

Revitalization of Information Communication Technology Strategies in Education, Healthcare, and Banking After COVID-19

(Mumbai Sub-urban Region)

¹Asst. Prof. Rohini Jagadale, ²Asst. Prof. Merina Gheevarghese

Sheth L.U.J. & Sir M.V. College of Arts, Science and Commerce, Andheri(East),
Mumbai- 400069, India

ABSTRACT

Information and Communication Technology (ICT) has made a significant impact on a wide range of industries, including banking, healthcare, and education. Our study aims to demonstrate how ICT has transformed these industries and enhanced their performance after COVID-19. This study utilized the non-experimental quantitative research method, particularly the survey method, to gather data on three different sectors. ICT has greatly improved the education sector by providing new ways for students to access and interact with educational content. Online learning platforms and educational apps have made it possible for students to access educational resources from anywhere with an internet connection. With the advent of online banking and mobile banking, customers can now access their bank accounts and conduct transactions from anywhere at any time. This has greatly reduced the need for customers to visit physical bank branches, saving them time and effort. The use of ICT in healthcare has also facilitated the use of wearable devices and remote monitoring systems, which allow patients to track their health and alert healthcare professionals if there are any concerns. Overall, the impact of ICT in the banking, healthcare, and education sectors has been significant, improving the efficiency and effectiveness of these sectors and providing new opportunities for growth and development.

Keywords: Information & Communication Technology, Banking, Healthcare, Education.

1. INTRODUCTION

The world has changed since the pandemic-related crises, as we know it. Thanks to technology, that was a simple solution to this problem. ICT now dominates almost all spheres of human activity. Information and communication technology is referred to as ICT. It refers to technologies that offer telecommunication-based information access. Though it largely focuses on communication technologies, it is comparable to information technology (IT).

The term "Information and Communication Technology" (ICT) refers to a broad category of technological devices and instruments that are used to create, transfer, store, share, and exchange information. Computers, the Internet (websites, blogs, and emails), live broadcasting media (radio, television, and webcasting), recorded broadcasting media (podcasting, audio, and video players, and storage devices), and telephony (fixed or mobile, satellite, videoconferencing, etc.) are a few of the technical resources and instruments described above. Information and communication technology (ICT) has resulted in a paradigm change in people's personal and professional life. (Michael, 2008)

UNESCO states that "ICT is a scientific, technical, and engineering discipline and management approach utilized in managing information, its application, and its relationship with social, economic, and cultural concerns." The needs of society and our way of life have both undergone a creative transformation as a result of technology's quick progress. Recognizing the influence of new technologies on the job and daily life, today's teachers, students, doctors, and bankers have attempted to restructure their education programs, as well as classroom facilities, health exams, and financial transaction techniques, in order to reduce the technical gap between the present and the future. ICTs are bringing about dramatic changes in society and

affecting many facets of daily life. The effects of ICT are becoming more and more noticeable since the COVID-19 pandemic hit. The worldwide COVID-19 pandemic has not only brought attention to the significance and urgency of health, education, and money as a central issue of human progress, but it has also shown how crucial it is for all citizens to use ICT tools to preserve their well-being. (Ratheeswari*, 2018)

In the case of health, ICT, as an information and communication technology, cannot directly impact health but must have an effect on health through some mechanism, the most important of which is the information acquisition and interpretation mechanism. The Internet serves as a significant media outlet for health information. To increase overall health literacy, Internet users may learn about diseases, look for information about their characteristics, and change their habits. In addition, the pandemic allowed both patients and doctors a way to schedule visits online, enabling the doctor to monitor the patient without making direct contact. (Chunya Wu*, & Ying Cao, Yunyun Yuan, 2021)

ICT has an impact on all procedures related to modern banking. From regular tasks like processing payroll and entering orders to larger initiatives like buying a company, ICT emerges as a crucial component. Numerous research projects have been conducted in light of the significance of ICT in the banking sector. (Dr. V. Mallik & Dr. R. Geethalakshmi, 2021)

