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The role of information and communications technology (ICT) in the healthcare industry: A case study

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ABSTRACT

Global Pandemic has greatly affected the Healthcare Industry around the globe and part of that is they had encountered many inconveniences and problems in terms of processes like delays cause by the pandemic. The Role of the ICT will be a big factor in solving this common problems being encountered like the Development and Implementation of the Augmented / Virtual Reality for the accurate Simulation during the situational medical emergency and respond, Cloud Computing and Web Applications will also play a vital role in the said situation because this can store records on cloud as a repository and later can be accessed by different web applications that can run on a mobile platform, desktop, or laptop. The Researcher will conduct a thorough study in the different roles of ICT as mentioned above in this time of a pandemic. Finally, it is recommended that the healthcare sector must adapt ICT digital platforms in their work area and be familiarized with the different ICT enabled platforms in the healthcare sector. This is to make their work easier and more accurate. It also follows the protocols being set by the IATF which serve as the standard procedure to maintain the safety and welfare of the patients with or without covid-19.

KEYWORDS: ICT Sector, Health Care Sector, Cloud Computing, Web Applications.

1. INTRODUCTION

The global pandemic has greatly affected the healthcare industry around the globe, and part of that is that they have encountered many inconveniences and problems in terms of processes like delays caused by the pandemic. ICT's role is a big factor in solving these common problems being encountered like the development and implementation of Augmented and Virtual Reality for accurate simulation during situational medical emergencies and responding. Cloud Computing and Web Applications also play a vital role in the said situation because it can store records on the cloud as a repository and later be accessed by different web applications that can run on a mobile platform, desktop, or laptop.

The healthcare sector is a gigantic sector that has been affected by the COVID-19 pandemic in a way that both in-house and outpatient patients had problems with their routine or scheduled check-ups and those emergency cases because of the tremendous delays and the protocols being set by the agencies' concern. And since healthcare is already a trillion dollar industry, when COVID-19 manifested and hit globally, it significantly impact the economy worldwide. For the past two years, ICT took part in collaboration with healthcare worldwide through the use of telecommunications technology to deliver care and health services remotely.

2. OBJECTIVES OF THE STUDY

- To find out whether BB can give better returns.
- To find out whether ROC can give better returns.
- To find out whether the combination of BB and ROC can give better returns.

3. REVIEW OF LITERATURE

The role of ICT applications in healthcare enables the need for an enabling policy, and the importance of an ICT policy in the healthcare sector can improve efficiency (Baridam & Govender, 2019). While in Nigeria, the use of ICT in the healthcare sector has transformed care delivery and had a significant impact on the country's healthcare service delivery quality (Gambo & Soriyan, 2017).

In other studies, using ICT can be the starting point for the development of trusted healthcare services, namely, patient compliance, reliability of information in healthcare, and user-friendly access control in hospitals or health centers (Vavilis et al., 2012). Other researchers started jotting down simple steps to make a sizable difference by implementing ICT techniques in the healthcare industry to make hospitals go green (Hussain, 2021).
Finally, as individuals' health-related information data stored via wearable devices and smartphones will give value in the healthcare sector and are expected to offer advantages such as greater convenience and low cost, (Kang, 2016).

4. RESEARCH METHODOLOGY

The researchers used case study research, which is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context (Crowe et al., 2011). The data collection processing will be done online using Google Forms to select 10 practicing healthcare professionals within the area of Zambales. The instrument was a researcher-made questionnaire, it was validated and tested by 10 practicing healthcare professionals for validity. The data was evaluated using Google form results as a diagrammatic presentation, which is a technique of presenting numeric data through pictograms, cartograms, bar diagrams, and pie diagrams (BYJUS, 2021).

5. DATA ANALYSIS AND DISCUSSIONS

Figure 1: Role of ICT in the health care sector

Figure 1 shows that 9 or 66.7% says that the improvement of the quality and information sharing among Health Workers using ICT are the most beneficial while 1 or 33.3% says that it can encourage a new form of relationship between patients and health providers. Using ICT can therefore make things easier for the health workers to work specially in record keeping and make diagnosis more accurate by using ICT. Other countries where ICT played major roles in establishing the rule, and health insurers have paid most of the costs, (Alqahtani, 2016).

