



The Online Healthcare Community

Pioneering Inclusive Healthcare Support in Developing Countries

Amaresh Panda • Sanjay Mohapatra



The Online Healthcare Community

This page intentionally left blank

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

BY

AMARESH PANDA

Reveal Health Tech, India

AND

SANJAY MOHAPATRA

Batoi Systems Pvt Ltd, India



United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Emerald Publishing, Floor 5, Northspring, 21-23 Wellington Street, Leeds LS1 4DL

First edition 2024

Copyright © 2024 Amaresh Panda and Sanjay Mohapatra.
Published under exclusive licence by Emerald Publishing Limited.

Reprints and permissions service

Contact: www.copyright.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-83549-141-6 (Print)

ISBN: 978-1-83549-140-9 (Online)

ISBN: 978-1-83549-142-3 (Epub)



INVESTOR IN PEOPLE

Contents

List of Figures and Tables	<i>vii</i>
List of Abbreviations	<i>ix</i>
Foreword One	<i>xi</i>
Foreword Two	<i>xiii</i>
Abstract	<i>xv</i>
Chapter 1 Introduction	1
Chapter 2 Literature Review	13
Chapter 3 Research Objective, Conceptual Framework and Hypotheses Development	39
Chapter 4 Research Design	53
Chapter 5 Data Analysis and Interpretations	63
Chapter 6 Findings and Conclusion	93
Appendix 1 Factor Output	<i>109</i>
Appendix 2 Exploratory Factor Analysis: Total Variance Explained	<i>111</i>
Appendix 3 Confirmatory Factor Analysis: Fit Indices and Factor Output	<i>113</i>

vi Contents

Appendix 4 SEM: Fit Indices and Model Output Loadings 117

Appendix 5 Survey Questionnaire 119

References 121

List of Figures and Tables

Chapter 1

Fig. 1.	Outline of Introduction Chapter.	2
Fig. 2.	Book Outline.	11

Chapter 2

Fig. 1.	Outline of Literature Review Chapter.	14
Fig. 2.	Stages of Healthcare Evolution.	17
Fig. 3.	Stakeholders of OHC.	24
Fig. 4.	Key Factors of OHC.	25
Fig. 5.	OHC Functionalities.	25
Fig. 6.	Community Lifecycle.	31

Chapter 3

Fig. 1.	Outline of Research Objective, Framework and Hypotheses Chapter.	40
Fig. 2.	Technology Acceptance Model.	43
Fig. 3.	Theoretical Framework.	47
Fig. 4.	Conceptual Framework.	47

Chapter 4

Fig. 1.	Outline of Research Design Chapter.	54
---------	-------------------------------------	----

Chapter 5

Fig. 1.	Outline of Data Analysis Chapter.	64
Fig. 2.	Confirmatory Factor Analysis on Online Health Care.	78

Fig. 3.	Steps of Developing and Analyzing Structural Equation Modelling.	82
Fig. 4.	Structural Equation Modelling Output.	83
Fig. 5.	Hypotheses Outline.	87
Chapter 6		
Fig. 1.	Outline of Findings and Conclusions Chapter.	94
Fig. 2.	User Satisfaction Process.	95
Fig. 3.	Research Output.	96
Fig. 4.	Hypotheses Overview.	100
Chapter 2		
Table 1.	Key Terminologies and Definitions.	18
Chapter 5		
Table 1.	Missing Value Analysis.	65
Table 2.	Skewness and Kurtosis.	67
Table 3.	Respondents' Profile.	68
Table 4.	Communalities.	73
Table 5.	Variable Extraction.	73
Table 6.	Rotated Component Matrix.	74
Table 7.	Model Fit Categories and Acceptance Level.	77
Table 8.	Convergent and Discriminant Validity.	79
Table 9.	Model Fit Indices.	79
Table 10.	Goodness of Fit Indices Used in Confirmatory Factor Analysis.	80
Table 11.	Regression Weights.	84
Table 12.	Fit Statistics of the Measurement Model.	85
Table 13.	Hypothesized Path Estimates.	86
Table 14.	Factors of OHC – Gender.	88
Table 15.	Factors of OHC – Age.	89
Table 16.	Factors of OHC – Education.	90
Table 17.	Factors of OHC – Occupation.	91

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

This page intentionally left blank

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.

