Customer to Customer Value Co-Creation in Healthcare

Doctoral Thesis

by

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(2018HSZ0001)

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

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DEDICATED

TO

MY FATHER

LATE SHRI SITA RAM SAXENA

Declaration of Originality

I hereby declare that the work which is being presented in the thesis entitled **CUSTOMER TO CUSTOMER VALUE CO-CREATION IN HEALTHCARE** has been solely authored by me. It presents the result of my own independent research conducted during the time period from July 2018 to July 2023. This Ph.D. thesis is submitted under the supervision of Dr. Amritesh, Assistant Professor – Marketing, Department of Humanities and Social sciences, IIT Ropar. To the best of my knowledge, it is an original work, both in terms of research content and narrative, and has not been submitted or accepted elsewhere, in part or in full, for the award of any degree, diploma, fellowship, associateship, or similar title of any university or institution. Further, due credit has been attributed to the relevant state-of-the-art and collaborations (if any) with appropriate citations and acknowledgments, in line with established ethical norms and practices. I also declare that any idea/data/fact/source stated in my thesis has not been fabricated/ falsified/ misrepresented. All the principles of academic honesty and integrity have been followed. I fully understand that if the thesis is found to be unoriginal, fabricated, or plagiarized, the Institute reserves the right to withdraw the thesis from its archive and revoke the associated Degree conferred. Additionally, the Institute also reserves the right to appraise all concerned sections of society of the matter for their information and necessary action(if any). If accepted, I hereby consent for my thesis to be available online in the Institute's Open Access repository, inter-library loan, and the title & abstract to be made available to outside organizations.

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Certificate

This is to certify that the thesis entitled **Customer to Customer Value Co-Creation in Healthcare**, submitted by **Sumit Saxena (2018HSZ0001)** for the award of the degree of **Doctor of Philosophy** of Indian Institute of Technology Ropar, is a record of bonafide research work carried out under my guidance and supervision. To the best of my knowledge and belief, the work presented in this thesis is original and has not been submitted, either in part or full, for the award of any other degree, diploma, fellowship, associateship or similar title of any university or institution.

In my opinion, the thesis has reached the standard fulfilling the requirements of the regulations relating to the Degree.

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Lay Summary

Patients are now more empowered and educated than before. They actively participate in healthcare decisions with doctors to cocreate value in the consulting room. However, an interesting perspective exists beyond the doctor-patient partnership, i.e., the one that focuses within the patient's network. Patients interact with fellow patients, family members, friends, relatives, and other companions, creating value outside of the service provider's influence. Patients frequently educate each other, provide emotional support, and give valuable suggestions. This phenomenon establishes the importance of value within patient-to-patient interactions, and there is hardly any study that explores value co-creation within patient-to-patient network in the healthcare context. Most studies focus on value co-creation between patients and doctors, ignoring co-creation dynamics among patients. This research utilized this gap and tried to understand how the patients jointly create value for each other. For this, the study used two unique contextual settings where it was easy to observe the exclusive patient activities. One was online communities like diabetes communities on Facebook, where many patients interact frequently, and the second was the uncertain situation of the Covid19 healthcare crisis, where patients exchanged resources to overcome their vulnerability. To explore patient-to-patient value co-creation activities, the study adopted a two-way approach. One was using online data, i.e., patient experiences sourced from different virtual platforms; the second was self-reported survey responses collected from diabetic patients in the online space. The data was analyzed using standard methods of management research.

The study found that patients co-create value with each other in multiple ways in online social spaces. To cite a few of them, they offer spirituality, empathy, informational assistance, emotional support, and even medical know-how to others. In addition to collectively co-creating value, they sometimes even co-destroy value for each other. The study found that during the liminal situation (Covid19), the patients were engaged in more creative use of resources. They harnessed their psychological capabilities along with social and cultural resources to overcome vulnerability. A conceptual model of C2C value co-creation was proposed and further taken up for empirical validation in the next stage of the study. The conceptual model proposed that health consumer's social capital in the online space influence their co-creatin behavior. Testing this model confirms that all three online social capital factors positively influence the sense of belongingness, which positively affects C2C value co-creation behavior. The study also found that patients more involved in C2C co-creation often experience more wellbeing.

The study offers an in-depth understanding of how value is co-created outside the consulting room within the patient-to-patient network in online communities. The study's findings are helpful to policymakers who are involved in making patient-centric healthcare processes and policies.

Abstract

Transformative service researchers adopted the value co-creation (VCC) idea to elucidate the patient's active role in managing health. However, earlier studies are largely oriented towards a focus on service providers' role in VCC processes, without duly attending the phenomena within the customer sphere. Thus, to address this gap, the current project adopts the Customer Dominant Logic (CDL) to understand value co-creation within health consumer's world which assumes that despite being an equal partner in co-creation, customers subjectively realize value in isolation by re-creating their experiences with fellow customers. In the light of the above background, the study examines C2C value co-creation within two unique settings, i.e., Virtual Health Communities and Liminality, across 3 separate studies. The study 1 is focused on C2C value co-creation within social media health communities, which are inherently more conducive for enacting VCC. The study 2 looks at value co-creation during liminal situation (Covid19) where C2C VCC logics are implicitly visible. The study 3 empirically examines the importance of fellow consumers in the online space using social capital theory. It assumes that consumer co-creation behaviour is always influenced by the surrounding social system in which the actor is embedded. Here, it proposes a conceptual framework that is tested empirically using cross-sectional data. Studies 1 and 2 used Netnography and the study 3 applied a Structural equation modelling technique. The final sample includes 536 unique FB health community posts (study 1), 101 Covid19 survivor stories (study 2), and 360 survey responses collected via online diabetic consumers (study 3).

In study 1, the project found 13 unique C2C VCC practices which are categorized under four groups based on the two-dimensional framework. In study 2, the study has revealed both individual and situational factors of consumer vulnerability. Willpower, optimism, spirituality, social support, compassion, traditional know-how, and technology were identified as the main operant resources used by limonoids (Covid19 survivors) to overcome vulnerability. Finally, in study 3, the study confirmed that all three social capital factors unique to the online health community, i.e., trust, perceived similarity, and familiarity, positively influence the key VCC behaviors such as information sharing, responsible, and helping behavior. Sense of belongingness is found to mediate the relationship between social capital and value cocreation behavior. The study also confirms that C2C VCC behaviors positively affects consumer well-being.

The study advances the knowledge of the' customer sphere' of value co-creation. It has strong implications for health practitioners, policymakers, ICT managers and health consumers.

Keywords: C2C Value co-creation, Resource Integration, Consumer Practices, Social Capital, Sense of Belongingness, Wellbeing, Healthcare, Social-Media, Liminality

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Notations and Abbreviations

VCC	Value co-creation
VCD	Value co-destruction
B2C	Business to Customer
C2C	Customer to Customer
SDL	Service Dominant Logic
CDL	Customer Dominant Logic
OHC	Online Health Community
P2P	Patient-to-patient
SOB	Sense of Belongingness
SWB	Subjective Wellbeing
CPB	Customer Participation Behaviour
CCB	Customer Citizenship Behaviour
CMVC	Customer Managed Virtual Community
SPT	Social Practice Theory
CCT	Consumer Culture Theory
FB	Facebook
YT	YouTube

Chapter 1
Introduction

1. Introduction

This chapter presents the background, research problem, context, research gaps, objectives and key questions followed by significance, scope, and de-limitations. The chapter concludes with an outline of the thesis structure.

1.1 Background and the Research Problem

1.1.1 Background of the Research

The landscape of healthcare has gone through a substantial change in the last decade (Berry & Bendapudi, 2007; Ostrom et al., 2015). No longer do patients sit in the consultation room with a thermometer in their mouth and respond only when asked questions. Nowadays, patients are playing an active role. They actively participate in medical decision-making, treatment risk assessment, scheduling health activities, health expenditure planning, giving feedback for health policies or governance, and improving doctor-patient communication (McColl-Kennedy et al., 2017a; Ostrom et al., 2015; Tari Kasnakoglu, 2016; Towle et al., 2006; Davey & Grönroos, 2019; Thompson, 2007). This shift in patients' role from passive to active user is reflected within services marketing literature like consumer engagement (Hollebeek, 2015), consumer innovativeness (Seyed Esfahani, 2021; Kim et al., 2019), customer active participation (Nguyen Hau, 2016), open innovation (Abu Farha et al., 2022), and the most recent value co-creation (Vargo & Lusch, 2004; Galvagno & Dalli, 2014).

Value co-creation has gained immense attention of marketing researchers in the last decade (Saha et al., 2020, Saarijärvi, 2013). 'Value co-creation' (VCC) paradigm orchestrate the customer's active role within complex services like health, financial, and repair. The early idea of value co-creation was proposed by Ramaswamy and Ozcan (2014). They believe that locus of value creation is joint interactions and frequent resource sharing occur among all the involved stakeholders (Ramaswamy & Ozcan, 2014). It means all the actors freely share their resources and jointly create value for each other i.e., labelled as 'co-created value.' Vargo & Lusch (2004), conceptualized

"value co-creation under one of the premises of service dominant logic (SDL) and postulated that customer is always the co-creator of value, and the value is phenomenologically determined by him". Adopting the perspective of SDL, one may easily observe that Health customers also exchange resources and co-create value in the health service ecosystem. Many transformative service researchers adopted the value co-creation theory to elucidate the patient's active role in managing health (Anderson et al., 2016; McColl-Kennedy et al., 2012; Spanò et al., 2018; Frow et al., 2016; Virlée et al., 2020a). Earlier studies largely focus on supplier (provider) or joint VCC processes ignoring value co-creation within customer sphere (Payne et al., 2008). The credence setting of healthcare make health customer's value co-creation journey more difficult compare to general marketing consumer (Darby & Karni, 1973; Bloom et al., 2008). This warrants more investigation into their co-creation efforts. Also, health consumers are not always interested or capable in co-creating with fellow actors and may put lesser (or sometimes more than required) efforts during value co-creation activities (Sweeney et al., 2015). Thus, it makes the genuine case to explore C2C value co-creation within healthcare.

1.1.2 Key Problem and the Focus of the study

Most of the earlier VCC studies in healthcare focus on doctor-patient dyad (Osei-Frimpong 2015;2017; McColl Kennedy et al., 2012; Hardyman, 2015; Krisjanous & Maude, 2014; Riotta & Bruccoleri, 2021). Studies on value co-creation among patient's network is yet emerging and requires more attention (see Table 2.1 within literature review section for the list of existing B2C VCC studies and their key focus). For example, there is hardly any study that explores the exclusive value co-creation among patient-to-patient or patient-to-companion dyad. Thus, exploring C2C value co-creation within the customer sphere of co-creation is the prime focus of this project (see figure 1.1 below).

The understanding of C2C value co-creation is necessary for policy makers/managers who are struggling to engage health consumers in person-centred care (Moore et al., 2017). Proper understanding of C2C co-creation could also help the practitioners to enhance the consumers' willingness to co-create towards their own care (Neghina et al., 2017).

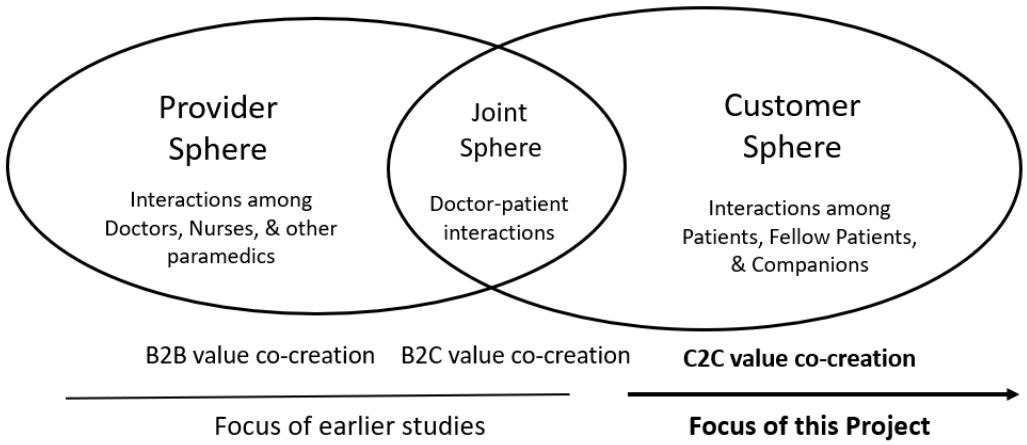


Figure 1.1: Focus of current project compare to earlier studies

The customer sphere is the space where the current project is positioned. The rationale for studying customer-to-customer (or patient-to-patient in healthcare context) value co-creation in this work is premised on the evolving 'Customer dominant logic' (Heinonen et al., 2010). The 'Customer Dominant Logic' (CDL) emerged as an advancement/alternate to SDL, especially when it comes to understand the value intricacies within customer world (Heinonen et al., 2010; Anker et al., 2015). As per Heinonen et al. (2010), 'customer world' is represented by customer core service experiences, related activities during pre and post service consumption, and social activities outside the service providers' influence. On the other hand, the service world reflects only the onstage service activities within service encounter. CDL assumes that despite customer being an equal partner in the co-creation process, he subjectively realizes value in isolation i.e., before and after provider's interaction (Heinonen & Strandvik, 2015). In other words, customers retain maximum control in their hands and get least influenced by the service provider during joint value co-creation or value self-creation (Zainuddin et al., 2016). Customers harnesses their 'phenomenologically realized value' by re-creating or reinforcing their subjective experiences with fellow customers (Grönroos & Voima, 2013; Rihova et al., 2013). Thus, CDL establishes the importance of fellow customers and socially lived experiences in the customer sphere of value co-creation. Overall, the CD logic appears more customer centric as compared to SD logic where the later centres on provider dominant value interactions. Therefore,

the present project adopts CDL to understand the customers' value co-creation in healthcare.

Further, McColl-Kennedy et al. (2017b), observes that customer directed co-creation activities often complement the B2C co-creative interactions and results in improved wellbeing. The healthcare customers (patient in our case) interacting with service provider (e.g., doctor in this case) is not the only actor representing customer sphere of value co-creation, instead they represent a wider ecosystem of actors involving patient's relatives, friends and companions who engage with each-other to share resources and co-create value (Jaakkola and Alexander, 2014). Interestingly, C2C engagement activities are not directly visible to the service providers. The 'Line of visibility' of such C2C engagement is very well explained by a few researchers (Strandvik et al., 2019) who have called for research in the invisible zone of C2C interactions. The customer centric or C2C activities are somewhat visible within collaborative online spaces like online health communities (yan et al., 2016) or social media platforms (Zadeh, 2019; Shirazi et al., 2021; Kordzadeh & Warren, 2013). But these online studies are yet to embrace the academic lens of value co-creation (Latif et al., 2022).

1.1.3 Potential Contribution of the Study

Studying C2C (patient-to-patient) value co-creation is going to create significant influence on the health ecosystem in three of the important ways. First, it can enlarge the perspective of co-creation and help to bridge the gap between service providers and customers (i.e., doctors & patients). The medical service providers could understand the customer activities beyond the consulting room. For example, they (doctors) could gauge patients' health literacy, their drug compliance habits, and capability/incapability to engage in the healthcare service processes. Second, it can help the policy makers to design the systems which are more patient centric and based on real understanding of patient's experiences, especially the experiences that are not directly visible in healthcare interactions. Here, C2C co-creation could highlight the experiences imbibed within patients' broader social experiences within which the healthcare interaction experiences are automatically encapsulated. Thus, learning about everyday social (C2C) practices could provide insights about healthcare interaction experiences as well. Third, the sufficient comprehension and application of C2C value co-creation practices could

reduce the burden of formal healthcare processes. For example, when novice patients interact with expert patients, they gain important information, say about the drug compliance. This reduces the cost linked to disease relapse due to poor drug compliance. Similarly, patients share among each-other as to what doubts should be raised in the consulting room, how to communicate with doctor, and tips related to drug seeking behaviour. All this prevents multiple visits to doctor thereby saving OPD visit charges. Similarly, C2C co-creation reduces expenditures related to lab testing for priori health check-up, precautionary health measures, disease awareness cost, and expenses to induce shared medical decision making. All this, results in appropriate use of resources and reduction of healthcare cost. Further, the study assume that C2C co-creation could also help in reducing the non-medical healthcare cost. This includes cost associated with travel, accommodation, diagnostic test information, and similar items. As per Ambade et al (2022), for half the Indian population, nonmedical services cost up to 37% of out-of-pocket expenses. This cost further exaggerate for less educated, low income, rural residents, and people receiving care in public healthcare facilities.

Apart from the growing recognition of patient-to-patient co-creation, there are certain challenges in developing countries that hinders the patient active engagement in healthcare. Some of these challenges are low medical literacy, lack of awareness about self-care, lack of trust on healthcare systems or service providers, increasing gap between private and government healthcare services especially in terms of easy access, disparity in technology adoption among different segments of the population, and cultural barriers especially regarding online patient support groups and telemedicine (Kasthuri, 2018). Talking particularly about India, as per the economic survey 2022-23, India's total health expenditure was 3.2% of GDP for the year 2018-19. Government of India's health expenditure for this year accounted to 40.6% of the overall health expenditure, while out-of-pocket expenditure still remains marginally higher at 48.2% (Porecha, 2023). As per WHO global health expenditure database i.e., GHED (2022), India's private health expenditure is 66.38 % of the current health expenditure for the year 2019. This dominance of private players in healthcare, further reflect to the out-of-pocket health expenses. All this shows that India is yet to travel a long distance in its journey towards overcoming the resource challenges and create a people centred health system.

Looking from healthcare side especially within core medical literature, C2C value co-creation is clearly reflected in patient centric research in healthcare. Patient engagement has always been the centre of focus for healthcare researchers. For example, Thomas & Ganesan (2020) observe diabetes patient engagement to be comprised of seven key dimensions i.e., patient initiatives, informed choice, health promotion, patient satisfaction, organized health care, prevention, and self-management. Recently, Aboumatar et al (2022) in their review work reported about the popular patient and family engagement strategies i.e., self-management support, shared decision making (at direct patient care level), patient advisory council, workshop for patients, team participation (at healthcare organization & system level), and clinic-community partnership (at community & policy level). The authors asserted that such engagement strategies have a positive impact on patient-oriented outcomes (patient satisfaction & experience, self-management adherence, quality of life), on healthcare cost, care-giver related outcomes, healthcare utilization, and chronic disease clinical outcomes (Aboumatar et al., 2022). Inspite of the rising importance of patient engagement the prevalence of actual patient engagement in developing nations like India is far below the expected threshold. For example, the Doval et al 's study (2020) reported that only 10% of the Indian population is actively involved in shared decision making and engagement in healthcare. In this line, a report from WHO (2016) states that a crucial factor that could hinder patient engagement is their perception that they are inferior to medical professionals and they are problematic. The same WHO (2016) report asserts that partnership model (like value co-creation) may help to substantially reduce this perception by improving collaboration both between/within doctors and patients. Researches regularly claim that engagement of service providers (practitioners) positively impact the patient engagement and vice versa (Bright et al., 2017).

Next, the patient active involvement in healthcare is also highly emphasized at the global level. For example, The Goal number 13 of Joint Commission National Patient Safety is to encourage patients' involvement towards their own care (Joint Commission, 2009). Similarly, The U.S. Department of Health and Human Services, Agency for Health Care Research and Quality (2009) affirms that the single most strategy to prevent errors is make patients a participative member of healthcare (Smith, 2009). More recently, within united nations sustainable development goals for the year

2030, the goal number 3 states that "It is necessary to value citizen participation in medical decision making to ensure healthy lives and promote well-being for all at all ages" (SDG Report, 2022). Thus, in the light of above emphasized importance of patient involvement in healthcare both by national and international bodies; this research tried to learn about C2C value co-creation in healthcare. In this sub-section, the study first talks about value co-creation in general as rooted within service dominant logic. Next, it discussed the importance of evolving Customer dominant Logic and value co-creation in Healthcare. It mentions the need to study C2C value co-creation in healthcare based on the review of existing VCC studies. This introduction sub-section also talks about the key focus of the study i.e., Customer Sphere of co-creation. Alongside, it elucidates how the work is a response to recent call to learn about C2C activities beyond the provider's line of visibility. It elaborates the importance of understanding C2C dynamics within developing nation like India. For this, it uses simple concepts of out-of-pocket expenditures and patient engagement or patient shared medical decision-making as elaborated both within marketing and medical literatures.

This research is one of the earliest studies that explore C2C value co-creation within healthcare services which are considered to be transformative in nature. The research responds to several researcher's call for in-depth research to gain better understanding of the customer's value co-creation processes (Payne et al., 2008; Chen et al., 2018; Le et al., 2021; Komulainen et al., 2018). Additionally, the study could address some of the issues faced by healthcare service system in the developing countries via C2C resource sharing. One of the issues is that the developing countries (like India) relies primarily on out-of-pocket expenses. As per the national health estimates report of Indian government, the out-of-pocket expenditure as a percentage of total health expenditure is 48.2 percent for the year 2018-19 (NHE 2022). This is confirmed in the recent economic survey of 2022-23 (Porecha,2023) which states that healthcare model in India is such that more than 40% of the total healthcare expenditure is out-of-pocket expense. In India, this OOPE is divided into components like doctor consultation charges, cost for medicines, diagnostic tests, and nonmedical costs like travel, and lodging (Ambade et al., 2022). Understanding value co-creation could help in reducing the three key components i.e., consultation charges, diagnostic test, and a non-medical cost. For example, when patients become more aware about government health insurance schemes via C2C information sharing, then they are able to access the

free public health resources thereby reducing their expenditures on private consultations. Similarly, when patients empower each-other in terms of knowledge about regular health check-up, interpretation of diagnostic tests, and chronic care self-management practices; then they are able to minimize their expenses on medical tests. Lastly, patients are observed helping each-other in non-medical issues also, like where to stay, where to eat, how to travel to diagnostic centres, etc; during in-patient or out-patient treatment. All this could help the novice patients in reducing their non-medical healthcare cost. The above examples are even supported by literature when authors claim that improving value co-creation could reduce out-of-pocket expenditure (OOPE) via different routes like empowering patients through improved health literacy, positive patient engagement, and self-health management practices (Ciasullo et al., 2017; Palumbo, 2017a, 2017b; Hardyman et al., 2015; Frow et al., 2016). Research context, objectives, key questions, significance, de-limitations, and thesis outline structure are discussed in the upcoming sub-sections.

1.2 Context and Philosophical Positioning

1.2.1 The Research context

In the above section, the study highlighted the growing importance of active healthcare consumers represented as active value co-creators within VCC literature. The study explains in brief the transition from service dominant to customer dominant logic and its relevance to elucidate the customer sphere of value co-creation. The project specifically mentions that there are dearth of studies exploring exclusive C2C value co-creation as majority of studies focus on B2C aspects of value co-creation and perceive customer as the mere member of provider dominant service system. On the contrary, the current work assumes that customers live in their own world where value is phenomenologically created via collective interactions ending up in social experiences. The author believes that service providers play a passive role as they can't influence the customers to co-create with fellow actors especially far beyond the line of visibility (Medberg & Heinonen, 2014).

In the light of the above background, first the study tries to look into places/engagement platforms where customer is free to co-create with fellow actors without any influence of the service provider or intermediary service actors. Based on

this criterion, two special settings are realized where C2C value co-creation is dominantly visible i.e., 'Virtual health community setting and Liminality'. These settings form the major contexts of this research project.

1.2.1.1 First a virtual health community setting

C2C value co-creation within 'virtual health communities' are chosen as research context. A wide variety of health customers are found frequently interacting with each other online. They share their resources, help each-other, co-develop resilience, improve cultural health capital/health literacy, and harness individual value co-creation abilities (Solberg, 2014; Stewart Loane et al., 2015; Tseng et al., 2022). These virtual spaces are represented by conventional online health communities (Solberg, 2014) or modern social media health platforms (Myrick et al., 2016). Online health communities (OHC) and social media health communities (SMC) are different from each-other in multiple ways, like SMCs allow interactions with both acquaintances and strangers, SMCs allow user profile visibility instead of anonymity i.e., commonly seen within OHCs, SMCs offer opportunities beyond patient-support like in crowdsourcing, medical brand endorsement, and charitable activities offering more co-creation opportunities (Zadeh et al., 2019; Boyd & Ellison, 2007; Bender et al., 2011; De Martino et al., 2017).

Hence, the project confines to patient communities on the modern social media platforms which are inherently more user friendly, interactive, and reciprocal in nature; favouring informal health discussions and easier value co-creation (Zhao et al., 2015; De Martino et al., 2017; Maher et al., 2016). Social media space could be observed as the third platforms for customers' value co-creation where influence of medical service provider is negligible.

1.2.1.2 Second a Liminal research context

Liminality in C2C value co-creation represents a specific characteristic of our chosen research context (i.e., 2nd research context) because of the influence of covid19 during the period in which the research is conducted. Liminal conditions bring actors close to each other reinforcing emotional ties and sense of responsibility for each other (Baker, 2018; Söderlund & Borg, 2018). For example, within liminal setting of natural disasters and pandemics, customers/citizens develop mutual trust, exchange

knowledge/technical know-how, actively involved in co-learning, co-empowering, and create a resilient system that implicitly follows the logics of C2C value co-creation (Cheung & McColl-Kennedy, 2015; Nakata et al., 2019; Buechner et al., 2020). Liminality represents the uncertain time and space where consumer face resource challenges and perceive pressure to perform co-ordinated actions (Wallin & Aarsand, 2019). In other words, limonoids (consumers in the liminal time) necessarily need to enact C2C co-creation via collective resource integration.

Thus, the liminal setting goes hand in hand with the virtual health community context selected in this work. Both the contexts are inherently connected due to shared characteristics. For example, diabetic health consumers in the online community are often uncertain about resource availability in the online space and have to integrate the available resources using their own skills and knowledge. Similarly, covid19 health consumers never knows in advance as to what resources and in what forms could be sourced from their surroundings in the times of emergency. In the emergent time of covid19, service providers were found to be least involved (may be due to fear of infection) with health consumers. Similarly, consumers on online health community generally have least interactions with service providers except for firm managed online health communities. The vulnerability traits experienced by covid19 survivors are comparable enough with the online consumers who are chronic diabetes patients. Also, within both the settings, consumer is accompanied by fellow patients, family members, friends, and other healthcare companions. Thus, even if the two contexts selected in this work looks dispersed at the surface level, they are rooted in the similar playfield i.e., characterized by vulnerable health consumer, less involvement of service provider, dominant role of consumer actions, C2C centric resource integration, and common goal of wellbeing realization.

1.2.2 Philosophical Positioning regarding SD and CD Logic

In the preceding sub-section, the study talks about two important research contexts within which it was planned to explore the consumer's value co-creation practices. Here, the author briefly talks the key logics that seems relevant to explore these contexts i.e., SD and CD logics. First, the social media setting broadly aligns with the Customer dominant logic proposed by Heinonen and her colleagues (2010). The

second study exploring co-creation under liminal situation seems connected to Service dominant logic (Vargo & Lusch, 2004). SD logic assumes that service is the basic unit of exchange and customer is always the co-creator. It believes that provider has a strong influence on customer co-creation and directly affect their collaborative efforts to realize value (Vargo & Lusch, 2004). On the other hand, CD logic assumes that provider can only facilitate the value and the final control of value realization is in the hands of the customer (Heinonen et al., 2010). SDL focus more on the service interactions and CD logic were even concerned about what happens outside the service encounters, specifically within the independent sphere of co-creation (Payne, 2008). In a broader sense, SD logic was centered around provider-customer (B2C) joint co-creation, while the CD logic moves around customer's phenomenological experiences of co-creation within their network i.e., C2C community. Thus, given the unique orientation of each logic, it seems appropriate if SD logic is used to explore B2C co-creation and CD logic for C2C co-creation (for detailed understanding about each logic refer to literature review section).

Next, the study discusses few more interpretations about SD and CD logics, justifying their use in the research problems addressed in this work. Here, both the differences and similarities among SD and CD logics are discussed in brief. The key difference between SD and CD logic was that the later believes, provider can influence but cannot control the customer (Heinonen and Strandvik, 2015). Here, the author critically interprets this argument in two ways. First, it implies that customer is independent and their practices should be studied in isolation. Second, it also implies that provider can anyways influence the customer even if it affects or does not affect the end consumer. Hence, it is worth exploring any co-creative service system using both the provider and customer-oriented perspectives (i.e., SD and CD logic). Another observation of author is that just like the provider's service system is expanded by researchers say by exploring about suppliers, retailers, insurer, middle agent, apomediary, and intermediary; similarly, the customer end should also be expanded. The customer ecosystem notion (rooted in CD logic) getting popular in the recent times is the best example of such research initiatives (Strandvik et al., 2019; Lipkin & Heinonen, 2022). Overall, the author perceives CD logic as fruitful approach to learn about consumer daily mental activities and their co-creation practices. However, the author does not see SD logic as inferior or less capable in any form. The only assumption is when it comes to consumer resource integration

practices, the CD logic have an upper edge. Considering Payne's (2008) argument of co-creation as both joint and independent activity, the author believes that whenever the scholar wants to learn about the whole VCC service system i.e., joint and independent sphere, then both the logics should be used simultaneously. Hence, the current study uses both, the SD and CD logic according to situation and makes this study more encompassing in nature.

Further, the author reflects upon few similarities between SD and CD logic based on the understanding of VCC literature. These similarities motivate this study to adopt both the perspectives (SDL & CDL) in a single work. First, both the logics consider customer as important actor without whom the co-creation process is meaningless. SD logic even propose an axiom which states that customer is always the co-creator of value (Vargo & Lusch, 2016; 2004). Second, both the perspectives assume that provider influence the value as formed in the consumer's mind or in the joint sphere. The only area where it departs is the zone of control. CD logic thinks that customer controls the value formation and provider merely act as value facilitator while the SD logic believes that provider can significantly influence the customer's co-created value. Third, both the logics gives central importance to resources and argue that actors frequently integrate the resources to realize value at their end. The resources were classified as operant (T) or operand (D) in nature. Fourth, both the logics are rooted in common conventional literatures i.e., customer relationship management, service interactions, and consumer culture theory. Fifth, both the logics agree that service is the real unit of exchange irrespective of transactions as goods related or service related. Infact, both the logics see goods-dominant logic as outdated concept. Thus, service is the common denominator in both the logics. These similarities among CD and SD logic are also appreciated by proponents of both the logics (Heinonen & Strandvik, 2020; Tynan et al., 2014; Vargo & Lusch, 2004). One hint for this is that SD logic updated its foundational premises to address some of the concerns of scholars from other school of thoughts like Nordic researchers (Vargo & Lusch, 2016). The author believes that SD and CD logic are not antagonistic to each-other instead goes in harmony with each-other, especially with respect to create a co-creative environment for all actors.