In Education, teachers attempt to interact amicably with students while taking into account the influence of new technology on education today. Effective educators may develop their students' creativity to produce effective social workers, legislators, poets, philosophers, and other members of society. ICTs give both students and teachers more flexibility in tailoring their instruction to individual requirements, and as a result, society is pressuring schools to effectively use this technological advancement. (Ratheeswari*, 2018)

After COVID-19, ICT has played a crucial role in increasing productivity and efficiency. With the use of computers and other digital tools, employees can access and share information in real time, collaborate on projects, and streamline business processes. This has led to an increase in competitiveness and profitability for many organizations. The aim of this study is to highlight the way ICT has revolutionized and created a significant impact on our daily lives, transforming the way we communicate, work, and access information.

Our study aims to achieve the following objectives:

1. To investigate the ICT strategies that influence customers' daily interactions with the bank.
2. To study the shift in users' behavior and analyze the use of ICT-enabled solutions in healthcare services after COVID-19.
3. To provide adequate information on teachers' and students' effective and timely adaptation of ICT strategies.
4. Understanding the dynamic increase or decrease in the use of ICT-enabled technologies in our daily activities after COVID-19 and identifying the factors that have compelled the change.

2. LITERATURE REVIEW

According to K. Ratheeswari(2018), Information and Communication Technology in education is a crucial instrument for future education and must be successfully incorporated into teaching and learning. It discusses various methods such as E-learning, blended learning, constructivism, group discussion, E-modules, teleconferencing, and so on. The conclusion of this paper is that teachers must effectively implement ICT to assist students in understanding each concept. To meet students' expectations, a well-designed teacher training program is required.

In the research conducted by BogdanNogalski, *et al.*, (2022), it was highlighted how ICT applications in Vietnamese banks improve the Vietnamese economy after COVID-19. This paper's method includes data samples from people, households, and businesses to respond to questionnaires via phone, mail, or personal interviews. Pearson analysis, regression analysis, and ANOVA analysis are used to test the data model. Due to the high potential for finance, technology, and managerial abilities, banks are under more and more competitive pressure. To improve banking in Vietnam, an open policy that attracts technology and service platforms is required.

Sojib bin Zaman, *et al.*, (2022), described the importance of ICT tools to assist older adults in managing their health. The method used in this paper includes a scoping review with PRISMA-ScR. Ovid, MEDLINE, Embase, Scopus, and PsycINFO are the databases used. They also used the ProQuest database, which contains papers and proceedings from computer science and technology conferences. All 31 articles demonstrated that ICT interventions improve health care for older adults with chronic diseases. The paper highlights the benefits of ICT interventions (such as mHealth and telemedicine) as well as the limitations of ICT tools. The paper's findings primarily focus on operational and technical challenges, such as a lack of willingness to learn new skills, a lack of confidence and skills in operating ICT devices, and the involvement of clinicians in motivating people to use ICT interventions. Because this study was conducted in high-income countries, the cost of ICT tools is not a critical factor. ICT interventions can be very beneficial for patients living in rural areas. The main limitation of this paper is that no external experts were consulted during the review process, but some limitations can be overcome through the design of ICT interventions.

3. RESEARCH METHODOLOGY

3.1 Data Collection: The present research is based on primary data collected via a questionnaire in the Mumbai region. The collected data were analyzed by chi-square test to draw a research conclusion.

3.2 Data Analysis and Interpretation

Table -1: Gender, Age, and Profession wise demographic pattern of individual consumer

| Demographic Category of Users | Parameters | Number of Representatives | |
|-------------------------------|----------------|---------------------------|------------|
| | | Total(192) | Percentage |
| Gender | Male | 123 | 64% |
| | Female | 69 | 36% |
| | Others | 0 | 0% |
| Age | 15 - 25 Years | 97 | 50.52% |
| | 26 - 44 Years | 57 | 29.69% |
| | 45 - 59 Years | 35 | 18.23% |
| | 60 & Above | 3 | 1.56% |
| Profession | Student | 90 | 47% |
| | Private Sector | 84 | 44% |
| | Public Sector | 8 | 4% |
| | Business | 10 | 5% |

Primary data is collected from three different questionnaires for three different sectors as Education, Healthcare, and Banking.