Sanchit Mullick
CEO, Reveal Health Tech
sanchit.mullick@revealhealthtech.com
www.revealhealthtech.com

This page intentionally left blank

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.

Ashwini Kumar Rath

CEO, Batoi (www.batoi.com)

Personal Website: www.ashwinirath.com

This page intentionally left blank

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 various 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.

Chapter 1

Introduction

Health being the most sought attribute of life, it demands continuous innovations and improvements in its delivery and service approaches. Remaining up-to-date with all advanced procedures and producing paramount user-centric service is central for healthcare service providers. To meet the dynamicity of medical information, they continuously need to learn and adopt best practices. The online community plays a major role in supporting the continual development process of healthcare professionals as it helps them to stay updated and proficient of latest practices. It has been progressively utilized for gaining from specialists, distributing health information, examining operational administration challenges and clinical issues. According to available researches, online forums practically assist healthcare stakeholders with virtual communication practices for seamless collaboration to share, discuss, decide and incorporate various assessments to implement result-based conclusions (Ikioda et al., 2013). On the other hand, this collaborative approach helps the service providers to actively get connected with end users, seek improvement feedbacks, deliver user-centric services and acquire maximum customer satisfaction.

Healthcare service is an alignment of widely spread activities with the association of multiple users at the different levels of its operation (Maracine & Scarlet, 2009). Transforming health services with Internet technology is a vigorous process and needs continuous efforts. It encompasses several stakeholders like end users (providers, patients), promoters, clinical staffs, system administrators and technicians apart from the dynamic characteristics of executed responsibilities in the system, which is information-sensitive, situation-oriented and implanted from adequate workflow (Jung & Padman, 2015; Tian et al., 2014). Identified significant stakeholders as per the scope of this study are doctors, patients, patient's attendance, nurses, technicians, policymakers, online application developers and system admin.

Fig. 1 represents the flow of this chapter.