To sum up the above discussions as to when the study uses which logic; questions pertaining to C2C VCC practices within study one uses CD logic. The author assume that CD logic will help to highlight the dominant role of customer and their resource

integration practices to co-create value. This also aligns with the recent call to explore the co-creation practices from consumer perspective, specifically when the service provider is absent or passively involved (Heinonen and Strandvik, 2015; Paunonen, 2019). Next, the study two of this dissertation uses SD logic to explore B2C co-creation practices. The author realizes that SD logic is inherently rooted in the joint sphere of co-creation and is an appropriate perspective to look at how consumer co-create in the presence of the service provider. The author assumes that it would be interesting to know how health consumers co-create both in the absence and the presence of the service provider. Therefore, the study one and two complement each-other and are well-connected.

1.2.3: The Indian Healthcare Scenario

In the above section, the project establishes the importance of C2C co-creation in harnessing the patient centric healthcare with active patient participation. However, most of the researches on patient participation were confined to developed nations. For example, Moore et al (2017) work was confined to Sweden and Neghina et al (2017) work was in context of Netherlands. Compare to such developed nations, India' healthcare system serves to the largest population in this world, and need more research to understand the patient participation (Vankar, 2022). One of the broader goals of this study is to understand how to improve C2C co-creation in Indian healthcare setup. Mahapatra (2017) studied Indian healthcare setting and made some early contributions to emphasize the importance of patient co-creative efforts and active participation on different health outcomes in the India.

Talking more about India, the patient engagement or shared decision making in healthcare is largely limited to tertiary care centres or cases where treatment cost is high. (Doval et al., 2020). It means Indian patients or their family members seems to highly engage in medical decision making only when they are stuck into complex health procedures like major surgery, life threatening diseases or terminal illness. Even, the Indian government both at centre and the state level realizes the need to involve the patient and their extended personal network in the complex healthcare processes. For example, family member's role has been recognized in the National Programme for the Health Care of Elderly (NPHCE) that provides support and information to informal

caregivers (patient's friends, relatives, close members) in India (Selvaraj et al., 2022). The same Indian health system review report of 2022 states that the patient involvement in healthcare and their active feedback to improve the service quality remains the missing ingredient (Selvaraj et al., 2022). Additionally, the Ministry of Health & Family Welfare (MoHFW - India) has broadened the choices for patients in India in a way that patients are free to select any of the in-patient or out-patient healthcare service centre among primary healthcare centres, private clinics/hospitals, or medical college hospitals with or without referrals. Thus, there is a growing concern of Indian government towards active patient or citizen participation in healthcare system. However, the practical steps to realize patient participation are yet to achieve the desired results. For example, the recent study in Indian healthcare context strongly commented that despite the carers (family, friends, close members) known to play the dominant role in improving the patient health, the India is yet to recognize their role in healthcare policies (Surendran et al., 2022). Further, India's enhanced health service delivery program report (P178146) within its section on social management aspects of healthcare in India, clearly talks about citizen engagement, community ownership, community engagement, information outreach, roll out awareness, and bottom-up health systems driven by community, all of which reflects the focus on patient centric models contrary to paternalistic health models (Chhabra, 2022).

Additionally, some of the policies or programs initiated by Indian government has made a substantial effort to boost the overall health system along with strengthening of patient role as active participant. To cite few of these interventions, government has opened new wellness centres that focus on promotive, preventive and curative health services across variety of diseases including chronic care instead of episodic care; government has started closely monitoring the private healthcare players in terms of patient participation, price regulation and quality of services; the facilities at day care-services are improved with co-involvement of patient's companions especially in services like haemodialysis, radiotherapy, parenteral chemotherapy, management of fractures and simple surgical procedures like removal of stones in kidney, and prostrate removal; rehabilitation services are enhanced with opening of more rehabilitation centres based on doctor-patient participation model under the national policy on persons with disabilities (MoHFW Health Reports 2022). Discussing all the healthcare policies

and programs initiated by Indian government is out of the scope of this project. Still, the list of key polices are depicted below:

- Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM ABHIM)
- Pradhan Mantri Jan Arogya Yojana (PMJAY)
- Integrated Disease Surveillance Program (IDSP)
- Program for Integrated Care for Chronic Diseases
- National Tobacco Control Programme
  (MoHFW Major Health Programmes, 2022)

All this reflects that Indian healthcare system has realized the need of patient active participation and empowerment. However, the efforts in this direction are yet to realize its full potential. The current project is one such effort that contribute (directly or indirectly) towards the understanding of patient lived experiences. The present study explores patient-to-patient resource interactions using C2C value co-creation lens. This will help the medical service providers or policy makers, design an appropriate patient-engagement strategies which are based on patient's real experiences beyond the consulting room.

1.3 Research Objectives and the Proposed Questions

1.3.1 Key Research objectives

This sub-section discusses key research objectives and the underlying questions that needs to be investigated. Based on the critical review, the project identifies the key objectives of research that could broaden the understanding about C2C (patient-to-patient) value co-creation within two unique settings i.e., virtual health communities and Covid19 liminal setting.

First research objective*:* Researchers explore both voluntary and non-voluntary value co-creation practices (Pham et al., 2019; 2020). These practices are found to benefit both the medical service provider and the health customer (Osei-Frimpong et al., 2015; McColl-Kennedy et al., 2012; Krisjanous & Maude, 2014; Riotta & Bruccoleri, 2021). However, the primary focus of these studies remains at joint service interactions between service provider and consumer ignoring C2C consumer community.

To the best of researcher's knowledge, the studies that explore exclusive C2C co-creation practices focusing on consumer community are inadequate. To address this gap, study uses the virtual health community setting and aims to identify the unique C2C value co-creation practices. Thus, the study objective was to list the consumer actions centered around C2C value interactions over selected social media platforms. In other words, the study aims to explore the key C2C co-creation practices.

***Second research objective**:* The recent research acknowledges that value co-creation is the means to co-create social value, especially during liminal time (Ratten, 2022; Sharma, 2021). Consumers co-create with and for each other during liminal period of pandemic or natural disasters. Earlier studies investigate such value co-creation (i.e., VCC during pandemic) among variety of marketing consumers like fashion users (AbdelAziz et al., 2023), students (Leem, 2021); gamers (Arslan, 2021), sharing economy consumers (Sthapit, 2022), and tourist (Rather, 2021). However, research on vulnerable health consumers trying to co-create in the disrupted healthcare system is yet scant. Prior studies mostly explore the broader aspects of health system (during pandemic) like governance, logistics, technology adoption, finance, workforce management, and emergency communication (Brodie et al., 2021; Finsterwalder & Kuppelwieser, 2020b). These contributions during the covid19 period lacks focus on how vulnerable health consumers enact C2C co-creation under challenging conditions which leads to the second research objective which goes as follows: To understand the vulnerabilities experienced by health consumers during liminal situation and the key resources used by limonoids to overcome the identified vulnerabilities.

***Third research objective**:* The consumer value co-creation is always influenced by the social system in which the consumers are embedded (Laud et al., 2015; Edvardsson et al., 2011). Consumers draw resources from their social network and integrate them to actualize value in any relationship. Such importance of social embeddedness enabling successful value co-creation is clearly reflected within emerging relationship i.e., 'social capital—value co-creation' relationship (Yoon & Lee, 2019; Cao et al., 2022; Tchorek et al., 2020). Social capital represents the resources accrued by individual in a given setting (online or offline). Prior online studies confirm that consumers' social capital (as a resource) positively influences B2C value co-creation (Xie et al., 2021; Zhang et al., 2020). However, how social capital affects C2C value co-creation over virtual platforms is rarely investigated in the healthcare context.

The study assume that consumers' social capital would empower them to co-create with fellow customers in the online spaces. Also, the underlying mechanism through which social capital affects value co-creation is scantly explored (Zhang et al., 2019, 2020). Thus, this leads to third research objective i.e., To understand the influence of online social capital on consumers' C2C value co-creation behaviour.

All the three objectives described above are coherent with each-other and deepen the knowledge about value co-creation in healthcare. First objective help to understand the different types of C2C value co-creation practices enacted by health consumer in the online community. Second objective enhances the knowledge about unique resources accessed, mobilised, and integrated by special type of health consumers i.e., covid19 survivors. Thus, both the studies complement each-other by elucidating the dynamics of co-creation practices and underlying resources. Third research objective extends the social nature of value co-creation by empirically testing the influence of health consumer's social capital on their C2C co-creation behaviour. This objective also elaborates on the process of value co-creation by focusing on the mediating mechanism between social capital and VCC behaviour. Lastly, the wellbeing aspect is thoroughly reflected in all the three studies as any healthcare actor, be it patient, caregiver, family companion, or medical service provider; all of them are ultimately interested in wellbeing of health consumer.

1.3.2 Focus on Wellbeing

Apart from social capital studied as a part of the third research objective within an empirical model, the project focuses on patient wellbeing. Actually, the earlier value co-creation studies concentrate only on marketing side outcomes like satisfaction, loyalty, and willingness to pay (Mathis et al., 2016; Tu et al., 2018). The impact of value co-creation on consumer wellbeing (as VCC outcome) is scantly researched. Thus, this study aims to tests the influence of online C2C co-creation behaviours on subjective well-being. Overall, this extension of third research objective towards the consumer well-being aspects results in an empirical model elaborating both sides of co-creation, i.e., antecedents and consequences of C2C value co-creation. Another broad reason to adopt the well-being perspective was that wellbeing is the ultimate goal of all healthcare

service stakeholders (i.e., doctors, patients, companions, policymakers, and practitioners).

Wellbeing could be understood from varied perspectives like hedonic, eudemonia, existential, psychological, emotional, social etc. (Diener, 1985; 2018). However, this study confines to subjective wellbeing approach. Subjective well-being could be understood as a 'person's conscious evaluation of his whole life or about specific aspects of his life' (Diener, 1985). Following the above definition, the current project focuses on the consumer's evaluation of the health aspect of his life (for more details refer to literature review sub-section on wellbeing). The study draws support for the 'cocreation-wellbeing' relationship from marketing and health literature. For example, Sharma et al. (2017) asserts that when the healthcare consumer enacts unique co-creation roles, it results in hedonic (sense of happiness) and eudemonic well-being (a sense of purpose). It gives a hint that value co-creation influences well-being. Also, the notion of subjective wellbeing aligns with subjective nature of value realized by health consumer in C2C space. Thus, wellbeing aligned with the current project on C2C value co-creation.

Overall, the current project expects to complement the existing knowledge on doctor-patient value co-creation (Osei-Frimpong et al., 2015; Hardyman et al., 2015) by explaining the co-creation dynamics within C2C dyad using two unique settings as cited above (i.e., Virtual health community setting and Covid-19 liminal situation). The study position patient in the role of resource integrator which is recently recognized within transformative service studies (Virlée et al., 2020a; Hardyman et al., 2015). The work primarily focuses on patient-to-patient dyad but it also considers (directly or indirectly), the other consumption side actors involved in the co-creation process i.e., patient's friends, family members, family doctors, informal care giver, and close companions. This helps to understand the value formation within exclusive consumer network i.e., made up of several C2C dyads. Overall, the study affirms that value co-creation is really possible beyond the focal B2C service dyad and there is lot to learn about value co-creation within consumer ecosystem.

1.3.3 Key research questions

Building on above background, the main purpose of this study was to explore the dynamics of C2C value co-creation in healthcare, especially using virtual health

community and liminal Covid19 settings. The study proposes three major research questions which are subsequently addressed via three separate studies within this project. The proposed questions and sub-questions are as follows:

Research question1: How health consumers co-create value among themselves (i.e., enact C2C co-creation) on virtual health community in the absence of a service provider

Sub-questions:

- *What kind of C2C value co-creation practices are enacted by health consumers on social media spaces?*
- *Is there any specific pattern (positive & negative) of resource integration employed by healthcare customers?*

Research question 2: What challenges consumer experience during liminal time of healthcare crisis and how they overcome them using C2C resource integration?

- *What factors contribute to the vulnerability of healthcare consumers during the COVID-19 pandemic?*
- *How do vulnerable healthcare consumers respond to the COVID-19 pandemic through C2C resource integration practices to realize overall well-being?*

Research question 3: What is the influence of consumers' online social context on their C2C value co-creation behaviours and how this behaviour affects their wellbeing?

Sub-questions:

- *Do health consumers' online social capital affect C2C co-creation behaviors indirectly through a sense of belongingness?*
- *Does C2C value co-creation behaviors imbibe the feeling of subjective well-being among online healthcare actors?*

The above first two research questions are addressed within study 1 and 2. Both these studies are qualitative in nature and relies on Netnographic data. The study 3 addressing third research question relies on empirical investigation where the proposed model is tested using survey data. Overall, the study 1 and 2 are similar in the sense that both uses same methodological approach and study 1 and 3 are similar as they use alike settings (social media platform). The study 1 elaborate on unique value co-creation practices among diabetic patients on the social media health community and study 2

discuses key consumer vulnerabilities experienced during Covid-19 and the unique resources to overcome them. Finally, the study 3 test the relationship between social capital, sense of belongingness, value co-creation and wellbeing thereby elaborating the antecedents and consequences of C2C value co-creation. The above studies use different theoretical notions like study 1 uses practice theory, study 2 uses resource theory, and study 3 uses social capital, need to belong and activity theory. Each of the studies uses a systematic process to collect, analyse and report the data. Significance of the study along with de-limitations, and thesis outline is discussed next.

1.4 Significance and Scope

1.4.1 Significance of the project

With the emerging role of patient as active health partner, it is crucial to understand about their co-creative practices and C2C health interactions (McColl-Kennedy et al., 2017a). Thus, this project (research question 1) adopts the 'consumer ecosystem' logic (Heinonen and Strandvik, 2015; Voima et al., 2010) and elucidates C2C resource integration practices within online consumer space (social media health communities). The study identifies a range of consumer value cocreation practices and further position them across two-dimensional framework (VCC-VCD and Active-Passive style), which offers better clarity regarding consumer VCC practices. Within research question 1, first the study contributes towards the understanding about C2C value co-creation practices, emphasizing the importance of customer sphere (Grönroos & Voima, 2013). Also, the project contributes to less discussed (negative) aspect of co-creation i.e., value co-destruction which in turn help to establish the duality of co-creation and co-destruction within online C2C interactions.

Further, the findings of the project (research question 2) elucidate the nuances of resource access, interaction, and integration within the COVID-19 crisis (liminal) setting. This reflects the emerging health consumer behavior in terms of new ways of resource mobilization and usage. It complements the existing knowledge in two ways. First, it adopts the 'Resourceness' perspective (Peters, 2018) by elucidating how consumers harness their personal or contextual resources by using their capability and agency during the liminal time. Second, it emphasizes the importance of less discussed

operant resources such as physical, psychological, and cultural resources within the context of vulnerability and resilience.

Next, the project (research question 3) highlights how a health consumer's online social capital strongly influences their belongingness to a community which in turn affects their co-creation behavior. This contributes to the knowledge about social capital especially in the context of the virtual space (Lin, 2008). Also, social capital is observed influencing resource contribution in the community within different co-creation behaviors. This converges the two different knowledge areas, i.e., value co-creation theory (Vargo & Lusch, 2004) and social capital theory (Nahapiet & Ghoshal, 1998). Lastly, the study contributes to the scant literature on the outcome of value co-creation. It confirms a relationship between C2C co-creation behaviors (responsible & helping behaviour) and actors' subjective well-being. Overall, the present study contributes to knowledge on antecedents of C2C co-creation on one side (i.e., SC-SOB-VCC) and the consequences of C2C co-creation on the other side (i.e., VCC-SWB).

Overall, the current project (via research question 1, 2, & 3) focuses on consumer activities, their co-creation efforts and C2C practices as being influenced by personal and social resources. It tries to understand the dynamics of value co-creation beyond the focal service context especially using two unique consumer settings i.e., online community's social space and liminal space. In other words, the current work contributes towards the understanding of customer life away from the service providers' influence i.e., understanding beyond the visibility line (Strandvik et al., 2019). In the subsequent chapters, the project explains briefly the co-creative elements of the customer life and his/her ecosystem.

Managerially also, the study has good implications. The study highlights that social capital elements like trust, familiarity, and perceived similarity play a significant role in infusing the sense of belongingness among online actors. Thus, social media managers interested in actors' healthy participation and more belongingness towards their community could harness these factors. Second, based on C2C co-creation behaviors observed in the study, managers could take adequate steps to reinforce information sharing, responsible, and helping habits of community members. In other words, the health community could be made more resource-centric. Similarly, the study offers real implications for resource management during health crisis. It provides

fruitful insights regarding effective resource integration management while designing the healthcare policies to combat the healthcare crisis.

1.4.2 Scope of the study and some delimitations

This study has few delimitations. First, the study adopts the consumer perspective throughout the project thereby exploring C2C interactive practices, vulnerability experiences, resource usage, and consumers' social capital, VCC behaviour and wellbeing. The explicit role of service provider is ignored. In fact, there are online communities where the provider (doctor, paramedics) is actively involved or the complete online community is managed by the provider. Such provider managed platforms are ignored in this work. Also, the study (research question 2) looks at one specific type of crisis i.e., Covid-19 health crisis where the disease is communicable in nature and risk of transmission is high. The study ignores other crisis (health or non-health related) where inherent risk might be low and actors might frequently engage in helping each-other without any fear (like during earthquake, other natural disasters). Second, this project does not turn its attention towards VCC related concepts like co-production, prosumption, and engagement. Instead, it assumes them as a sub-part of value co-creation based on the broader conceptualization of value co-creation within marketing literature. Third, the project confines to two contemporary settings within three research questions i.e., online and liminal space of consumer value co-creation. Thus, it ignores the value co-creation within conventional doctor-patient service encounter in an offline setting. Fourth, with respect to methodology used for research question 1 and 2, only the 'Passive Netnography' is used. Therefore, the study could not accrue the real potential of netnography. However, it helps to avoid the response bias present in active data collection techniques (i.e., interviews, focused group discussion, qualitative surveys). Regarding methodology for research question 3, the study uses single cross-sectional data which sometimes fails to interpret the true representativeness of the consumer behaviour.

1.5 Thesis outline

The complete thesis is structured into six chapters. First is the introduction chapter (discussed above) which gives a short summary of the complete project and especially emphasize on motivation behind work. Second, is the literature review

chapter which gives a broad background on value co-creation, key theoretical perspectives, and important concepts used across the thesis. It helps in understanding/positioning the research gaps in the three separate studies within this thesis. Next, each of the three studies form three separate chapters i.e., chapter three to five. These chapters have their own literature review, methodology, findings, discussion, and conclusion along with theoretical and practical implications. The sixth chapter (last chapter) of this thesis includes general discussion followed by overall implications (both theoretical and practical). It also discusses important limitations and relevant direction for future research.

Chapter 2
Literature Review

The present chapter briefly overviews the important literature on which the three research questions are built. Reading this would help to understand the key terminologies and the contextual meaning of arguments used throughout the study. First, the chapter discusses the relevant logics (service-dominant, customer-dominant, & value co-creation) frequently used in all three research questions. Alongside, it talks particularly about value co-creation in healthcare and social media as a research setting. Next, the chapter introduces value co-creation practice literature to offer support to the first research question, and the knowledge about resources and their role in VCC, which forms part of the second research question. Finally, the chapter discusses the constructs of the empirical model proposed in the third research question. It includes value co-creation behaviors, social capital, a sense of belongingness, and consumer well-being. This chapter's objective is only to familiarize the reader with underlying concepts and ideas; a more specific concepts are discussed in extended or elaborated form while developing the research question and hypothesis. Readers familiar with services and transformative health literature may skip this section and directly read the upcoming section for a specific study dedicated to each research question.

2.1 Value co-creation

2.1.1 SDL: Foundation of Value co-creation

Service dominant Logic (SDL) was proposed by Stephen Vargo and Robert Lusch in 2004 when authors proposed unique fundamental premises emphasizing the importance of a service-centered economy (Vargo & Lusch, 2004; 2008). It has traveled a long way from conventional goods dominant (GD) logic, which considered goods a primary unit of exchange. In GD logic, the customer was perceived as a mere recipient of goods along with some residual services (Vargo & Lusch, 2008). However, the SDL argues that “customers do not buy goods but instead buy offerings that render services to create value. In fact, goods are the mechanism for service provision. For example, people don't buy a car; they buy a bundle of mobilization services” (Vargo & Lusch, 2004). SDL proposes eleven foundational premises. Three most important premises of

SDL are as follows: "*First, Value is always uniquely and phenomenologically determined by the beneficiary. Second, Value is cocreated by multiple actors, always including the service beneficiary. Third, Operant resources are the fundamental source of strategic benefit".* Above premises largely influences the current project. Based on the first premise, the study assumes that patient often realizes value in a unique phenomenological way. Second premise give a hint that there is a necessity to explore end-consumer in healthcare service interactions as service beneficiary is always involved in value co-creation. Third premise help the study to explore how the health consumer's' operant resources help them in surviving the pandemic induced vulnerabilities. Further, SDL argues that to realize the worth (value) of any service exchange, both customer and producer need to play an active role (Vargo & Lusch, 2004). Customer and provider use their knowledge and skills to jointly create value in any reciprocal relationship. This led to the value co-creation concept's development that later became SDL's central tenet (Vargo & Lusch, 2004).

Vargo et al. (2008) defined value co-creation as the integration of existing resources of the two different service systems under certain circumstances, which is beneficial for the welfare of all included parties. Here, the service system means the constellation of actors, resources, and value creation processes representing either the customer or the provider. Thus, the included parties imply customer and provider. The resources integrated by the customer or provider to co-create value broadly fall under two main categories, i.e., operant and operand. Operand (D resources) resources are the ones on which an act is performed to produce an effect, like goods and tangible assets. Operant resources (T resources) are ones that the actor uses to create an effect like knowledge, skills, and core competencies. These resources are explained in detail in upcoming section on resources.

Payne et al. (2008) rigorously explain the notion of value co-creation as to how it is rooted in SDL. The author proposes a value co-creation framework that divides the co-creation mechanism into customer co-creation, supplier co-creation, and service encounter co-creation processes (Payne et al., 2008). Since then, researchers have proposed several definitions of value co-creation (VCC). To cite one of the popular definitions, McColl-Kennedy et al. (2012) define VCC "*as benefit realized from integration of resources through activities and interactions with collaborators in the customer's service network." That is, a multiparty all-encompassing process including*

the focal firm and potentially other market-facing and public sources and private sources as well as customer activities". The author adopts the above definition due to its epistemological relevance to healthcare setting. In-fact, the above definition is developed using the empirical setting of chronic healthcare and thus align with the current study's context.

Few researchers talk about co-creation from the goods dominant perspective and use different terminologies like co-production, prosumption, and co-innovation. However, these concepts are ignored in this work as they consider the customer a mere partner in the production process and reflect the less powerful role of the customer (Terblanche, 2014; Voorberg et al., 2015). The Nordic school of thought (Grönroos & Gummesson, 1985) took a critical stand on SDL viewpoint and asserted that SDL gives an ambiguous and all-encompassing notion of value co-creation where every actor acts as a co-creator. Christian Grönroos (2011), a famous Nordic scholar, argues that SDL propositions imply that the firm is the main in-charge of a value-creating process, and the customer is invited to join as a co-creator. On the contrary, he believes that customers are the real incharge of their value creation, and the service provider could be invited to join this process (Grönroos, 2008). Hence, he labels the service provider as a value facilitator. The author strongly emphasizes the importance of 'value-in-use' and postulates that "value for customers is created during usage by the user, not during production by the producer" (Gronroos, 2011). It means ultimate value realization is in the hands of the consumer. The author creatively designs a 'value-in-use creation' model (see figure 2.1 below) where three spheres represent the co-created value. The first sphere is the production sphere reflecting the provider's value facilitation; the second is the interaction sphere reflecting the joint value creation process; and the third is the customer sphere representing customer value creation (Grönroos & Voima, 2013). This project primarily focuses on the customer sphere while exploring customer-to-customer (C2C) value co-creation.

Lastly, it should be noted that the idea of value co-creation is explored in multiple marketing domains such as tourism, sports, hospitality, sustainability, etc (see Table 2.2 at the end of the literature review section). Reviewing all of them is beyond this project's scope. Here, literature review is limited mainly in the domain of VCC in healthcare along with most relevant seminal studies that help to understand value co-creation as a concept.

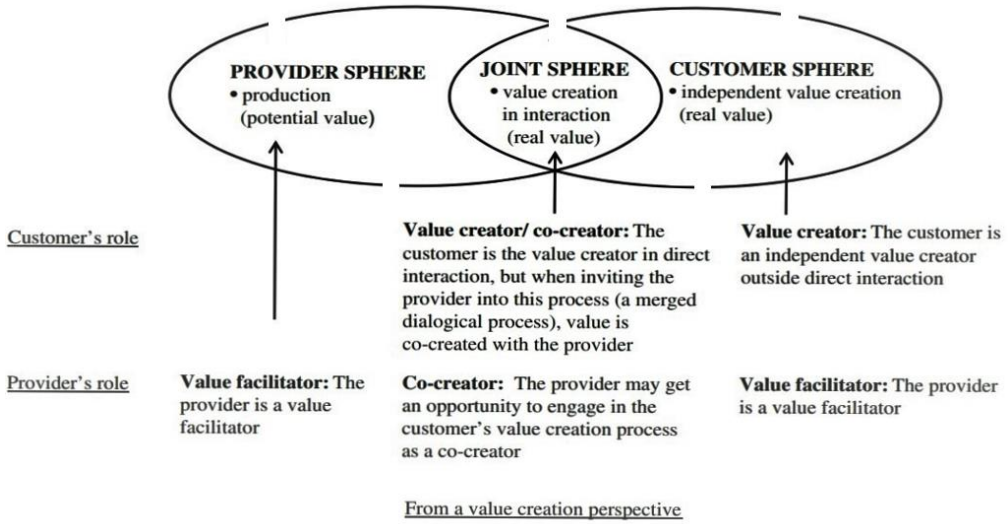


Figure 2.1: Value co-creation sphere (Grönroos & Voima, 2013)

2.1.2 Value Co-creation in Healthcare

Next, since the study confines to healthcare, it first tries to understand the SD logic as positioned for healthcare. Joiner & Lusch (2016) uses an analogy from SD logic literature and argues that tangible offerings of the health system (hospital, equipment, smart medical devices) could not create value for a patient (health consumer) unless the consumer actively participates as a co-creator. Here, the study wants to clarify that marketing literature uses different perspectives of value (Zeithaml, 1988; Holbrook, 2006). However, the current project adopts Heinonen's viewpoint, i.e., "*value emerges when the service provided by the firm and used by the customer becomes embedded in the customer's context, activities, practices and experiences"* (Heinonen et al., 2010).

Understanding about healthcare value co-creation, it is observed that health consumers' co-creation efforts, for example in medical service encounters, are hindered by information asymmetry in the doctor-patient service dyad (Berry et al., 2015). In other words, enacting co-creation is difficult for health consumers as compared to the general consumers. Hence, health consumers are often advised to improve their health literacy and bridge the provider-consumer knowledge gap. Davey & Grönroos (2019) support a similar argument and affirm that complementary health service literacy is fundamental to resource integration within value co-creation activities. Few service

researchers (Sweeney et al., 2015; McColl-Kennedy et al., 2012) extensively research on health consumer value co-creation activities at different stages of service consumption (pre-consumption, during, and post-consumption). Major activities explored were co-learning, collating, connecting, co-production, cooperating, partnering, and controlling (McColl-Kennedy et al., 2012; Sweeney et al., 2015). These activities were dominant even outside the service encounter, like during interaction with other patients, relatives, friends, neighbors, community help centers, and non-government bodies (NGOs), representing both the personal and public resources accessed by the patient. Overall, SDL augments the active co-creative role of health consumers within transformative service literature (Anderson et al., 2013; Ostrom et al., 2015; Hardyman et al., 2015).

The patient's active role as co-creator also aligns with emerging perspectives in medical literature like shared decision-making, patient-centered care, patient centricity, consumer-directed care, home-based care, and holistic care (Spanò et al., 2018; Elwyn et al., 2012; Chinn, 2011; Joiner & Lusch, 2016). Further, the ICT platform and technology (as an operant resource) are observed to empower patients to play a more participative role in healthcare (Honka, 2011; Andersson et al., 2007).

Researchers study value co-creation in healthcare not only at the micro level characterized by doctor-patient dyadic interactions (Osei-Frimpong et al., 2015; Hardyman et al., 2015) but also at higher levels of service ecosystem, i.e., micro, meso, and macro level (Frow et al., 2016; Pinho et al., 2014). Most of these studies rely on the seminal propositions of Vargo & Lusch (2016) that co-creation is a multi-actor phenomenon, including collaborative efforts of different stakeholders at individual and collective levels. Later, Beirão et al. (2017) generated empirical evidence of multi-level value cocreation using an electronic healthcare service ecosystem. Thus, the research on value co-creation is gradually expanding to capture greater depths and dimensions.

To further understand the expanding research on value co-creation in healthcare, the author synthesizes the existing literature and elaborate the key issues addressed in the last 10 years (2012-2023). The author elucidates the whole trajectory of these ten years via important events triennium wise. It starts with the year 2012 which observes the first seminal article on value co-creation in healthcare (McColl-Kennedy et al., 2012).

- Year 2012-14: In this time, the value co-creation idea was adopted in the healthcare services area. The researchers observed that unlike other services, the healthcare could also be the fertile field where consumer can co-create equally with the service provider (McColl-Kennedy et al., 2012; Rehman et al., 2012). Scholars learned about the ways to involve patients (health consumers) in healthcare service development and healthcare service delivery, especially using the SD logic evolved in marketing (Elg et al., 2012). Here, the dyadic perspective is adopted by large number of scholars wherein the co-creation efforts are explored within 'doctor-patient' interactions (Wilson & Osei-Frimpong, 2013). This period was also important, as the first scale to measure VCC was developed by Yi and Gong (2013) during this period. Here, the researchers started exploring medical encounters from the VCC lens (da Silva, & Farina, 2013). The idea of C2C value co-creation depicting social layers within co-creation also originated in this period (Rihova et al., 2013). Overall, this phase was attributed to early development of a cocreation-based healthcare service system.
- Year 2015-17: During this phase, scholars started exploring co-creation beyond dyadic view. They try to look at how does value co-creation occurs among multiple actors within the complex healthcare services (Pinho et al., 2014). The attention shifts towards meso and macro levels of healthcare service ecosystem (Akaka & Vargo, 2015; Frow et al., 2016). However, there were few scholars who still deepened their understating about micro level VCC in healthcare. They started looking at multiple forms of co-creation and active dyadic patient engagement (Hardyman et al., 2015). Next, this period observes the beginning of digital frameworks getting integrated with healthcare VCC models (Rantala, & Karjaluoto, 2017; Van Oerle et al., 2016). It observes how the digital institutions accelerate the resource integration among medical professionals, patients, patient's friends, relatives, and overall ICT health service ecosystem. Some researchers also pop up on 'VCC in online health communities' within this time-frame (Van Oerle et al., 2016; Amann & Rubinelli, 2017).
- Year 2018-20: This phase observed a strong development in the online aspects of VCC in healthcare. For e.g., scholars tried to explore how the patient's co-creation activities are influenced by online information accessed by them (Osei-

Frimpong et al., 2018). The focus was on empowering health consumers to actively co-create with medical professionals via ICT platforms. VCC was adopted at a broader level where co-creation was linked to patient empowerment and service satisfaction (Moretta Tartaglione et al., 2018). Interestingly, this period also marks the adoption of value co-destruction idea within transformative healthcare services. Studies found that information and knowledge processes in healthcare could results in value co-destruction in parallel to co-creation (Kaartemo & Känsäkoski, 2018). Further, during this time the studies were talking not simply about 'value' but 'sustainable value' in healthcare. They mention how the patient-driven healthcare could create a sustainable value, both for the patient and the medical service providers (Russo et al., 2019). Overall, the studies perceive health consumers beyond the role of service partner; they were assumed to act as resource integrator who mobilizes, integrate, or reintegrate the resources at individual and systemic levels (Virlée et al., 2020).

