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ICT IN BANKING SECTOR: DISASTER AND RECOVERY OF INFORMATION**GAGAN DEEP****ASST. PROFESSOR****DESH BHAGAT INSTITUTE OF MANAGEMENT & COMPUTER SCIENCES****MANDI GOBINDGARH****SANJEEV KUMAR****ASST. PROFESSOR****DESH BHAGAT INSTITUTE OF MANAGEMENT & COMPUTER SCIENCES****MANDI GOBINDGARH****ROHIT KUMAR****ASSOCIATE PROFESSOR****RIMT - INSTITUTE OF MANAGEMENT & COMPUTER TECHNOLOGY****MANDI GOBINDGARH****ABSTRACT**

ICT is playing big role in the banking industry. Information technology has graduated from being a business enabler to a business driver. Banks store enormous amount of information. It is a big task for the banks to protect the information. Banks needs to invest heavily in the protection of information and most of the banks are working for this. ICT industry is finding solutions for the avoidance of disaster and giving solution for the recovery of information in case of loss of information. There are various factors responsible for the disaster of data. It include environmental, technical disaster, human mistake etc. Banks can take extra steps to avoid and recover from disaster.

KEYWORDS

ICT, Banking industry, Reasons for disaster, Disaster recovery planning.

INTRODUCTION

Information Management is increasingly becoming the very core of banking operations. As more and more financial transactions are conducted without the use of currency, it is only information that is exchanged instead of real money. Electronic banking makes use of the Internet, ATMs, mobiles and a number of other devices, which already have changed the face of banking. Information is clearly one of the more important assets of a bank. It has to be protected to establish and maintain trust between a bank and its customers, even as it complies with, and demonstrates compliance to regulations. Information technology has graduated from being a business enabler to a business driver. Information security is a key function of an organization that enables other business functions to perform their activities effectively. Information security objectives continue to be confidentiality, availability, integrity of information; with accountability and assurance that can be demonstrated.

Banking and Information Technology can hardly be separated. This is one such industry, which not only depends on the technology, but where technology has contributed to its immense development and proliferation. It may not be untrue to conclude that the effectiveness of technology implemented at a bank could determine its profitability and growth potential. Since most of the business operations can simply be accomplished with information exchange, the need to protect integrity of information is of paramount importance. This is why security has to be part of the service delivery and an important hygiene, rather than being a point of differentiation.

The unique aspect about information security in banking industry is that the security posture of a bank does not depend solely on the safeguards and practices implemented by the bank; it is equally dependent on the awareness of the users using the banking channel and the quality of end-user terminals. This makes the task for protecting information confidentiality and integrity a greater challenge for the banking industry.

NEED FOR DATA RECOVERY SOLUTIONS

An insider's view on the state of information management in the Indian Banking sector and the need for a strong Disaster Recovery Management (SRM) strategy in the space.

We are in the 21st century, and it is not surprising that we have moved ahead in terms of economy, technology and globalization. If one could sit and analyze the radical transformation from the past to present, it is quite astonishing. There was a time where one had to manage all the personal and official data manually and undoubtedly, it took up a lot of time. This is not the case in the present scenario, where time and work are digitally driven. Globalization has been both – key in expanding the opportunities available to Banking sectors, and tough in the face of competition, especially with recent economic concerns.

We have email, photos, songs and few documents in our server for easy access, but what about the rest of the important information? Banking details, passport, driving license, income tax and insurance details and other important documents which are essential for your business.

The banking industry is perhaps on the forefront of using IT enabled services; almost all listed banks and several mid-cap banks have deployed IT applications for core banking. Core banking enables the bank to offer customer services anywhere across the globe. The Reserve Bank of India, the regulatory body for banks has set up mandates to deploy disaster recovery and business continuity plan and ensure that all banks have access to the risk management solutions. Going forward, banks have to demonstrate compliance to RBI's mandate once in six months. Most of the banks have a primary location where their IT applications run and they also have an alternate site, like any other city where they have the capability to bring up their IT applications if the primary site goes down. Data which includes customer account details are replicated from the primary site to the alternate site on a regular basis. Closely linked are the securities market, buying or selling shares will have a DMAT account. The stock exchange is sustained and driven by IT applications. The market regulator for the stock market is the Securities and Exchange Board of India (SEBI). SEBI follows regulations which would require depositories who participate in the market to demonstrate their risk management system including the disaster recovery capabilities of IT applications.

