

## ICT Enabled Learning - A Tool in Crisis Management

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### Abstract

*Due to Covid -19 Pandemic educational institutions have closed in 107 countries affecting more than 860 million students. information and communications technology have been widely adopted in most educational institutions in order to support e-learning through different learning methodologies. Information and communication technologies have changed the face of managing information in crisis, warning, impact and response. information and communication technologies are changing the way that users are responding to environmental and health disruptions. in conflict zones it is dangerous for people to travel and maintain normal activities. However with mobile phones and internet applications and data on cloud, people can coordinate and communicate to help restore activities through negotiating travel, increasing is situational awareness and conducting online social interaction. Security and compliances have become the key and mandatory for the organisation as data is growing in exponential form. Privacy laws applies not only to government operations but also to private enterprises and commercial transactions to understand how user data is being handled, processes to customer and visitor. It exploits to keep certain data confidential and if exposed it has to be with consent of user. Crisis management is designed to protect an organization and its stakeholders from threats and/or reduce the impact felt by threats. All the stages has discussed in detail along with diagram keeping concern in a crisis has to be public safety. A failure to address public safety intensifies the damage from a crisis. Reputation and financial concerns are considered after public safety has been remedied.*

*Keywords: ICT, Crisis Management, Communication.*

### 1. Introduction

Information and communication technology is an umbrella term that includes any communication device or application consist of mobile phones, computer and network hardware, software, the internet, satellite systems. It also refers various applications such as video conferencing and distance learning.

Covid-19 showcase the role of Communication & digital technologies. The unprecedented pandemic has accelerated the digitization in most of the business especially service industry including communication industry & video conferencing systems, health care industry, education and essential goods and services. ICT has emerged as a new sector that is helping navigate this situation of Covid-19. IT services are becoming the most important

technology replacing the legacy operations for almost all the organizations. ICT will continue to evolve in terms of solutions, processes for organizations and customers. ICT's importance to economic development and business growth has been so monumental, in fact, that it's credited with ushering in what many have labelled the Fourth Industrial Revolution.

For businesses, advances within ICT have brought a slew of cost savings, opportunities and conveniences. They range from highly automated businesses processes that have cut costs, to the big data revolution where organizations are turning the vast trove of data generated by ICT into insights that drive new products and services, to ICT-enabled transactions such as internet shopping and telemedicine and social media that give customers more choices in how they shop, communicate and interact.

## 2. Research Method

The proposed study is mainly descriptive in nature. The study is based on secondary data collected from reputed articles of research journals, books, websites, e-books, magazines.

Objective:

1. It will provide recommendations towards IT infrastructure during crisis.
2. To achieve education and development goals.
3. To enhance student's knowledge and skills.
4. Use ICT to support data driven decision making.
5. To meet compliance with regards to data security
6. Understanding the stages of Crisis management

Benefits of ICT Enabled Learning

**2.1 Cost effectiveness:** Not only cost of data by telecom companies are getting cheaper day by day but smartphones has become affordable these days. New ICT tools have been introduced where you need not to travel for meetings, sale calls for resolving issues at sites. VC tools are very cheaper whereas most of the leading companies are offering free tools for their video iconference. Since data is on cloud and if any issue raised by client, engineer need to visit at site they can roll back to earlier version if any application itunes idown. Online shopping has taken a next level where intelligent tools are introduced where system learns your choices, likes and dislikes and displays the products accordingly.

**2.2 Round the clock Availability:** Tools are available on your IOTs 24 by 7. Now shopping, attending on-line courses, giving on-line test, doing business can be done any time of your convenience.

**2.3 Bridging The Culture Gap:** Wide access to ICT has bridge the gap between countries and cultures. Its has been seen people working in organisation on one project with different nationalities thus giving up their ideas, views and knowledge to each other.

**2.4 Creation of job:** The best example has been seen drastic increased in jobs in IT sector. New role and designations have coming up which has never heard before like. Data Protection officer, Chief Information Officer, Android developer, cloud Architecture etc. More and more programmers are required in IT industry because of their demand.

**2.5 Smarter Analytics and Dashboards:** Solutions today have already come up with infused with artificial intelligence (AI), machine learning (ML), and Natural Language querying for better decision making. Their results help management to take key decision in their task. Most of the health care companies are switching to their decision-making process from human to system as system has tendency to learn and provide accuracy at very rate as compare to human.

### **3. Findings**

#### **3.1 Impact of ICT in Crisis Management**

##### **What is a crisis?**

A crisis is an event that is expected to lead to unstable and dangerous situation. Crisis refers to unexpected, unplanned situation. It means that threatens the stability of business. The process by which such threats are managed is known as crisis management. A crisis is also described as a time of intense difficulty or danger. Crisis management is the process through which an organization handles an unfavourable event that negatively affects the organization and its stakeholders.

##### **3.2 Crisis Stages Detection**

The pre-crisis stage can also be described as the “warning” stage in which a member of the organization, usually the supervisor or manager discovers an impending critical situation, and warns the senior management about it.

The next stage of a crisis is the acute-crisis, in which the crisis becomes visible to people outside the organization. It is necessary to activate the crisis management team at this stage.

