The Online Healthcare Community

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The Online Healthcare Community: Pioneering Inclusive Healthcare Support in Developing Countries

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INVESTOR IN PEOPLE

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List of Abbreviations

BYOD	Bring Your Own Device
CFA	Confirmatory Factor Analysis
CRM	Customer Relationship Manager
DBMS	Database Management System
DSS	Decision Support System
EFA	Exploratory Factor Analysis
EHR	Electronic Health Record
EMR	Electronic Medical Record
HCI	Human–Computer Interaction
ICT	Information and Communication Technology
IoT	Internet of Things
ITES	Information Technology Enabled Services
MANOVA	Multivariate Analysis of Variance
OHC	Online Healthcare Community
OSN	Online Social Networks'
RDBMS	Relational Database Management System
ROI	Return on Investment
SEM	Structural Equation Modelling
TAM	Technology Acceptance Model
USD	United States Dollar
VCoP	Virtual Community of Practice
WHO	World Health Organization

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Foreword One

The pandemic heralded some unprecedented technological advancements, and the way we access healthcare is undergoing a profound transformation. Virtual healthcare delivery offers a great opportunity to deliver services to hitherto underserved geographies and communities. The detailed research encapsulated in this book will serve as a guiding light for anyone looking to understand the modalities of online healthcare and leveraging it to deliver accessible, equitable and compassionate healthcare services. Congratulations to the authors for choosing this emerging topic and proposing a future proof delivery framework. This book builds on the current body of knowledge as well as helps practitioners drive effective strategies towards facilitating augmentation of the existing service experience.

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Foreword Two

In a world increasingly driven by technology, the intersection of healthcare and the digital landscape is inevitable yet urgently needed. Dr Sanjay Mohapatra's seminal work on Online Healthcare Communities (OHCs) is not merely timely; it calls for a paradigm shift in healthcare delivery systems, especially against the recent global pandemic. While many of us have explored or been part of online communities that focus on varied interests, this book's compelling narrative and research take us beyond passive participation into an active, empowering engagement in our health and well-being.

OHCs are platforms for consultation and information sharing and ecosystems for collaborative problem-solving and decision-making. From discussing symptoms and treatments to addressing the complexities of healthcare in a country as vast and diverse as India, this book delves into the intricate facets that make OHCs a revolutionary approach in modern healthcare. This book goes beyond facts and features, weaving a comprehensive technological, ethical and societal fabric. For a nation like India, with its burgeoning technology infrastructure and diverse healthcare needs, embracing the OHC model can be transformative.

As someone committed to harnessing technology for societal betterment, this book is invaluable for healthcare providers, policymakers and technologists. It serves as a roadmap, an analytical tool and a manifesto for reimagining healthcare in the 21st century. Dr Mohapatra has achieved a rare feat: bringing academic rigour to a subject that demands immediate public and professional attention. The questions this book raises, and the solutions it offers could dictate the future of healthcare in India and globally.

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Abstract

The progressive lifestyle of the 21st century demands faster and healthier assistance on day-to-day attributes to save time and effort. When it comes to health matters, it becomes more vital for individuals across the globe. The evolution in traditional healthcare service delivery approaches has not only enabled us to deal with increasing health complexities but also to act as active contributor to own health. Today we witness a paradigm shift to the healthcare service industry with the help of sophisticated internet technologies. Starting from the legacy face-to-face treatment procedure to advanced virtual health practices, delivery approaches of the care industry have emerged with the development of time and technology. Recognizing these developments, this research speaks about the current features and practices of the Online Healthcare Community (OHC).

OHC is the facilitating platform for virtual engagement of healthcare stakeholders where they meet to discuss health complexities, seek expert opinions, share practical experiences, avail additional benefits and perform e-Commerce activities. This virtual association of individuals runs on specific guidelines which are derived to best suit the core objectives of the forum. An OHC not only helps participants to acquire information from people across the globe with less time and cost but also allows them to keep track of the activities to ensure zero developmental error. People can centrally store their health data using OHC to use them for future reference. With the responsive IT features, users can access the forum from any device with their login credentials and avail the services on demand. It also ensures the information security and credibility aspects with advanced security enablement and verified profiles. Participants observe a sense of care and togetherness by socializing with allied individuals during their tough times.

With a growing information and communication technology infrastructure and having one of the highest internet users globally, India is a desired place for healthcare service providers. Usage of advanced healthcare delivery approaches like OHC can be a game-changer in meeting the high demand for healthcare assistance with the limited available resources. Substantial research on this virtual association is the need of the hour to formalize this unorganized sector with robust policies and operational guidelines. This study aims to address the above scope and contribute towards the betterment of this segment.

The objectives behind carrying out this research were clear and identified at the very beginning. Healthcare as a domain is evolving by the active involvement of customers while deciding their treatment modalities. So, they take the help of

OHC to understand the symptoms and enhance their knowledge on associated matters. So, it is significant to identify the critical factors of OHC and understand the interrelationships among these factors. This study also aims to understand the preference of users while deciding from available OHC service features to propose a tangible model to address the interest of both participants and service providers. Similarly, it is also essential to highlight the core IT features like human–computer interaction, graphical user interface, information security and robust ICT infrastructure that are critical in setting up a successful OHC. Apart from this, this study intends to identify core stakeholders of OHC, their behaviours under different situations while using the forum and how their service experiences can be enhanced to achieve the best outcomes of such virtual platforms.

