Integration of Knowledge Management in Digital Healthcare Industries

I

Mehrnaz Khalaj Hedayati
Georgia College and State University, USA

Dara G. Schniederjans
University of Rhode Island, USA

INTRODUCTION

In service industries, organizational assets are in the staff experience and knowledge, rather than in their factories or equipment (Tsui et al., 2009). According to Tsui et al. (2009), offered services may vary in nature to accommodate different customer needs. These days, service firms manage and use knowledge, rather than raw materials, in order to provide customized services (Agrifoglio et al., 2017). The collaboration and sharing of knowledge and information between various actors throughout the network of service firms provide customer value and improve processes. Using emergent digital capabilities can provide higher levels of customization to consumers and higher levels of customer satisfaction as a result (Agrifoglio et al., 2017). Managing the pandemic and the increase in COVID-19 cases has presented major challenges to the healthcare system, which has prompted a more aggressive effort to develop and deploy digital healthcare services with the aim of ensuring value-based outcomes (Sermontyte-Baniule et al., 2022). In addition, learning from the past, knowledge management can be applied in the context of COVID-19 crisis which is marked by great uncertainty. Since the advent of the Fourth Industrial Revolution and emerging new digital technologies, we are experiencing unprecedented changes in our external environment, including speed and scale (Tomé & Hatch, 2022). In response to the pandemic, healthcare systems have been reimagined according to the prevention principle, which is characterized by the use of advanced technology, which has the potential to reshape markets and public policy regarding healthcare globally (Lauri, 2022). As a result, Countries with developed healthcare systems have adopted digital health technology to improve the practice of healthcare professionals, and to provide a positive experience to consumers and the community. On the other hand, accepting, embracing, and uptaking digital technologies is going to be challenging for healthcare professionals due to concerns about managing a large amount of data while maintaining the privacy and security of personal information. The main purpose of embracing digital technologies in healthcare is to transform and create value for the healthcare system and hospital facilities, empower patients to access their health records, communicate and control their personal health records and make better health and well-being decisions (Medhekar & Nguyen, 2022; McCarthy, 2022).

Emerging digital technologies by their distinctive characteristics are profoundly changing how the service industry and in particular healthcare processes are managed. It provides value by promoting and enhancing cooperation among several healthcare actors. For example, although record-keeping and updating through centralized programs (e.g., electronic medical records) has provided many advantages for the healthcare industry such as convenient and continuous documentation of care records, improved decision making and coordination, and reduced redundant services, the system still needs

advancements to overcome the current challenges for patients such as privacy issues and ethical and legal consequences as a result. Privacy concerns in healthcare services and palliative and hospice care may result in reducing patients' trust regarding properly protecting their care and health records and maintaining confidentiality. This may also undermine public trust in the healthcare system (Azogu et al., 2019). Considering the increased need to store private data in the healthcare industry in an increasingly digitalized environment, the need for high-level trust is more vital than ever. Fortunately, blockchain technology as a new emergent digital technology is considered to be one mechanism for enhancing trust throughout the healthcare network.

In the literature about the digitization eco-system, what distinguishes the new digital era is the trend toward decentralized information sharing and automation. A blockchain is a decentralized and transparent database for recording transactional data. It cannot be changed, and for any correction or change, a new block must be added to the network. The history of changes is therefore preserved in the system, so it is referred to as an incorruptible ledger for a secure and transparent form of sharing transactional data (Tapscott and Tapscott, 2016; Underwood, 2016). One specific application of blockchain in healthcare is allowing patients to have agency over who can access their healthcare data (Angraal et al., 2017, P. 2). Blockchain provides benefits for value creation through trust in decision-making for businesses.

