access. A solid monitoring alert application will triggered with warning and further taking file backups frequently will avoid adverse functionalities (Suresh et al. 2021).

Following are the precautionary measures recommended to prevent high risk of cyber security threats,

Multi factor Authentication

Multi factor authorization will give more secured access to prevent unauthorized users to the system credentials in high control standards and verifications. With this authentication method it will ensure security, privacy, and usability aspects for a uninterrupted functionality. (Ibrokhimov et al. 2019)

Anti-virus software

This software will prevent malware causing damage to system and devices. This software will prevent, detect and delete against adverse attacks. The automatic generation frameworks need to have the performance in stable nature and real-time activation expecting continuous antivirus software upgration (Liang et al. 2019).

Firewalls

This network security manage the network traffic in and out in an organization and filter to prevent unauthorized access to the network system based on pre define IT security policies. (Chen, Cho, and Xu 2018)

Virtual Private Network (VPN)

In order to maintain high network data security management the VPN system could be able to utilize during the given pandemic situation effectively since secured connection was protected corporate data and managed user access. Data transmission can be securely perform from a device to a net work to this encrypted connection (Guo et al. 2020)

Training and awareness on Cyber security

Employees need to be educated and continuously updated relating to information security risk and mitigation aspects to avoid threats of security violations internally within the organization external unauthorized access. A clear IT policy guideline demarcating the delegated authority and responsibility expecting from users need to be discussed in usage of physical IT assets and software related technical aspects. Usage of IT devices and internal discipline of system login authorization need to be well communicated and to be encouraging for vigilance and to perform best practice and IT governance (Aldawood and Skinner 2019).

5.0 Recommendations for service delivery through New Technologies

Cloud computing will contribute to enhance effectively deliver a better IT service and e-government path is one of a suggestion to provide services to the citizens during pandemic. The current IT infrastructure and current services need to moderate with system migrations and integrations and to evaluate on hardware and software (Ali, Mazen, and Hassanein, 2018). The process modifications and communication to deliver information faster and possible and a reliable path expected through architectural processing and data storages. The cloud computing and main frame computing will centralize each other. (Saraf, Bartere, and Lokulwar 2022). Innovation is to be the best approach in cloud computing as servicer using web process and the services will be delivered on demand and function based on IT infrastructure. A range of different service models such as Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) will function in licenses through internet and subscription

will done upon the service utilization and an upfront payment will not be required. (Mohammed, C.M. Zeebaree, S.R. 2021). Post pandemic supporting with patient information safety in healthcare industry mange by healthcare policy makers. Since a large amount of medical data to be processed store and transmitted through the cloud computing on real time basis quality and accurate decisions are able to reach effectively (Rajabion et al. 2019).

Online cloud meeting applications are used through cloud computing services for distance communication and this has a positive and accepted mode in current business, medical and educational service delivery platforms. Virtual meetings can coordinate and proceed with effective decisions and can handle disputes effectively (Mujahidin, Bahruddin, and Hartono, 2020). For a better service communication method skype technology is identified and used for business online application integrating through cloud technology. It is interactive between negotiations reduce business travels and work, and perform across the devices and work stations. During pandemic situation this communication mode was successfully used ensuring to maintain negotiation skills and retaining discussion evidence (Muqorobin and Rais 2020).

Artificial Intelligence (AI) ued effectively in medical industry enabling to replace human intervention since human resources were used in a minimum level due to authority guidance during pandemic situation (Vaishya et al. 2020). The systems are recommended for automation and focus on robotic process imrpovements. Procedures and processes could be revisited and revised for efiiciecy and increase productivity. Since the manual processes and repetitive procedures are eleminated the cost of capital will be reduced drastically. Technological development can be used for progression and it can be shared with strategic direction. Data protection and information security can be enhanced and risk mitigating concepts can be inculcate to the suggested processes. Huaman working time can be reduced and the human resources can be effectively or restructure human capital accordingly (Ernst, Merola, and Samaan, 2019)

It is further recommended the organization can build capabilities related to IT service improvements with the IT infrastructure capabilities. The AI outcome can replace the layering in the organization and IT service standards can improve with the expected standadise practices.