- Year 2021-23: This is the contemporary phase of VCC in healthcare. It observes strong connections of VCC with modern technology like Augmented reality, Service robots, IoT, and Artificial intelligence (Lee, 2019; Mele et al., 2022). Studies explore the unique ways in which the health consumers co-create with the non-human service providers i.e., cognitive assistant or robots (Mele et al., 2022). Many of the studies focus on aged care where the health consumer was found interacting and co-creating with robot assistants (Robillard & Kabacińska, 2020). Smart nudging, Agile co-creation, Robots in value co-creation, and smart sensing health technology were some of the important topics discussed in healthcare VCC context during this period. Here, the researchers argue that AI-enabled value co-creation is going to transform the healthcare services especially by improving the patient's digital self-efficacy and relational service quality perceptions (Swan et al., 2023).

The above changes in healthcare VCC area in the last decade reflects some important shifts, like the dyadic to ecosystem view, provider to customer centric services, service interaction to resource interaction/integration. However, the key gap that is relevant to this project is that most of the studies were focused on provider-customer (B2C) co-creation activities or co-creation within service network. The research on C2C value co-

creation i.e., patient-to-patient resource integration practices or co-creation within patient's broader ecosystem was largely absent in the literature. Hence, this gap was exploited in this project by adopting the C2C value co-creation lens (for specific details about earlier VCC studies within healthcare and their key focus, refer to table 2.1 below).

Table 2.1: Earlier Value co-creation studies in healthcare and their key Focus

No	Purpose of the study	Method adopted	Contexts	Focus	References
1	To investigate value co-creation processes from the focal dyad of the patient and the physician and how their experiences in the consulting room affect the value that is created.	Semi-structured interviews (CIT) were conducted with 8 doctors and 24 outpatients in selected hospitals in Ghana	B2C value co-creation Healthcare service encounters	B2C value co-creation	Osei-Frimpong, K., Wilson, A., & Owusu-Frimpong, N. (2015). Service experiences and dyadic value co-creation in healthcare service delivery: a CIT approach. Journal of Service Theory and Practice, 25(4), 443-462.
2	To empirically understand the value co-creation process especially the doctor-patient encounter process	Phenomenological qualitative approach is used where 34 outpatients and 10 doctors are interviewed.	Experiences in the consulting room	B2C value co-creation	Osei-Frimpong, K., & Owusu-Frimpong, N. (2017). Value co-creation in health care: a phenomenological examination of the doctor-patient encounter. Journal of Nonprofit & Public Sector Marketing, 29(4), 365-384.
3	To investigate health care customer value cocreation empirically, identifying what customers actually do when they cocreate value	Interpretive analysis of 4 focus groups and 20 in-depth interviews	Health outpatient clinics especially the oncology polyclinics	B2C value co-creation	McColl-Kennedy, J. R., Vargo, S. L., Dagger, T. S., Sweeney, J. C., & Kasteren, Y. V. (2012). Health care customer value cocreation practice styles. Journal of service research, 15(4), 370-389.
4	To formulate a new archetypical	Qualitative analysis of 20	Archetypes of patient–	B2C value co-creation	Riotta, S., & Bruccoleri, M.

	model that describes and re-interprets the patient–physician relationship from the perspective of value co-creation (VCC) and defensive medicine (DM).	in-depth interviews with doctors (and patients) about their past relationships with patients (and doctors).	physician relationships		(2021). Revisiting the patient–physician relationship under the lens of value co-creation and defensive medicine. Journal of Service Theory and Practice, 31(6), 868-892.
5	To elaborate the micro-level approach of studying value co-creation and patient engagement in health care encounters.	Conceptual Paper	Conceptual discussion centred on 'joint sphere' of value co-creation and patient engagement in healthcare interactions	B2C value co-creation	Hardyman, W., Daunt, K. L., & Kitchener, M. (2015). Value co-creation through patient engagement in health care: a micro-level approach and research agenda. Public Management Review, 17(1), 90-107.
6	To test a co-creation model, where partners engage in a service interaction using their operant resources.	Mixed method approach (qualitative interviews + survey-based experiment)	dyadic service relationship in healthcare and education	B2C value co-creation	Tari Kasnakoglu, B. (2016). Antecedents and consequences of co-creation in credence-based service contexts. The Service Industries Journal, 36(1-2), 1-20.
7	To explore customer value co-creation within a partnership model of health care and classify the nature of activities clients engage in that might be considered customer value co-creation oriented.	The study uses a subjective personal introspection (SPI) approach.	New Zealand midwifery service which delivers health care within a partnership model known as Midwifery Partnership Model (MPM)	B2C Value co-creation	Krisjanous, J., & Maude, R. (2014). Customer value co-creation within partnership models of health care: an examination of the New Zealand Midwifery Partnership Model. Australasian Marketing Journal, 22(3), 230-237.
8	To identify customers' service network partners in medical encounters and demonstrate the	Quantitative analysis using structural equation modelling based on data collected from	Orthopaedic in-patient department	Service network co-creation	Kim, J. (2019). Customers' value co-creation with healthcare service network partners: The moderating effect of consumer

	extent to which customers' evaluation of each co-creation practice with their service network partners affects their perceived service quality and satisfaction.	164 inpatients from orthopaedic department			vulnerability. Journal of Service Theory and Practice.
9	To identify the hierarchy of activities representing varying levels of customer effort from complying with basic requirements (less effort and easier tasks) to extensive decision making (more effort and more difficult task) in healthcare	Mixed method approach (Qualitative in-depth interview + Rasch Modelling + Structural equation Modelling)	Uses three chronic diseases settings i.e., cancer, heart disease, and diabetes	Service network co-creation	Sweeney, J. C., Danaher, T. S., & McColl-Kennedy, J. R. (2015). Customer effort in value cocreation activities: Improving quality of life and behavioral intentions of health care customers. Journal of Service Research, 18(3), 318-335.
10	To develop a typology of co-creation practices that shape a dynamic health care service ecosystem along with identifying the indicative measures of co-creation practices and proposing future research agenda.	Conceptual and review-based work offering propositions	Healthcare service ecosystem	Service ecosystem co-creation	Frow, P., McColl-Kennedy, J. R., & Payne, A. (2016). Co-creation practices: Their role in shaping a health care ecosystem. Industrial Marketing Management, 56, 24-39.

2.1.3 Customer Dominant Logic

In an earlier section, we understand service-dominant logic and how it provokes active customer participation as a co-creator in healthcare services. This section is

dedicated to the customer dominant (CD-logic) proposed by Heinonen et al. (2010), which criticizes SDL stating that SD logic is more of an interaction-dominant logic. SDL implies that the service provider dominates the 'customer-provider' interaction, and what the customer does with the service is still unclear (Heinonen et al., 2010). Heinonen and her colleagues from Hanken school primarily build their arguments using literature on consumption practices (Holt, 1995), phenomenological value realization (Gronroos, 2011), and consumer culture theory (Arnould and Thompson, 2005). They argue that there is a strict need to understand how customers construct their experience of value through a sense-making process. The CD logic relates to SDL by connecting 'value-in-use' to the customer's 'value-in-experience' (Heinonen et al., 2013). In a way, it explains the mechanism behind value-in-use by exploring how value is embedded in customers' daily actions and experiences.

On a broader level, the critical difference between SD logic and CD logic is that the former focus on customer activities and joint (provider-customer) experiences related to service while the latter concentrates on the complete customer world where service 'fits-in' to sense the value. Also, the value which coheres within the customer world is often unknown to the service provider. Some conventional marketing perspectives aligned with CD logic are customer centricity, customer value, consumer culture theory (CCT), and consumer agency (Levitt, 1960; Holbrook, 2006; Arnould & Thompson, 2005; Marsden & Littler, 1996). Interestingly, CD logic has opinions similar to SD logic on specific grounds. For example, just like SDL, it argues that the providers' job is to support customer value creation (Heinonen et al., 2010).

CD logic assumes the creative meaning of value-in-use, i.e., it believes that value is not created in a pre-planned manner; instead, it 'emerges' gradually (Heinonen et al., 2010). The word 'emerges' signifies something pops up in the mental process of the actor. Chances of similar unexpected 'value emergence' is highly possible in healthcare which is inherently characterized by credence attributes (Berry et al., 2015). For example, when doctor express sympathy to health consumer, they perceive it as the sign that something is serious about their health like they are more susceptible towards terminal illness. Such thoughts are consumers' self-created perceptions. Further, it should be noted that like SDL recently propagates at the upper abstract level within the macro service ecosystem (largely provider dominant), CDL moves towards the consumer (customer dominant) ecosystem. CD logic argues that the customer world is

not purely subjective and experienced in intact form; instead, it is influenced by the dynamic realities of the 'Relative world' (Heinonen et al., 2013). The consumer ecosystem viewpoint talking about the relative world is still fresh and in its infancy. The consumer ecosystem is discussed separately under study 1 (in chapter 3). To understand the difference between SDL and CDL, refer to table 2.3 below.

Table 2.3: Differences between SDL (provider dominant logic) and CD logic (sourced from Heinonen et al., 2013)

	Provider Dominant Logic *Value creation is orchestrated by the service provider*	Customer Dominant Logic *The customer orchestrates and dominates value formation*
How	• Value is created • Value creation is based on a structured evaluation	• Value is formed • Value formation is based on the emerging process
Where	• Value is created int eh interaction • Value creation takes place in the control zone of the company	• Value is formed in the life and the ecosystem of the customer • Value creation takes place in the control zone of the customer
When	• Value is created when the company is active • Value-in-exchange/value - in-use	• Value formation is temporal and not directly related to company activities • Value-in-use/value-in-experience
What	• Value creation is defined by the service provider • Value is based on the customer perceptions of company created value propositions	• Value formation is determined by the customer relative to alternatives on multiple levels • Value sis based on experience of customer fulfilment
Who	• Value creation is idiosyncratic • Value unit is an individual and can be grouped into segments	• Value formation is also collective and may be shared • Value unit consist of different configurations of actors

Despite the above differences (See table 2.3) highlighted in literature, sometimes scholars appear to lack clarity as to how these logics are conceptually different from each-other. To clearly elucidate these differences, I would like to highlight the Heinonen et al. (2010) argument that CDL is not a subset of SDL but a completely different perspective, in which the customer is the central focus instead of

service, the provider/producer, or the service ecosystem. Heinonen also argues that unlike the traditional notions of customer-orientation, CDL does not focus on what the firm can do for customer, the focus is on what customers are doing with service to accomplish their own goals (Heinonen et al., 2010, Paunonen, 2019). The difference between SDL and CDL is also reflected in the terms of value as perceived within both the logics. SDL determined that subjective value was influenced by the firm through value propositions. On the other hand, CDL believes that customer will experience an idiosyncratic value within their ecosystem, and they may choose the level of influence the firm will have on that value (Heinonen and Strandvik, 2015; Paunonen, 2019). Hence, CD logic seems to be a better logic to understand value co-created within the customer world.

Augmenting above thoughts on realizing the importance of CD logic to understand he customer life, the Seppänen et al's study (2017) elaborated upon the characteristics of CD logic using case study from healthcare organization (i.e., Welfare center in the Finnish Healthcare System). Their study classifies all the elements of everydayness in customers' lives into five key categories i.e., elements of home life, elements of work & societal life, elements of social life, elements of mobility of life, and elements of wellbeing. These categories reflect the existence of CD logic in real healthcare setting. Thus, Seppänen et al (2017) findings additionally motivate this project to look at healthcare from CD logic perspective.

CD logic discussed above triggers the interest of researchers in customer-to-customer value co-creation. C2C cocreation's central focus is the 'customer sphere' which was described as an exclusive space in the value-in-use creation model (Gronroos, 2011). Customer focus took a greater importance as SDL went through revisions and reflections on some of its foundational premises (FP). For example, FP10 states that *value is always uniquely and phenomenologically determined by the beneficiary* (Vargo & Lusch, 2016). In a way, both CDL and SDL agree on the focal importance of customer phenomenological experiences. CD logic extends the notion of 'value in use' to 'value in experience' especially considering the customer's social experiences. For this, it uses the perspective of phenomenology and lived social experiences (Helkkula et al., 2012). Here, the social element signifies other customers in the network who jointly share their experiences and help the actor in collective value creation. In other words, C2C co-creation discusses inter-subjective value as compared

to intra-subjective value emphasized in B2C (provider-to-customer) co-creation. Even before CD logic, C2C co-creation was indirectly reflected within conventional marketing concepts like consumer engagement (Brodie et al., 2011), C2C interactions (Kim & Choi, 2016; Heinonen et al., 2018), and consumer's joint experiences (Prahalad & Ramaswamy, 2004).

2.1.4 C2C value co-creation

In the above section, the CD logic emphasizes the importance of other fellow customers in the value co-creation setting. This importance of other customers increases substantially for complex services like healthcare, where support is always required due to low health literacy, lack of creative self-efficacy, and patient-doctor information/communication gap. Baron & Harris (2008) explore inter-customer value co-creation for the first time when they observe a group of customers integrating their resources to save a local cinema hall. Since then, few other researchers have explored C2C co-creation within different sectors like hospitality & leisure (Rosenbaum, 2008), festivals (Gibson & Connell, 2012), and sports (Pongsakornrungsilp & Schroeder, 2011). For brief understanding about some recent studies on C2C value co-creation, refer to table 2.4 at the end of this sub-section on C2C value co-creation. These recent studies (depicted in table 2.4) clearly infers that although, there is a growing attention of marketing researchers towards C2C value co-creation, but research exploring customer-to-customer (patient-to-patient) value co-creation in healthcare is missing. Here, Rihova et al.'s (2013) conceptual study within tourism setting is of prime importance for this project (for RQ1). It proposes four important layers of C2C co-creation and labels them under the customer social sphere. The study reinforces the importance of other customers in the social network during the co-creation process. Rihova et al (2013) defines C2C value co-creation "*as a dynamic and holistic phenomenon that is embedded in customers' social sphere and at the same time can progress through multiple social layers".* Multiple layers of value co-creation imply that co-creation is a complex process and invisible at the surface level, especially to actors outside the consumer world, i.e., service providers (Medberg & Heinonen, 2014). The value formed within this social sphere often differs from that offered by service providers during service provision (Tynan et al., 2014; Ratten, 2022).

The above discussion provides a good understanding about C2C value co-creation. Since, this C2C co-creation is the focal point of the current study, the author explains the value co-creation trajectory connecting value across SD and CD logic. Here, SD logic largely reflects the value within B2C co-creative settings while CD logic explains the value emerged in C2C settings. The said trajectory is discussed next by elaborating important changes across the last 18 years (2004-2021). Year 2004 is selected as the starting point because the first seminal article on value co-creation was published by Stephen Vargo and Robert Lusch in the year 2004 (Vargo & Lusch, 2004). Here, the study depicts the key development using the set of three periods, each comprised of six years.

- Key developments in first span (2004-2009): During this period, the concept of value co-creation evolves which was largely rooted in service dominant logic (Vargo & Lusch, 2004). It assumes that service is the focal unit of value-based business transactions. Value co-creation was observed as resource centric process where the actors integrate the resources (operant or operand) to realize value. During the same period, co-creation was observed as joint experiences evolved within provider-customer relationship (Prahlad & Ramaswamy, 2004). Later, the marketing scholars adopt this VCC idea within branding and propose a 'Brand co-creation' concept (Merz et al., 2009). During this phase, Payne et al. (2008) clearly explains the process of value co-creation which was earlier considered as Blackbox in VCC literature. The authors argue that co-creation largely has three components i.e., customer co-creation, supplier co-creation, and joint value co-creation (Payne et al., 2008). This helped the scholars to better understand the value co-creation activities within provider-customer (B2C) dyad in any organization.
- Key developments in second span (2010-2015): During this period, the value co-creation literature progresses on two fronts. First, the studies probe deeper into the resource dynamics exploring the types of resources, pattern of resource integration, and the different styles of integrating the resources like homopathic and heteropathic resource integration (Kleinaltenkamp et al., 2012). Second, the studies broaden the VCC knowledge by positioning it outside marketing domain. For example, 'Public Service Dominant Logic' that elaborate the co-creation principles within public sectors was proposed in this period (Osborne

et al., 2013). Also, value co-creation was observed as collective phenomenon where value could be co-created in harmony or in conflict among multiple actors (Laamanen et al., 2015). Additionally, this phase was important in the sense that few parallel streams of knowledge has emerged in this time. These knowledge streams criticize VCC as exemplified within SD logic. Value co-destruction (Plé, & Cáceres,2010) and the Customer Dominant Logic (Heinonen et al., 2010) are the two important knowledge areas among them. While VCD believes that value could also be co-destroyed within services, the CD logic assumes that provider is only the facilitator of value and the real value is phenomenologically realized by end consumer.

- Key developments in third span (2016-2021): This span can be considered as the contemporary period of VCC development. Here, value was observed from ecosystem perspective. Actors are found to co-create value not only with actors in the dyadic relationship at micro level (like with immediate service providers or fellow customers), but also with actors at higher levels of service system (like government bodies, regulatory agencies, and social groups) representing meso, macro, and mega levels of service ecosystem (Vargo et al., 2017). During this period, orientation of value shift towards social value, reflecting sharing of resources among fellow consumers who have common interest and wellbeing goals (Ratten, 2020). Such trend is even reflected within evolving concepts integrating social and co-creation aspects like value in social context, socially constructed value, and embedded nature of co-created value (Vargo et al., 2017). This social value was prominently linked to C2C co-creation as consumer communities largely represents the socially embedded value. Lastly, this period marked the integration of VCC with modern IT concepts like artificial intelligence, robots in services, self-service technology, and augmented reality-based service experiences.

Further, few researchers label the value formed in the C2C dyad as social value (Loane & Webster, 2014). The social value could also be interpreted as network value. Such concepts of social or network value within C2C co-creation relate to the third question of this project, where social capital and value co-creation is jointly investigated. Lastly, the C2C co-creation cited above is explored in literature from two

viewpoints: the resource integration approach and the social practice lens. Both these perspectives are briefly explained in the coming section under the resources and practices sub-headings.

Table 2.4: Existing studies on C2C value co-creation across different areas of marketing

S. No	Author & Year	Purpose/Focus of the study	Contexts	Method adopted	Key Findings	References
1	Uhrich, 2014	To understand customer-to-customer value co-creation by identifying where (platforms) and how (practices) team sports customers create value with one another	Professional team sports setting	Multi-method qualitative research approach including in-depth interviews, naturalistic observation and netnography.	Data reveal five customer-to-customer co-creation practices that occur across these platforms: associating and dissociating, engaging and sharing, competing, intensifying, and exchanging.	Uhrich, S. (2014). Exploring customer-to-customer value co-creation platforms and practices in team sports. European Sport Management Quarterly, 14(1), 25-49.
2	Reichenberger, 2017	To examine the social practice of customer-to-customer value co-creation	Tourism (visitor-visitor interaction)	Qualitative in-depth interview approach	Results show that value co-creation is not necessarily dependent upon the underlying social interactions but predominantly influenced by personal factors and attitudes towards sociability	Reichenberger, I. (2017). C2C value co-creation through social interactions in tourism. International Journal of Tourism Research, 19(6), 629-638.
3	Rihova et al., 2018	Aims to explore specific customer-to-customer (C2C) co-creation practices and related value outcomes in tourism.	Festival context (Tourism setting)	Qualitative interview- and observation-based methods are adopted	Identified a set of C2C co-creation practices, placing them on a continuum of autotelic instrumental and private-public practices. Also, four value-outcome categories are discussed: affective, social, functional and network value.	Rihova, I., Buhalis, D., Gouthro, M. B., & Moital, M. (2018). Customer-to-customer co-creation practices in tourism: Lessons from Customer-Dominant logic. Tourism Management, 67, 362-375.

4	Melvin et al., 2020	To explore the family engagement practices within tourist attractions and to observe its impact on experience outcomes	Focus on the intimate social context of families' collective engagement practices	Adopt a multi-stage and multi-method qualitative research design approach	Identifies seven practices through which families engage with attractions, including: absorbing, interacting, information sharing, explaining, constructing meaning, competing and deviating.	Melvin, J., Winklhofer, H., & McCabe, S. (2020). Creating joint experiences-Families engaging with a heritage site. Tourism Management, 78, 104038.
5	Pandey, & Kumar, 2020	Aims to identify and classify the types of value stemming from cooperative creation of experience among customers present in various social and interaction-rich service settings	Uses context of different interaction-rich service setting	Uses exploratory qualitative study especially the phenomenological in different interaction-rich service setting	The study observes values as classified into hedonic value, atmospheric value and economic/utilitarian value.	Pandey, S., & Kumar, D. (2020). Customer-to-customer value co-creation in different service settings. Qualitative Market Research: An International Journal.
6	Kim et al., 2020	To examine how other customers' value creation (i.e. passion) and destruction (i.e. dysfunctional behavior) factors influence focal customers' perceived value (i.e. economic, social, emotional, and epistemic), which in turn leads to customer citizenship behaviors (i.e. helping behavior and word-of-mouth).	Sports service context	Quantitative structural equation modelling method	The results of structural equation modelling indicated that other customers' passion had a positive influence on focal customers' economic, social, emotional, and epistemic values (i.e. customer-to-customer value co-creation).	Kim, K., Byon, K. K., & Baek, W. (2020). Customer-to-customer value co-creation and co-destruction in sporting events. The Service Industries Journal, 40(9-10), 633-655.
7	Tinson et al., 2021	Aims to investigate the ways in which value is disrupted in contemporary football fandom, in a context of increasing commercialisation and marketisation	Uses a sports consumer context (contemporary football fandom)	Multi-method triangulation approach, using an online discussion forum and in-depth interviews.	Fans show that they can compensate to deal with disruptions and recover value for themselves as well as other fan actors on different platforms.	Tinson, J., Sinclair, G., & Gordon, R. (2021). How value is disrupted in football fandom, and how fans respond. European Sport

						Management Quarterly, 1-18.
8	Cerdan Chiscano, & Darcy, 2021	Aims to identify C2C social practices that occur among customer with disabilities and their related value, leading to either inclusion or exclusion.	Context of heritage sites	Uses a qualitative ethnographic techniques, interviews and observation methods.	Study found that there are two group of practices: Practices through which CwD are immersed in the inclusive experience and Non-identified C2C social practices that lead to exclusion of CwD (customers with disability)	Cerdan Chiscano, M., & Darcy, S. (2021). C2C co-creation of inclusive tourism experiences for customers with disability in a shared heritage context experience. Current Issues in Tourism, 24(21), 3072-3089.
9	Brown, 2022	To better understand the festivalgoers' experience by determining what festivalgoers want at UK rock music festivals	Uses setting of festivalgoers' experience	Qualitative semi-structured interview approach	Study offers a conceptual model of the festivalgoer experience and also revealed the importance of cocreation and engagement through each phase of the festivalgoer experience.	Brown, A. E. (2022). Co-creation and engagement: what festivalgoers want in the UK rock festival experience. Event Management.

10	Cerdan Chiscano, 2023	To explore the social practices involved in customer-to-customer (C2C) value co-creation and the resulting value outcomes especially which is out of leisure provider's control	Socially dense leisure experience settings (i.e., 12 Families of children with disabilities attending a classical music performance)	Adopts a multi-method qualitative research approach	Identified three emergent invisible value factors beyond the leisure provider's control and three hidden value outcomes.	Cerdan Chiscano, M. (2023). Co-creating family-inclusive leisure experiences: A study of Barcelona's Gran Teatre del Liceu opera house. Journal of Leisure Research, 1-21.

2.1.5 Practices in Value Cocreation

This section focuses on understanding the relation between value co-creation and practices. First, the social practices literature is reviewed to understand the practice elements, and then its role in value co-creation processes is elaborated.

2.1.5.1 Practice Theory

Researchers in sociology consider practices as the social phenomenon explaining social entities like individual actions, institutions, and structures (Giddens, 1984; Bourdieu, 1977; Miettinen et al., 2012; Spaargaren et al., 2016; Schatzki, 1996; 1997). In-fact, Ludwig Wittgenstein argues that intelligibility structures both the individuals' mind and their social realm (Schatzki, 1996). Thus, 'individuality' and 'sociality' together define the practices. Sometimes, the researchers use 'social order' instead of 'sociality' terminology. The social order signifies companionship or

coexistence of actors. Actor co-existence reflects many individuals living together, forming a context within which the same individuals act independently (Schatzki, 1996). This co-existence of actors aligns with C2C dyad of value co-creation. Later, Reckwitz (2002) explains 'practice' as the smallest unit of social analysis to simplify further. He quoted as follows:

A 'practice' (Praktik) is a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge.

.....Pg. 249, Reckwitz (2002)

Further, looking at practice from social interaction lens (Schatzki, 1996; Warde, 2005), it is found that during multiple social interactions, an actor performs different routinized practices and integrates the resources to co-create value (Ramaswamy, 2011; Vargo and Lusch, 2011). Hobfoll (2002) proposes that these resources integrated within specific practices could be individual or social in nature. Many studies (Andreu et al., 2010; Cambra-Fierro et al., 2018; Echeverri and Skålén, 2011; Nambisan, 2009) explore how the consumer or firm resources are integrated into the value co-creation journey. However, most of these works emphasize joint resource integration practices ignoring the resource usage by exclusive (C2C) consumer networks. Hence, practice theory seems relevant within C2C context of the current project

2.1.5.2 Value co-creation practices

Literature confirms that the social practice lens broadened the application of VCC across different areas of marketing. Some of these areas are brand co-creation practices (Skålén et al., 2015), B2B co-creation practices (Pathak et al., 2022), experience co-creation practices (Lugosi et al., 2020), tourism co-creation practices (Rihova et al., 2018) and transformative value co-creation practices (Frow et al., 2016). In fact, social practice theory is often used in different versions (like market and consumption practices) within a business context (Akaka et al., 2014; Schau et al., 2009). Here, the project concentrates on consumption side practices as the VCC studies primarily focus on provider-customer interaction practices ignoring the inter-customer practices (Galvagno & Dalli, 2014; Grönroos, 2015). Thus, exploring exclusive C2C

practices is worth considering. Next, the study briefly mentions the key practices (from B2C angle) explored within marketing literature.

The general practices evident in marketing studies, especially within B2C co-creation settings, are governing, justifying, documenting, staking, customizing, commoditizing (Schau et al., 2009), interacting, identity, and organizing (Skålén et al., 2015). Some more practices noted in the literature were co-learning, collating information, connecting, partnering, team management, controlling (McColl Kennedy et al., 2012), value signaling, enacting investedness, and socialized performances (Lugosi et al., 2020). Few researchers also talk about practices purely from B2B side. Those practices include co-ideation, co-testing, designing, launching, integrating complementary assets, and strategic integration (Marcos-Cuevas et al., 2016; Hein et al., 2019). All this gives a brief overview about value co-creation practices as discussed in marketing.

2.1.5.3 Value co-destruction practices

Some of the emerging studies extend the crucial role of practices in co-destroying value. They confirm that incongruent practice elements may lead to value co-destruction (VCD) instead of value co-creation (J¨arvi et al., 2020; Echeverri and Skålén, 2011; Plé and Cáceres, 2010). VCD is formally defined by Plé & Cáceres (2010) in a seminal article on VCD as follows:

value co-destruction can be defined as an interactional process between service systems that results in a decline in at least one of the systems' well-being (which, given the nature of a service system, can be individual or organizational)

(pg. 431, Plé & Cáceres, 2010)

They argue that value co-destruction occurs mainly due to the misintegration of resources by at-least one of the service systems involved in value creation interactions. For example, time is one such resource. Suppose customers expect their service provider to spend more time in service encounters, and the provider plans to reduce his service time (per customer) to serve more clients; this could be considered resource (time) misintegration, especially from the providers' perspective. The healthcare system is more prone to such resource mis-integration due to differences in knowledge and other resource pool among both the systems (i.e., medical service provider system and patient

beneficiary system). Earlier studies explore value co-destruction in different contexts like tourism (Arıca et al., 2022), hotels (J¨arvi et al., 2020), online networks (Bidar et al., 2022), and travel communities (Lv et al., 2021).

The common VCD practices identified by past researchers are complaining (Dolan et al., 2019), bad interpersonal communication, negative information interaction, irresponsible customer behavior, employee contract violations (Arıca et al., 2022; Guan et al., 2020), vandalism (Yin et al., 2019), microblogging (Jayashankar et al., 2019), and the misaligned cognitive scripts (J¨arvi et al., 2020). Most of these studies have occurred recently (2017-2022); thus, work on value co-destruction is still emerging. Additionally, none of the work explores the co-destruction practices within the C2C network. This motivates this project to look at VCD activities alongside positive VCC practices in C2C network.

2.1.6 Resources in value co-creation

2.1.6.1 Operant and Operand resources in VCC

Resources are given prime importance in VCC literature as it is considered important entity helping the actors (firm or customer) to co-create value (Barney, 1991; Baron & Harris, 2008). VCC proponents (Stephen Vargo, Robert Lusch, Adrian Payne, Christian Grönroos, Johanna Gummerus; Päivi Voima) both within SD logic and service logic consider customers as resource integrators (Vargo & Lusch, 2004; Vargo et al., 2008; Gronroos, 2011). Literature affirms that actors in the value co-creation process broadly integrate two types of resources—the operant resources and the operand resources. Vargo & Lusch (2004) define both these resources in their seminal article on co-creation. As per Vargo & Lusch

> *Operant resources are the resources 'employed to act on operand resources or other operant resources'*
>
> *Operand resources are the resources on which an operation or act is performed to produce an effect'*
>
> Pg. 59 Vargo & Lusch (2004)

Knowledge/skills or actor competence are the most frequently used operant resource (Waseem et al., 2018; Neghina et al., 2017). For example, whenever a

company promotes their product/services to the customers, the customer accesses its value using their knowledge and skills. In other words, customers use their operant resource (knowledge) to act upon the offered resources (promotional information). Similarly, the information platform often serves as an Operand resource because the actor acts on it to realize its true meaning. For example, an online platform like company website offers a large amount of product information, but it does not guarantee that customers will buy the products. The underlying reason is 'platforms' are purely operand entities that cannot elicit any actions (to buy or not to buy the product) unless the actor acts on it using their product knowledge or product experiences.