**Table - 2: Which teaching & learning method you preferred AFTER COVID-19?
 Total number of samples N for Education = 77**

| Mode of Education | After COVID-19 | Percentage |
|--|----------------|------------|
| Without ICT(traditional method using chalk & duster) | 22 | 28.57% |
| With ICT | 55 | 71.42% |

**Table - 3: Which is your choice of consultancy AFTER COVID-19?
 Total number of samples N for Healthcare = 56**

| Medium of Consultancy | After COVID-19 | Percentage |
|-----------------------|----------------|------------|
| Direct consultation | 44 | 78.57% |
| Online consultation | 12 | 21.43% |

**Table 4: Which transaction method you preferred AFTER COVID-19?
 Total number of samples N for Banking = 59**

| Mode of Banking | After COVID-19 | Percentage |
|-----------------|----------------|------------|
| Offline Banking | 2 | 3.39% |
| Online Banking | 57 | 96.61% |

4 RESULTS AND DISCUSSION

4.1 Hypothesis:

H₀ - There is no relationship between the revitalization of ICT resources and their availability in the enhancement of education, banking, and healthcare sectors.

H₁ - There is a considerable association between the revitalization of ICT resources and their availability in the enhancement of education, banking, and healthcare sectors.

4.2 Chi-square Method: is used to find out the relation between the uses of ICT resources and their availability in the enhancement of education, banking, and healthcare sectors.

Formula :

Chi-square(χ^2) Test in r x c Contingency Table $= \sum_i \sum_j \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$; with $E_{ij} = \frac{a_i b_j}{N}$

Where: O = Observed values, E = Expected values

Table - 5: Observed Data

| Mode/Domain | Education | Healthcare | Banking | Total |
|--------------|-----------|------------|-----------|------------|
| Offline | 22 | 44 | 2 | 68 |
| Online | 55 | 12 | 57 | 124 |
| Total | 77 | 56 | 59 | 192 |

Formula for Expected value = (row total * column total)

Table - 6: Expected Data

| Mode/Domain | Education | Healthcare | Banking | Total |
|--------------|-----------|------------|-----------|------------|
| Offline | 27.27 | 19.83 | 20.9 | 68 |
| Online | 49.73 | 36.17 | 38.1 | 124 |
| Total | 77 | 56 | 59 | 192 |

Table -7: Calculation of Chi square Variate χ^2

| O_{ij} | E_{ij} | $O_{ij} - E_{ij}$ | $(O_{ij} - E_{ij})^2$ | $\frac{(O_{ij} - E_{ij})^2}{E_{ij}}$ |
|--------------|----------|-------------------|-----------------------|--------------------------------------|
| 2 | 27.27 | -5.27 | 27.7729 | 1.018441511 |
| 44 | 19.83 | 24.17 | 584.1889 | 29.45985376 |
| 2 | 20.9 | -18.9 | 357.21 | 17.09138756 |
| 55 | 49.73 | 5.27 | 27.7729 | 0.5584737583 |
| 12 | 36.17 | -24.17 | 584.1889 | 16.15119989 |
| 57 | 38.1 | 18.9 | 357.21 | 9.375590551 |
| Total | | | | 73.65494703 |

To test the Hypothesis at $\alpha = 0.05$ level of significance -
 From the Table- 7: Calculated $\chi^2 = 73.65494703$