A major part of the disaster recovery planning process is the assessment of the potential risks to the organization which could result in the disasters or emergency situations themselves. It is necessary to consider all the possible incident types, as well as and the impact each may have on the organisation's ability to continue to deliver its normal business services.

THREAT TO DATA

Part of the risk process is to review the types of disruptive events that can affect the normal running of the organization. There are many potential disruptive events and the impact and probability level must be assessed to give a sound basis for progress. To assist with this process the following list of potential events has been produced:

ENVIRONMENTAL DISASTERS

- Tornado
- Hurricane
- Flood
- Snowstorm
- Drought
- Earthquake
- Electrical storms
- Fire
- Subsidence and Landslides
- Freezing Conditions
- Contamination and Environmental Hazards
- Epidemic

ORGANIZED AND / OR DELIBERATE DISRUPTION

- Act of terrorism
- Act of Sabotage
- Act of war
- Theft
- Arson
- Labour Disputes / Industrial Action

LOSS OF UTILITIES AND SERVICES

- Electrical power failure
- Loss of gas supply
- Loss of water supply
- Petroleum and oil shortage
- Communications services breakdown
- Loss of drainage / waste removal

EQUIPMENT OR SYSTEM FAILURE

- Internal power failure
- Air conditioning failure
- Production line failure
- Cooling plant failure
- Equipment failure (excluding IT hardware)

SERIOUS INFORMATION SECURITY INCIDENTS

- Cyber crime
- Loss of records or data
- Disclosure of sensitive information
- IT system failure

OTHER EMERGENCY SITUATIONS

- Workplace violence
- Public transportation disruption
- Neighbourhood hazard
- Health and Safety Regulations
- Employee morale
- Mergers and acquisitions
- Negative publicity
- Legal problems

Although not a complete list, it does give a good idea of the wide variety of potential threats.

DISASTER RECOVERY PLANNING

Banks and Credit Unions of all sizes rely on information technology as a crucial component of their day-to-day operations. Since data availability is a top priority, the need for financial institutions to compile a thorough disaster recovery plan is essential. Banks should have recovery time objective which consists of efforts from people, processes and infrastructure. What ever recovery planning will be, it comprises of these three prime factors.



