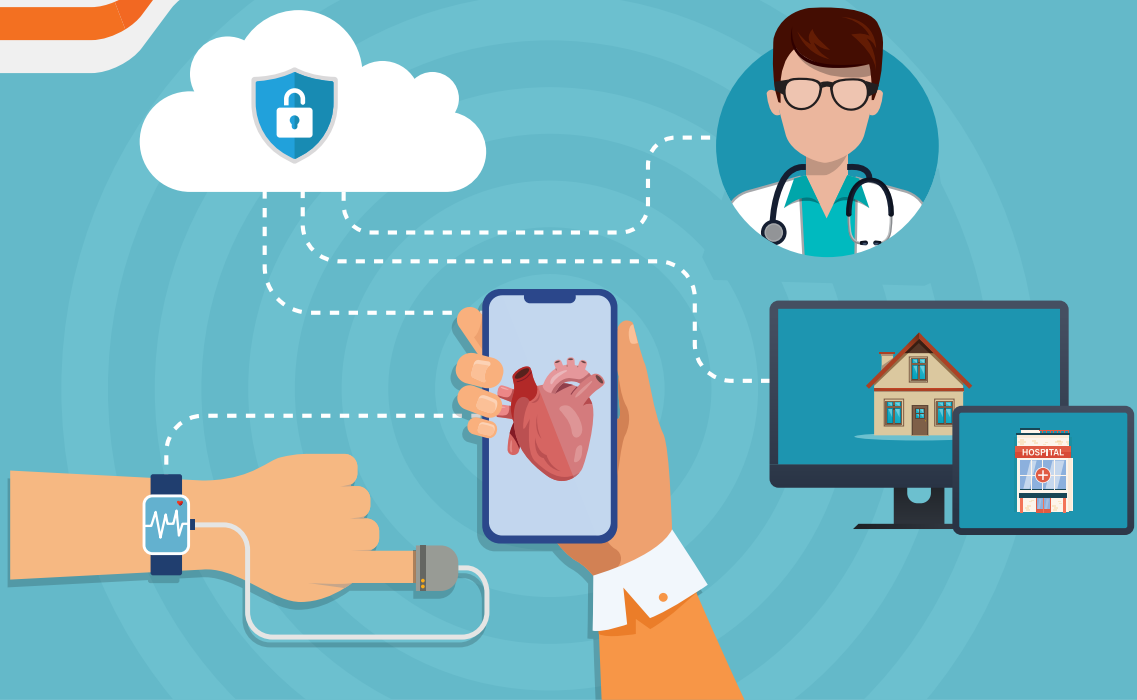


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Digital Transformation and Emerging Technologies in Consumer Healthcare



The advent of digital transformation has brought about significant benefits to various industries such as travel, entertainment, banking, and now, the consumer health sector. The introduction of digital healthcare solutions has been instrumental in reducing the administrative workload and other tedious tasks that healthcare professionals are required to perform. These solutions have been designed to streamline processes and improve the overall efficiency of the healthcare system.

The importance of digital transformation in healthcare and its impact on customer relationships is acknowledged by health systems. It is not just about investing in technology, but also about transforming the organizational culture and engaging employees. This is a significant investment that requires participation from all levels of the enterprise. To progress digitally, many top health systems are adopting six fundamental principles.

1. Develop an effective digital leadership and governance framework that is in line with the overall business strategy.
2. Foster a digital culture within the organization by ensuring that leadership promotes support, communication, and transparency at all levels.
3. Prepare for the future by focusing on acquiring and retaining the right quantity and quality of talent.
4. Recognize the importance of cybersecurity and integrate it into every stage of digital implementation to enhance risk management.
5. Embrace flexibility and scalability in the implementation process to effectively manage the constant evolution of technologies.
6. Lastly, establish measurable, accountable, and scalable key performance indicators (KPIs) to assess the success of digital initiatives, with multiple milestones along the way.

The effects of digital transformation will have a profound influence on every facet of the healthcare industry, facilitating more convenient and accessible healthcare services, enhancing the overall quality of care, and reducing its financial burden. Patients will be able to connect effortlessly and promptly with their preferred healthcare providers, fostering stronger relationships between consumers and healthcare professionals. Moreover, digital transformation will also contribute to the optimization of operational and financial processes, enabling health systems to effectively implement their long-term strategies and goals.

Customer Engagement and Customer Centric

Customer expectations and demands are presenting both challenges and opportunities for employees in various departments such as sales, services, support, and product functions. In order to effectively navigate this changing landscape, companies must continuously assess how digital disruption is impacting customer behavior, reevaluate their customer engagement model to incorporate disruptive technologies, and redefine employees' roles to establish a customer success (CS) capability that delivers maximum value to customers and enhances their overall experience.