Other than knowledge and skills, 'willingness' for co-creation emerge as the popular operant resource that customer uses (Neghina et al., 2017). Brief about the context in which these resources are explored in earlier studies is depicted below in the table 2.5.

Table 2.5 Brief context in which the earlier studies explore resources within their research

Resource	**Context**	**Study**
customer knowledge	Social media	He et al. (2019)
	Hotels	Guan et al. (2018)
	Furniture	Koniorczyk (2015
	Tourism	Shin et al. (2020)
	Sports	Uhrich (2014).
customer skills	Brand tourism	Liu et al. (2021)
	Retail	Andreu et al. (2010)
	E-commerce	Barrutia et al. (2016)
	Gaming	Hussain et al. (2023)
Willingness	Technology-based services	Heidenreich & Handrich (2015)
	Generic services	Neghina et al. (2017)
	food and wine industry	Rachão et al. (2020)

2.1.6.2 Resource typologies

Initially, the service researchers draw this idea of resources from the resource-based view (RBV) and resource advantage (RA) theory discussed within organization management studies. RBV explains resources as follows:

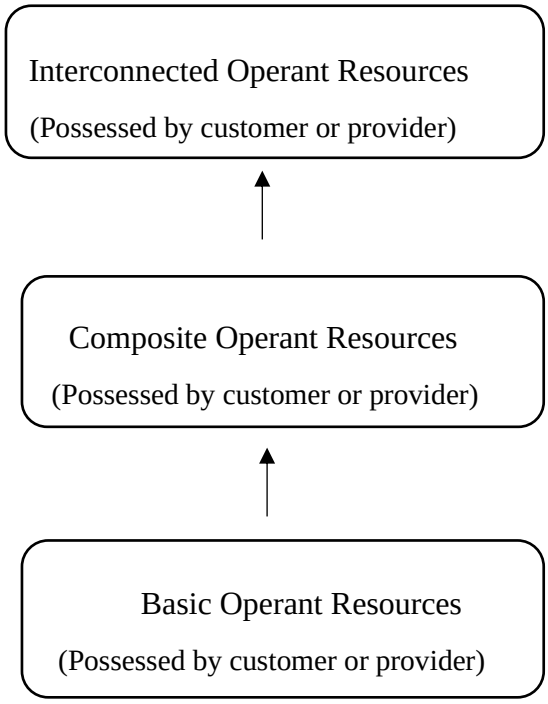
Resources represents all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc., controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness

Pg.7, Barney, 1991

RBV considers that resources, when used positively, could help the firm achieve a competitive advantage. However, a firm's resource usage depends on the surrounding context (like external firm strategy, government policies, market characteristics, competitors, customers, etc.) and thus demand more categorization (Armstrong and Shimizu, 2007).

Later, Hunt and Morgan (2005) propose a resource advantage theory categorizing the resources into tangible and intangible factors for strategic advantage. Next, Madhavaram & Hunt (2008) classify the firm resources into a basic and higher order. However, the drawback of all these studies (cited above) was that their primary orientation was firm (producer) resources. SD logic fills this gap by focusing on customer resources. SDL emphasizes customers' operant resources using consumer culture theory (Arnould et al., 2006) and customer resource perspective (Baron & Harris, 2008; Constantin & Lusch, 1994).

Arnould et al. (2006) has done extensive research on customer resources and propose a resource-typology suggesting three broad sets of resources often integrated by actors i.e., physical, social, and cultural. The psychological (under physical) and social resource remains the frequently researched category (Baron and Harris 2008). Social resources reflect the resources acquired through actors' social networks like family, friends, neighbors, work place colleagues, online supporters, and acquaintances. Next, Madhavaram & Hunt (2008), propose a hierarchical typology of operant resources categorizing resources within B2C relationship as basic operant, composite operant, and interconnected operant resources, which are assumed to enhance the sustainability of competitive advantage for provider or customer as they move from basic to higher interconnected operant resources (see figure 2.2).



Note: As an actor moves up the hierarchy, the competitive advantage enhances and more benefits could be accrued in terms of resource integration and value co-creation

Figure 2.2: Hierarchy of Operant Resources

(Adapted from Madhavaram & Hunt, 2008).

Even the studies rooted in CD logic discuss about variety of customer resources. For example, customer emotions are observed as one of the important resources that help them in co-creating or co-destroying value. (Malone et al., 2018; Tynan et al., 2014). Hence, this study realizes the importance of customer resources and explores how health consumers integrate them in the value co-creation process.

2.1.7 Value co-creation behaviors (study 3)

The study uses seminal scale development papers to understand VCC behavior (Yi & Gong, 2013; Ranjan & Read, 2016). Such studies used different perspectives. For example, Yi and Gong (2013) rely on in-role and extra-role behavior, while Ranjan & Read (2016) focus on co-production and value-in-use as the critical components to understand value co-creation behaviour. However, both studies (Yi & Gong, 2013; Ranjan & Read, 2016) believe that customer's co-creation behaviour cannot be measured through a single dimension.

Yi and Gong (2013)'s study is more popular and frequently used in service literature. It is relevant to this work as its participation and citizenship aspects align with the C2C resource-sharing notion adopted in this work. They (Yi & Gong) propose value co-creation as a higher-order construct (3rd order factor) comprising participation and citizenship behavior. Both these behaviors are further segmented into four unique sub-dimensions (see an upcoming section for more details about individual dimensions). Based on past studies (Bove et al., 2008; Groth, 2005; Yi et al., 2011), Yi and Gong (2013) argue that participation behavior is necessary for value co-creation while citizenship behavior is not an essential condition but often provide extra value to the involved actors. This conceptualization is somewhat rooted in conventional organization management literature where employees are observed playing in-role and extra-role performances (Becker & Kernan, 2003).

Few studies are also observed understanding value co-creation behaviour through attitudinal aspects. For example, Shamim et al. (2017) focus on an individual's attitude towards the co-creation and develop a customer value co-creation attitude (CVCCA) scale. They argue that all three attitude dimensions, i.e., interaction attitude, knowledge-sharing attitude, and responsive attitude, must be present for successful value co-creation (Shamim et al., 2017). In parallel to the above VCC scales focusing on customer perspective, Prahalad and Ramaswamy's (2004)'s DART model gained popularity from the provider side. Their model suggests the crucial factors (i.e., DART = Dialogue, Access, Risk assessment, and Transparency) necessary for a firm to successfully implement value co-creation. However, given the orientation of the DART model (i.e., towards supplier side), this project (focusing more on customer side) avoids its usage to position health consumer value co-creation behaviour. The participation and citizenship dimensions are explained next based on Yi and Gong's conceptualization.

2.1.7.1 Participation behavior

As per Yi & Gong (2013), customer participation behaviour (CPB) *refers to required in-role behavior necessary for successful value co-creation.* In other words, if the customer wants to effectively co-create value with other actors, they must enact participatory behavior. This participation is perceived as higher order concept represented by four unique dimensions, i.e., information seeking, information sharing, responsible behavior, and personal interaction. These dimensions are also evident in

earlier literature like Ennew and Binks (1999) consider information sharing and responsible behaviour as a key component of participation. Harris et al. (2001) represent participation via knowledge sharing and engagement in activities. Uzkurt (2010) uses four unique dimensions to reflect customer participation, i.e., Informational participation, Behavioral participation, Interactional participation, and Willingness & ability for participation. Here, the study rely on Yi and Gong's conceptualization because it aligns with this study's asymmetric (information asymmetry) settings. For example, healthcare patients often experience high information asymmetry and uncertainty regarding their roles. Hence, Yi and Gong's notion of information seeking and information sharing seems to support the actor (to reduce uncertainty and understand their role), as reflected in the following quotes:

Information seeking (customer participation dimension) is important to customers for two primary reasons. First, information reduces uncertainty and thereby enables customers to understand and control their co-creation environments.

Second, information seeking enables customers to master their role as value co-creators and become integrated into the value co-creation process.

If customers fail to provide accurate information, the quality of value co-creation may be low

Pg.1280, Yi and Gong, 2013

Many studies use customer participation as their focal construct. Reviewing all of them is beyond the scope of this review. Also, many are in different contexts like retail, fashion, electronics, FMCG, e-commerce, automobile, and other non-healthcare contexts. Here, we mainly aim to understand customer participation and how it is measured/explained in earlier empirical studies on VCC. For example, Palma et al (2019) consider participation not as individual dimension of co-creation instead as external prerequisite for co-creation and hence labelled the dependent variable (in their study) as 'participation in co-creation of value'. On the related lines, Guzel et al (2019) uses the term 'willingness to participate in VCC' in an empirical study on value co-creation that uses new headphone design context. Interestingly, participation is also measured by few scholars in an objective manner. For example, Nambisan and Baron

(2009) measure participation via number of postings made by the customer in an online community.

Among all participation studies, the only empirical study closely related to our work is Osei-Frimpong (2017)'s study. He talks about patient participation behaviour in the context of healthcare value co-creation. Osei-Frimpong explores how motivation (autonomous or controlled) influences patient participation in healthcare consultation. However, the way customer participation is approached in their study differs from ours on two grounds. First, they focus on B2C relationship (i.e., patient's participatory behaviour towards the service provider) contrary to C2C relationship (patient to patient participation) focused in this work. Second, the perspective used to measure participation is different. They used Chan et al. (2010)'s perspective that considers participation as a simple construct measuring the extent to which customer share information, give suggestions, and get involved in the decision-making process with the provider.

For a brief definition/explanation of individual CPB dimensions, refer to figure 2.3 below. Next, we explain customer citizenship behaviour.

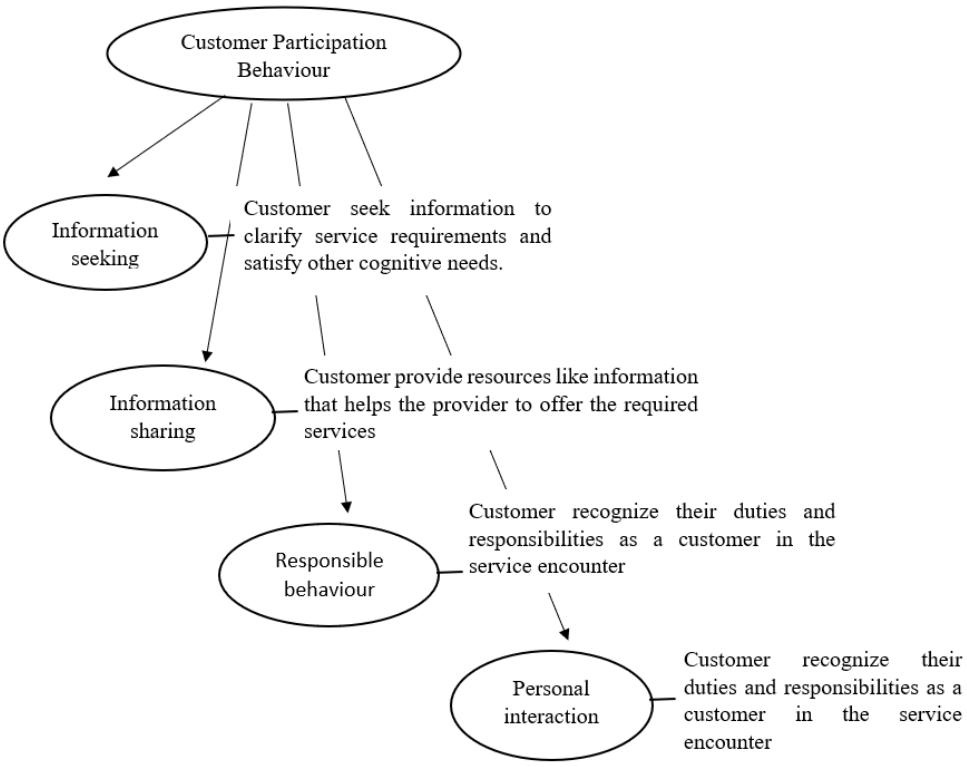


Figure 2.3: Customer participation behavior along with its key dimensions and their definitions (sourced from Yi & Gong, 2013)

2.1.7.2 Citizenship behavior

In the words of Yi and Gong (2013), customer citizenship behaviour (CCB) could be understood as "*voluntary (extra-role) behaviour that provides extraordinary value to the firm but is not necessarily required for value co-creation" (pg. 1280, Yi and Gong, 2013).*

In simple words, the citizenship behavior reflects a kind of volitional action that an actor (customer) performs for the benefit of others (firm, supplier, other customers) in their network. Such actions are not expected by their network members; still, they enact them out of their sense of 'helping others.' Similar actions are possible in a virtual health community where patient share their resources (information, experience, emotions etc.), to help other patients in the community. Like participation behaviour, citizenship behaviour also evolved from organization management literature, where researchers discuss employee and organizational citizenship (Bateman and Organ, 1983; Bettencourt et al., 2001).

Next, Groth (2005) look at citizenship behaviour from customer perspective and defines CCB as follows:

CCB represents the voluntary and discretionary actions customers perform that are neither within the usual expectations of firms nor rewarded by them, but which improves, or have the capacity to improve their effectiveness.

Pg.11, Groth (2005)

The terminologies evolved in citizenship behaviour literature (like customer as working employees and customer service citizenship behaviour) reflect the diverting attention from employee citizenship to customer citizenship (Manolis et al., 2001; Groth, 2005; Vaughan & Renn, 1999). Overall, the citizenship literature seems to emphasize the growing importance of customers' voluntary behaviour. However, they focus only on voluntary behavior towards the firm ignoring the customers' citizenship towards other customers. The current work uses Yi and Gong's (2013) broader conceptualization for measuring customer citizenship, which considers a comprehensive set of CCB dimensions (i.e., feedback, helping, advocacy, and tolerance). Some of these dimensions are used in isolation in earlier research. For example, Nguyen et al. (2014) consider customer feedback and advocacy; Groth (2005)

talks about feedback, helping, and recommendations; and Xie et al. (2017) uses 'willingness to help others' to represent customer citizenship. For a brief definition/explanation about citizenship behavior dimensions, refer to figure 2.4 below.

Next, we discuss the resource-centric view within the selected participation and citizenship behaviors as used in this project.

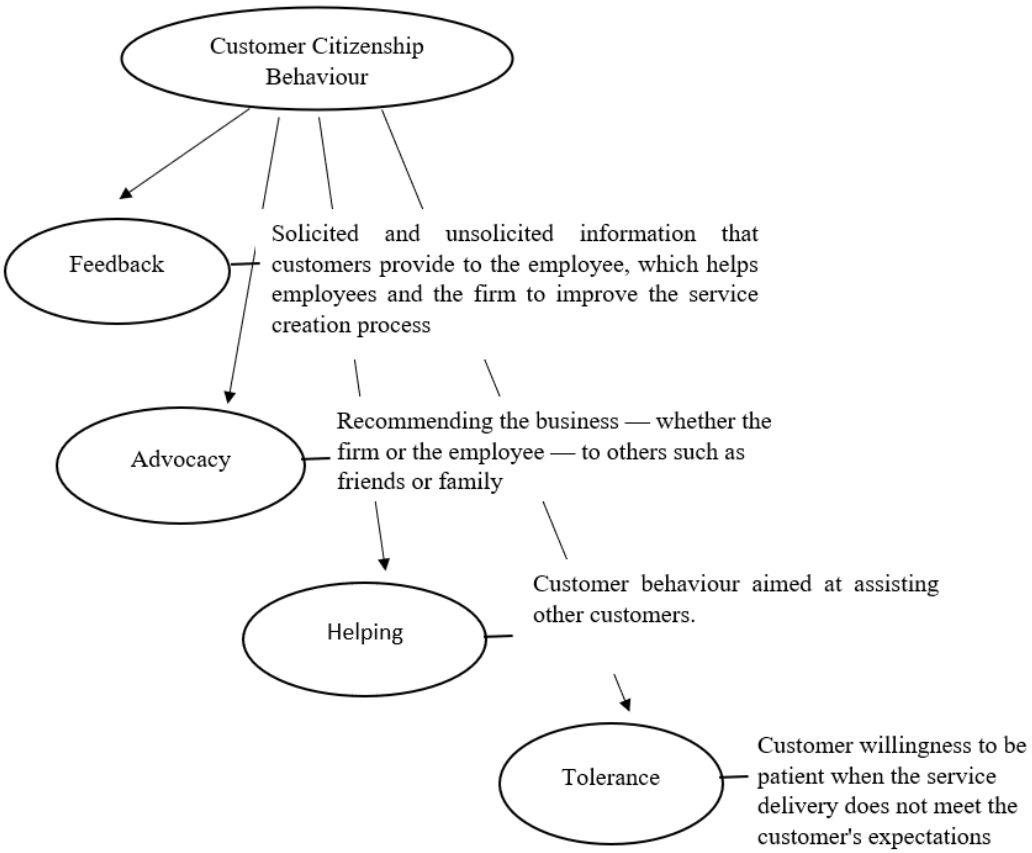


Figure 2.4: Customer citizenship behavior along with its key dimensions and their definitions (sourced from Yi & Gong, 2013)

2.1.7.3 Resource contributor-centric behaviors

The earlier section introduces customer participation, citizenship behavior, and their underlying dimensions. Here, the study wants to elaborate on the specific CPB and CCB dimensions (used in the project) and the reason for selecting them for this research.

First, the primary reason to adapt Yi & Gong's approach (of measuring value co-creation) is that it includes participation and pro-social citizenship aspects directly related to the 'value for others' perspective of C2C value co-creation. Earlier online

healthcare studies (Zhao et al., 2015; Yan et al., 2016; Zhou et al., 2022) look at customer participation behaviour using information sharing or knowledge contribution perspective. However, how such behaviours leads to value co-creation through effective resource integration is not investigated. Few studies confirm that participatory behavior could lead to value co-destruction instead of value co-creation (Bidar et al., 2022). Additionally, it is noted by researchers that participation is not always compulsory, or it may be voluntary in nature (Dong & Sivakumar, 2017). Hence, participatory behaviour should be explored using a fresh resource-centric perspective. Therefore, this project concentrates on information-sharing behavior and responsible behavior, reflecting individual resource contributions for other online members. Information seeking dimension is ignored as it represents self-interest compared to adding value for others. Personal interaction is also avoided as it is often observed as an antecedent to value co-creation, and here, the authors are more interested in C2C resource sharing post-interaction.

Next, talking about the citizenship aspect of value co-creation, it is found that most of the earlier online studies focus directly on higher order dimension, i.e., citizenship behaviour in the virtual community (Chou et al., 2016), ignoring the nuances of underlying sub-behaviors. Individual forms of citizenship like helping others in the community (often inspired by the sense of responsibility towards others) are not investigated often. Thus, this study concentrates on helping co-creation behaviour (Yi & Gong, 2013). The study ignores the feedback behavior as it is primarily oriented towards the firm/service provider instead of customers in the network. Similarly, the analysis ignores tolerance behavior, reflecting the situation where one actor tolerates others in a locked relationship (like between service provider and consumer). However, in the context of this research, all the members are free to move out of relationship. They may leave the group (as the group is freely open for entry & exit) or stay passive (through lurking) in the group. Lastly, the advocacy behaviour of CCB is also ignored as the study's orientation is towards individual online members (involved in C2C resource exchange) and not towards the advocacy of the virtual community.

Overall, the three C2C co-creation behaviours selected (i.e., Information sharing, Responsible behavior, and Helping behavior) represent the contributor-centric view, i.e., one actor contributes to the other actor's resources, values, and conative actions. Information sharing is crucial for online members to proactively support each-

other and add value via knowledge creation. Responsible behavior reflects how actors fulfil each-other's expectations and sustain their responsibility towards the community. Helping represents the consumer's effort to solve the problems of other members and improve their health experiences (Yi & Gong., 2013; Fang et al., 2019; Zadeh et al., 2019; Itani., 2020). Above discussion gives a brief overview of value co-creation. Further, the literature discusses value co-creation on social media (in the upcoming sub-section) which forms the major research context of the project.

2.1.8 VCC on Social-Media

Social media has rapidly emerged as a unique online platform where customers and firms jointly create value through various forms of collaborative processes. These processes could be new product development (Piller et al., 2012), service development (Lorenzo-Romero et al., 2014), knowledge sharing & innovation (Leonardi, 2014), and crowdsourcing (Brem & Bilgram, 2015). Rashid et al. (2019) further confirm the growing importance of social media in the value co-creation process. Their study argues that social media offer more and easier access to data that help the researchers study social settings in detail.

Researchers affirm that social media offer different forms of functional capabilities that help the actor in the co-creation process, like identity, relationships, reputation, sharing, etc. (Kietzmann et al., 2011). Here, the actor represents both the customers and the service providers. Singaraju et al. (2016) argue that functional capabilities (supposed to help in co-creation) are not purely resource functional but depend on social media platform's modular characteristics. The same study confirms the higher-order resource emergence in social media, which aligns with the value emergence perspective of C2C co-creation. However, Singaraju's study primarily focuses on B2B and B2C interactions ignoring the exclusive C2C value co-creation. Interestingly, researchers' attraction toward social media consumer behavior has grown in parallel to CD logic adopted in this work. For example, Heinonen (proponent of CD logic) proposes a range of consumer activities (15 activities) in social media. These activities were mapped by author into 3x3 themes based on motivation, i.e., why the consumer enacts particular activity, and consumer input, i.e., what consumer do within each social media activity (Heinonen, 2011).

A few other studies that help to conceptualize C2C co-creation within web 2.0 based social media platforms are Lewis et al. (2010), Lorenzo-Romero et al. (2014), Novani & Kijima (2012), Hassan & Toland (2013), and Zadeh et al. (2019). All this signifies (directly or indirectly) the prevalence of value co-creation on online social media space.

More discussion on value co-creation in online space and specifically within social media health communities is presented separately in the upcoming sub-section. Next, the literature on second research context i.e., liminal situation of covid19 is discussed.

2.1.9 VCC in Liminal Time: Covid19 Context

The concept of 'Liminality' is rooted in anthropology. It represents the state of mind in 'betwixt and between' (Turner, 1967). It means the mind is experiencing a transition phase. For example, in marriage, the person experiences the transition from a bachelor to married life. Just after marriage, the person remains in liminal space, i.e., not entirely departed from earlier life nor fully adapted to the rituals of new life. Similar liminality is experienced by many social actors like refugees, prisoners, secret agents, and near-death patients. Researchers argue that liminality creates conditions in which the actor feels less powerful, less in control, and weak regarding resource access or mobilization. All this pressurize the actors to change or adapt their resource integration practices. Liminality could be understood more precisely in the words of Turner, cited in Bigger (2009) as follows:

Liminality is viewed as an in-between state of mind, in between fact and fiction (in Turner's language indicative and subjunctive), in between statuses. This concept has endured in performance studies and has the potential for wider usage. His arguments for a positive liminal state of mind, which he called communitas, also has potential for inspiring creative 'beyond the box' approaches. This is 'bottom-up,' multi-perspectival, democratic – or in his terminology anti-structural, beyond authority structures. Turner drew all this from the idea that ritual is transformative, even therapeutic, social drama, not only functional but eufunctional – viz. working for good. This is an attempt to define the creative process, and is still inspiring research and practice.

Pg.4, Bigger (2009)

In the above definition, 'communitas' signifies the bond among people who help the individuals resist negative uncertain experiences and realize the new positive change via joint efforts. Similar collaborative efforts are practiced by value-co-creating actors

in a social network (Sweeney et al., 2015). Thus, liminality and value co-creation seems connected. Few studies explore value co-creation during a liminal period (Cheung et al., 2015; Skandalis, 2023). However, none of them use the healthcare context. The credence attributes of healthcare make it more difficult for actors to integrate the resources. Hence, exploring resource integration/usage in a healthcare crisis (characterized by liminality) is worth considering.

Natural disasters and any pandemics are the true representatives of liminality. During such time, people are uncertain as to what will happen next, how they will cope, and whether they will be able to live the normal life (i.e., how they used to live before the crisis). The actors experiencing such ambiguities are called liminoid. Liminiods often face difficulty in harnessing resources due to different types of vulnerabilities experienced in life. Thus, based on the above arguments, this project observes Covid-19 survivors as liminoid as they feel a lack of control or power and experience the pressure to adapt/survive. In-fact, the covid-19 survivors (liminoids) are the particular type of health consumers who experience unique vulnerabilities compared to general health consumers. Hence, this review section first explains the vulnerability (in general and Covid-19) and then discusses the importance of resources to overcome such vulnerability.

In the last two years (since 2020), many studies have used the value co-creation lens to explore the different aspects of the Covid-19 crisis. Some of these aspects were governance, government policies, artificial intelligence, telemedicine, resilient workforce, mental health, public fear, online platforms, international support, and social value (Sebastiani & Anzivino, 2021; Ratten, 2022; Leite & Hodgkinson, 2021; Leone et al., 2021; Scognamiglio et al., 2023). However, none focus on a more profound 'customer resources' and 'vulnerability & liminality' perspective. Additionally, hardly any study uses Edvardsson et al.'s (2014) notion of 'value in a social context' to understand how the surrounding actors support the persons' resource integration capacity, thereby overcoming vulnerability and suppressing their liminal (uncertain) state of mind. Next, the study explain vulnerability.

Vulnerability represents the extent to which any particular person or system is susceptible to harm (say, physical or emotional injury). Thywissen (2006) explains *'vulnerability' as a person's state of being liable to succumb to persuasion or*

temptation. There are different angles through which vulnerability is explored in literature across other knowledge areas like ecological vulnerability (De Lange et al., 2010), climate change vulnerability (Füssel & Klein, 2006), poverty-based vulnerability (Philip & Rayhan, 2004) and sustainable vulnerability (Turner et al., 2003). Here, the study uses the consumer perspective of vulnerability as Baker (2005) proposed.

Baker defines consumer vulnerability as follows:

Consumer vulnerability is a state of powerlessness that arises from an imbalance in marketplace interactions or from the consumption of marketing messages and products. It occurs when control is not in an individual's hands, creating a dependence on external factors (e.g., marketers) to create fairness in the marketplace. The actual vulnerability arises from the interaction of individual states, individual characteristics, and external conditions within a context where consumption goals may be hindered and the experience affects personal and social perceptions of self

Pg. 134, Baker (2005)

In the above definition, the individual state and external conditions directly relate to this work connecting consumer psychological and social resources. During crisis time, the covid-19 patients often experience poor physical/mental health and societal pressure regarding discrimination, stigmatization, or lack of a resilient social system (Fiorenzato et al., 2021; Jayakody et al., 2021). This demands more effort on the part of the consumer and other actors connected to them.

Next, before the project discuss the importance of resources against vulnerability, it should be noted that sometimes people confuse vulnerability with risk. However, both are distinct as per Baker's argument (Baker, 2005). The author argues that whenever individual person or organization is at risk, relevant measures could be taken prior to any adverse event. On the other hand, if the person is vulnerable, then actions could be taken only after the adverse event is over. Such arguments imply that vulnerability calls for a response or recovery strategy and thus suits more in context to Covid-19 survivors (trying to recover) explored in the current work.

Further, few recent studies hinted, that resources played a pivotal role during covid-19. Pellerin & Raufaste (2020) explained the role of psychological resources (e.g., hope, self-efficacy, acceptance, optimism, and gratitude) in coping with covid-19 induced stress. Wu (2020) elucidates the role of social capital (as a resource) in fostering collective efforts, thereby surviving the covid-19 shock (For more details, refer to the subsequent review section within the chapter 4 on research question 2). However, this

work is different from the above-cited studies in two ways. First, they look at broader actors like healthcare service providers, government bodies, third-party agents (insurance firms, NGOs), patient families, etc. They ignore the resource integration dynamics of end consumers (Covid-19 patients). Second, most of these studies use core psychology and sociology perspective missing the value co-creation lens of marketing. This is the first study to look at Covid-19 survivors exploring their resource integration against the real vulnerabilities experienced during the liminal period.

2.2. Value Co-creation in Online Health Spaces

As discussed earlier, co-creation between customers (consumption side actors) is primarily important for social value creation. Online interactions often help to create social value for health actors. Online health spaces emerged in the last decade as the place where patients share their variety of health experiences, from day-to-day health activities to severe health issues. Such sharing among patient-to-patient dyad aligns with social value (creating value for others with others) perspective of C2C co-creation. In simple words, this social value creation reflects one actor helping other actor in his/her attempt to co-create for others.

Talking particularly about online health space, virtual healthcare communities work in two important ways. First, it enhances the co-creation self-efficacy among health actors by empowering them (Füller et al., 2009) in terms of advanced healthcare information and improved communication between service providers and patients. Second, it removes the boundaries of time and space and the stigma linked to patient-to-patient interactions (Zigron & Bronstein, 2019). Here, stigma means one patient expressing negative beliefs, explicitly or implicitly about other patient due to their poor health condition. Frequent patient-to-patient interactions possible via online platforms help in reducing such negative beliefs.

Further, as per the recent definition, Rodríguez-López (2021) classified virtual co-creation communities into three broad types and investigated their value co-creation process. Those three communities were customer-managed virtual communities (CMVCs) with informative objectives, CMVCs with transactional & informative objectives, and the firm-managed virtual communities. As this project confines to the consumer (healthcare consumer) community, it explains the value co-creation in health

consumer communities. The literature here discusses both conventional online health community (OHC) and modern health communities (on social media).

2.2.1 Value co-creation in Online Health communities (OHC)

OHC could be understood as a knowledge-sharing platform where patients share information about drugs, diet, exercise, medical conditions, hospitals, polyclinics, and healthy behaviors (Valaitis et al., 2011). OHC is also realized as a virtual support center for patients fulfilling their emotional, informational, and experiential support needs (Hajli, 2014; Nambisan, 2011). Few researchers recognize OHC as a site to share knowledge between health professionals and regular patients (Zhang et al., 2017). However, health professional participates in OHC primarily for online reputation, while patients participate for mutual recovery based on sympathy (Liu et al., 2020; Zhang et al., 2017). Hence, value co-creation in OHC could be inferred as different stakeholders integrating resources to create value for each-other. Here, resources refer to online resources available on online health platforms, and actors refer to medical professionals in the community, patients suffering from disease, patients' companions, and general members like government representatives and health insurance agents (Aghdam et al., 2020). OHC as a site for patients' VCC activities helps the researchers to concentrate on SDL's premise, i.e., *Customer (patient) is always a co-creator* (Vargo & Lusch, 2004). Literature asserts that this VCC in OHC results in several benefits like replacing offline social support requirements (Russo et al., 2019; Vilhauer, 2009), low-cost health-related information (Yan et al., 2016), decreasing thwarted belongingness among a stigmatized patient group (Mazzoni & Cicognani, 2014; Willis, 2014).