When the crisis moves from the acute-crisis stage and is contained, this is the final stage of the crisis, known as the post-crisis. It is at this stage that the organization tries to recoup their losses, and show the community, shareholders, and customers the repercussions of the crisis through all-clear alerts and reassurance messages.

##### **3.3 Preparation and Prevention**

When a crisis becomes known to people outside of an organization, it has reached the acute or impact phase. Internally, people are often scrambling to clarify their roles, prepare their response and contain the crisis. Damage control becomes a chief priority.

##### **3.4 Containment and damage Control**

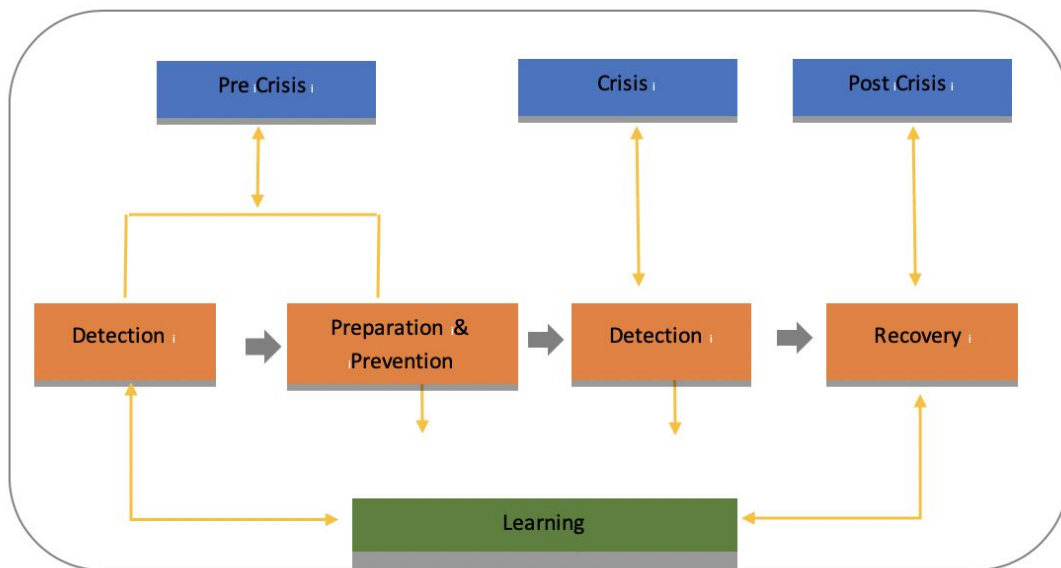
It's true that nothing can prepare you to manage a crisis quite like actually managing one – just as nothing quite prepared you for your first professional job like the first job itself. But this doesn't mean you can't be prepared – or at the least, be attuned to the rumblings that occur during the pre-crisis phase.

##### **3.5 Recovery**

If the crisis life cycle has taught business owners anything, it's that they must stay closely in touch with, and take their lead from, their customers. Winning back customer trust and goodwill usually takes a lot more than a few apologetic letters and emails, promotions and free giveaways. And the stage itself could evolve over months or even years.

##### **3.6 Learning**

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Picture 1: Crisis Stages

### 3.7 Covid-19 impact on ICT industry

ICT sector response has been encouraging. Telecommunications companies across the world are taking steps to increase access and affordability. They are offering or upgrading some of the services for free during lockdown giving customers the option of delaying payments. ICT allows government to function and many people to work from home and to remain connected to their loved ones and keeping information channels open. ICT sector is proving that it is a primary tool to enable and support global lockdown. How with the uncertainty surrounding the duration of lockdown measures need to be implemented. There is a need of rapid development in technology to support the increasing demand in bandwidth and video conferencing to ensure professional and personal communication. Bank has introduced tools for their customer where users need not to visit banks during pandemic. Recent and most important tool / feature that bank has come up with where borrowers can opt for moratorium option while clicking to just one link to avail moratorium and they need not to visit branch. Online payment network has increased drastically and people has stopped using cash fearing of virus. Fruit sellers and vegetable vendors can be seen with online payment gateway sticker carrying along with them always. Major food delivery service provider and restaurant owners has stopped 100% cash transaction while delivering at home. It has been seen companies updated their version of video conference at very pace stages.

New version can be seen on our ICT devices every now and then to suffice the requirement of users. Since millions of users has starting using screen sharing and data share security has become a key concern hence ICT software providers need to match fool proof system to stay in market.

### 3.8 ICT for disaster management

The important steps for reducing disaster impact are to analyse the risk and to identify measures that can be prevented for emergencies. ICT also helps in playing a key role in highlighting risk areas by using geographic information systems (GIS).

Health care has come up with online diagnose system first time in history. Patients are treated online through ICT tools. X-rays, MRIs are being uploaded to medical portal to examine the problem. Doctors have been seeing treating and offering advice to patients.