According to Khalajhedayati et al. (2020), hospice professionals suggest that digitization may impede the creation of knowledge by standardizing electronic documents without allowing personalized, qualitative, and/or visual evidence (i.e., body language). They believe for hospice as a service industry, face-to-face communications are very important, and describing narratives can come through face-to-face communications. Particularly in urgent and vital situations, the relationship between patients and team members is essential. They described how digital initiatives may impede this relationship without having visual communication. However, there are potentials for visual collaboration through technologies such as Cisco WebEx telepresence services, video robots, and telehealth. Digitization, as defined in this proposal, is facilitated by digital technologies such as Internet of Things (IoT), Augmented Reality (AR), Artificial Intelligence (AI), 3D printing, blockchain technology, etc., which are used to provide a well-connected network and to improve digital communications. An Internet of Things (IoT) society involves people, devices, and systems interconnected via the internet and integrated communication. In the definition of IoT, "things" encompass people, devices, computers, and digitalized systems that link the digital and physical worlds (Bolton et al., 2016). People play a pivotal role in the ecosystem of "things" within an IoT-connected network. Incorporating human intelligence into the IoT eco-system, combined with AI capabilities, can provide the opportunity for computerized decision-makers to make decisions on behalf of human players (Bolton et al., 2016). The Internet of Things provides an integrated, well-connected system for connecting people and things anywhere at any time (Wang et al., 2015). An IoT concept can be generalized to include ideas and information exchanged from a service provider to a service receiver within a digital environment. People are a key component of communications systems that foster and drive the dissemination of knowledge (Bolton et al., 2016). Having IoT connectivity can benefit hospice services in several ways, including monitoring patient health and providing access to emergency alarm devices to family and patients.

Furthermore, healthcare services and processes highly rely on information and knowledge as well (Lenz et al., 2012; Laurenza et al., 2018). Knowledge management and digital technology management are crucial factors in the healthcare industry. (Laurenza et al., 2018). Additionally, healthcare and caregiver organizations face challenges more than any other, including resource restrictions and an expanding regulatory framework. Caregiver companies such as hospices strive to provide higher quality service and reduce costs to maximize value. Hospice care involves treating medical conditions requiring interdisci-

Related Content

Power Consumption Prediction of IoT Application Protocols Based on Linear Regression
Sidna Jeddou, Amine Baina, Najid Abdallahand Hassan El Alami (2021). *International Journal of Artificial Intelligence and Machine Learning (pp. 1-16).*
www.irma-international.org/article/power-consumption-prediction-of-iot-application-protocols-based-on-linear-regression/287585

Wind Speed Prediction at Multiple Heights for Offshore Wind Turbines Using Deep Learning
Dipankar Dutta (2025). *Advanced Interdisciplinary Applications of Deep Learning for Data Science (pp. 111-142).*
www.irma-international.org/chapter/wind-speed-prediction-at-multiple-heights-for-offshore-wind-turbines-using-deep-learning/366146

From Chart to Chart: Analyzing Lyric Content in Music Streaming Charts for Predicting Stock Prices Using LSTM
Chong Guan, Yinghui Yu, Jing Renand Ding Ding (2025). *Machine Learning and Modeling Techniques in Financial Data Science (pp. 295-320).*
www.irma-international.org/chapter/from-chart-to-chart/368548

A Survey on Arabic Handwritten Script Recognition Systems
Soumia Djaghbellou, Abderraouf Bouziane, Abdelouahab Attiaand Zahid Akhtar (2021). *International Journal of Artificial Intelligence and Machine Learning (pp. 1-17).*
www.irma-international.org/article/a-survey-on-arabic-handwritten-script-recognition-systems/279276

Segmentation-Free Word Spotting in Handwritten Documents Using Scale Space Co-HoG Feature Descriptors
Prabhakar C. J. (2020). *Applications of Advanced Machine Intelligence in Computer Vision and Object Recognition: Emerging Research and Opportunities (pp. 219-247).*
www.irma-international.org/chapter/segmentation-free-word-spotting-in-handwritten-documents-using-scale-space-co-hog-feature-descriptors/252629