2 The Online Healthcare Community

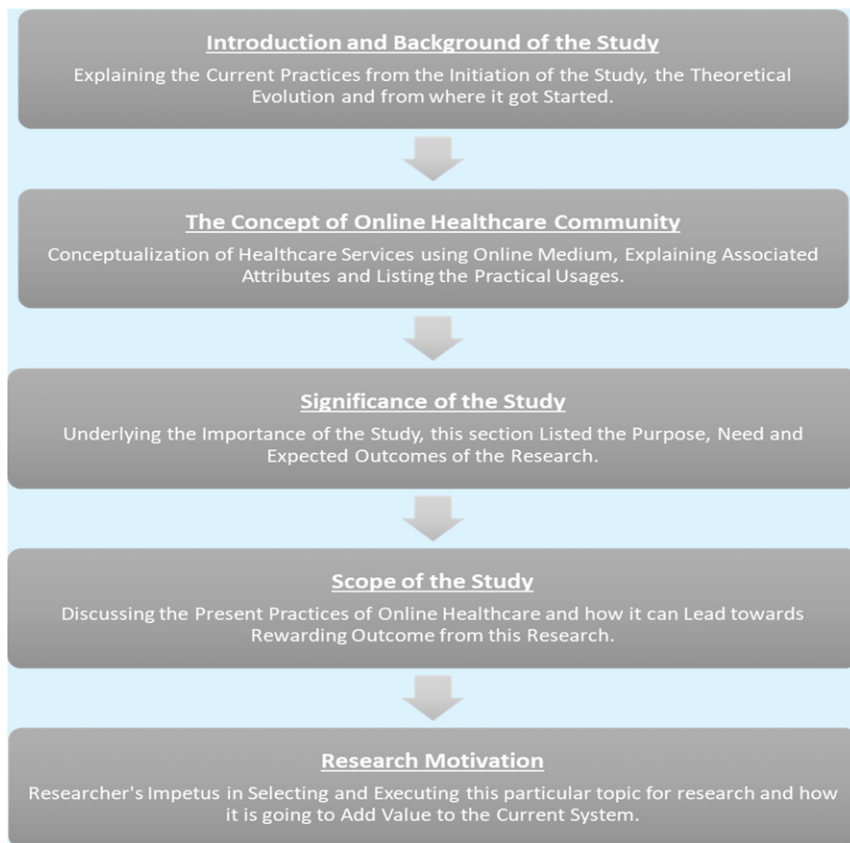


Fig. 1. Outline of Introduction Chapter.

Organizations must understand the importance of strategic commitment along with economic and human capital to launch an online community and excel during its different life cycle stages (Young, 2013). The growth of healthcare and the emergence of technology has forced redefining the standard healthcare delivery approaches. So, it has led to infusion of technology in healthcare. Since individuals are continuously approaching online communities to obtain treatment-related evidence, it is crucial to recognize the importance of community management at different stages of the community (Lau & Kwok, 2009). It is natural with an online community that new users keep joining the forum during different phases of its life cycle and existing users whose need for entering the forum is fulfilled either stay or leave it. Every time new individuals join, the forum advances a pattern of cooperation driven by its operational principles (Iriberry & Leroy 2009). They have also documented five distinctive phases: ‘inception, creation, growth, maturity and sustainability or death’, which online communities

witness during different stages of their existence. At the inception stage, the interest for an online community arises to fulfill a need for knowledge, assistance, regeneration and social connection. Sometimes communities materialize when a lesser faction of individuals with common concerns communicates using online mediums, while some are initiated when a business institution offers a stage for communication. In both cases, the initiators decide the technological attributes (user-driven design, UI, data security, privacy) to establish and run the virtual forum depending upon the requirements of possible associates and the mission and vision of the forum.

After creation, the growth stage comes in where the forum grows and new participants join the forum. It promotes the surface of ethnicity with individuality, language, history, responsibilities and cultural practices. Promoters must safeguard those new members join the forum smoothly during this phase with sufficient visibility in the market and state-of-art technological innovation. After successfully sustaining the growth stage, online forums advanced into formal establishments and entered the maturity stage. Promoters and management must focus on their sustainability approach to continue the acceptability of the forum. After this, the communities can take different paths as they mature steadily. Some sustain firmly and arch further success and few alter operating path and rest discontinue operation to exit from the business. This is the sustainability or death stage (Iriberry & Leroy, 2009). Deeds and needs of participants can vary during different phases of the community. Demand for various tools, functionalities, instruments, technologies and administration actions may arise during different life cycle phases. Promoters and facilitators must realize the essentials of every phase and formulate suitable strategies to support the community better.

1. The Concept of Online Healthcare

Health isn't just the absence of disorder or incapacity, yet the nearness of complete physical, mental and social prosperity (World Health Organization [WHO], 1948). Dynamic use of innovation, alongside the advancement of Web 2.0, is driving this vision of WHO into a reality. It is becoming easy and effective to deal with health-related situations with the assistance of online practices, which is also progressive and intuitive by involving of specialized individuals. These intuitive practices are named diversely in different areas, but their core functionalities are focussed to address health-related issues. A couple of such names are 'Online Healthcare Communities' (OHCs), 'Online Social Networks' (OSNs) and 'Virtual Community of Practice' (VCoP).