There are scant studies within marketing domain that explore the online value co-creation within health settings (i.e., online health communities). Zhao et al. (2015) explore patient co-creation in OHC and underlying motivating factors to cite a few of them. The study also tests the influence of social identity on members' knowledge contribution. However, Zhao's study hinted that other types of co-creation behaviors also need to be investigated within virtual settings. A few other recent studies that directly align with this project's orientation are Shirazi et al. (2021), Tseng et al. (2022), Latif et al. (2022), and Ding et al. (2022).

Above literature gives sufficient knowledge about VCC in OHC. However, co-creation has recently emerged within modern social media platforms. Modern platforms like Facebook, YouTube, Twitter, and Instagram have evolved as new platforms where health consumers frequently share support resources and co-create value. Hence, the value co-creation on social media health communities is discussed next.

2.2.2 VCC in social media health communities

Health communities on social media platforms are getting more popular for three reasons. First, these social platforms are easy to use and help connect with many people, including acquaintances and strangers. Second, a person with moderate or below-average health literacy could also engage in health interactions. Third, these platforms are designed to facilitate more resource-sharing and social networking opportunities, especially among less famous actors like patients' companions, secondary caregivers, and third-party agents other than doctors and patients (De Martino et al., 2017, Zadeh et al., 2019). Social networking sites (SNS) differ from the conventional OHCs in terms of identity disclosure and user profile visibility. Members on social media sites can see each other's profiles, photographs, bio details, stories, reels, hobbies, and friends or their networks (Boyd & Ellison, 2007; Bender et al., 2011; De Martino et al., 2017). Contrarily, OHCs often use a mailing list and pseudo nicknames. Interestingly, social media platforms are used for activities beyond patient-support (giving or receiving) practices, like crowdsourcing, brand endorsement, service promotion, and charitable activities (Bender et al., 2011). Thus, social media platforms offer vast co-creation possibilities via multiple health activities.

Among different platforms (Facebook, YouTube, Twitter, Snapchat, Quora, Instagram, Wikiblogs, Yelp, and Airbnb) representing the social media channels, Facebook and YouTube are the most popular platforms for health communication and patient resource exchanges (Kite et al., 2016; Gilmour et al., 2020; Frohlich & Zmyslinski-Seelig, 2012). Facebook (FB) based social support influences the patients' physical and mental health (Antheunis et al., 2013). Some studies also mentioned cocreation by vulnerable health customers from social media platforms. For example, Potnis et al. (2022), while studying value co-creation among pregnant women giving vaginal births, observe three unique co-creative roles of the Facebook platform. These were FB as linker – connecting actors, FB as a third place – facilitating social

interactions, and FB as a controller – controlling the flow of information. Studies observe that Facebook is a pool of varied support resources, i.e., specialized health information, emotional support, empathy, encouragement, hope, medical procedures, symptom recognition, and compliance (Gage-Bouchard et al., 2017). Thus, Facebook seems to be a potent source of social resources. Finally, the importance of social media is also reflected by provoking thoughts of Ramaswamy (2009), which goes as follows:

thanks to the Internet and the structural forces of ubiquitous connectivity, globalization, and new communications and information modalities (everything from blogs to videos, wikis, podcasts, message boards, online forums, chat rooms, text messaging, and a plethora of new "social interaction" technologies), interactions among individuals and sharing of experiences have exploded on an unprecedented scale everywhere in the value creation system. This is most visible in examples such as Facebook, YouTube, Wikipedia, Digg, Twitter, or iPhone Apps.

2.3 Role of Social Capital in Value co-creation

2.3.1 Social Capital Theory

The term 'social capital' evolved from two words, i.e., 'social' and 'capital.' Here, capital is observed as an individual's social property or social resource (as per sociology) conventionally rooted in the 'personal property or goods' notion (as per economics). The word 'social' implies social connections and structures (rule or role-based) that drive relationships and individual actions. Several researchers have defined social capital, but the top three authors whose definitions/explanations are broadly accepted across different disciplines are Bourdieu, Coleman, and Putnam. Bourdieu defines social capital as follows:

Social capital is defined as the aggregate of the actual potential resources which are linked to possession of a durable network of more of less institutionalized relationships of mutual acquaintance or recognition.

Pg. 248, Bourdieu 1986

In other words, Bourdieu belies that an actor's social network is a source of potential resources for him. However, he argues that these resources are not equally accessible by different individuals within the social space and thus need unique actions or efforts

by individual members. He classifies the resources into four unique forms of capital, i.e., economic, cultural, social, and symbolic capital. Drawing on Bourdieu's notion of resource inequality and relative distribution of resources, the current project assumes that not all the actors in the virtual community have equal opportunity to access and mobilize the support resources. Thus, there needs to be an investigation into how social members (online health consumers in this study) integrate their resources to co-create value with other actors in the social space (virtual health community social space in this project). This investigation seems more worthful when all the actors are in different positions or roles (as patients, as a companion) in the virtual space.

Next, according to Coleman, *"Social capital consists of some aspect of social structure, and they facilitate certain actions for individuals who are within the structure." (Pg. S98, Coleman,* 1988). In simple words, social capital inherently resides within the social structure of networked relationships. This somewhat aligns with Bourdieu's idea of social space. However, Coleman also talks about human and physical capital along with their interaction with the social capital possessed by an individual (Coleman, 1988). Coleman mentions that actor needs to be embedded in the structured relationship to realize the true benefit of the accessed resources. Interestingly, the recent VCC literature depicts a similar line of thought. For example, Laud and Karpen (2017) confirm that an individual actor's embeddedness helps him to co-create value. In other words, the actor's social embeddedness positively influences his value co-creation behavior.

After Coleman, Putnam's social capital explanation received significant attention among different literature (Tzanakis, 2013). As per Putnam, "*Social capital represents the features of social organizations, such as networks, norms and trust that facilitate action and cooperation for mutual benefit" (*Pg.35, Putnam, 1993). He believes that social capital is a collective trait of any unit (person or firm) that strives for mutual co-operation. The more the collective social capital exists in the system; the higher the chances that the concerned system will improve as a whole via mutual co-ordination. He considers trust as the most potent factor enabling co-operation among society members. A similar cooperation feature is visible in value co-creation behaviour where one actor tries to help other actors through their common stock of social capital. Emphasizing the importance of such common stock of social capital, Putnam mentions in his research on the United States of America (USA) that lack of collective trust,

reciprocity, civic engagement, and voluntary association among citizens results in the decline of America's social capital (Putnam, 1995).

Overall, the above discussion gives a brief overview of social capital and the viewpoint of key proponents. It also implies that social capital could be observed at individual or group levels. The group could be as small as four to five people in an organization/club or as big as a network of communities and nations. The social capital acting at different levels (a person or a social unit) could be of various types. These types are based on the strength of ties, i.e., bonding, bridging, and linking social capital, or a structural, cognitive, and relational social capital dimension. The former basis (i.e., ties strength) is called the network approach, and the latter (i.e., structural-cognitive-relational) is termed the functional approach of social capital. Apart from the network and a functional view, there are a few other perspectives to classify social capital types, like horizontal versus vertical social capital. However, they are less popular, both within sociology and marketing literature.

This study uses Nahapiet and Ghoshal's functional approach, where the social capital is classified into structural, cognitive, and relational dimensions. Nahapiet and Goshal's social capital lens is a response to Putnam's call for elaborating on the different dimensions of social capital. They mainly draw on Granovetter's (1992) idea of structural and relational embeddedness. However, Coleman also considers 'embeddedness' as an important element of his social capital concept but does not bifurcate it further (i.e., structural and relational embeddedness). Structural embeddedness represents *the properties of the social system and of the network of relations as a whole (*Nahapiet and Ghoshal, 1998). In the words of Burt (1992), *it is concerned with the overall pattern of connections between actors, i.e., who you reach and how you reach them* (Burt, 1992). On the other hand, relational embeddedness means *the personal relationships people have developed with each other through a history of interactions* (Granovetter, 1992).

Nahapiet and Ghoshal's social capital dimensions are directly relevant to this work as they believe that two actors (online members in our case) might play in the same space (online space), accessing similar resources (in C2C interactions), but their emotional connection with other actors (measured via a sense of belongingness) can be different. Thus, it may result in individuals' different actions (co-creative actions). The

third dimension of social capital, as per Nahapiet and Ghoshal, was the cognitive dimension. The cognitive component *represents the resources providing shared representations, interpretations, and systems of meaning among parties* (Nahapiet and Ghoshal 1998). The above explanations give some idea about the conceptual boundaries of each dimension. However, these dimensions are not entirely exclusive and often intersect with each other in multiple contexts. Few studies also club the cognitive and relational dimensions into one component, proposing a two-component social capital model, i.e., structural and cognitive (Uphoff, 2000; Claridge, 2018). To understand what each dimension represents or what proxy constructs are used to measure them, refer to the table 2.6 below.

Table 2.6: Tri-component social capital elaborated by Claridge, 2018 (Adopted from: Claridge, 2018)

Structural Social structure	Cognitive Shared understandings	Relational Nature and quality of relationships
• Network ties and configuration • Roles, rules, precedents, and procedures	• Shared language, codes, and narratives • Shared values, attitudes, and beliefs	• Trust and trustworthiness • Norms and sanctions • Obligations and expectations • Identity and identification

Next, a stream of literature also looks at social capital using the cohesion angle (Szreter & Woolcock, 2004). They categorize social capital into bonding, bridging, and linking dimensions. Since this project does not use this perspective, it is briefly explained below.

In simple words, bonding capital signifies strong ties depicted within close relationships like family and friends. Bridging capital symbolizes weak ties between emotionally less-connected members like professional colleagues and distant relatives. The linking dimension refers to special weak ties characterized by sharing resources via formal institutions like government bodies and third-party firms to whom the individual is not directly connected. This section gives enough knowledge to understand social capital and its dimensions (in general). However, since this project focuses on

online social space, the study next explains social capital in online space and talk about 'online social capital.'

2.3.2 Social capital in online space

With ICT's penetration and evolving role in society, many sociology theories are re-positioned or contextualized under a virtual landscape (McIntosh, 2008; Spottswood & Wohn, 2020). For example, online social exchange theory, online network theory, social information processing theory, role theory, activity theory, self-efficacy theory, and information asymmetry theory (Thompson et al., 2016). In this line, the social capital theory conceptualizes social capital as 'online social capital.'

Norris (2002), was the first to explore the social capital functions of virtual communities. He argues that when the online members are purely homogeneous, they form a bonding social connection; when the members are heterogenous, they form a bridging connection. Hence, he proposes the social capital typology as depicted in figure 2.5 below.

	Social Homogeneity	Social Heterogeneity
Ideological Homogeneity	Bonding	Mixed Type A
Ideological Heterogeneity	Mixed Type B	Bridging

Figure 2.5: Typology of the societal function of online communities outlined schematically by P. Norris, 2002 (Adopted from Norris, 2002)

Next, Williams (2006) measures social capital from both online and offline perspectives. He argues that social capital in online and offline space does not compete with each other but instead works in parallel, complementing each other. In other words, ICT will not wholly replace the offline social capital of an individual. However, his focus was on social capital via internet; therefore, his scale was popularized as ISCS scale (i.e., internet social capital scale).

Finally, relating the social capital dimensions (of Nahapiet & Goshal) to the virtual setting, it is assumed that each dimension (i.e., structural, cognitive, and relational) is congruent with the online social life. For example, the virtual space is

characterized by many online connections, representing the structural attributes of social capital. Online space also offers access to varied resources via strong relations developed in the virtual environment. Such ties are similar to links built in the offline setting representing the relational dimension. Lastly, the shared narratives or representations observed in the real society are clearly reflected within the virtual community. This confirms the presence of cognitive elements in the online space. Overall, the importance of the social capital elements, i.e., structural, relational, and cognitive are realized in the virtual platforms. Such realization is also reinforced within Deltour et al. (2014) study. The author observes that social capital leverages resource (knowledge) sharing on Web 2.0 platforms. Similarly, Ellison et al. (2011) explore the social capital implications of communications on social media.

Further, the literature confirms that online social capital continuously evolves as it positions within modern social networking sites (SNSs platforms) like Facebook, Twitter, Instagram, and LinkedIn (Zhai, 2019; Shane-Simpson et al., 2018). These platforms are considered more lively and socially oriented than traditional online platforms like emails, blogs, and online forums. Researchers explore the resource-benefit of online social capital across different disciplines like education (Venter, 2019), politics (Kizgin et al., 2019), and tourism (Xie et al., 2021). However, given the orientation of this project (toward health), we focus mainly on studies that connect online social capital with health-related behaviors (Durst et al., 2013; Magsamen-Conrad, & Greene, 2014). For a brief understanding of studies exploring structural, relational, and cognitive dimensions within healthcare contexts, refer to the table 2.7 below.

Table 2.7: Social capital dimensions used in healthcare

Social capital dimensions used in an offline healthcare setting	Social dimensions used in an online healthcare setting
Structural capital • Informal networks of friends, colleagues, and neighbors reflect bonding social capital (Menardo et al., 2022) • Community service, cultural, and religious or political groups reflect bridging social capital (Menardo et al., 2022) • Social and civic participation, voting, club meetings attendence,	***Structural capital*** • Existing connections (Liu et al., 2022) • Network centrality, centrality access, and betweenness centrality (Fan et al., 2019) • Bridging & Bonding social capital (Pan et al., 2020) • Familiarity (Zhao et al., 2012)

and volunteering (Derose & Varda, 2009). • Number and density of community organizations tenure in community, and race-ethnicity of a community (Derose & Varda, 2009). • Social interaction (He et al., 2021) • Social interaction and participation (Kawachi et al., 2008) ***Cognitive capital*** • Shared goals and shared culture (Adler & Kwon, 2002). • Relationship with neighbors, social trust, self-esteem, social control, and sense of personal safety (Derose & Varda, 2009). • Shared vision (He et al., 2021) • Trust and norm of reciprocity (Kawachi et al., 2008) • Shared language and shared vision a proxies for cognitive capital (Meek et al., 2019) ***Relational capital*** • Mutual trust, relational closeness, expectations, and reputations (Adler and Kwon, 2002). • Trust proxy for relational dimension (He et al., 2021) • Strong relationships (Reagans and McEvily, 2003) • Social trust and reciprocity (Meek et al., 2019)	• Network density (Zhao et al., 2016) ***Cognitive capital*** • Healthcare-related language (Liu et al., 2022) • Expertise and Values (Fan et al., 2019) • Perceived similarity (Malloch, & Zhang, 2019) ***Relational capital*** • Strong ties, and positive feedback (Liu et al., 2022) • Reciprocity and Trust (Fan et al., 2019) • Identity (Lu et al., 2019)

Based on the above review, it is clear that studies use a variety of structural, cognitive, and relational dimensions in the context of offline and online healthcare settings. It is also evident that online studies conveniently use proxy indicators for structural, cognitive, and relational social capital dimensions especially borrowing them from offline studies. However, given the unique nature of the virtual setting, social capital dimensions must be carefully selected before using in a virtual community

(Spottswood & Wohn, 2020). Thus, this study focuses on three crucial factors, i.e., familiarity, perceived similarity, and trust directly relevant to the online setting. Here, trust is most appropriate in the online context as it is the important pre-condition for cooperative behavior and online exchange of resources, especially among actors who are generally unknown to each other in priori, like in social networking platforms (Zhao et al., 2012). Familiarity and perceived similarity are other factors deemed fit for this study. They represent the 'Interpersonal interaction' notion dominant in social media (Shen et al., 2010), facilitating C2C co-creation. For full details about individual dimensions and their relation to value co-creation model proposed in the study, refer to the hypothesis development section.

This review section elucidates how social media space acts as a resource centre, helping online members to support each other. In other words, social capital resources accessed in the virtual space could help the actor co-create value for/with others in the system. For example, Cao et al. (2022) observes that online consumers' social capital drive them to co-create more with other community members. Their commitment towards the online brand community in terms of value co-creation, often increases with more availability of online social capital. This argument seems to be supported by other studies also like Tchorek et al. (2020) confirms that social capital harnessed among coherent group of people infuses high tendency to co-create via information sharing. Further, this social capital-value co-creation relationship is somewhat evident, both within offline (Yoon et al., 2019) & online settings (Xie et al., 2021) as well. However, the underlying mechanism through which social capital affects co-creation is scantly explored (Zhang et al., 2020). Thus, based on the social capital and belongingness theory, the current research assumes that health consumers' online social capital affect C2C co-creation behaviours indirectly through a sense of belongingness. Therefore, the sense of belongingness is explained next.

2.3.3 Belongingness in virtual (health) communities

The need to belong is observed as the most powerful and fundamental human need (Baumeister & Leary, 1995). Belongingness theory proposed by Baumeister and Leary (1995) argues that one of the primary motivations of the human being is to form strong interpersonal relationships. This relationship could be with individuals in the immediate social surroundings like family, close friends, and neighbourhood or with

the members of the formal institutions. In other words, the belongingness hypothesis assumes that social actors (members of the society) tend to avoid breaking bonds (in general). In-fact, forming strong bonds depends on two critical attributes. First, frequent interpersonal interactions must be characterized by positive affect and lack of conflict. Second, the relationships among individuals should be stable and based on 'concern for each other' (Baumeister and Leary, 1995). Connecting to such arguments, the online studies confirm that social networking sites offer actors an opportunity to interact, communicate, and connect with others, thereby satisfying their basic need to belong (Gao et al., 2017; Reich & Vorderer, 2013; Bui et al., 2022). Here, the study want to highlight that a few closely related concepts should not be confused with belongingness. For example, the attachment concept implies that the person's desire to connect with others is based on personal attachment, like attachment to mother, children, organization, and religious group (Bowlby, 1969). On the contrary, belongingness can be directed toward any other human being irrespective of previous attachment, and another person could compensate for the lost relationship with one person (Baumeister and Leary, 1995).

Next, Leary and Kelly (2009) assert that motivation to belong sometimes depends on individual personality and social experiences. Also, satisfying the need for belongingness is not always easy. People often struggle to realize a sense of belonging due to factors like cultural background, social order, past experiences, and susceptibility toward vulnerability (Anderson & Thayer, 2018). Thus, it is imperative to explore more about belongingness which may or may not be easily realized by an actor in a given situation. Our additional motivation to adapt belongingness theoretical perspective is based on Kelly-Ann Allen et al. (2021) argument that "*belonging research has occurred within multiple disciplines but has been primarily siloed into separate domains"*. Thus, this study fills this gap by looking at belongingness from transdisciplinary angle i.e., at the intersection of services marketing, healthcare consumer behaviour, and Web 2.0 (social-media platform). Kelly-Ann Allen et al. (2021) observe *Belonging as facilitated and hindered by people, things, and experiences involving the social milieu, which dynamically interact with the individual's character, experiences, culture, identity, and perceptions* (pg. 88, Kelly-Ann Allen et al., 2021). Aligning with this perspective, the current project looks at the social milieu of online social media space where people

interact and try to harness their feeling of belongingness. Thus, the study next briefly discusses the sense of belongingness within virtual communities.

Virtual communities have emerged as the third place where social actors frequently interact and connect with each other (Nambisan, S. and Nambisan, P., 2008). These communities are discussed in various forms (i.e., firm-managed, customer-managed communities) within Information systems and marketing studies (Lin, 2008; Füller et al., 2006). These studies observe a sense of belongingness as one of the essential factors responsible for the success of online communities (Lin, 2008; Nambisan & Watt, 2011). Online members' sense of belongingness is found to trigger their positive engagement towards the virtual space (Priharsari et al., 2020) and their intention to give/receive knowledge (Zhao et al., 2012). This sense of belongingness is sometimes used interchangeably with 'group feeling', and 'sense of community' as noted by Nohutlu et al. (2022). Overall, the literature implies that sense of belongingness is important in virtual communities. However, there are opposite views, i.e., the online member does not necessarily experience a sense of belongingness. This is clear from the following quote:

Not all the online platforms have a strong sense of community. Not all communities aim to facilitate cocreation between a group of customers who try to contribute new ideas on a topic. Not all of them encourage their members to vote on each other's inputs, collaborate and help companies select the best ideas among the ones submitted.

(Pg.4, Nohutlu et al., 2022)

Thus, this mixed views on the presence or absence of a sense of belongingness within online communities elicit more interest. Additionally, the literature reveals that a sense of belongingness supports the various types of outcome behaviors in the virtual community like member loyalty, satisfaction (Lin, 2008), user participation (Zhao et al., 2012), psychological wellbeing (Erfani, & Abedin, 2016), and co-creation experiences (Nohutlu et al., 2022). However, most of these studies focus on B2C or B2B online communities where the firm plays a dominant role. This somehow ignores the interest into core consumer community. Therefore, the study fill this gap by exploring C2C value co-creation within an online health consumer's community where the members are largely homogenous, share common motivations, and tend to show high

belongingness towards each other. Also, few studies jointly explore the sense of belongingness and value co-creation. For example, Chou et al. (2016) confirm that online justice perceived by an actor positively influences their sense of community, affecting their value co-creation behaviour. It means when the members perceive fairness in the community, they feel emotionally connected, thereby enacting value co-creation. Augmenting further, Bui & Jeng (2022) confirms that belongingness positively affects co-production behaviour (a variant of value co-creation) via both knowledge sharing and citizenship behaviour (ensuring sequential mediation). Such relationships help to establish the SOB-VCC relationship while establishing the mediating role of SOB (between online social capital and C2C value co-creation) in this project.

Additionally, the study draws support for this mediating role (of SOB) from earlier studies (within marketing in general) that depicts a connection between social capital factors and belongingness (Davenport & Daellenbach, 2011; Zhang et al., 2021; Chiu et al., 2006). Augmenting this review line, the study also explore the information systems literature on antecedents to belongingness. It helps to hypothesize a positive relationship between social capital factors and the members' sense of belongingness (see table 2.8 below for a brief review). Lastly, the project proposes a relationship between C2C value co-creation behaviour and wellbeing outcomes based on the critical review of VCC outcomes. Thus, wellbeing is discussed next.

Table 2.8: Antecedents of sense of belongingness explored in earlier studies

Antecedents in non-healthcare communities *(e.g., games sites, newsgroups, e-commerce sites, business, entertainment, computers)*	Antecedents in healthcare communities *(e.g., online health communities, the doctor-managed health forums)*
The enthusiasm of community leaders, actors in offline activities, and enjoyability (Koh et al., 2003)	Active and passive OHC activity (James et al., 2022)
Member satisfaction, trust, and social usefulness (Lin, 2008)	Strength of identity (Barr et al., 2016)
Viewing posts (Zhou et al., 2013)	Social support (Liu et al., 2020)
Brand congruity and negative public affiliation (Wade & Thatcher, 2016)	Reciprocity (normative), Gratitude (affective), number of postings, visit

Trust, satisfaction (Murray et al., 2018)	frequency, time on site, and membership tenure (Wu & Bernardi, 2020)
Familiarity, affective trust, and norms of reciprocity (Sánchez-Franco, & Roldán, 2015)	

2.4 Value co-creation and Wellbeing

2.4.1 Consumer wellbeing

The concept of wellbeing is discussed across different disciplines ranging from psychology to philosophy and from marketing to public health. Here, the project primarily focus on marketing and healthcare studies to understand how healthcare customers experience wellbeing. However, the conventional psychology literature is referred for foundational knowledge on wellbeing.

Wellbeing is understood from varied perspectives like physical, psychological, social, hedonic, and eudemonic. This project adapts the subjective wellbeing approach, which has evolved commendably in the last decade. Studies observe subjective wellbeing as comprised of positive affect, negative affect, and life satisfaction (Andrews & Withey, 1976). The affect component represents an individual's emotional state (positive or negative), while the life satisfaction shows the cognitive aspects. Diener (1985) focuses exclusively on persons' cognitive judgment about their own life and proposes a multi-item 'satisfaction with life scale' (SLWS). The term 'cognitive judgment' implies a person's self-reported life satisfaction. It means a person himself accessing his wellbeing instead of relying on other person. Extending this viewpoint, Kashdan (2004) argues that a person can evaluate not only his overall subjective wellbeing (SWB) but also the satisfaction with certain aspects of life like education, marriage life, health, etc. Diener & Diener (1996) reinforces the above point and mention in their study that whenever individuals are asked about their satisfaction with the important aspects of their life, they report higher subjective wellbeing. Understanding more about SWB, it is found that few researchers interchangeably use subjective wellbeing and happiness (Easterlin, 2004). However, the literature confirms that happiness is a narrower concept as happiness is manifested as an affective component within SWB (Conceição & Bandura, 2008).

Similarly, authors frequently use subjective quality of life (QoL) instead of SWB and vice-versa. However, we ignore the QoL measurement perspective for this project as it seems to overlap with SWB on various dimensions, and researchers themselves call to integrate QoL with SWB (Skevington & Böhnke, 2018). The above discussion gives an adequate knowledge about subjective wellbeing. Next, the study discusses SWB in the light of value co-creation and healthcare literature to extend our research model (i.e., to position SWB as a consequence of health consumers' VCC behavior).

2.4.2 Subjective wellbeing as outcome of value co-creation

The research on consequences or outcomes of value co-creation is scant compared to research on antecedents or drivers of value co-creation. However, the recent literature on VCC (especially in the last five years, 2017-2022) reflects the growing attention of researchers toward VCC outcomes. To cite a few of them, Laud & Karpen (2017) adapts the value-in-context perspective (within the brand setting) and confirms a positive relationship between co-creation behavior and value outcomes (i.e., self-oriented, object-oriented, brand-oriented social value). Liu & Jo (2020) explored hotel members' co-creation behavior and found that customers who co-create more, experience higher satisfaction with the hotel loyalty program. Chiu et al. (2019) found that fitness club users enacting value co-creation experience high satisfaction, positively affecting their repatronage intention. Overall, the literature reflects a variety of VCC outcomes like satisfaction, loyalty, re-patronage intention, and perceived value. Few studies confirm similar outcomes within an online setting like Frasquet-Deltoro et al. (2019) found that customers practicing virtual co-creation with fashion retailers realize high satisfaction, positively influencing their engagement and intention to co-create in future.

More recently, Carvalho & Alves (2023) synthesized a large amount of literature exploring the outcomes of value co-creation within their review study. The author (Carvalho & Alves, 2023) found three broad categories of VCC outcomes, i.e., customer results, perceived value, organizational performance, and market outcomes. These categories reflect varied factors. For example, service innovation, service development, service quality, and employee satisfaction represent the market outcomes of co-creation. The economic, emotional, experiential, and social value represents the value outcomes. The customer ability, customer loyalty, wellbeing, satisfaction, and future co-creation

intention reflects the customer related outcomes of VCC. All this gives a sufficient understanding of possible co-creation outcomes. However, research on wellbeing as VCC outcome is scarce. A handful of studies recently acknowledge that customer when engaged in the co-creation processes realizes his/her own wellbeing (directly or indirectly). In the upcoming sub-section, the study discusses some of these studies (both from healthcare and non-healthcare area).

Sharma et al. (2017) explores the co-creative roles of unique health consumers (i.e., mental health patients) and found that co-creation at the point of care positively influences the patients' hedonic and eudaimonic wellbeing. Similarly, Zhang et al. (2022) explore the case of vulnerable customers (i.e., old customer accessing e-services) and found that enhanced participation by older consumers improves their subjective wellbeing. Next, Partouche-Sebban et al. (2022) explore the 'VCC-wellbeing' relationship from a B2B perspective and observe that value co-creation among healthcare service providers (i.e., doctors, paramedical staff) help to enhance their psychological wellbeing and their teams' resilience level. However, the above studies focus primarily on B2C or B2B aspects, ignoring the impact of patient-to-patient (C2C) value co-creation on individual wellbeing or the wellbeing of other patients/community.

Also, the project assume that earlier authors ignore this C2C perspective because they find it difficult to orchestrate the actual patient-to-patient setting where the influence of the service provider is absent or negligible. The current project overcomes this limitation by using the online environment where online consumers are found to experience transformative value (Parkinson et al., 2019). The current project did not underestimate the importance of service providers in improving the end-consumers' wellbeing but believes that consumer wellbeing is equally influenced by fellow consumers/community members (online members in our case) and thus needs researchers' attention. On the related lines, the present work draws support from Guo et al. (2013) study, where the consumer is observed realizing financial wellbeing within a complex setting of debt management program.

This work responds to recent calls to explore additional value co-creation outcomes beyond resources and activities (Akter et al., 2022) by observing wellbeing as a VCC outcome for online health members. Studying this 'wellbeing as VCC outcome' is highly relevant for healthcare as wellbeing is the primary goal of all the

stakeholders (doctors, patients, family, government) involved in the healthcare services. Further, some tourism and hospitality studies (Dekhili & Hallem, 2020; Lin et al., 2017) started observing that recent customers are trying to control/condition their service experiences realizing personal benefits in the form of wellbeing experiences. Similar control tendency or habit of taking charge of personal experiences are highly possible in modern healthcare, where patients play an equally active role with service providers and other stakeholders. Thus, it is worth exploring how patients actively co-create with fellow online members and realize personal wellbeing within complex health services.

Table 2.2: Most influential studies on Value co-creation in the last 20 years			
Authors	Prahalad, & Ramaswamy, 2000	Prahalad, & Ramaswamy, 2004	Vargo & Lusch,2004
Year	2000	2004	2004
Study	Co-Opting Customer Competence	Co-creation experiences: The next practice in value creation	Evolving To a New Dominant Logic for Marketing.
Key objective/ Focus	Focus on positioning customer as actor of central importance and exploring their competence within firm value chain	To understand as how do customers, network members, and firm are co-creating value and influencing each-others experiences	Aims to explore VCC and conceptualize a shift from goods dominant logic to service dominant logic
Key findings	Study argues that market has emerged as stage for proactive involvement of customer and customer could be seen as operant resource in itself. Also, propose a term co-opting customer	Study argues that value has shifted towards experiences and DART model (dialogue, access, transparency, and risk) could explain the interactive value formation practice	Study argues that new marketing logic relies on resource integration, and value-based relationships especially rooted within service- in-use instead of GD logic. It proposes foundational propositions for co-creation thereby establishing service dominant logic
Citation	Prahalad, C. K., & Ramaswamy, V. (2000). Co-Opting Customer Competence. Harvard Business Review, 78, 79-90.	Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. Journal of interactive marketing, 18(3), 5-14.	Vargo, S. L., & Lusch, R. F. (2004). Evolving To a New Dominant Logic For Marketing. Journal of Marketing, 68 (1), 1-17.