Decision criterion: $r = 2, c = 3$

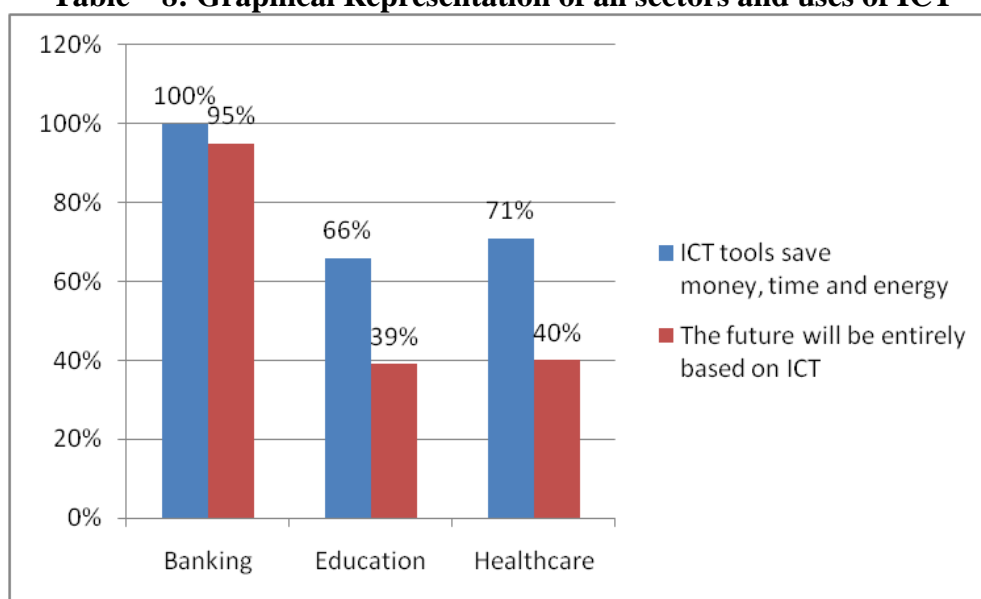
Reject H_0 if: calculated $\chi^2 > \chi^2_{(2-1)(3-1), 0.05} = \chi^2_{2, 0.05} = 5.99$

Do not reject H_0 if $\chi^2 \leq 5.99$

5 FINDINGS

Calculated $\chi^2 >$ Critical Value (χ^2) i.e. $73.65494703 > 5.99$, therefore rejecting the null hypothesis at $\alpha = 0.05$ level of significance that is accepting the alternative hypothesis at $\alpha = 0.05$ level of significance; it is evidence that there is a considerable association between the revitalization of ICT resources and their availability in the enhancement of Education, Banking, and Healthcare sectors.

Table – 8: Graphical Representation of all sectors and uses of ICT



6 CONCLUSIONS

Our current research revealed that there is a considerable association between the revitalization of ICT resources and their availability in the enhancement of the Education, Banking, and Healthcare sectors. Customers can save time, money, and energy by using ICT more frequently in banking. According to the report, 95% of the public is interested in internet banking. The greater knowledge of concepts and subjects that result from increased ICT use in Education increases students' motivation in learning. Similar to how more ICT is being used in healthcare, it helps people track their health and can even be helpful in averting some significant health conditions.

Limitations : The majority of ICT tools rely on electricity and a network. At the same time, they require proper guidance for using ICT tools, so it may not produce the best results in rural areas where electricity, network, and transportation are major issues.

References

1. Dr. V. Mallika, Dr. R.Geethalakshmi, 2021 Banking Sector and Information Technology- A Two dimension study in Coimbatore City International Journal of Creative Research Thoughts 9 (1), 1548-1561
2. Matthew, K.L. and Ibikunle, F., 2012. The Impacts of ICTs on Banks A Case study of the Nigerian Banking Industry. (IJACSA) International Journal of Advanced Computer Science and Applications, 3(9), pp.145-149.
3. Naimi-Sadigh, A., Asgari, T. and Rabiei, M., 2022. Digital transformation in the value chain disruption of banking services. Journal of the Knowledge Economy, 13(2), pp.1212-1242.
4. Nogalski, B. and Hiep, P.M., 2022. ICT application in commercial banks in the post-Covid-19 economy in Vietnam.
5. Ratheeswari, K., 2018. Information communication technology in education. Journal of Applied and Advanced research, 3(1), pp.45-47.
6. Rowe, M., 2008. Information and communication technology in health: a review of the literature.
7. Wu, C., Cao, Y. and Yuan, Y., 2021. ICT Adoption, Health Literacy and Health Human Capital of Rural Residents—Based on the Health Survey Data of 4829 Farmers in Jiangxi Province. CONVERTER, 2021(8), pp.224-237.