An online community denotes the association of a diversified personalities using the Internet technology and share a common purpose of engaging in social interactions under the governance of certain tacit assumptions, guidelines and etiquettes (Maloney-Krichmar & Preece, 2005; Preece, 2000). OHCs are evolving with individuals joining together with the help of technology to discuss health-related information. In the OHC setting, where people primarily enhance health knowledge, it is encouraging for the participants to discover other similar

4 *The Online Healthcare Community*

health complications. Healthcare Information Technology innovations, such as OHC, provide interactive platforms for doctor–patient interactions that are likely to revise the conventional care practices and contribute to the physician’s reputation (Guo et al., 2018). Numerous stakeholders associated in an OHC setting are also similarly important for this study. Stakeholders like patients, attendants, hospital staffs and managers are also the users of OHC and contribute to this care setup. All these stakeholders are connected through the interactive IT system, which is the central aspect of this study. The IT infrastructures are crucial to modern care practices, thereby having huge potential to enrich the overall practices according to the changing needs of patients (Ammenwerth & Rigby, 2016). It is now possible to address a broader mass with valuable and credible information using robust and responsive IT configuration (Boonitt, 2019). Similarly, it is also helpful to explore the different life cycle stages of any online forum and address different possible outcomes in each stage. All these aspects are discussed sensibly in this report.

Furthermore, since this study is based on OHC, it is vital to report the key factors (stakeholders and parameters) influencing OHC activities. Using an online community for health communication presents multiple benefits: (a) details about health symptoms, (b) communication among health experts, as well as (c) feedbacks and suggestions. Hectic schedules, topic irrelevancy, lack of awareness and accessibility of technology, delay in response and forgotten login credentials can adversely affect virtual communication (Ikioda et al., 2013). These elements of OHC operate through multiple dimensions with an impact on its functionality and usability. Structural aspects of which decide the operational guidelines of OHC, including demographics (lifespan, age, wisdom and alignment towards the society), organizational factors (conception of practices and level of established professionalism), participation (dimension, topographical distribution, acceptance, theme significance, previous forum exposure, consistency, selection procedure and variety) and technical configurations, are essential to address (Ikioda et al., 2013).

This study explored the existing information regarding OHC by exploring various stakeholders and key aspects of OHC, including the formation and operation of any online forum. Since OHC is not a long-standing concept but is growing rapidly at present, it is indeed a crucial time to study the implementation and operation of OHC to gather all relevant components relating to the matter (Panda et al., 2016). This should help to formulate viable operational strategies for such communities in the future, to understand the significance of all stakeholders and factors individually, apart from assisting the business house to achieve the highest customer satisfaction. The remaining segments of this study are presented as follows. The literature selection method briefs the steps involved in executing the literature search. The subsequent portion highlights the importance of all associated functionalities and stakeholders with respect to an OHC setup and their importance in the successful execution of OHC. The final section consolidates all the key findings and informs the futuristic suggestions for academicians as well as practitioners.

The consultation process that occurs between a doctor and a patient and is the core activity of treatment practice is influenced by the recent developments of OHC. It has a role in three different phases: pre–during–post consultation process with the chance of both doctor and patient influenced by OHC. Actors like patient’s attendants, nurses, technicians and hospital staff are also important for this study as they have their shares of influence by OHC and it can affect patient care and satisfaction. Technological processes like the IT infrastructure of service providers and its swiftness of usage through various IT applications will also be studied as the central pole of this study is the Internet which is an IT contribution. The effect of OHC on these actors and processes will be observed through the explained service quality parameters such as physical and virtual system setup, workforce’s superiority, scientific care actions, organizational actions, security measures, brand perception, collective accountability and credibility of the institution. And finally, this will lead to the observation of customer satisfaction by service providers to find and validate the relationships among the entities and the importance of their roles in the total treatment process.

2. Significance of the Study

The significance of this study justifies through the credible findings to have a theoretical and mechanical contribution to the body of knowledge, which academic and managerial practitioners can utilize.

From an empirical point of view, the study focusses on the current practices and usability of online healthcare services and lists the functionalities that are on demand. Yang et al. (2016) explain the need for profound studies on the virtualization of care services as it will be very vibrant in meeting the dynamic health needs of patients with a practical service delivery approach. This is even more convenient in developing country scenarios like India, where innovative care approaches for quality and affordable healthcare are vital. Online healthcare services can assist patients with their health concerns and help service providers reach a wider audience with proper strategy and infrastructure.