Authors	Sawhney et al., 2005	Payne et al., 2008	Vargo et al., 2008
Year	2005	2008	2008
Study	Collaborating to create: The internet as a platform for customer engagement in product innovation	Managing the co-creation of value	On value and value co-creation: A service systems and service logic perspective
Key objective/ Focus	Focus on emerging role of Internet as platform for co-creation and innovation	To explore how do customers engage in value co-creation and develop a framework to manage VCC process	To understand the role of service system (comprised of resources, value, & actors) as basis of service-in-use within value co-creation
Key findings	Observe unique characteristics of Internet like interactivity, enhanced reach, persistence, speed, and flexibility that can improve customer engagement for product innovation and co-creation	Propose a new process-based framework for co-creation using concepts of services, customer value and relationship marketing.	Conclude that service systems interact through mutual service exchange relationships thereby improving the adaptability of service systems and allowing integration of resources to co-create
Citation	Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: The Internet as a platform for customer engagement in product innovation. Journal of interactive marketing, 19(4), 4-17.	Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. Journal of the academy of marketing science, 36(1), 83-96.	Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value co-creation: A service systems and service logic perspective. European management journal, 26(3), 145-152.

Authors	Zwick et al., 2008	Xie et al., 2008	Cova & Salle, 2008
Year	2008	2008	2008
Study	Putting consumers to work: 'Co-creation' and new marketing govern-mentality	Trying to prosume: Toward a theory of consumers as co-creators of value	Marketing solutions in accordance with the S-D logic: Co-creating value with customer network actors
Key objective/ Focus	To understand the true meaning of consumer within value co-creation using social, economics, & cultural knowledge	To understand the motivational mechanisms behind consumer' s prosumption (production for self use) tendency	To elaborate a link between SD logic and marketing solutions within broadened customer value network
Key findings	Argues that co-creation represents a political power aimed at making consumers free from firm obligations to collaborate and allow them to co-create freely at their own will	Observes that global values affect domain-specific values in food prosumption which in turn affect attitudes, self-efficacy, and on-going behavior which finally influence the prosumption intention	Propose strategies to co-create with customer network actors based on network value propositions
Citation	Zwick, D., Bonsu, S. K., & Darmody, A. (2008). Putting Consumers to Work: Co-creationand new marketing govern-mentality. Journal of consumer culture, 8(2), 163-196.	Xie, C., Bagozzi, R. P., & Troye, S. V. (2008). Trying to prosume: toward a theory of consumers as co-creators of value. Journal of the Academy of marketing Science, 36(1), 109-122.	Cova, B., & Salle, R. (2008). Marketing solutions in accordance with the SD logic: Co-creating value with customer network actors. Industrial marketing management, 37(3), 270-277.

Authors	Nambisan, & Baron, 2009	Merz et al., 2009	Plé, & Cáceres, 2010
Year	2009	2009	2010
Study	Virtual customer environments: Testing a model of voluntary participation in value co-creation activities	The evolving brand logic: A service-dominant logic perspective	Not always co-creation: Introducing interactional co-destruction of value in service-dominant logic
Key objective/ Focus	To understand as why do customers participate voluntarily in value cocreation activities in a virtual environment	To explore a link between brand value and service dominant logic thereby conceptualizing brand co-creation	To explore the negative consequences of service interactions i.e., value co-destruction
Key findings	Observes that customers participate in VCC activities (voluntarily) within virtual customer environment due to citizenship behavior and perceived benefits of co-creation engagement	Argues that brand value emerges by collective co-creation among different stakeholders.	Propose and define the concept of value co-destruction. It argues that actors or systems could mis integrate the resources (intentionally or unintentionally)
Citation	Nambisan, S., & Baron, R. A. (2009). Virtual customer environments: testing a model of voluntary participation in value co-creation activities. Journal of product innovation management, 26(4), 388-406.	Merz, M. A., He, Y., & Vargo, S. L. (2009). The evolving brand logic: a service-dominant logic perspective. Journal of the academy of marketing science, 37(3), 328-344.	Plé, L., & Cáceres, R. C. (2010). Not always co-creation: introducing interactional co-destruction of value in service-dominant logic. Journal of services Marketing.

Authors	Edvardsson et al., 2011	Grönroos, 2011	Echeverri, & Skålén, 2011
Year	2011	2011	2011
Study	Expanding understanding of service exchange and value co-creation: A social construction approach	Value co-creation in service logic: A critical analysis	Co-creation and co-destruction: A practice-theory based study of interactive value formation
Key objective/ Focus	To understand how service exchange and underlying value co-creation is influenced by social factors	To critically argue the foundational premises of value co-creation rooted in SD logic	To investigate the interactive value practices within customer-provider dyad and explore both positive and negative sides of it
Key findings	Study asserts that value is co-created in a broader social context and gets shaped or re-shaped by surrounding social structures and dynamics service system	Argues that customers are not always the co-creators of value, instead act only as facilitator of value. Also, six of the foundational premises of SD logic is reformulated	Elaborates how value is intersubjectively assessed by actors during value forming practices. Also, five unique value practices are identified in the study
Citation	Edvardsson, B., Tronvoll, B., & Gruber, T. (2011). Expanding understanding of service exchange and value co-creation: a social construction approach. Journal of the academy of marketing science, 39(2), 327-339.	Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. Marketing theory, 11(3), 279-301.	Echeverri, P., & Skålén, P. (2011). Co-creation and co-destruction: A practice-theory based study of interactive value formation. Marketing theory, 11(3), 351-373.

Authors	Grönroos, & Ravald, 2011	Pongsakornrungsilp, & Schroeder, 2011	Cova et al., 2011
Year	2011	2011	2011
Study	Service as business logic: Implications for value creation and marketing	Understanding value co-creation in a co-consuming brand community	Critical perspectives on consumers' role as 'producers': Broadening the debate on value co-creation in marketing processes
Key objective/ Focus	To understand VCC process within customer-supplier relationship, especially using service logic perspective	To explore micro-dimensions of collective co-creation practices within brand communities	To discuss and elaborate the VCC perspectives on consumers within socio-political, economic, and marketing framework
Key findings	It asserts that value creating process is actually a combination of two sub-processes i.e., supplier's process of offering resources and customer's process of using resources to convert service into value. Also, five unique service logic propisitions are provided.	Study highlights dynamic roles played by consumers in brand co-creation and how do consumers gain power against brand owners within co-consuming community	Study argues that collaborative capitalism could help to understand, position, and use VCC in marketing
Citation	Grönroos, C., & Ravald, A. (2011). Service as business logic: implications for value creation and marketing. Journal of service management.	Pongsakornrungsilp, S., & Schroeder, J. E. (2011). Understanding value co-creation in a co-consuming brand community. Marketing Theory, 11(3), 303-324.	Cova, B., Dalli, D., & Zwick, D. (2011). Critical perspectives on consumers' role as 'producers': Broadening the debate on value co-creation in marketing processes. Marketing Theory, 11(3), 231-241.

Authors	Yi, & Gong, 2013	Grönroos, & Voima, 2013	Prebensen et al., 2013
Year	2013	2013	2013
Study	Customer value co-creation behaviour: Scale development and validation	Critical service logic: Making sense of value creation and co-creation	Value Co-creation significance of tourist resources
Key objective/ Focus	Development and validation of a customer value co-creation behaviour scale.	To analyse value creation by individual actors and understand the locus of value creation within joint co-creation spaces	To explore the role of tourist resources in tourism experiences within VCC framework
Key findings	Propose a VCC scale comprised of two higher order dimensions i.e., customer participation behaviour and customer citizenship behaviour. Participation behaviour is comprised of information seeking, information sharing, responsible behaviour, and personal interaction; while Citizenship behaviour includes feedback, advocacy, helping, and tolerance	Propose three different spheres of value creation i.e., provider sphere, consumer spheres, and joint sphere based on direct and indirect interactions.	Study found that tourist resources along with customized service, environment and other visitors improves the tourism experiences of consumers
Citation	Yi, Y., & Gong, T. (2013). Customer value co-creation behavior: Scale development and validation. Journal of Business research, 66(9), 1279-1284.	Grönroos, C., & Voima, P. (2013). Critical service logic: making sense of value creation and co-creation. Journal of the academy of marketing science, 41(2), 133-150.	Prebensen, N. K., Vittersø, J., & Dahl, T. I. (2013). Value co-creation significance of tourist resources. Annals of tourism Research, 42, 240-261.

Authors	Jaakkola, & Alexander (2014)	Wing Kuen, & KW, 2014	Edvardsson et al., 2014
Year	2014	2014	2014
Study	The Role of Customer Engagement Behaviour in Value Co-Creation: A Service System Perspective	Value co-creation and purchase intention in social network sites: The role of electronic Word-of-Mouth and trust - A theoretical analysis	Institutional logics matter when coordinating resource integration
Key objective / Focus	To explore the role of consumer engagement behaviour (CEB) in value co-creation	To explore how do VCC, trust, & e-WOM elements interact to finally influence purchase intention in social networking sites (SNS)	To explore the systemic nature of resource integration and the evolving role of institutional logics in resource coordination
Key findings	Argues that CEB provide more resources within interactive system and create more opportunities to co-create with multiple actors. Also, gives nine propositions elucidating the link between CEB and VCC.	Observes that value co-creation, trust, and electronic word of mouth are inter-related	Study argues that institutions in different forms (regulative, cognitive, normative) act as resource coordinating link and influence the overall VCC efforts
Citation	Jaakkola, E., & Alexander, M. (2014). The role of customer engagement behavior in value co-creation: a service system perspective. Journal of service research, 17(3), 247-261.	Wing Kuen, E. S. T., & KW, K. H. (2014). Value co-creation and purchase intention in social network sites: The role of electronic word-of-mouth and trust: A theoretical analysis. Computers in Human Behavior, 31, 182-189.	Edvardsson, B., Kleinaltenkamp, M., Tronvoll, B., McHugh, P., & Windahl, C. (2014). Institutional logics matter when coordinating resource integration. Marketing Theory, 14(3), 291-309.

Authors	Hardyman et al., 2015	Rihova et al., 2015	Ranjan & Read, 2016
Year	2015	2015	2016
Study	Value Co-Creation through Patient Engagement in Health Care: A micro-level approach and research agenda	Conceptualising Customer-to-customer Value Co-creation in Tourism	Value co-creation: concept and measurement
Key objective / Focus	To investigate value co-creation within micro dyadic healthcare service encounters	To explore the co-creation dynamics within customer-to-customer relationship	To understand VCC boundaries, underlying dimensions and propose a measurement scale
Key findings	Study position value co-creation in national health service portals using public value co-creation and dyadic service interactions.	Proposed conceptual framework to explain social layers of C2C co-creation and argues that value is embedded in actor' s social practices	Proposes two VCC dimensions i.e., co-production and value-in-use. Also, tested the scale in consumer satisfaction study
Citation	Hardyman, W., Daunt, K. L., & Kitchener, M. (2015). Value co-creation through patient engagement in health care: a micro-level approach and research agenda. Public Management Review, 17(1), 90-107.	Rihova, I., Buhalis, D., Moital, M., & Gouthro, M. B. (2015). Conceptualising customer-to-customer value co-creation in tourism. International Journal of Tourism Research, 17(4), 356-363.	Ranjan, K. R., & Read, S. (2016). Value co-creation: concept and measurement. Journal of the academy of marketing science, 44(3), 290-315.

Authors	Ramaswamy, & Ozcan, 2016	Frow et al., 2016	Storbacka et al, 2016
Year	2016	2016	2016
Study	Brand value co-creation in a digitalized world: An integrative framework and research implications	Co-creation practices: Their role in shaping a health care ecosystem	Actor engagement as a micro foundation for value co-creation
Key objective / Focus	To look into joint agency of different stakeholders on digital platform and explore brand co-creation	To understand VCC practices in broader healthcare service ecosystem	To explore the role of actor engagement in VCC
Key findings	Study argues that both relational and brand activities performed by actors on digital platform enhance the brand experiences of consumer and create positive brand co-creation ecosystem	Propose a typology of VCC (comprised of 8 co-creation practices) which influence the service ecosystem positively or negatively making it more dynamic	Actors as both humans & machine integrate the resources in service ecosystems. Actor' s engagement platform serves as important component of engagement ecosystem
Citation	Ramaswamy, V., & Ozcan, K. (2016). Brand value co-creation in a digitalized world: An integrative framework and research implications. International Journal of Research in Marketing, 33(1), 93-106.	Frow, P., McColl-Kennedy, J. R., & Payne, A. (2016). Co-creation practices: Their role in shaping a health care ecosystem. Industrial Marketing Management, 56, 24-39.	Storbacka, K., Brodie, R. J., Böhmann, T., Maglio, P. P., & Nenonen, S. (2016). Actor engagement as a microfoundation for value co-creation. Journal of business research, 69(8), 3008-3017.

Author	Balaji & Roy, 2017	Camilleri, & Neuhofer, 2017	Bryson et al., 2017	Chen et al., 2018
Year	2017	2017	2017	2018
Study	Value co-creation with Internet of things technology in the retail industry	Value co-creation and co-destruction in the Airbnb sharing economy	Towards a multi-actor theory of public value co-creation	Digitally facilitated newspaper consumption and value co-creation
Key objective/ Focus	To investigate as how do customer' s interaction with IoT changes customer experiences and results in value co-creation	To explore value co-creation or co-destruction of guest-host social practices in sharing economy context	To explore public value using value co-creation logic within multi-actor framework	Study focus on understanding value co-creation within digitally facilitated newspaper consumption community
Key findings	Study observes that IoT elements like ease of use, superior functionality, aesthetic appeal and presence directly influences value co-creation in retail services. This VCC also influences customer' s continuance and word-of-mouth intention	Study proposes VCC framework to unfolds six unique guest–host hospitality value creation practices using relevant example of value creation and value destruction in Airbnb accommodations	Propose changes to strategic triangle framework using VCC logic and knowledge about actors in public, private, and community sectors	Study uncovers patterns of value co-creation reflecting value created both through co-consumption and individual consumption.
Citation	Balaji, M. S., & Roy, S. K. (2017). Value co-creation with Internet of things technology in the retail industry. Journal of Marketing Management, 33(1-2), 7-31.	Camilleri, J., & Neuhofer, B. (2017). Value co-creation and co-destruction in the Airbnb sharing economy. International Journal of Contemporary Hospitality Management.	Bryson, J., Sancino, A., Benington, J., & Sørensen, E. (2017). Towards a multi-actor theory of public value co-creation. Public Management Review, 19(5), 640-654.	Chen, C. H. S., Wu, M. S. S., Nguyen, B., & Li, S. (2018). Digitally facilitated newspaper consumption and value co-creation. The Bottom Line.

Authors	Zhang et al., 2018	Čaić, et al., 2018	Merz et al., 2018
Year	2018	2018	2018
Study	Value co-creation in a sharing economy: The end of price wars?	Service robots: value co-creation and co-destruction in elderly care networks	How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale
Key objective/ Focus	Focus on role of VCC in a sharing economy and special emphasis on consumer willingness to pay higher price based on different types of values	Focus on value co-creation or co-destruction potential of social robots serving old age consumers and their close network	To explore as to how much value customers contribute to the brand during value co-creation process using measurement scale
Key findings	Study observe that all types of values influence willingness to pay premium price but it varies according to consumption stage (i.e., functional & social values in pre-consumption stage; and emotional value in mid-consumption stage; and social value in post consumption stage)	Proposes typology of assistive roles played by robot (six unique roles are observed i.e., enabler, intruder, ally, replacement, extended self, and deactivator) and reflect robot' s key support functions as well (i.e., to safeguard, social contact, & cognitive support)	Study proposes Customer Co-Creation Value (CCCV) measurement scale which could help the firm in assessing the real value of their customers in the brand co-creation process. It observes that CCCV is comprised of 7 dimensions within two higher order constructs i.e., customer-owned resources and customer motivation
Citation	Zhang, T. C., Jahromi, M. F., & Kizildag, M. (2018). Value co-creation in a sharing economy: the end of price wars?. International Journal of Hospitality Management, 71, 51-58.	Čaić, M., Odekerken-Schröder, G., & Mahr, D. (2018). Service robots: value co-creation and co-destruction in elderly care networks. Journal of Service Management.	Merz, M. A., Zarantonello, L., & Grappi, S. (2018). How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale. Journal of Business Research, 82, 79-89.

Authors	Brey, 2019	Russo et al., 2019	Eriksson, 2019	Busagara et al., 2020
Year	2019	2019	2019	
Study	Co-creating Value from Social-Media: A Framework	Empowering patients to co-create a sustainable healthcare value	Representative co-production: broadening the scope of the public service logic	Customer information sharing and new service development: is there a link?
Key objective/ Focus	To propose a VCC based framework for social media which could be used across different industries and platforms and content.	Focus on understanding the effects of patient empowerment on their value co-creation behaviour	Focus on broadening the conceptual understanding of public service logic using notion of representative co-production	Study focuses on establishing a link between customer information sharing and new service development using tourism setting
Key findings	Study mainly highlights six unique categories of social media value creation framework i.e., respond, transact, educate, awareness, stimulate and entertain.	Study confirms that patient competencies and resources directly influence their co-creation behaviour within health services	Study argues that group representatives' resources (i.e., knowledge and skills) are beneficial in designing, and delivering services to co-create with other group members	Study mainly found that customer's post service information and customer interaction behaviour positively support new service development, but pre-service information is not linked to service development
Citation	Brey, E. T. (2019). Co-creating value from social media: A framework. Journal of Creating Value, 5(2), 222-236.	Russo, G., Moretta Tartaglione, A., & Cavacece, Y. (2019). Empowering patients to co-create a sustainable healthcare value. Sustainability, 11(5), 1315.	Eriksson, E. M. (2019). Representative co-production: broadening the scope of the public service logic. Public Management Review, 21(2), 291-314.	Busagara, T., Mori, N., Mossberg, L., Jani, D., & Andersson, T. (2020). Customer information sharing and new service development: is there a link?. The Bottom Line.

Authors	Fan et al., 2020	Peltier et al., 2020	Scarlett et al., 2021	Chatterjee, & Nguyen, 2021
Year	2020	2020	2021	2021
Study	Tourists' experiential value co-creation through online social contacts: Customer-dominant logic perspective	Digital information flows across a B2C/C2C continuum and technological innovations in service ecosystems: A service-dominant logic perspective	Institutions and technology in the value co-creation process of restaurant consumers: a service-dominant logic perspective	Value co-creation and social media at bottom of pyramid (BOP)
Key objective/ Focus	Aims at explaining and developing a measurement scale on experiential value co-creation	Aims to explore a continuum of digital Information flow comprised of both B2C and C2C communication	To explore the joint influence of technology, institutions, unique operant resources, novel operant resources	Study aims to examine how do value co-creation using social media is exactly affected by gender, age, & peer influence
Key findings	Study uses mixed method design to propose a scale on online experiential value co-creation. It identifies three distinct values i.e., intrinsic/extrinsic enjoyment, logistics, and efficiency within tourism using customer dominant logic.	Study confirms that Digital Information Flow Continuum impacts the acceptance of the telemedicine innovation directly, and indirectly through value perceptions of comparable service quality and ease of access to care.	Study confirmed that technology as operant resource influence institutions which in turn effect value in context within VCC framework. Study uses hospitality service ecosystem to understand these strategic benefits of technology-institution link	The study observes that people at bottom of pyramid emphasize more social media usage compare to peer influence while co-creating value
Citation	Fan, D. X., Hsu, C. H., & Lin, B. (2020). Tourists' experiential value co-creation through online social contacts: Customer-dominant logic perspective. Journal of Business Research, 108, 163-173.	Peltier, J. W., Dahl, A. J., & Swan, E. L. (2020). Digital information flows across a B2C/C2C continuum and technological innovations in service ecosystems: A service-dominant logic perspective. Journal of Business Research, 121, 724-734.	Scarlett, G., Reksoprawiro, R., Amelia, N., & Wibowo, A. J. I. (2021). Institutions and technology in the value co-creation process of restaurant consumers: a service-dominant logic perspective. The TQM	Chatterjee, S. & Nguyen, B. (2021), "Value co-creation and social media at bottom of pyramid (BOP)", The Bottom Line, forthcoming.

Authors	Castillo et al., 2021	Edvardsson, & Tronvoll, 2021	Koul et al., 2022
Year	2021	2021	2022
Study	The dark side of AI-powered service interactions: exploring the process of co-destruction from the customer perspective	Crisis behaviours as drivers of value co-creation transformation	Value Co-creation in Sharing Economy: Indian Experience
Key objective/ Focus	Aims to investigate the VCC process in AI powered service interactions specially to understand value co-destruction possibilities	Aims to explore how do behavioural shifts in times of crisis drive the transformation in value co-creation within digital platform	Aims to understand how Value co-creation is reinforced within sharing economy
Key findings	Study observes five unique antecedents of failed interactions between customers and chatbots: authenticity issues, cognition challenges, affective issues, functionality issues, and integration conflicts. Study suggests coping strategies regarding resource loss, failed service relationships within AI setting	Study proposes framework regarding micro-level changes in actors' mental models (like motivation, agility and resistance change) and macro-level changes in institutional arrangements, both of which are enabled by digital service ecosystems.	Study test VCC within sharing economy using similarity across value co-creation and shared economy assumptions. Also, propose a VCC framework for sharing economy in service industry
Citation	Castillo, D., Canhoto, A. I., & Said, E. (2021). The dark side of AI-powered service interactions: exploring the process of co-destruction from the customer perspective. The Service Industries Journal, 41(13-14), 900-925.	Edvardsson, B., & Tronvoll, B. (2021). Crisis behaviors as drivers of value co-creation transformation. International Journal of Quality and Service Sciences.	Koul, S., Jasrotia, S. S., & Mishra, H. G. (2022). Value co-creation in sharing economy: Indian experience. Journal of the Knowledge Economy, 13(1), 387-405.

Authors	Bu et al., 2022	Pathak et al., 2022
Year	2022	2022
Study	Influencer marketing: Homophily, customer value co-creation behaviour and purchase intention	Value co-creation in the B2B context: a conceptual framework and its implications.
Key objective/ Focus	Study aims to explore how do homophily among influencers & audiences affect customer VCC behaviour which in turn influences brand value and purchase intention	Aims to understand VCC in B2B context (using fresh perspective)
Key findings	Study confirms that homophily positively influences customer value co-creation behaviour and brand value & purchase intention. Interestingly, co-creation behaviour is observed to play a multi-mediating role in the study and para-social relationship moderates the relationship between homophily- customer participation behaviour	Study uses enhanced Customer-Organisation-Technology-Environment (C-O-T-E) framework and identify sixteen factors affecting VCC in B2B context. It also proposes a ' co-conception for competition' idea as new form of VCC to achieve competitive advantage in B2B context
Citation	Bu, Y., Parkinson, J., & Thaichon, P. (2022). Influencer marketing: Homophily, customer value co-creation behaviour and purchase intention. Journal of Retailing and Consumer Services, 66, 102904.	Pathak, B., Ashok, M., & Leng Tan, Y. (2022). Value co-creation in the B2B context: a conceptual framework and its implications. The Service Industries Journal, 42(3-4), 178-205.

Note: The articles from 2000 to 2018 are selected on the basis of citation frequency within Scopus database, while articles from 2019 to 2022 are selected subjectively on the basis of alignment with this project

2.5 Summary

The current chapter, first reviews the concept of value co-creation as rooted within service dominant logic followed by clear elaboration about value co-creation in healthcare. Next, the study discusses customer dominant logic and how it hints towards the emerging C2C value co-creation. Alongside, the study discusses value co-creation on social media that forms the major research context for study 1 and 3 while exploring C2C value co-creation. This is immediately followed by overview of value co-creation during liminal situation of covid19 that forms the context for study 2 within the project. In parallel to above concepts reviewed in this chapter, the study review the key components necessary to build the theoretical background for three separate studies i.e., for study 1, it reviews value co-creation and co-destruction practices; for study 2 it reviews operant/operand resources, consumer vulnerability within liminal setting, resource typologies; and for study 3, it reviews value co-creation behaviors (participation behaviors, citizenship behaviors, resource contributor centric behaviors), social capital, sense of belongingness and consumer wellbeing. These knowledge components often used across the studies and are not exclusive to single research question. For example, understanding wellbeing is relevant to all three questions as it is the ultimate goal of all the involved healthcare actors irrespective of setting i.e., within during normal or liminal time.

Overall, the literature review reflects that this work primarily focuses on C2C setting but includes some perspective of service providers as well. Research questions one and three focus on other (fellow) customers in the patient's network, and research question two focuses on service providers along with other actors (fellow customers, non-healthcare supporting actors) in the patient's network. Compared to earlier studies, the project looks at healthcare value co-creation using two unconventional health-service settings. One is exploring co-creation enacted by health consumers or their companions in the online social space (within research questions one and three). Two, investigating the health actor’s co-creation efforts during the liminal (uncertain) time, like during the Covid-19 crisis (within research question 2). Further, the study wants to highlight while reading the SD logic or CD logic literature that the current project does not try to position one logic as superior or inferior to another. It only uses them according to context. Research question 1 and 3 is built on CD logic, while research

question 2 uses the SDL viewpoint. However, at some places in the project, both the logics would appear to overlap as Heinonen herself accepts that differences in CDL and SDL are subtle, thereby making them inseparable is a given case study.

The practice theory reviewed in the project help to take a stand that study wants to know how the practice elements help the consumers to integrate the resources and co-create value with similar consumption side actors (in online space in our case). The study particularly focus on understanding the routinized social practices of online diabetic patients (within research question 1). Alongside, the brief literature on value co-destruction help the project to look at VCD activities in parallel to positive VCC practices in C2C network. The study expect that compared to B2C system, the C2C system would be less co-destructive due to actors' similar motivation (e.g., to help each-other) and equal opportunity (e.g., to mobilize/integrate the resources) in a given system (social media system in our case).

Moving deeper, the literature review on vulnerability and resources (operant/operand) help the project to position co-creation within uncertain liminal situation of Covid19 crisis. Review reflects that during liminal time, the resource integration is inherently difficult or requires some expertise. The study expects that limiting the study to a specific context always gives a good picture of the concerned phenomenon instead of visualizing the issue in a bigger playfield.

Finally, author wants to summarize this review chapter stating that the importance of this project to emphasize value co-creation among core consumer network (patient in our case), both within online and liminal space is directly motivated by the following lines

If the value formation process is embedded in customers' everyday life and ecosystem, dominated by customers, the traditional perspectives may be too limited. The focus of research questions needs to be shifted from the company sphere to the customer´s life sphere.

….pg 12 (Heionen et al., 2013)

Chapter 3

Study 1: C2C Value Co-creation Practices in Social-Media Health Communities

3.1 Introduction:

Value co-creation in healthcare has gained immense attention in the last decade within services marketing research (Virlée et al., 2020a; McColl-Kennedy et al., 2012). Healthcare customers (e.g., patients) integrate resources from different sources at various platforms to co-create and realize the value (Virlée et al., 2020b; Frow et al., 2016). Most prior studies in healthcare (Osei-Frimpong et al., 2015; Hardyman et al., 2015) have concentrated on patients' dyadic interactions with healthcare service providers. The research so far lacks insights into how patients co-create value among themselves by interacting with peers, friends, family, and their extended consumer network at various platforms of engagement (Parkinson et al., 2017; Heinonen & Strandvik, 2015; Sharma et al., 2020). Online health platforms are one example where patients discuss their health issues, share experiences, and are involved in C2C interactions to co-create value. These interactions usually occur without the involvement of a doctor or third-party medical service providers. These online platforms broadly come in two different forms. One is formal healthcare forums or online health communities (Zhao et al., 2015) specific to health-related information exchanges; the other is health communities on social media (De Martino et al., 2017), which are more oriented toward informal discussions. Patients often prefer health communities on social media as it allows them to simultaneously interact with close connections such as family, friends, relatives, and other online patients (Maher et al., 2016). These platforms are studied as a customer ecosystem that enables co-creation and value realization processes (Heinonen & Strandvik, 2015). 'Consumer Ecosystem' logic (Heinonen and Strandvik, 2015; Heinonen et al., 2010) asserts that value is subjectively formed during service consumption, where value formation is supposed to happen through the interactions among fellow consumers and their extended network, which is active in the customer sphere (Grönroos and Voima, 2013). Aligning with the same logic, Finsterwalder and Kuppelwieser (2020a) found that co-creation and co-destruction are possible far beyond the focal dyad that connects service providers and customers. Thus,

researchers have argued about the diminishing role of service providers and the enlarged contribution of the relatively independent customer sphere in a value co-creation system. Some prior studies have attempted to explore the consumer sphere of C2C value co-creation in some depth. For example, Uhrich (2014) has studied sports team co-creation activities beyond the live venue during the pre and post-happening of a sports event. Gallan et al. (2019) explored how patients' network experiences lead to community well-being. On the related lines, emphasizing patient centricity, Anderson et al. (2016) observe that healthcare providers are shifting their well-being responsibility towards patients by negotiating their capabilities. To the best of our knowledge, the studies conducted to explore C2C co-creation practices in the consumer sphere are inadequate, and healthcare value co-creation is yet to be explored from such a perspective. To address this research gap, the study finds a list of consumer actions centered around healthcare value co-creation (or sometimes value co-destruction) over selected social media spaces. Such actions occur away from any direct influence of medical service providers. Since health co-creation practices involve the integration of resources (McColl-Kennedy et al., 2012; Virlée et al., 2020a), the study also tries to understand the practices from its underlying resource usage pattern (Kleinaltenkamp et al., 2017). Thus, the study has addressed the following research questions: 1) What kind of C2C value co-creation practices are enacted by health consumers on social media spaces? 2) Is there any specific pattern of resource integration employed by healthcare customers?

The study findings contribute to healthcare service-providing firms designing a better co-creation fit with consumers for more effective value exchange. Knowledge of specific C2C practices will help virtual social platform owners design positive communicative elements in C2C co-creation practices over social media to ensure more sustainable consumer engagement at such platforms. Theoretically, the study confirms the importance of emerging consumer ecosystem logic within an online healthcare setting where value co-creation occurs primarily in the consumer's sphere.

Online social media health communities of a developing nation, India, are selected to get the empirical data. Out of 4.65 billion social media users present in the world, 467 million users are from India (Basuroy, 2022). Facebook, YouTube, and Twitter emerged as popular social media platforms in India. People who engage with such platforms for health-related activities generally seek health information and advice, share health experiences and second opinions, and learn coping skills (Gupta et al.,

2022). Further, the study confines itself to Diabetes patient networks in India for two important reasons. First, India is among the top five countries in terms of diabetes population, with 74.194 million adults (as of 2021) who have diabetes (IDF, 2021). Second, 'Diabetes' is one of the most popular chronic diseases where C2C interactions are rich over social media platforms in India.