Whole call centres and bank end industry is now possible to work from home from new tools that has been introduced. Systems which earlier directing the calls to desk are now routing to users on their mobile sitting at home due to pandemic. Most of the IT companies

has reduce their desk to 30% or more and their employees to work from home. Post pandemic will see new evolution of service industry at their operations level. E-commerce industry has taken a boom during pandemic. People avoiding going to rush market place to avoid taking corona at home. E-commerce industry like online-groceries have seen steep hike in orders to such an extent where were not capable to deliver their slot on time. Some of the e-commerce industries have seen increased in their sales upto 60%.

The drastic change has been seen in Education sector where all the schools are operating on-line first time ever. Smart phones have become to basic requirement. Leading companies like Google, Cisco, Zoom, Blue Jeanes has introduced new features to make their tools more user friendly.

Number of on-line learning users has seen sharp increase during pandemic. Professionals opting for online courses, giving online test and exams. Upgrading their knowledge and skills while learning new courses.

Training department again have seen change in the level of operations thus minimising the legacy-based system. Companies giving links to their employees to go through online knowledge and taking test. Psychometric test has been introduced as the part of compliance policy where user has to go through before joining a new company.

### **3.8 New opportunities for Crisis Management**

Vast amounts of data are created during times of disaster including personal and medical data, the geolocation of roads, the tracking of survivors, and more. Managing this data presents challenges, but when effectively employed, it provides crucial information on which to act, prioritizes and optimizes response efforts and, via crowdsourcing, enhances situational awareness.

### **3.9 Mobile Technologies**

At the same time, mobile and social channels provide communicators with an unprecedented opportunity to track breaking public sentiment, engage in audience dialogue when appropriate and share information and situation updates more widely, speedily and authentically than ever before.

### **3.10 Social Media**

When a crisis or emergency erupts, the power of social media can be an amazing tool for businesses. A crisis can include anything from a simple website outage to negative publicity. The proliferation of social platforms has enabled those involved in crisis – consumers, eye-witnesses and public/investigating authorities – to share video content and accompanying commentary instantly.

### **3.11 Cloud Computing**

The cloud: access, availability and security

Entrusting this information to a reputable cloud provider will ensure wider availability, and will typically ensure that there is no single point of failure or shared reliance between the primary system and cloud-based document storage. This is to provide as much assurance as possible that it will be available and that, in the event of a failure of the primary system, the secondary system is still available.

#### 4. Conclusion

In Crisis Management ICT can be used for distance learning. New tools will bring new opportunities. ICT has created new employment opportunities. By using ICT there is huge increase in access to information and services.

In crisis management there is improved access to education like distance learning and online tutorials. ICT will also develop and implement web-based courses and on-line examinations. We have also learned how video conference solutions has reduce a travelling cost and since data coming on cloud hence the availability, reliability and security has become for user to access the data from anywhere, anytime and with different layers of security. With GDPR compliance is mandatory for all European companies after May, 2017 which safeguards the rights and data for individuals.

It will also identify standards for running online education. I will produce a cost-effective ICT education system.

Hence, we have seen ICT has achieved a special prominence because familiarity and facility with ICT is essential in virtually every profession in modern society, and its importance is expected to grow over the coming decades. We have also learned that wide variety of ICT tools are routinely used in schools, the workplace, and homes. Rapidly evolving learning tools such as mobile devices, online media, telecommunications and cloud technologies are becoming powerful supports for communities of learning and practice.

#### References

- [1][https://en.wikibooks.org/wiki/ICT\\_for\\_Disaster\\_Management](https://en.wikibooks.org/wiki/ICT_for_Disaster_Management)
- [2]Oliver, R. (2002). The role of ICT in higher education for the 21st century: ICT as a change agent for education. *Retrieved April, 14, 2007.*
- [3]Ghareb, M. I. (2018). Information Technology Roles in Crisis Management: A Case Study in Kurdistan Region Government. *International Journal of Computer Engineering and Information Technology*, 10(5), 71-78.
- [4]<https://www.docsity.com/en/use-of-ict-in-education/784029/>
- [5]<https://cio.economictimes.indiatimes.com/news/next-gen-technologies/covid-19-8-ways-in-which-technology-helps-pandemic-management/75139759>
- [6]Gomez, E. A., & Passerini, K. (2010). Information and Communication Technologies (ICT) Options for Local and Global Communities in Health-Related Crisis Management. *The Journal of Community Informatics*, 6(2).
- [7]<https://ict4peace.org/wp-content/uploads/2008/07/Strategic-use-of-ICTs-in-Disaster-Management.pdf>
- [8]Zarlis, M., Harahap, E. P., & Husna, L. N. (2019). Test Appraisal System Application Based on YII Framework as Media Input Student Value Final Project and Thesis Session at Higher Education. *Aptisi Transactions On Technopreneurship (ATT)*, 1(1), 73-81.
- [9]Adiyanto, A., & Febrianto, R. (2020). Authentication Of Transaction Process In E-marketplace Based On Blockchain technology. *Aptisi Transactions On Technopreneurship (ATT)*, 2(1), 68-74.
- [10]Hariguna, T., Harahap, E. P., & Salsabila, S. (2019). Implementation of Business Intelligence Using Highlights in the YII Framework based Attendance Assessment System. *Aptisi Transactions On Technopreneurship (ATT)*, 1(2), 109-116.