The objective of any digital transformation should be to establish a digital business model that fosters connected and seamless customer-centric experiences across all business units. This can be accomplished by implementing a customer journey strategy and leveraging real-time technology alongside existing systems. This additional layer acts as a virtual adhesive, facilitating cross-functional connectivity that prioritizes the customer rather than the channel. By adopting this customer-centric approach, businesses can enhance their brand's relationship with customers and cultivate greater customer loyalty.

Achieve digital transformation with integrated technology and advanced journey design:

1. Consolidate – Build customer centric journeys
2. Automate – Reduce human dependency
3. Enable – Enable all channels
4. Enhance – Add Intelligence
5. Enrich – Add value

Elements to achieve customer engagement

New engagement models and technological advancements have the potential to safeguard the future of consumer health businesses, a challenging objective that is nevertheless attainable as we collectively strive to establish a more sustainable and healthier world.

To achieve genuine customer engagement transformation, it is crucial to take into account various factors. Firstly, a well-defined vision and strategy must be in place, along with appropriate organizational roles and governance. Secondly, customer insights should be utilized to create personalized content and experiences through integrated channels. It is important to note that not all models will be entirely digital, as customers generally prefer some level of face-to-face interaction. Lastly, technology can facilitate digital transformation, but it is essential to implement thoughtful change management programs.

An evolutionary approach is essential for achieving excellence, even though it may not yield immediate return on investment. Nonetheless, the enhanced customer interactions that ensue from this approach will eventually lead to tangible financial advantages.

Value Proposition

Digital transformation involves the restructuring of the value proposition through the enhancement, extension, or redefinition of the customer experience. The utilization of digital infrastructures enables businesses to dynamically construct and revise value propositions in order to meet evolving customer demands.

Ultimately, the goal of digital transformation is to enhance customer or shareholder value by leveraging digital technology to improve existing processes and systems, or by fundamentally altering the company's operations.

Digital transformation has the potential to enhance your value proposition by:

- Fulfilling the increasing demands of customers
- Enhancing internal productivity
- Improving overall cost-effectiveness
- Challenge the norm (which can be beneficial in certain cases)

Key Points for Successful Transformation

Healthcare companies, including device manufacturers, payors, and providers, have traditionally relied on technology to support their research and development efforts, manage patient information, handle payments and services, and introduce new care options. However, the advent of digitalization has brought about significant changes in the industry. Consumers now have higher expectations for healthcare services, influenced by their interactions with digital-native companies. In response, healthcare companies are striving to incorporate the latest technologies into their existing business models and IT systems to enhance their services.

Increasingly, healthcare companies worldwide are recognizing that digital technologies should be treated as strategic assets rather than mere utilities. Some are attempting to bridge the gap between legacy IT systems and digital technologies through complex transformations. For example, one major healthcare technology company is exploring ways to maintain its current IT architecture while leveraging analytics to extract valuable business insights from the data it collects. Similarly, a large pharmaceutical company is investigating the use of cloud platforms to reduce data storage and processing costs and accelerate its research and development efforts.

However, compared to industries such as travel, retail, and telecommunications, most pharmaceutical and medical technology companies are lagging behind in their digital transformation efforts. These efforts often face similar challenges encountered in other sectors, such as a limited understanding of how the implementation of new technologies can create business value across complex product and service lines, a shortage of digital talent, and a lack of emphasis on digital topics from senior leadership.

Importance of Cybersecurity in Healthcare Organizations' Digital Transformation

The rapid digitalization of healthcare organizations has brought about significant challenges, particularly in the area of cybersecurity. With the increasing amount of personal-sensitive data being stored and shared, threats to cybersecurity have become one of the biggest concerns for health systems. This has been further exacerbated by the onset of the pandemic, which has made healthcare facilities prime targets for ransomware attacks.

As healthcare organizations continue to prioritize the digital transformation of their services, the privacy and security of patient information must remain a top priority. In fact, cybersecurity has been identified as one of the top three investment priorities for health systems today and in the next three years. To ensure greater transparency and ownership, cybersecurity units are working closely with digital transformation teams.

Without a matched focus on cybersecurity, healthcare organizations open themselves up to additional risks as they increase their digital activities. Therefore, it is paramount that healthcare organizations prioritize cybersecurity in their digital transformation efforts to protect patient information and maintain the trust of their consumers.

Importance of Big Data in Healthcare

The significance of big data in the healthcare industry cannot be overstated. Big data collects and analyzes information from various sources, including social media, online transactions, ecommerce, and financial transactions, to identify patterns and trends that can be used to improve healthcare outcomes.

Big data has the potential to offer numerous significant advantages to the healthcare sector. These advantages encompass various aspects such as improved patient outcomes, enhanced operational efficiency, and better decision-making processes. By harnessing the power of big data, healthcare organizations can gain valuable insights into patient trends, treatment effectiveness, and disease patterns. This wealth of information can enable healthcare professionals to make more informed decisions, tailor treatments to individual patients, and ultimately improve the overall quality of care provided. Additionally, big data can also contribute to the identification of potential cost-saving opportunities and the optimization of resource allocation within healthcare systems. Overall, the utilization of big data in the healthcare industry holds immense potential for transforming the way healthcare is delivered and experienced.