3.2 Literature Background

3.2.1 Customer-dominant logic and Consumer Ecosystem

Customer-dominant logic looks beyond C2C dyads of value co-creation and focuses more on the consumer's extended network (Heinonen and Strandvik, 2015). The central assumption of this logic views consumers as a collective, much beyond the C2C dyad, where value is assumed to be socially constructed and resources are integrated or emerge at the resource usage center (Kleinaltenkamp et al., 2017; Heinonen and Strandvik, 2015). Voima et al. (2010) argue that value is not easily formed within consumer cognitive space; instead, is embedded in the consumer's social network, which is rarely visible to a service provider. Having such assumptions, the customer seems to possess more power and control for integrating their resources. A perspectival shift of the focal point of research from value cocreation being a joint responsibility of service providers and customers to a sole responsibility of customers, or 'self-responsibilization' in value self-creation has been observed (Zainuddin et al., 2016). Value cocreation responsibility extends to a broader consumer side network, including friends, family, neighbors, and colleagues, collectively forming a nexus of C2C experiences (Baron & Harris, 2010, Frow et al., 2016). Adopting this perspective to the healthcare context, doctors as service providers may not see the patient's actual social life and consumption habits structured outside the health service processes, which is inferred as beyond the line of (service provider's) visibility in C2C context (Strandvik et al., 2019).

3.2.2 C2C value co-creation in healthcare

From the perspective of dominant customer logic, C2C value co-creation may be seen as a multi-layered dynamic process embedded in a customer's social context (Rihova et al., 2015). In simple words, two consumers jointly integrate the resources mobilized from their social context and co-create value for each other. Some of the

earlier healthcare studies hint toward C2C value co-creation activities performed by the consumers. For example, McColl-Kennedy et al. (2012) explored several co-creation activities like co-learning, collating information, connecting, cooperating, and adapting. These activities reflected the importance of fellow health consumers in value formation processes. Sweeney et al. (2015) investigated the customer effort in value co-creation outside the firm-customer dyad by elucidating patients outside clinic activities. Further, Frow et al. (2016) propose eight unique healthcare co-creation activities practiced at the micro, meso, macro, and mega level of healthcare service ecosystems. The same framework is tested empirically using a patient-centric experience lens (Gallan et al., 2019). Further, most online studies discussing C2C health interactions focus on certain other aspects like online peer support, co-creation intention (Shirazi et al., 2021), patients' cognitive resources, social identification, knowledge contributions, and membership continuance (Zhao et al., 2015). These studies primarily focus on the outcome of co-creation but not on the process of C2C co-creation that is orchestrated by activities and representative practices.

3.2.3 Online Health Communities on social media

The digital capability of virtual platforms improves value co-creation both in terms of perception and response to the overall system (Lenka et al., 2017). Earlier studies recognize online health communities (OHCs) as an excellent virtual platform for exploring value co-creation (Zhao et al., 2015; Shirazi et al., 2021; Liu et al., 2020). These OHC platforms are also characterized by high social interactions and resource-sharing activities suitable for learning about C2C co-creation practices (Zadeh et al., 2019). For the general-purpose health interactions where novice patients and their caregivers (companions) could easily share their health experiences, social media health communities are important (De Martino et al., 2017). Health communities on social media make up an online consumer ecosystem that connects patients, families, friends, and the extended network of individuals with similar health interests interacting over a common platform. These social media health communities offer a one-stop platform where consumers' larger social relationship structure can be observed, which is otherwise difficult to trace in an offline setting. Additionally, it is easier to view consumers adopting multiple roles on such communities when they enact different activities within various sub-groups of their choices.

3.2.4 Social Practice Theory

Social practice theory (SPT) is discussed in sociology from varied perspectives. Giddens (1984) explains one of the aspects of SPT as *actors draw on structures (rules and resources), thereby participating in practices and reiterating their organizing structures*. SPT assumes that actors' actions are influenced by social interactions and vice-versa (Giddens, 1984). SPT has been proven to be a robust approach for understanding value co-creation within offline settings (McColl Kennedy et al., 2012; Echeverri & Skålén, 2011). Some researchers presume resources as reciprocal social support flowing through informational or emotional exchanges (Yan & Tan, 2014). However, the customer ecosystem perspective assumes that customer networks harness the value and mutual benefits beyond social support elements (Heinonen & Strandvik, 2015). Thus, SPT offered a larger perspective to examine the health communities where health consumers engage in various resource-integrating actions (not limited to social support) in coordination with other actors and which are driven by the community rules.

Some recent healthcare studies use SPT to explore value co-creation practices. For example, McColl-Kennedy et al. (2012) identified five practices, i.e., team management, pragmatic adapting, insular controlling, partnering (with a doctor only), and passive compliance. Frow et al. (2016) propose eight co-creation practices rooted in social capital endowment and resource exchange activities spanning multiple service ecosystem levels. However, the practices in the above studies focus primarily on doctor-patient resource integration instead of exclusive co-creation among patients. Some critical marketing studies also use SPT (Schau et al., 2009; Uhrich, 2014).

3.3 Method

The study adopts an unobstructed 'Netnographic' method of research (Kozinets, 2010) which is suitable for learning about complex technology-mediated human interactions and social practices in an online space (Lugosi & Quinton, 2018). A five-step procedure is adopted as suggested by Kozinets (2002, 2010).

3.3.1 Planning and cultural entrée:

As per the research's objectives, the two distinct social media platforms 'Facebook' (FB) and 'Youtube' (YT) are selected. Given a wide variety of FB posts and YT videos discussing diabetes (pre-decided chronic disease), a systematic process

is applied to select the cases (See Figures 3.1 & 3.2 for the selection process). Next comes the cultural entrée. To gain a cultural entry, the researcher joins the community (pre-decided in the earlier planning stage) without disclosing his identity and observes them closely for three months on the FB community (July-Sep, 2022) and six months in YT (July-Dec, 2022). After this period, the researcher's identity is revealed, and the group is informed about the researcher's presence in line with online disclosure ethics. This cultural entry helps to design data collection inside each case.

Figure 3.1: Process for selecting FB cases (* for extraction inside cases see data collection section) (Author self-created)

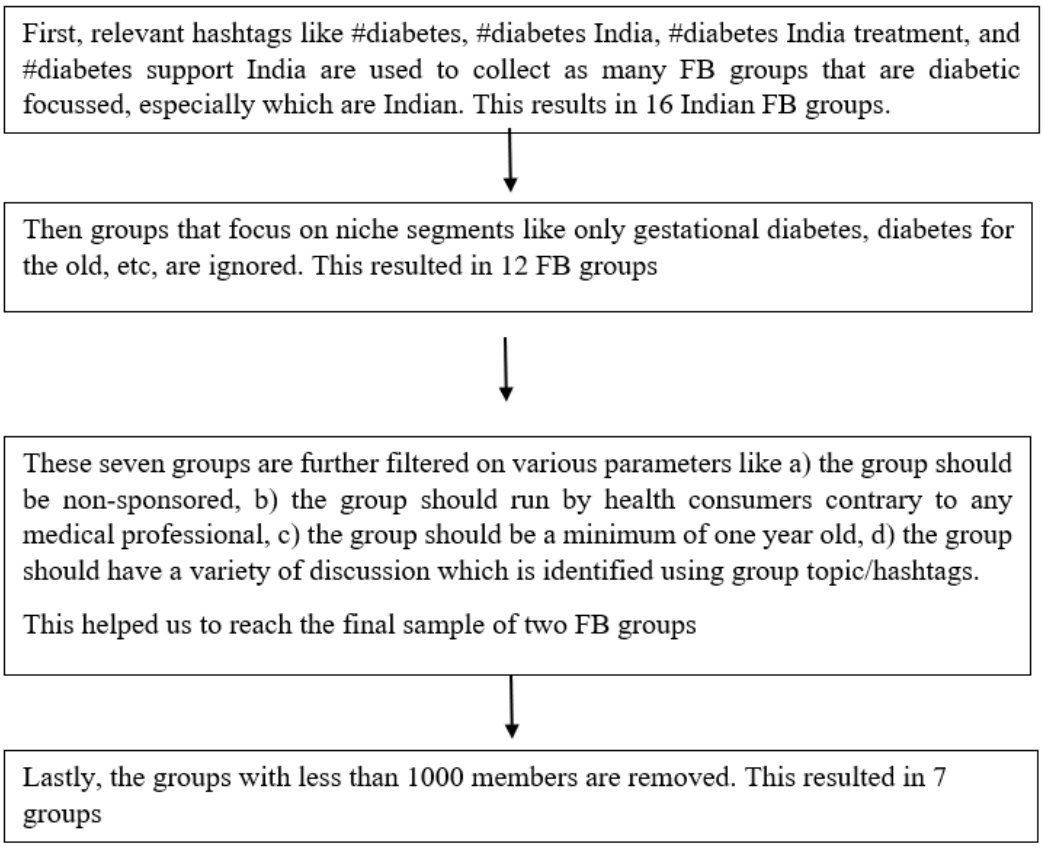
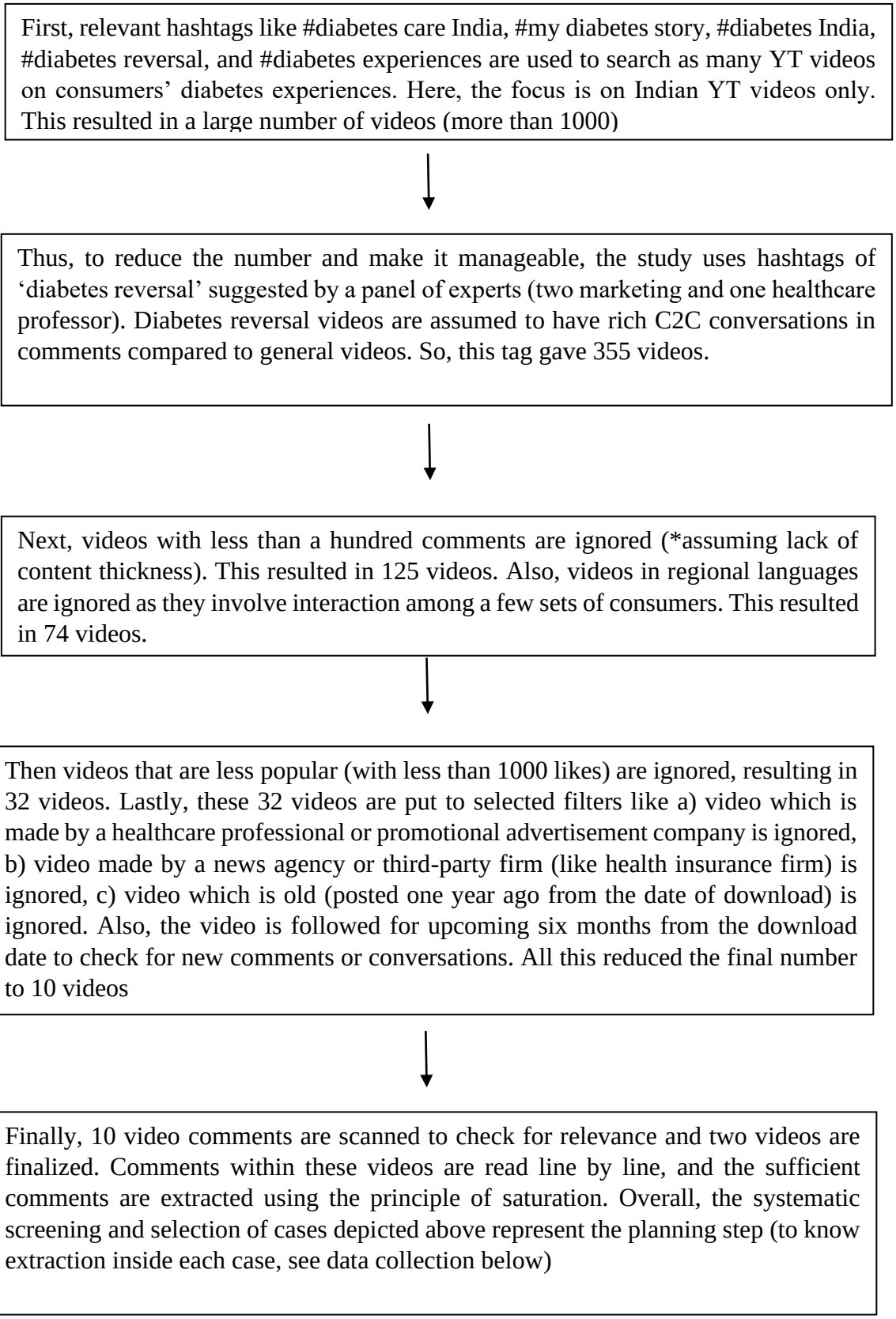


Figure 3.2: Process for selecting YT cases (* for extraction inside cases, see data collection section) (Author self-created)



3.3.2 Data collection

Netnography uses a wide variety of social media data, i.e., textual, visual, and video (Kozinets, 2002, 2010). The textual information presented in online posts, comments, replies, and nested discussions from the selected cases and those falling within one year were scrapped using Octaprase 8.4 (web scrapping software). Octaparse scrapped large data from selected cases i.e., 3600 unique posts (see figure 3.3).

However, the study confines 536 unique posts (comprising 133 nested comments and replies) based on the filtering criteria discussed below:

- Unique posts within FB group should be in text form (a few posts displayed text in the image. These are considered only if they were in OCR convertible form).
- The length of the post was fixed to be a minimum of five words to extract relevant meaning from it. This limit is removed for comments & replies to understand the nested discussions.
- A few texts were a kind of narration for images. But these were kept only if they could signify some hidden meaning in isolation.

The YT data is extracted using the following criteria:

- Comments should be in text form and have a length of a minimum of five words.

Comments in memes or video formats are ignored. The number of comments extracted from each video posts depended on the principle of theoretical saturation. Overall, as elaborated above, the data is purposively extracted in a focused manner such that the content is dense enough to understand the phenomenon. The number of messages extracted (536) seems sufficient as compared to the size of datasets (as small as 84 FB messages) used in prior studies (Abramson et al., 2015). To understand the data extraction using octaparse see figure 3.3 below

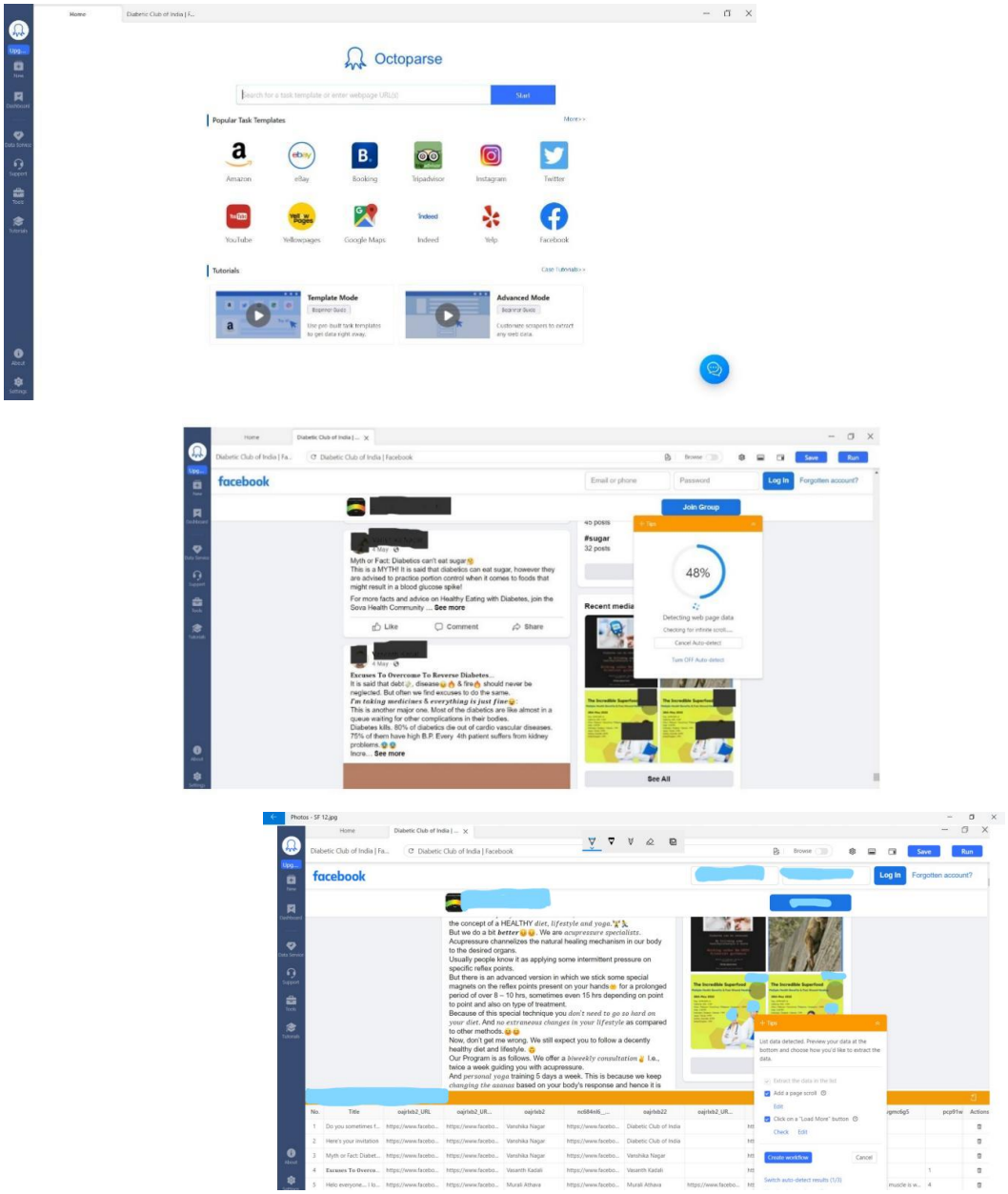


Figure 3.3: Octaparse interface and advanced automatic web data extraction process from the social media platform, along with the final saving of data in CSV format within the cloud server of Octaparse (Author self-created)

Ultimately, the final dataset of 536 individual posts spanned 27,320 words, occupying 117 double-spaced pages of an MS Word document. The textual data collected in the study corresponds to a period of one year (10/04/2021 to 10/04/2022) of consumer network interactions within FB and six months (10/04/2021 to 10/10/2021) of interactions on YouTube. The demographic details of each FB group and YouTube video are presented in table 3.1 below.

Table 3.1: Demographic details of each FB group and YT video used in the study

FB group 1	**Diabetes discussion hub of India (DDHI)** • Created in: Feb 2015 • No of admin or moderators: 1 admin • Total members: 13.6 K • Public status: Anyone can see who's in the community and what they post. • Visible status: Anyone can find this community. • Average post per month: 97 • Top 10 group topics having a maximum number of posts: *Diabetes, health, sugar, healthylifestyle, nutrition, healthyliving, diabetesawareness, wellness#, healthyfood, & fitness* • Type of media shared in the group: video files, pdf documents, images, links, blogs, Instagrams, YouTube reels, Whatsup messages in picture form; • Focus: This group focuses more on diabetes as a disease and shares a large number of informational elements related to treatment, prevention, social support, and awareness, along with some other points of discussion
FB group 2	**My diabetes diary (MDD)** • Created in: Dec 2020 • No of admin or moderators: 2 admins and 3 moderators • Total members: 2.0k • Public status: Anyone can see who's in the community and what they post. • Visible status: Anyone can find this community. • Average posts per month: 210 • Top 10 group topics having a maximum number of posts: *Diabetes awareness, weight loss, physical activity challenge, yoga, diabetic friendly, diabetic diet, herbs good for diabetes, testimony, recipe, dance workout.* • Type of media shared in the group: video files, pdf documents, images, links, blogs, Instagrams, YouTube reels, Whatsup messages in picture form • Focus: This group sees diabetes as a lifestyle disorder, frequently talking about food, lifestyle, nutrition, and alternative therapies, along with a few other topics.
YT video 1	**How I change my HbA1c number from 8.1 to 5.2** • Posted on: 2nd May 2019 • Number of subscribers: 1.8 k • Number of likes: 1.2 k • Number of views: 56,041 • Number of comments: 592 • Language of video: English

	• Subtitles available: Yes
YT video 2	**How I reverse my diabetes** • Posted on: 16th Oct 2019 • Number of subscribers: 26.8 k • Number of likes: 1.1 k • Number of views: 26,977 • Number of comments: 158 • Language of video: English • Subtitles available: Yes

* Names of groups are Pseudo names

3.3.3 Data analysis and interpretation

The study uses reflexive thematic analysis to analyze the obtained data (Braun and Clarke, 2006; Kozinets, 2010).

i. The first step was familiarizing with the data. The researcher thoroughly read the data (posts and comments in our case).

ii. The generation of codes was the second step. Any co-creation activity was examined closely within the individual messages to identify essential co-creation practices. The coding was done inductively without any initial framework.

iii. The third step was the higher-order code formation phase, where codes were grouped based on similar meanings, and relevant higher-order codes were generated. A central underlying theme was further explored in those higher-order codes. Here, initial coding was done manually using MS Office and a web-based comment extraction feature which helps group codes and move back and forth between text and codes. Also, the codes are transferred to MS Excel, where the first-order codes are converted to higher-order codes (see figure 3.4).

1st order codes	2nd order codes	3rd order codes
Exchanging prevention/cure related healthcare information	Sharing of information	Sharing
Sharing medical health records		
Discussing about healthcare gadgets and know how of supportive devices		
Telling personal story about recovery or disease	Sharing of personal journey & experiences	
Talking about day to day routine		
Reciprocating emotions	Sharing of emotions	

Figure 3.4 (Author self-created): Excel screenshot reflecting movement from lower to higher codes resulting in final candidate theme

Later, QSR Nvivo 12 (also called Lumivero) a qualitative analysis software was used for advanced analysis i.e., representing codes via mind map, code clustering, and tree mapping. A sample output of Nvivo depicting hierarchical chart of codes is illustrated in figure 3.5 below.

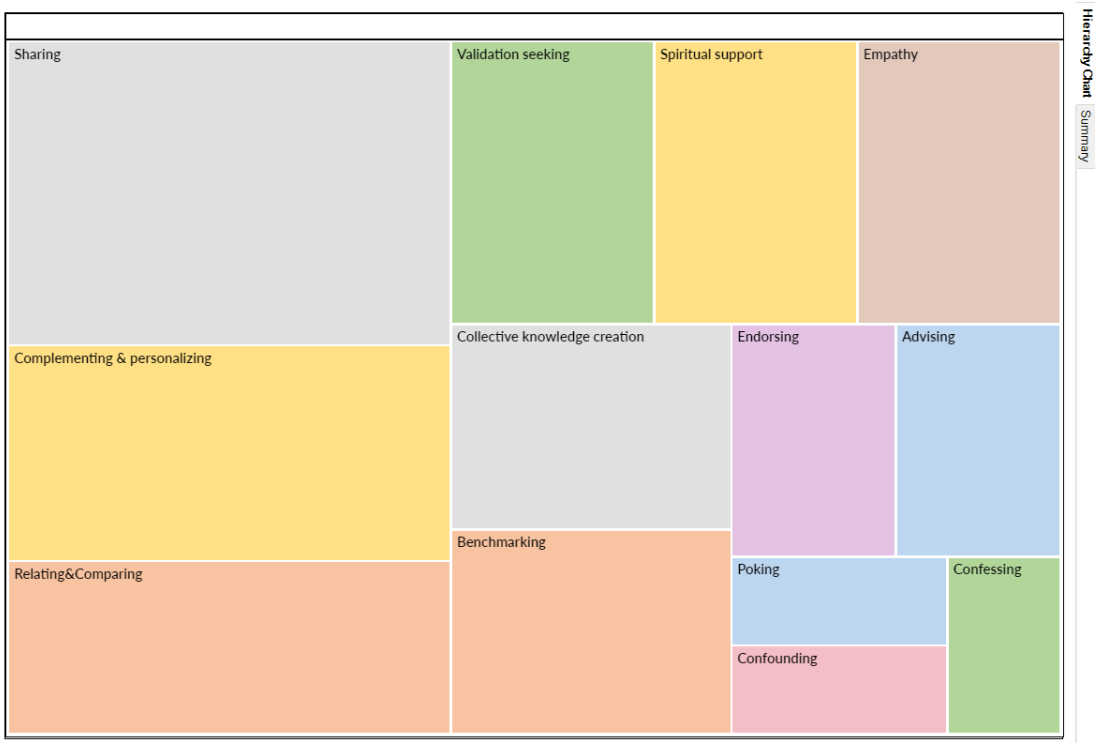


Figure 3.5 (Author self-created): Hierarchical chart of higher codes obtained in the study (based on Nvivo output)

Ultimately, the 65 first-order, 30 second-order, and 13 third-order codes are formed. The 13 unique themes are observed at 667 instances across the data (*see codebook in appendix 1 for detail*).

iv. Next, in the fourth and final phase, all the themes were reviewed to see if they represented what they were claimed to represent. In the coding process, an author of this project and the authors' supervisor gets independently involved in lower to higher-order coding. They iteratively had rounds of discussion to obtain common themes with consensus. To ensure validity, a member check was conducted with four online members: two online FB members and two YouTube commentators. Due to time constraints, the author briefly explained the key findings to the respondents and asked them to comment. Their suggestions and literature helped label the candidate themes in the last step.

3.3.4 Compliance with ethical standards

The study follows the important ethical guidelines of Kozinets, which state that any online data (message, information) posted on a public platform could be analyzed using Netnography without any ethical request for data extraction and analysis (Kozinets, 2002; Langer and Beckman, 2005). Still, to ensure participants' privacy, all the data, including text and pictures, was anonymized and also public announcement was made on the platform informing members regarding data collection, based on Kozinet's (2002) guidelines (see appendix 11).

3.3.5 Reporting

The report follows the principle of analytic text analysis with limited variations at different levels of abstraction (Braun, & Clarke, 2006; Kozinets, 2002).

Note: *For a clear understanding of the whole journey, i.e., from data scrapping to data coding and theme generation, see appendix 2*

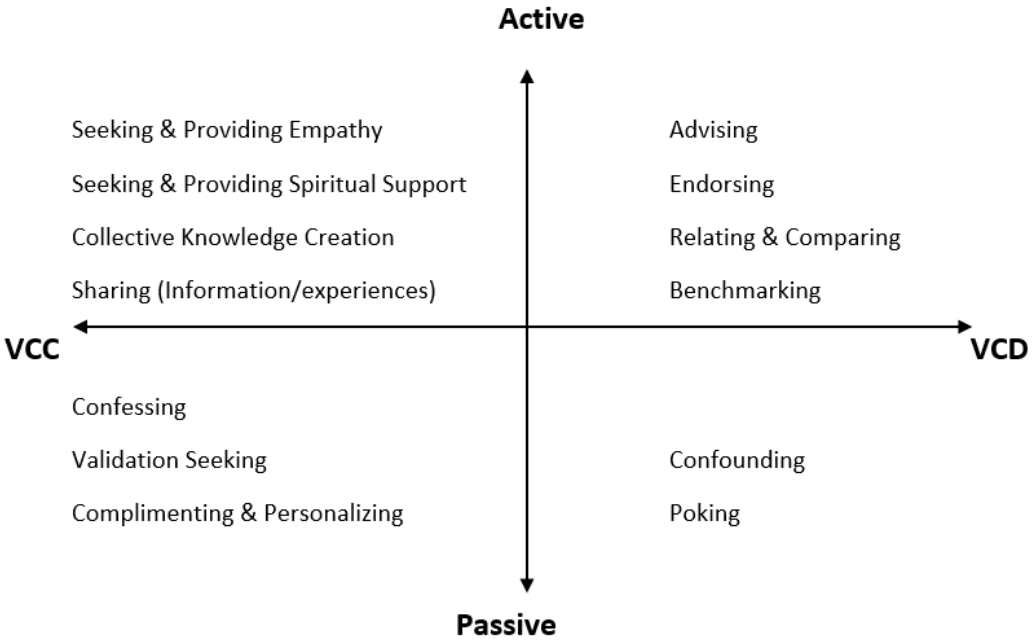
3.4 Findings

3.4.1 C2C Co-creation practices in the online health consumer ecosystem

The study identifies thirteen unique co-creation practices in the network of focal[1] and non-focal[2] health consumers. Additionally, the study observes some resource mis-integration activities resulting in 'value co-destruction.' It is found that the practices enacted by health consumers involve both active and passive participation on the online platform, similar to that noted earlier in the 'offline' value co-creation practices by McColl-Kennedy et al., (2012). We classify all the identified practices in a two-dimensional framework (See figure 3.6). Value co-creation to co-destruction practices is represented on the two ends of the horizontal axis, and participation style (active-to-passive) on the vertical axis. The positioning of practices in four quadrants is based on the majority rule, i.e., the frequency of their instances observed within the data (*see appendix 1 for code instances*).

[1]Patient & fellow patients or community members
[2]Care giver, distant companion, alternative therapy service providers

Figure 3.6 (Author self-created): Two-dimensional framework to position C2C consumer practices in online space



3.4.1a Quadrant I: Active value co-creation practices

These practices reflect consumers' active use of physical and psychological resources (energy + emotion). The activities are characterized by positive C2C co-creation, where the involved actors are befitted through resource reciprocation. It includes the following unique practices: *seeking & providing empathy, seeking & offering spirituality, collective knowledge creation, & sharing:*

The most crucial practice observed is seeking and providing empathy, which appears to be the primary reason for joining the community. Consumer comments reflect that whenever they feel low or mentally exhausted, they prefer to visit the community and exchange their emotional resources through active postings. Consumers are also seen engaging in empathy-seeking behaviors, as observed from their extreme emotions that sounded like a distress call, as reflected in the following excerpt:

> *ok my diabetic group HELP ME!!! I can't do this anymore I'm 28 I live with my husband and mother-in-law. Both my husband and mother-in-law doesn't understand me n I don't think they will ever. I just about gave up on myself I suffer with depression and Type 2 diabetes as well I just got diagnose 8 months ago and I feel like I don't wanna be here anymore I have no real wellwisher to go to for*

help you guys are all I got rn I don't even have a good doctor except for one quack who give me pills that hardly works. I always feel like I'm gonna unalive myself I just wanna give up I hate taking care of this disease it's so challenging what do I do??? 😭😭😭

This quote reflects Seeking empathy

During such empathy-seeking practices, consumers often use words/ phrases like *"pls help, I don't know what will happen."* Many consumers are observed seeking empathy when they are first diagnosed with the disease. During this time, they are also seen to express fears through texting like *'Will I be able to live a normal life, how would my body react, is it too late.'*

Apart from seeking empathy, other members are observed offering empathy in response. Such a behavior boosts their own self-esteem and develops resilience in the long term. The excerpts below depict how an actor offers empathy to another online member.

Hmm! I can really understand what yu have gone thru, I have faced this (injecting insulins, pricking) many times. Belive me yu r doing wonderful. Never feel alone, we are there. Be strong. You are soo brave. Life ❤️❤️🥰

This quote reflects offering empathy

Next, the study observes the practice of seeking and providing spiritual support. Here, the spiritual element is represented through multiple practices, such as those reflecting a sense of meaning in life, a sense of shared values, and the day-to-day religious practices discussed in the community. Members often seek spirituality while experiencing severe difficulties in their health, as reflected in the following quote '*I am going thru deep pain. Done all sort of things still unable to control it (diabetes). Pls ask God to give his blessings. I seriously need them* 😢😢😢'.