Exploring the current approaches of online healthcare practices to figure out the key associated factors is worth the empirical study. This scope has many variables and related entities, which can respond dynamically under different setups and time spans. It will help understand the dynamic characteristics of those factors under different scenarios and support service providers in formulating business strategies accordingly. Furthermore, the interrelationships among these factors are also another valuable explanation of the empirical study. It will establish multiple business strategies and critical insights for not doing wrong to achieve better business goals.

The perspective of this research is to produce theoretical and empirical contributions relies on the mission of identifying the fundamentals and scopes of healthcare approaches with the usage of Internet technologies. The study attempts to go beyond the traditional healthcare services and explore the new age speed and user-friendly virtual care with the evolution of web 2.0 with futuristic

6 *The Online Healthcare Community*

experiences. The conventional health practices are well known and the multiple advanced IT features are also well studied. To merge these two concepts and derive the best suitable framework for a fast, error-free, practical, affordable and user-oriented service approach is an interesting aspect to study. The report reflects its ability to explore both sides of the concept – the service end user side and the provider side, explaining its significance and relevance in the current situation. With governments emphasizing the social distance concepts to keep people safe from infectious viruses and stay healthier, this research became more valuable and essential.

Users can shape their information-seeking and experience-sharing practices through virtual care platforms by referring to the outcomes of this study. It will help them to be more efficient in what they do and help them find the expected assistance for addressing health criticality. Similarly, online healthcare service providers can realize the requirements and preferences of users by looking at the outcomes of this research and formulate operational strategies to best suit their business interests. This study will help them to operate with a more user-centric and error-free approach.

The methodological importance of the study stays vital for exploring new parameters of a known concept and then quantifies their significance with technologically advanced population. Unlike prior studies, this study has considered the service providers and beneficiaries of those services and considered the views of technological assistance and other associated stakeholders in the care setup. Looking at the importance of online activities for virtual care setup, preference is given to the online execution methods and used all possible measures to make the study unbiased, error-free and relevant with the cutting-edge technology.

2.1 Purpose of the Study

The purpose behind this research is pure and multifold, which is to establish and validate a framework with the empirical exploration of literature and observation of trends for identifying the substantial factors of the online healthcare system and the relationships among these factors in establishing an infallible operational framework in healthcare perspective. OHC factors are evaluated and verified by service providers to promote their virtual care delivery market presence. Various constructs considering the associated factors of OHC are developed and tested using empirical evaluation through the collected data from different respondents for this study. All these factors can be related to each other in multiple ways and considering these complex combinations; structural equation modelling is applied to validate derived hypotheses. The approach for addressing OHC aspects from both top-down and bottom-up methodologies is expected to guide researchers to understand better the entities associated with the online healthcare system and test the antecedences and consequences of the aspects of empirical evidence on the field. It is also expected to supplementary explore the existing attributes of virtual healthcare and suggest futuristic inputs for both users and service providers.

2.2 Need of the Study

The use of Internet technology has become in high demand for the entire service industry. With rising complexity, globalization, technology and a fast-changing competitive environment, dramatic and revolutionary changes in the delivery approaches of care practices have been observed. It has become imperative for every business organization to maintain high-quality standards with transparency and adaptability compared to their competitors by attaining substantial IT involvement. With a high risk involved in any treatment practice, speed, adequate and quality information to be available on time is the need of the hour. It will also maximize the reputation of care providers and help them to attain higher success and growth. Therefore, supporting patients with negligible cost and location barriers is on high priority for healthcare providers. As a result, the need for a robust IT system with adequately available services and advanced infrastructure to deliver with efficiency is vital. Thus, sufficient focus on this aspect of Internet-enabled care delivery is required a proper investigation with empirical pieces of evidence, especially for developing countries like India.