PLAN FOR DISASTER RECOVERY PLANNING

1. **Devise a disaster recovery plan:** IT disaster recovery planning can be a daunting undertaking, with many scenarios to analyze and options to pursue. It is important to start with the basics and add to the plan over time. To begin, define what is important to keep the bank or credit union running - i.e., email and application access, database back-up, computer equipment - and the "recovery time objective" or how quickly the company needs to be up and running post-disaster. Other key plan components to consider are determining who within the organization declares the disaster, how employees are informed that a disaster has occurred, and the method of communication with customers to reassure them that the company can still service their needs.
2. **Monitor implementation:** Once a disaster recovery plan has been established, it is critical to monitor the plan to ensure its components are implemented effectively. A disaster recovery plan should be viewed as a living, breathing document that can and should be updated frequently, as needed. Additionally, proactive ongoing monitoring and remediation of processes, such as back-up data storage and data replication, results in fewer IT issues and less downtime should a crisis occur.
3. **Test disaster recovery plan:** A 2007 eWeek survey of more than 500 senior IT professionals revealed that a whopping 89% of companies test their disaster recovery/failover systems only once per year or not at all, leaving their enterprises vulnerable to massive technology and business failures in the event of a disaster. An under-tested plan can often be more of a hindrance than having no plan at all. The ability of the disaster recovery plan to be effective in emergency situations can only be assessed if rigorous testing is carried out one or more times per year in realistic conditions by simulating circumstances that would be applicable in an actual emergency. The testing phase of the plan must contain important verification activities to enable the plan to stand up to most disruptive events.
4. **Perform off-site data back-up and storage:** Any catastrophe that threatens to shutter a business is likely to make access to on-site data back-up impossible. The primary concerns for data back-up are security during and accessibility following a crisis. There is no benefit to creating a back-up file of valuable data if this information is not transferred via a secure method and stored in an offsite data storage center with fool proof protection. As part of establishing a back-up data solution, every company needs to determine its "recovery point objective" (RPO) - the time between the last available back-up and when a disruption could potentially occur. The RPO is based on tolerance for loss of data or reentering of data. Every company should back-up its data at least once daily, typically overnight, but should strongly consider more frequent back-up or "continuous data protection" if warranted.
5. **Perform data restoration tests:** Using tape back-up for data storage has been integral to IT operations for many years, however this form of back-up has not been the most reliable. Today, disk to disk systems are gaining popularity. With either type of system, the back-up software and the hardware on which it resides needs to be checked daily to verify that back-up is completed successfully and that there are no pending problems with the hardware. With tape back-up, companies need to store the tapes in an off-site location that is secure and accessible, while disk systems need to have an off-site replication if the back-up is not run off-site initially. Moreover, companies need to perform monthly test restoration to validate that a restoration can be accomplished during a disaster.
6. **Back-up laptops and desktops:** Although many companies have policies requiring employees to store all data on the company's network, it is not prudent to assume that the policy is being followed. Users often store important files on local systems for a host of reasons, including the desire to work on files while traveling and the need to protect sensitive data from the eyes of even the IT staff. Backing up laptops and desktops protects this critical data in the event of a lost, stolen or damaged workstation. Using an automatic desktop and laptop data protection and recovery solution is ideal.
7. **Be redundant:** Establishing redundant servers for all critical data and providing an alternate way to access that data are essential components of an organization's disaster recovery planning. Having these redundant services in place at a secure, offsite location can bring disaster recovery time down to minutes rather than days.
8. **Invest in theft recovery and data delete solutions for laptops:** IDC reported that more than 70% of the total workforces in the U.S. were to be considered mobile workers by 2009. Accordingly, laptops are increasingly replacing the traditional desktop PCs. Unlike desktops, however, laptops are more easily misplaced or stolen, thus requiring organizations to secure data deletion and theft recovery options for their users' laptops. Theft recovery solutions can locate, recover and return lost or stolen computers, while data delete options can enable companies to delete data remotely from lost or stolen computers thereby preventing the release of sensitive information.
9. **Install regular virus pattern updates:** IT infrastructure is one of those realities of business life that most companies take for granted. Companies often do not focus on email security until an incipient virus, spyware or malware wreaks havoc on employees' desktops. Organizations need to protect its data and systems by installing regular virus pattern updates as part of disaster recovery planning, which may even help prevent a crisis from happening.
10. **Consider hiring a managed services provider:** For small- to medium-sized businesses, it is often cost prohibitive to implement a sound disaster recovery plan. Frequently these organizations lack the technical professionals to accomplish this. Managed services providers (MSPs) have emerged in recent years to perform this role. MSPs have the technical personnel to design, implement and manage complex disaster recovery projects. Additionally, MSPs have the server, storage and network infrastructure in place to manage a true disaster recovery plan. To keep costs manageable and make disaster recovery services, such as data storage and redundant servers, available to small- to medium-sized businesses, MSPs build shared, multi-tenant IT infrastructures that host multiple companies on the same hardware and network equipment which helps keep costs affordable and advantageous for its customers.

CONCLUSION

Disaster recovery will continue to evolve with the banking industry. As banks become more sophisticated technology users, disaster recovery solutions will follow. But banks must plan for disaster recovery every step of the way. The key to successful disaster recovery is what happens long before a disaster strikes. With a realistic recovery plan, properly tested and committed to by senior management, banks can effectively maintain operations while providing for the safety of people and assets.

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