Figure 2: The benefits of ICT in the health sector

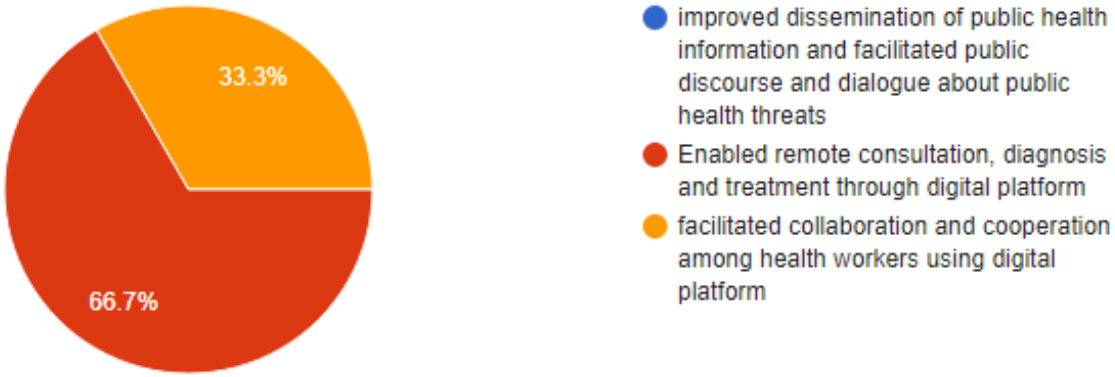

Figure 2: shows that 9 or 66.7% says that enabling remote consultation, diagnosis, and treatment through digital platform are the most efficient way and accessible way while 1 or 33.3 % says that facilitating collaboration and cooperation among health workers using the digital platform is also efficient. It was demonstrated that health professionals strongly believe in the importance of ICT in the healthcare Sector, (Verbeke & Karara, n.d.)

6. CONCLUSION

The usage of Chatbot has simplified the life of the providers and the user as both the parties are getting benefit out of it.In this study, the role of ICT plays a vital role in the healthcare sector because enabling remote consultation, diagnosis, and treatment through digital platforms is the most efficient and accessible way, and also the improvement of the quality and information sharing among healthcare workers using ICT are both beneficial.

7. RECOMMENDATIONS

Finally, it is recommended that the healthcare sector must adapt ICT digital platforms in their work area and be familiarized with the different ICT enabled platforms in the healthcare sector. This is to make their work easier and more accurate. It also follows the protocols being set by the IATF which serve as the standard procedure to maintain the safety and welfare of the patients with or without covid-19.

8. BIBLIOGRAPHY

- Anderson, G. F., Frogner, B. K., Johns, R. A., & Reinhardt, U. E. (2006). Health Care Spending And Use Of Information Technology In OECD Countries. *Health Affairs*, *25*(3), 819–831. https://doi.org/10.1377/hlthaff.25.3.819
- Baridam, B. B., & Govender, I. (2019). ICT Influence on the healthcare sector in the Niger Delta region: ICT policy at an organizational level. *Development Studies Research*, *6*(1), 142–151. https://doi.org/10.1080/21665095.2019.1680302
- BYJUS (2021). *General Data Protection Regulation(GDPR) Guidelines BYJU'S*. BYJUS. Retrieved June 22, 2022, from https://byjus.com/commerce/diagrammatic-presentation-of-data/

- Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology*, *11*(1). https://doi.org/10.1186/1471-2288-11-100
- Gambo, I. P., & Soriyan, A. H. (2017). ICT Implementation in the Nigerian Healthcare System. *IT Professional*, *19*(2), 12–15. https://doi.org/10.1109/mitp.2017.21
- Gawande, A., Kumar, A., & Darekar, S. (2021). Studies on e-commerce business model innovation. In P. M. B. Saleem, S. Maganti, P. Ganguly, V. R. R. Gandreti & M. Neelam, *Role of Human Resource and Customer Relationship Management in the Current Scenario* (1st ed., pp. 464-476). AGAR Publications. DOI: https://doi.org/10.5281/zenodo.6625036
- Hussain, M. N. (2021). Greener healthcare using ICT based BPR. *IEEE Xplore*. https://ieeexplore.ieee.org/abstract/document/6477975
- Kang, S. Y. (2016). The ICT Technology for Geriatric Diseases Healthcare. *Lecture Notes in Electrical Engineering*, 1495–1500. https://doi.org/10.1007/978-981-10-0557-2_144
- Kumar, A., & Brar, V. (2018). Digital marketing and role of blockchain in digital marketing industry. *International Journal of All Research Education and Scientific Methods*, *6*(12), 23-26. DOI: https://doi.org/10.5281/zenodo.6676929
- Vavilis, S., Petković, M., & Zannone, N. (2012). Impact of ICT on Home Healthcare. *ICT Critical Infrastructures and Society*, 111–122. https://doi.org/10.1007/978-3-642-33332-3_11
- Verbeke, F., & Karara, G. (n.d.). *Evaluating the impact of ICT-tools on health care delivery in sub-Saharan hospitals*. National Library of Medicine. Retrieved June 30, 2022, from https://pubmed.ncbi.nlm.nih.gov/23920609/
- Yesseleva-Pionka, M. (2021, April 22). The Crucial Elements of the Financial Decision-Making Process. Retrieved from https://icsb.org/: https://icsb.org/author/icsbioadmin/page/7/
- Zhonghua Zhang, 1. X. (2021, June 25). Recent Advances in Blockchain and Artificial Intelligence Integration: Feasibility Analysis, Research Issues, Applications, Challenges, and Future Work. Retrieved from https://www.hindawi.com/: https://www.hindawi.com/journals/scn/2021/9991535/