In the inproved version the competencies can be capitalized to arrive at effective decition making. Further the accuracy in data and information security can be standadise to built - confidentiality, integrity and availability (Davenport 2018).

6.0 Improvement of the Service desk to provide better IT services

Service help desk management need to support with company internal IT system and infrastructure in order to have an efficient service help desk activity process effectively. Service catalog management, problem management and change management need to administrate in accordance to the Information Technology Infrastructure Library (ITIL) for best practice. The organization need to update the users for the available services which are provided by service help desk through the IT services and any IT related service assistance need to have a identification matrix for prioritizing the critical functionalities for efficient problem management through service level agreements (SLA). The users need to have the privilege of making suggestions for continuous level of performance in incident reporting and solving IT issues effectively (Girsang et al. 2018).

Help desk is an IT service solution performs as a “single point of contact” for users IT support teams. A ticketing system will initiate to an IT platform for the process and manage user specific IT related issues from submission to resolution. The process need to minimize the resolution time. The users need to have their work station portals registered with the system set up for purpose of opening a ticket for an immediate IT service solution. The IT infrastructure needs to automate the incident classification path accurate at the first instant and prioritize the same for resolving the issue for early closure. Email notification need to support the users constantly enabling them to arrive at stage of action for a better feedback (Al-hawari and Barham, 2019).

Following are some suggestions for improvements.

Review through Google calendar rectification program

Network user support tool to create events in Google calendar on cloud service basis. The system administrator can monitor the support team on the description over the user requested problems on share basis between the user and IT service technician to review at what stage the correction process is underway (Balyk and Oleksiuk 2019).

24 Hour Activity

Virtual Health desk will enable access remotely to help on 24 hours support basis for user to make complaints since some users are working on their shifts through virtual private network (VPN). Further the functionalities could be operated on hybrid model where the TI assistance users will function on a roster basis. Thereby all the issues can be routed effectively for trouble shooting (Domingo et al. 2021)

System modification and testing

System testing will help to identify the outdated processes and system applications after processing before modifications and patches go on production. The system revisit will enhance effective processes to service desk operations with continuous integration (Fehlmann 2020).

Robotic Process Automation (RPA)

Robotic Process Automation (RPA) will work on platforms relating to Intelligent Optical Character Recognition (IOCR) processing through chatbots , machine learning, big data analysis, cognitive platforms, voice recognition, data classification are some of the processes can proceed through RPA. Repetitive manual processes can be eliminated and IT services can improve through innovative solutions compliance to ITIL (Lacity and Willcocks 2018).

Fixing Artificial Intelligence (AI) to avoid manual validations

The ticketing system need to provide solutions initiated by the users and to avoid the possibility of posting the incidents manually and creating errors. This may cause incorrect solutions and inappropriate paths for resolution escalation with substantial delays. AI concepts such a s machine learning and natural language processing using a ticket classifier model will give a solution through integration enabling to forward the IT service assistance in to the accurate tracking path (Lytvyn et al. 2018)

Cognitive agent activity

The cognitive agent has the capacity and the potential to scale personalized and tailored interactions for processed efficiency. To respond to queries, the IT service related customized intelligent need to be validated to obtain the desired results. This will give the results faster and accurate to respond effectively with flexible solutions for instant recognition (Javed et al. 2020)

7.0 Conclusion

Pandemic situation made all of us to perform our dedicated duties in remote accessibilities due to social distance maintenance and regilations imposed by the respective governments. IT sevice did not compromise with IT frameworks and regulations, as a result public confidence was maintained enabling to perform the essential services to a great extend without any interuption. Organizations had to optimize the profits and had to curtail expenses and deliver IT services where the IT service management link all activities collectively.

Service desk had the main challenge to provide online IT solutions in terms of payments and settlements, medical services, tranportation and aviasion and telecommunication. Organization specific solutions were cordinated through IT services depending on their finance, staff structure, risk attitudes and provided greater solutions to overcome the difficulties capitalizing he digital, automation and confidence given by public to IT services and solutions.

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