Lowering the incidence of medication errors - by analyzing patient records, software can detect any discrepancies between a patient's health condition and prescribed medications, notifying healthcare professionals and patients of potential risks associated with medication errors.

Enhancing preventive care - a significant number of individuals who frequently visit emergency rooms, often referred to as "frequent flyers," can account for up to 28% of visits. Through the analysis of big data, these individuals can be identified, and proactive plans can be developed to prevent their recurring visits.

Improving staffing accuracy - utilizing predictive analysis from big data, hospitals and clinics can forecast future admission rates, enabling them to allocate appropriate staff resources. This not only saves costs but also reduces wait times in emergency rooms, particularly during periods of understaffing.

The Growth of Wearable Medical Devices

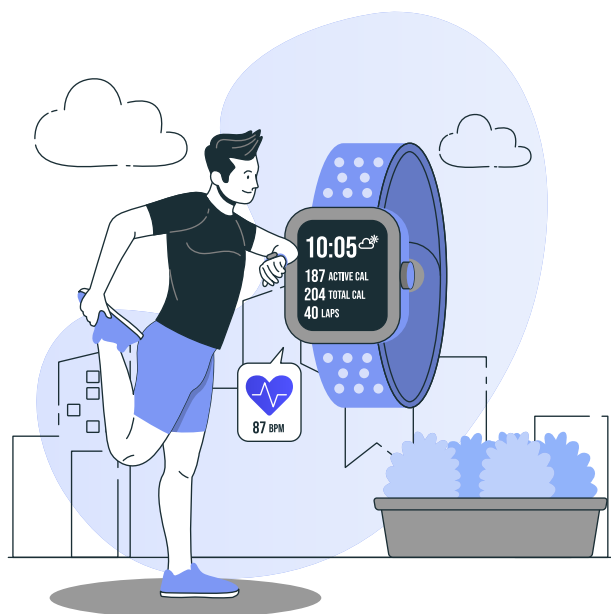
Companies in the healthcare industry are now collecting their own health data from medical devices, including wearable technology, as part of the ongoing digital transformation.

Previously, patients were content with annual physical check-ups and only consulting their doctors when necessary. However, in the digital age, patients are increasingly focused on prevention and maintenance, and are seeking more frequent updates on their health status.

Consequently, healthcare companies are taking a proactive approach by investing in wearable technology devices that can continuously monitor high-risk patients and assess the likelihood of a major health event. A recent report predicts that the wearable medical device market will exceed \$27 billion by 2023, a significant increase from the \$8 billion recorded in 2017.

Some commonly encountered devices encompass:

1. Heart rate sensors
2. Exercise trackers
3. Sweat meters, employed by diabetics to monitor blood sugar levels.
4. Oximeters, which monitor the oxygen levels in the blood and are frequently utilized by patients with respiratory ailments like COPD or asthma.



Healthcare companies that invest in these products can benefit in various ways. Firstly, these medical devices personalize the healthcare experience by giving patients a sense of ownership in their journey towards better health. This sense of ownership can greatly enhance patient engagement and motivation.

Secondly, wearable devices provide valuable information that can be used by insurers to accurately assess a patient's risk for illness. This enables insurers to target insurance pricing more effectively, resulting in fairer premiums for patients.

Additionally, patients who actively take preventive measures to improve their health can enjoy insurance incentives such as lower premiums. This not only encourages individuals to prioritize their well-being but also helps healthcare companies promote a culture of proactive healthcare.

Moreover, certain medical devices, like fitness watches, offer gamification opportunities. These devices allow users to set competitive goals and track their progress in areas such as exercise, diet, and nutrition. This gamification aspect can further motivate individuals to adopt healthier habits and achieve their wellness objectives.

Furthermore, the implementation of wearable technology in healthcare can lead to significant cost savings for healthcare companies. A study has shown that the use of health apps and wearables for preventative care could potentially save the U.S. healthcare system nearly \$7 billion annually. This financial benefit makes investing in these products a wise decision for healthcare companies.

In conclusion, healthcare companies that embrace these products can enjoy benefits such as personalized healthcare experiences, targeted insurance pricing, insurance incentives for preventive measures, gamification opportunities, and cost savings.

Predictive Healthcare

The utilization of big data in healthcare can aid in predicting admission rates and staffing needs, as well as identifying potential future health concerns. Additionally, healthcare companies can leverage data from various sources to provide patients with personalized recommendations for healthy living.

By analyzing keyword activity on social media and search engines, analysts can develop predictive models to anticipate and prepare for future health crises. Furthermore, predictive analysis can assist businesses in determining when to hire temporary staff during times of increased illness.

In conclusion, the digital transformation in the consumer health industry has brought about significant changes and advancements.