Following the objectives of this research, a systematic review of the literature was performed with a longitudinal approach. The days are old when healthcare was only evolving around the doctors and nursing staffs. With the evolution of information technology, modern healthcare has become more user-centric by incorporating advanced concepts like social engagement, patient safety, information security and resource management. Service providers are now actively focusing on service improvements by regular performance evaluations. They are now concentrating on service quality to establish a superior brand value with error-free and effective treatment functionalities. IT-enabled and sophisticated healthcare concepts like virtual healthcare, e-Health, m-Health, EMR, EHR, etc. are the new parameters of advanced healthcare delivery functionalities.

OHC offers a broader range of facilities to its users. From enabling discussion among individuals to knowledge enhancement and e-Commerce activities, OHC has been growing its canvas steadily. Seeking information and opinions about particular health conditions is no longer a difficult task. OHC provides real-time information on a variety of aspects and users can choose it based on their needs. Service providers also collect the user feedbacks received on available attributes and improve the services as per the changing demand. The role of associated stakeholders also changes during different lifecycle stages of the forum and the service provider should be assessable with user-centric design to assist them accordingly. Unlike measures of success, this study has also identified the barriers which limit the benefits of OHC. Service providers should also focus on these barriers while formulating operational strategies.

Uses of Internet technologies for treatment practices are very limited and finding relevant literature on this is also tricky. Therefore, the research must be driven with an adequately defined research design without missing any critical methodological aspect. A questionnaire was formed using the variables observed from the literature review and expert opinions received from the pilot survey. A five-point Likert scale was formulated to receive the honest feedback of the respondents without any external interference. The questionnaires were homogeneously distributed through email among all stakeholders in four Indian cities. After appropriate filtration, 500 responses consisting of 100 responses from each of the five stakeholders were considered. It was decided to apply factor analysis (both exploratory and confirmatory) to identify and confirm the crucial factors

before using Structural Equation Modelling (SEM) to determine the relationships among them.

Five hypotheses were developed involving four exogenous factors, one mediating factor and one output factor. The hypotheses were formulated to evaluate the relationships and impacts among the driving factors identified during extensive literature review and access how they are contributing towards a rich service experience and optimum user satisfaction.

IBM SPSS tool of Version 21 was used for data analysis. EFA was used, which identified 20 initial variables. Then CFA was run on these 20 variables and the final list of 18 variables was confirmed using various analytical parameters. These 18 variables were then segregated into four crucial factors for the study. The factors are User Interface, IT Infrastructure, Service Offerings and Information Credibility. Further, one mediating factor (Augmenting Service Experience) and one resulting factor (Reviews, Referral and Positive Word-of-mouth) were also identified from the factor analysis. Then SEM was performed to observe the interrelationships among the identified factors. At last, Multivariate Analysis of Variance (MANOVA) was applied to explore the relationships within various demographic groups of the respondents with respect to the observed OHC Factors.

The findings of this research are meant for the evaluation of current practices with respect to OHC and come out with futuristic suggestions for smoother and practical service experiences. The findings suggest a systematic flow of activities that starts from identifying diversified service offerings through OHC. The specified service offerings with adequate quality led to active participation by the users, leading to further contributions for achieving augmenting service experience. It then proceeds towards sharing of positive reviews and referrals by the existing users of the OHC. In this process, the four identified factors combinedly result in the augmented service offerings by the forum, which then motivate users for contributing carious functional aspects for a successful OHC.

Adequate information on the existing theories related to OHC while identifying the associated parameters and describing their effects under different scenarios are notable findings for academicians. It can further be analyzed to strengthen the behavioural aspects of OHC that will add value for setting up futuristic service approaches. The analyzed operational and behavioural aspects of OHC can help academicians refine their understanding and undertake further research on the subject. Crucial elements of OHC like the importance of a smartly designed user interface, availability of robust system infrastructure, presence of a variety of service offerings to assist users in justifying all their needs using OHC and criticality of authentic and credible information in the forum are significant outputs of this research.

Similarly, service providers have a lot to refer from this research. The user interface is the very first aspect that any user will encounter while accessing a forum. Service providers must design the platform with an innovative and user-centric interface that can help them find required information with minimal clicks. Secondly, health-related information is compassionate data that the service providers should address empathetically. Participants expect a secure and

responsive application to attend to their healthcare needs without entering into any complexities. There should be proper security arrangements along with provisions to support users in case of any operational glitch. Also, the availability of credible information without any spam is vital for the success of any OHC. Service providers must rightly identify all possible features that can be expected by the users while accessing the forum and present those functionalities with proper marketing benefits to avoid cognitive dissatisfaction from the users.

The subject of this research is adequate for the current pandemic situation molded due to COVID-19. Social distancing is an essential demand of this pandemic and this research supports the modalities of the virtual associations to eliminate the consequences of this virus. Service providers from not only the healthcare domain but also any other service industry where execution of responsibilities is possible through virtual association can refer to the derived model of this research and run their business without any interruptions.