2.3 Expected Outcome of the Study

A sincere attempt was made through this study to outline the integral factors of virtual care practices and the underlying interrelationships among them. This study can be seen as a holistic setup to develop the framework for online consultation practices. Further researches can refer to this study to explain the integral importance of different entities and practices through OHC. Especially looking at the present pandemic situation of COVID-19, the importance of virtual care will be highly adaptable among netizens. Being one of the earliest research projects in this space, this study will guide many different future studies. Organizations providing healthcare services through the online medium will also utilize the suggestions out of this research to shape their operational activities and include essential features to achieve the highest customer satisfaction by augmenting service deliveries. Lastly, policymakers will benefit from this study to understand the critical aspects of OHC users and formulate guidelines to develop a sustainable infrastructure for addressing the patient care difficulties in highly populated and geographically distributed countries like India.

3. Research Scope

The scope for OHC is enormous, and it is getting bigger with each passing year. Globally, closely 4.5% of online inquiries are about health (Yan et al., 2016). The availability of ample of information for users to add or consume is a crucial prerequisite for the growth and prosperity of an OHC (Kim & Sundar, 2014). The Indian healthcare market is flourishing at a swift speed (CAGR of 17%), with the projection to hit USD 280 billion by the end of 2020. While the opportunity for a healthcare market is enormous, India only spent about 4.2% of its GDP on healthcare expenditure (Bang, 2016). Based on a 2016 survey by ‘The Lancet’, India stood at 143rd

among 188 nations worldwide on the overall health front. This signifies that India needs to enhance its health sector substantially, while academic researchers need to step forward to contribute to this development. The effect of the increasing elderly population, the uprising earnings of larger mass and the advancement of basic medical infrastructure are very likely to impact the Indian healthcare sector soon, which imposes a colossal prospect market for the Indian healthcare industry to address requirements and requests of such highly populated country.

Compared to the developed nations of the world, the online social media tools and their adoption by healthcare bodies have not been exploited much, along with scarcity in health literacy literature (Narang et al., 2015). Despite having sophisticated Internet-based systems, the participants sometimes face difficulties acquiring the most relevant health information related to their ailments. This stems from the failure to prioritize the decision-making support manifestoes with relevant healthcare knowledge, as well as poor dissemination of legit news and social functioning information (Chen et al., 2018). It recommends the need for scholarly research to identify the various factors that may affect OHC, the interrelationships among those factors and, most importantly, their importance concerning the Indian OHC context. Different stakeholders discussed in this study play essential roles in numerous characteristics of the Indian healthcare business. With the approach of OHC, their roles have become more dynamic, open and accessible. It will be interesting to observe how these stakeholders associate or react with various parameters of the OHC as the characteristics of online health practice undoubtedly differ from the physical health practice. This study addressed this issue by formulating a framework for individuals and related organizations about the implementation and use of OHC.

Several recent updates, such as Digital India, AADHAAR, e-Health and the Ayushman Bharat programme, may add more to the dynamics of the Indian healthcare practices. AADHAAR can enhance the efficiency in usage of IT in healthcare to become more robust, which can also be used for effective data management. It can centralize the care services by supporting the EHR practice, apart from being a prompt mediator to connect between different stakeholders of the Indian healthcare and thus, offering a quick and valuable treatment to the needy (John et al., 2019). The Government of India has been taking the necessary steps to make the Indian healthcare system more effective and transparent. The Ayushman Bharat programme will surely observe many enhancements to become a more valuable and successful public healthcare programme (Nirula et al., 2019).

Considering the current healthcare trends, demographic composition and scope for Internet technology in the Indian healthcare sphere, there is potential for the growth of Indian care services. According to a recent study by Tourmy, medical tourism is progressing rapidly and getting bigger and better every year. Being the third-largest economy globally with USD 280 billion and constantly growing, the Indian healthcare industry has been expected to grow up to 23% by the end of 2020. Various factors, including enhanced financial standing, awareness among people, availability of easy insurance policies and online information availability, have boosted this exponential growth of the Indian healthcare industry (Joshi, 2018). India is a favorite healthcare destination among many