Further, the practice of offering spirituality is often observed in the form of transcendental motivation, where an actor narrates his story or tries to counsel others in terms of the meaning of life and self-care, which in turn reduce mental suffering. One such spiritually supportive communication is quoted below:

I have been reading about those that are tired of being a diabetic and want to quit. I want to share my story in hopes that it might stop someone from quiting. First, I want to apologize for the long post.

Two more quotes observed on the similar line were as follows:

- *13 and a half years ago I walked out of the hospital after going through a 10 day detox program for prescription drugs. The year before I went through detox I had been hospitalized for suicidal issues 3 times. When I got out of the hospital, I started ……* (the whole story is skipped here to reduce the size of the excerpt) *…….. Do what you need to do to not quite. Your life is worth fighting for. Don't let diabeties stop you from living. Again, sorry for the long post, but I hope it helps someone to not quit and keep going.*
- *If anyone has problems with their feelings, message me. I've gotten good at throwing tantrums* 🙂*and can help you through it*

Above quotes reflect Offering spirituality

Next, it is observed that individuals with varied expertise collectively create knowledge within the community by synthesizing the isolated pieces of information coming from multiple sources. Expert and novice consumers interact and synthesize the available information into cohesive knowledge that is interpretable and ready to use. For example, in one of the posts quoted below, one person says that combined drug therapy is more effective than single drug treatment, and the other person claims that Yoga and exercise improves the recovery of the concerned disease. The third consumer person creatively combines the arguments and proposes that physical exercise enhances the efficacy of combined drug therapy.

I always doubt which is better dapaglifozin + metformin or metformin alone?

Comments:

- *With my personal experience I believe combined drugs are always effective. It's like 1+1= 3.*

  Replies to above comment:

- *Reply 1: Yu are wrong my friend it depends on medical condition and individual body. For some single drug therapy works well and for some even the combination fails. better to ask your doctor.*
- *Reply 2: Don''t fall in the trap. Medicines will just do no good to you. It has lottt of side effecs in long run. No matter yr drug is single color or multi-coloured I mean with two drugs in same pill. Go and start following regular exercise, pranayama, and any other workout routine. Yu will see positive results*
- *Reply 3: Hmm! I partly agree and disagree to your question. With 12 years of experience with diab. I would say the real question should not be single drug or combo drug but yu shd ask me if drugs combined wth physical routine gives better results or drugs alone? Then, I would surely say that proper exercise would always improve the effectiveness of combo drugs.*

Nested reply to above replies:

- *Reply 1: Ths is what I am saying too. I think yu have put yr point a bit better. Good job dear and anwys thnks for the input.*

Above quote reflects collective knowledge creation

As reflected in the above quote, such knowledge synthesis is sometimes done intentionally and sometimes emerges on its own. In the latter case, it could be called 'situated learning' developed in the community.

Apart from the above-discussed practices, the most common practice observed in the community is the act of sharing. Consumers exchange a wide variety of resources, i.e., operant and operand, including information, disease experiences, online content (links, videos, etc.), technical know-how (like how to take insulin shots), and traditional knowledge rooted in alternative medicine. Sample excerpt reflecting sharing (of information) are as follows '*Do you or anyone in your family is struggling with Type 2 Diabetes? I highly suggest these two books*  *(link …….) for some really great information on Whole Food Plant-based diet.'*

Sharing information

3.4.1b Quadrant II: Passive value co-creation practices

These practices reflect less active use of operant skills and are mostly part of value-seeking behavior. It includes the following unique practices.

Confessing, Validation Seeking, Complimenting & Personalizing:

Confessing is observed as a unique practice of its kind where health consumers confess to each other if they have violated any health-related protocol. Various confessions include undesired eating habits, skipping drug doses, and violating diet protocols. The same is reflected in the following quote:

> *Today I eat a plate full of cake*  *It's not even my cheating day and my sugars are already high. I am feeling guilty. Although, I have doubled my metformin dose. I hope tomorrow I will not have those hyper readings.*

Consumers also confess that they told a lie in healthcare service encounters, as reflected in the following quote:

> *I was scared. I told lie to doctor that I was feeling ok. Although I was feeling hypo. I know if I would have told him he wd be writing more medicines. I don't want it.*

Confession helps the actor overcome guilt and helplessness, which allows them to enhance their mental preparedness for adverse outcomes (Grønning & Tjora, 2018). Next, a critical practice that includes the less active role of the consumer is validation seeking. Many consumers doubt their health literacy and frequently engage in validation-seeking habits. Their validation queries are of different kinds, such as those related to testing reports (timing of the test, interpretation of the test, etc.), related medicines dosage, brands of medical devices (e.g., glucometers) and related to medicines having similar molecules, insurance schemes, fitness practices such as strength training and yoga, and sometimes of misdiagnosis of the disease. Some of the excerpts depicting validation-seeking practices are quoted below:

> *When I am waking up in the morning my sugar levels are more than 200 and I am taking medicine also.... But evening I am doing work outs after work out my sugar levels are coming to normal... 100 I am having normal break fast , lunch and dinner.. Is it ok to get that much of blood sugar readings in the morning time... I am not feeling any sick I am completely healthy now...i am lil bit scared as many*

people is saying that my blood sugar levels must be around 120 in the morning time... Can anyone help me in this

Additionally, the consumers are seen complimenting other members through acts like praising, adorning, and affirming (of positive words). Sometimes, one member appreciates other actors on behalf of the whole community or the group of members, as reflected in the below excerpt:

I am super stoked to be a member of this group. The posts and comments are stimulating and of great value to the community. I am so grateful to friends in groups such as this have helped with advice on how to work it all down to becoming Pre-Diabetic now weighing 85kg for more than 9 months now with Hba1c of 6.3. I hope to add value to the group by sharing experiences, doing research on topics where solutions are not readily available and walking a path will all. Thank you so much to the Leaders of this Group for the structure, rules and keeping this home a safe place to build long lasting friends.

These compliments act as a gateway to personalize. This act is implicitly inferred from a personal interactive language like *'you are my hero, my man, you are princess, oh darling, bro.'* Consumers personalize their interactions with different individual motives, such as those showing concern for others, encouraging others, and building repo with other actors. A few excerpts supporting the above arguments are as follows:

- *Thank you for the advice, dear ..... Good luck with your journey to beat Diabetes and stay that way!! Great Video!!* 👍👍
- *Thanks, my man. Greatly enjoyed* 🤣*your talk, it felt like listening to a buddy.*
- *I would like to talk to u pls gv me yr watsapp number*

Above 3 quotes by three different patients reflects personalizing with compliments

3.4.1c Quadrant III: Active value co-destruction practices

These practices represent activities where participants directly or indirectly mis-integrate the resources for others to spoil the co-creation outcomes actively. This quadrant includes the following practices.

Advising, endorsing, relating, & benchmarking:

Young members usually seek advice, while experienced members are observed giving advice. Advices involve multiple categories ranging from simple suggestions for diet changes to more technical suggestions for prescribing medicines. Such Informal prescription represents a kind of value co-destruction practice in the online space, as taking direct medicines just on the advice of some non-expert members may be harmful. Along with advising, members are observed endorsing certain health products, treatments, drugs, and therapy by engaging in online recommendation activities.

Sample excerpts depicting advice and endorsements are depicted below:

> *Your dark skin patches on your elbows, knees, knuckles, joints etc is called acanthosis nigricans and is a sign of insulin resistance.*
>
> Reflecting diagnosis episode

> *Portion control and watch the process carbs. you can have good fats like olive oil and grass-fed butter. it keeps your blood glucose in check. be careful of alot of fruit it will raise the suger you can have fruit like berries*
>
> Advise on food habits

> *Love ❤️the video brother. In terms same boat and same numbers buyg on Metformin (drug brand) for 2yrs. 500mg per day.*
>
> Reflecting brand endorsing

Another set of practices observed is the Relating and Benchmarking practice. Relating is observed frequently. Members actively relate to various posts shared within the community, including personal experiences, medical conditions, and some ancillary activities like playing the same sports and watching the same web series or movies. Quotes reflecting such relatedness are depicted below:

> *Right there with you…One day at a time. I am changing one thing at a time. Like I stopped drinking my mochas and sodas to start. Chnaged chocolate to dark and lilys chocolate bars.*
>
> Relating first-hand experience

Relatedness reflected in the above excerpt shows how the patient blindly relate and follow the advices given by online members without verifying or asking for supportive information. Such relatedness sometimes turns into a comparison of typical health

protocols, which sometimes develops into socially acceptable standards like the normal sugar level for people who have had diabetes for a long time (say, 5 to 10 years). Most of the time, these benchmarks are collectively settled at a little lower value than the medical standards (like HbA1c Test values of 8 or 9 are collectively considered normal against medical standards of 7.0 for diabetic patients). This is clearly evident in the following excerpt:

> *Hi.Diabetes is defined as a1c over 6.4. Below 6.4 and down to about 5.9 is "pre-diabetes." For someone who does have type 2 Diabetes, keeping A1C under 9 is most important, and under 8.5 is considered "controlled".*
>
> Reflecting Benchmarking

3.4.1d Quadrant IV: Passive value co-destruction practices

These practices are co-destroying in nature as it disturbs the smooth co-creative communication among actors. However, since these activities occur involuntarily or sometimes unknowingly, they are categorized as passive value co-destruction practices. Following unique practices are identified under this quadrant:

Confounding and poking practice:

Confounding practices involve raising impolite disagreements and interfering with critical questions over others' posts. Sometimes the members are observed confounding through harmful practices like bad-mouthing, manipulating others, and getting impolite during a conversation, as reflected through the use of words like *'you are insane, mind your business, you freak don't misguide others, he is talking bullshit, probably he is a quack'.*

A large amount of third-party content is shared as a part of this practice. Broadly, two groups of members (mainly observed within the FB platform) frequently confound or disagree with each other. One believes in primary-stream medicine, while the other follows CAM (i.e., complementary and alternative medicine). Some of the excerpts reflecting confounding practice are mentioned below:

> *You are wrong about fats mate. Fats do not cause a person to get fat! It is carbohydrates, which include all breads, rice, pasta, spaghetti, potatoes, sweet corn, etc, which all turn into sugar in the body. The foods that do not turn into sugar, are meat, chicken, eggs (fried, boiled, poached) cheese, and vegetables. Vegetables are a carbodrate, but very low in starch, except for potatoes, corn,*

sweet peas. So eating any bread, pasta, rice, are all putting heaps of sugar into your body. Sorry but I just had to tell you this.

Reflecting Confounding

Next, apart from confounding, poking is observed as another related practice. This is one of the casual practices where consumers ask short questions, comment in a sarcastic way, or give quick opinions to create dilemmas or trigger a debate in the community. Community members don't seem to have much respect for pokers. A sample excerpt for poking practice is as follows *'For B12 did you take any supplements?? What about salt 🧂?* One more quote that goes on the similar lines was *'I agree. Allopathy is not all bullshit. It's just that it has some side-effects. What yu ppl say'.* This practice of poking also reflects some of the sarcastic comment like *'If yu are so perfect then why yu got diabetes. Don't lecture, Don't lecture here 😡'.*

Lastly, to comprehend the overall results discussed till now, the study proposes a diagrammatic framework (See figure 3.7) that explains the important C2C co-creation practices and the underlying resources to be integrated within those unique practices.

Note: *See appendix 3 for additional excerpts related to different C2C practices.*

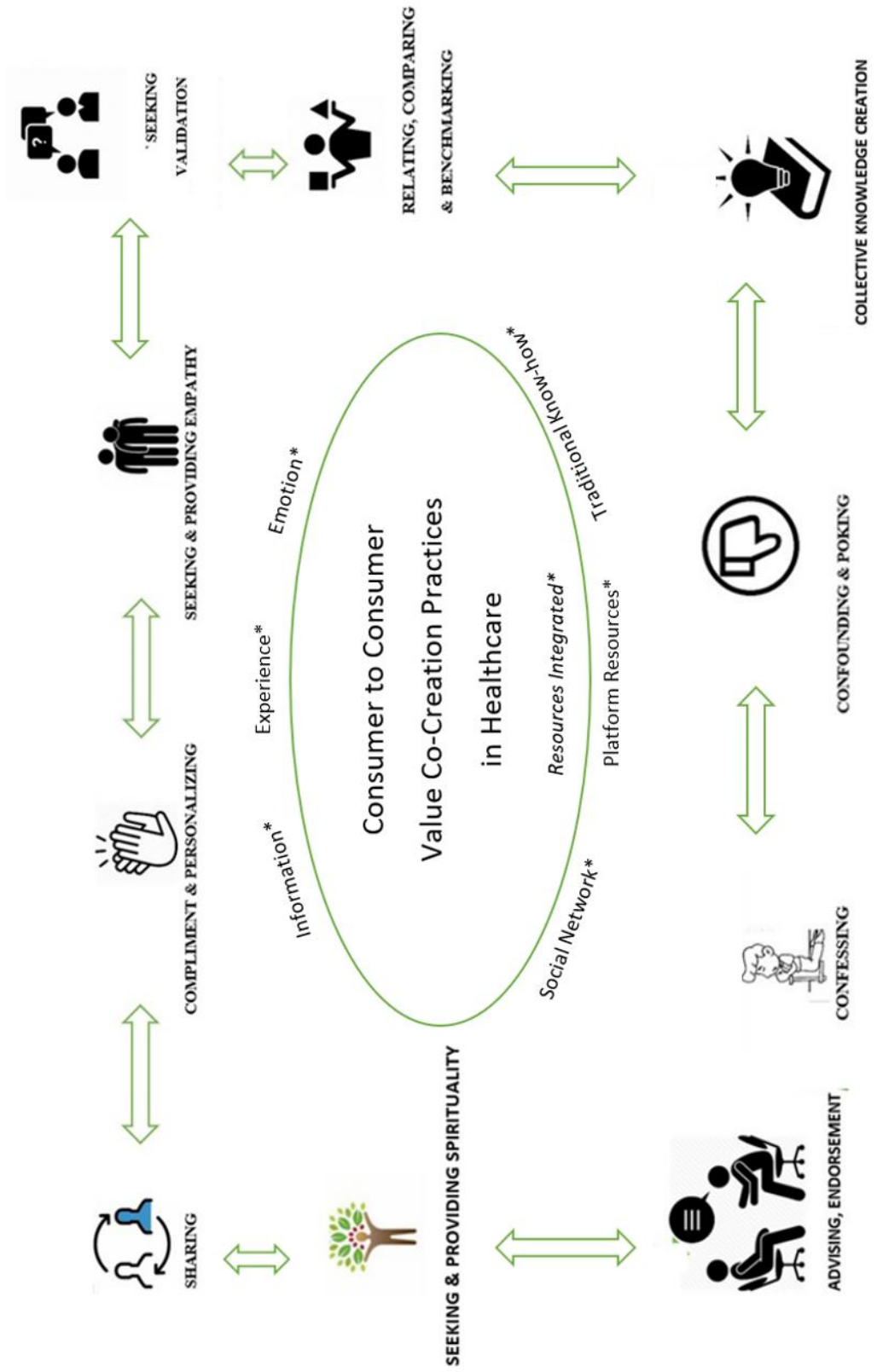


Figure 3.7 (Author self-created): C2C Value Co-creation Practices in Social Media Health Communities

3.5 Discussion

The study observes different C2C co-creation practices, and this section compares these practices with already identified practices. First, the practices like advising, empathy seeking, and empathy offering, whose core genesis is to help fellow consumers in the community, align with Echeverri & Skålén's (2011) findings identified as 'helping as interactive value formation practice.' However, such a kind of 'helping' could also result in value co-destruction when enacted during diagnosis and prescription episodes, as observed in this work. Some of the practices observed here, like sharing experiences, sharing information, and validation, are similar to offline co-creation activities in healthcare (McColl Kennedy et al., 2012), but in a much broader sense in this online context. For example, unlike in physical spaces, online sharing is more personal (medical record sharing) and include sharing of technical know-how (ex: how to take insulin shots) and codified CAM (complementary and alternative medicines) experiences. Next, the recent medical science literature noted the spiritual support practices observed in the study as an essential resource to cope with a stressful situation, particularly in an emergency or prolonged illness (Rossato et al., 2021). The presence of spiritual elements in an online setting is new, though not surprising, because of its offline trail.

Further, the study observes confessional interactions, a unique emotion-laden interaction contrary to mere knowledge-based C2C interactions (Zhao et al., 2015). Through confession, people enhance their sense of responsibility to manage the disease and reduce the guilt experienced in their healthcare journey. Few practices are unique to healthcare, for example, collective knowledge creation by integrating modern medicine and CAM practices. This kind of knowledge creation is unique compared to the co-learning practices observed at the dyadic level in earlier offline healthcare studies (Osei-Frimpong et al., 2015; McColl-Kennedy et al., 2012). Thus, social media's interactive nature possibly helps harness collective knowledge in the C2C network. The poking practice observed in the study could be similar to active lurking and thus indicate a potentially negative role of such people in online communities (Sun et al. 2014). Lastly, the benchmarking practice is deemed emerging based on informal community norms, which aligns with the 'milestoning' practice found in the study of brand community (Schau et al., 2009). The confounding practice identified in this study echoes the notion of debate in online health communities (Zhang et al., 2017). Lastly,

the study found that all the practices are enacted not only among patient-to-patient networks but also within patient-to-caregiver and caregiver-to-caregiver, representing the active role of the consumer's extended network. This is evident via good number of excerpts (around 50-60 posts) reflecting patients' family members or care givers talking to each-other in online community. All the practices are finally positioned under four quadrants (based on the framework proposed), i.e., active VCC, passive VCC, active VCD, and passive VCD. The findings reveal that all the co-creation practices do not demand active involvement. Instead, consumers could exchange value with each other with less effort or even passive involvement. Moreover, not all value co-destruction activities are passive or occur unknowingly; instead, consumers intentionally mis-integrate the resources to destroy value for other actors.

3.6 Implications and future directions

It is one of the early works that adopts the 'consumer ecosystem' logic (Heinonen and Strandvik, 2015; Voima et al., 2010) and elucidates the consumer resource integration practices and C2C co-creation within social media health communities. The present study identifies the C2C practices in an independent consumer's sphere of value co-creation. Additionally, it positions them into a two-dimensional framework (VCC-VCD and Active-Passive style) to offer better clarity. Thus, it adds knowledge elucidating co-creation and co-destruction practices within an online C2C interaction setting by highlighting both the positive and negative aspects of co-creation. The study contributes to consumer practice literature, which provides empirical insights about consumer social practices, but earlier findings were limited within different marketing contexts like brand communities, sports, and tourism (Schau et al., 2009; Uhrich, 2014; Rihova et al., 2015). However, co-creation practices within healthcare were yet to be investigated in depth. Therefore, this is one of the unique studies that adds to knowledge about health consumer's co-creation practices. The study also complements the existing literature on the service ecosystem by elaborating on consumer-sole value creation and emphasizing 'value via service use' within a consumer ecosystem. Thus, it contributes to a better understanding of consumers and their co-creative ecosystem. It broadens the existing value co-creation knowledge that looks at ecosystems only from the provider's perspective. Here, the customer's dominant logic plays an important role in

understanding consumers' day-to-day co-creation practices and extending the boundaries of consumer value co-creation.

Next, the study adds insights into the resource dynamics of value co-creation by highlighting the ‘resource emergence’ pattern (Kleinaltenkamp et al., 2017) as exemplified through spiritual support, empathy, and collective knowledge creation. It signals how the practices gain more meaning through the creative use of resources and collective interaction . This also contributes to knowledge about resource embeddedness and collective value co-creation (Laud et al., 2015). Earlier studies conceptually argued that resources are embedded in actors' social surroundings and exploited by consumers collectively according to need (Laud et al., 2017). The current work empirically confirms such arguments and reflects on how consumers share information, emotions, or instrumental resources and are involved in collective knowledge creation. The findings of the study may directly help the business owners to look beyond the visibility lines of dyadic service exchange and encourage them to design their value offerings with a better resource fit with the end consumers. In a way, it helps to plan a more engage-full social media for positive health activities, thereby avoiding the possibility of resource mis-integration.

Further, the contextual setting of the research adds value to existing co-creation literature. The study helps to understand the importance of co-creation in a virtual setting of social media communities, a co-creation setting that is still emerging and not fully understood (Rashid et al., 2019). The study highlighted how consumers involve themselves in C2C activities in the online environment and co-create or co-destroy voluntarily on a public platform like Facebook and YouTube. It contributes to knowledge on transformative value in online networks by observing individuals co-creating spirituality and exchanging empathy in online C2C interactions. Such practices create an environment of "care for each-other." Next, the study contributes to knowledge on transcendent value co-creation (Martínez et al., 2016) as it observes that members are often concerned about others ignoring their self-interest and creatively harnessing their spiritual support resources within online C2C networks. Lastly, the study focuses on the dark side of co-creation, which is underresearched within the VCC literature (Palumbo, 2017a). The study confirms the possibility that value could be co-destroyed, irrespective of equal access to resources within online communities. Thus, it advances the VCD knowledge area (Plé & Cáceres, 2010) by highlighting that co-destruction activities do not always emerge as unintended consequences; instead,

consumers sometimes intentionally destroy value for others, as reflected within active value co-destruction practices in this work.

Based on the theoretical implications discussed above, the study offers specific questions for future research. These questions could broaden the value co-creation knowledge within online social media health communities and pave the way towards a customer dominant approach (i.e., C2C based) in healthcare value co-creation. These future research questions are discussed next.

The study contextualizes resource sharing among health consumers within social media health platforms. Thus, there are obvious questions pertaining to the potential of these platforms. First, it would be interesting to explore how these platforms transform the resource capabilities of consumers. What heteropatric resource integration dynamics work within these online spaces? Second, it is implied from the findings of the study that not all health consumers are equally capable of harnessing the platform's resource potential. Thus, the question arises: is it only expert health consumers who benefit most from online resources? How do novice health consumers exploit the resources shared by other members of the community? What factors empower the online members to co-create value in a more active and positive manner?

Next, the study focuses on C2C activities in the online community, which helps to understand the growing role of consumers as value co-creators. Such consumer understanding is important for service providers, as value co-creation is a joint process where providers create opportunities for themselves to collaborate with consumers. A few questions in this direction could be as follows: 1. What opportunities lie in online C2C value co-creation processes for medical service providers? How can providers participate in consumer resource sharing practices? One hint that emerges from the study findings is that consumers often have a lot of medical questions that remain unanswered in C2C online spaces. If service providers engage themselves in these spaces, they can answer these questions and offer quality information to health consumers. It may also help in reinforcing trust within B2C (provider-consumer) relationships. Future work could cross-check how trust is formed among provider-consumer dyads within the C2C network. What C2C resource sharing factors help the provider to co-innovate with consumers? Which type of knowledge, ideas, or other operant resources could be accessed by a provider from a C2C co-creative network? How does this resource acquisition improve the firm's knowledge base and innovation potential?

The study observes that value could also be co-destroyed, which aligns with the recent attention of service researchers to look at the dark side of co-creation (Palumbo, 2017a). However, whether this co-destruction occurs intentionally or unintentionally is still a big question. Future work could throw some light in this direction. It would be relevant to ask: what is the true nature of value co-destruction within C2C healthcare interactions? What factors trigger such value-destroying activities that harm both or at least one actor in the co-creative relationship? Do actors intentionally destroy value for others in the online space? If yes, then what are the underlying reasons for it? How could such practices be controlled and intentional resource misintegration avoided? What strategies need to be employed to encourage consumers to co-create their wellbeing without destroying value for others? Future work could probe deeper as to what boundary conditions convert any value co-creation efforts into value co-destruction practices. Examples could be drawn from different service settings to elaborate on the active and passive nature of the value destruction process. Throbbing questions could be asked, like, which types of online consumers are more involved in active or passive VCD activities? Is this passive VCD somewhat similar to lurking behavior observed in online spaces, or is it different in nature? How could VCD practices be controlled effectively without compromising the freedom of online members?

Further, the study talks about some of the conventional support resources shared among C2C online interactions. This includes informational support, emotional support, instrumental assistance, and empathy. Future work could look at these resources from a collective perspective, as it is evident that members do not use any one resource in isolation. Instead, resources are used in combination by groups of consumers and exploited to co-create wellbeing. It would be interesting to explore how emotional support is infused within simple information sharing activities in the online space. How do emotional and informational support jointly help consumers in buffering the challenges of chronic disease? Future work could test the different forms of information support as exemplified within online C2C interactions, like advice shared among members, encouragement offered, sharing personal experiences, and giving referrals. The study observes different acts of relationship building among consumers, like giving compliments, welcoming new members, patient listening, and acknowledging support received by consumers. These activities could be tested empirically within C2C online communities.

The study observes a few unique C2C practices among health consumers, like spiritual support activities, confessing, and confounding. These practices could be investigated in more detail in credence-based healthcare settings. For example, it is relevant to ask: are some specific healthcare consumers more involved in offering and seeking spirituality within the online community? What factors drive or hinder spiritual support sharing practices in online spaces? How can medical service providers or government policymakers harness the spiritual resources accessed through online networks? The study observes that many of the spiritual resources mobilized by consumers were ingrained within religious activities enacted by them. Thus, it would be relevant to ask, does religiosity carry a spiritual resource element or, in any way, is spirituality imbibed within religiosity? What characteristics make both concepts look similar or dissimilar to each other, especially in relation to the co-creation scenario? What type of 'care for others' practice could be perceived as spiritual practice? Under what conditions do health consumers offer spiritual support to other members of the online community? Are online members more eager to offer spiritual support to vulnerable health consumers? Answering such questions can contribute to transformative value in healthcare, which is rooted in spiritual care and goes beyond social value.

The study has some limitations. First, it is confined to one of the chronic lifestyle diseases, diabetes; thus, future work should extend to non-chronic conditions to generalize the findings. Second, the study is restricted to India, which represents a nation of collectivist culture. Although a community of collectivist culture offers a favorable situation to study C2C resource integration, how value co-creation takes place among communities of individualist culture could be explored in the future.

3.7 Summary

This chapter elaborate the first study of the project focusing on C2C value co-creation practices over selected social media health communities. It exploits how health consumers co-create value among themselves in the absence of a service provider which was ignored by earlier studies. It uses the lens of practice theory and the consumer ecosystem. The chapter starts with the brief introduction stating the key motivation and gap exploited in the study. Next, it elucidates the literature background to help the

readers understand basic logics or concepts used throughout the work. For example, it talks about consumer ecosystem and C2C value co-creation in healthcare. This is followed by discussion on research setting i.e., social media health communities and key theory used i.e., social practice theory. Further, the chapter mention about the methodology. It elaborates how the study uses Netnography approach where the user-generated data from diabetic healthcare communities are analysed using reflexive thematic analysis technique. The analysis of this user generated data reflects that healthcare consumers engage in thirteen types of unique C2C co-creation practices. These practices range from positive to negative, signaling value co-creation and value co-destruction.

Further, a two-dimensional framework is proposed to categorizee each of those practices under four groups. The chapter talks about practices within each group. These practices are explained with relevant examples based on respondents' excerpts and literature support. Further, within the discussion sub-section of this chapter, the study compares the identified practices with already existing practices (as per literature). This helps to highlight what was unique and what was consistent with earlier work. Lastly, the implications are discussed in brief. Theoretically, the study adds insights into the 'Resourcefulness' aspects of value co-creation especially by emphasizing the dominant nature of 'resource emergence' pattern (Kleinaltenkamp et al., 2017). This is reflected via spiritual support, empathy, and collective knowledge creation practices. It signals how the practices gain more meaning through the creative use of resources and collective interaction. Practically, the study offers insights to healthcare service providers and online community managers to design a better co-creation fit between consumer value co-creation practices primarily on the online social media spaces.

Chapter 4

Study 2:Resource Integration by Healthcare Consumers: A Netnographic Study Exploring Vulnerability to Resilience in Special Setting of Covid-19 crisis.

4.1 Introduction

The COVID-19 pandemic was a global crisis where consumers became susceptible to harmful consequences due to increased exposure to vulnerability. The pandemic had shown repeated surge and varying responses from different parts of the world so far, and the supply for resources had been lagging far behind the rising requirements. Prior studies asserted that healthcare consumers integrate different types of resources to create value and realize their well-being (Hau, 2019; Kim, 2019; Virlée et al., 2020a). The resource integration process is considered contextual in nature (Koskela-Huotari, & Vargo, 2016), means the type of resources accessed, mobilized, and integrated by the consumer will depend upon its surrounding context and the institutional logics under which resources are acted upon (Edvardsson et al., 2014; Ciasullo et al., 2017). Although in the COVID-19 situation, there were inherent experiences of resource scarcity (Hamilton, 2021), one cannot deny the possibility that context-specific resource constraints could also have triggered the creative use of existing resources (Mehta, & Zhu, 2016). Earlier studies reported that consumers use their current capabilities to exploit and integrate the resources even when the institutional settings get disrupted during a crisis situation (Brown, & Westaway, 2011). Such encouraging findings counters the apprehension that vulnerable consumers may lack the ability and control of the situation and may not be able to access, mobilize, or use the resources effectively (Johns, & Davey, 2019; Piacentini et al., 2014). Thus, there is a need to pay attention at the details of how vulnerable segments of customers integrated resources to fight this pandemic and realized well-being.

The vulnerability perspective to resource integration offers dual lenses to this work, involving both the individual states and the situational constraints (Baker et al., 2005). The study advances to address the following research questions:

1. What factors have contributed to the vulnerability of healthcare consumers during the COVID-19 pandemic?
2. How did vulnerable healthcare consumers respond to the COVID-19 pandemic through resource-integration practices to realize overall well-being?

Wellbeing is the final goal acknowledged by all the involved actors in healthcare services. Assuming consumer recovery from COVID-19 as an aspect to well-being, Covid-19 survivors are chosen as subjects of this study because they are supposed to be vulnerable both due to unfavorable environment, and their deteriorated health conditions. Understanding the process of their recovery under various kinds of institutional constraints presents an opportunity to analyze their resource integration strategy and practices.

This study has multifold contributions. Firstly, it identifies the individual and situational level factors of consumer vulnerability in a pandemic scenario. Introducing a vulnerability perspective broadens this study's scope for public policy (Scott et al., 2020). Examining the resource-integration practices by vulnerable customers during the COVID-19 pandemic will help developing the better government and business response strategies thereby preparing for future crisis. Secondly, this work takes support from resilience literature to conceptualize resource-based adaptive responses which help to reduce vulnerability (Baker, 2009; Béné et al., 2012). The research identifies the resource integration strategies used by the healthcare consumers in the COVID-19 crisis. Additionally, following the 'resourceness' perspective, the study provides insights into how vulnerable consumers learn to convert the available resources into potential ones to overcome their vulnerability experiences. In-fact, these learnings could stay with them for a long time thereby transform their overall service consumption behavior. Furthermore, the study strengthens the importance of 'resource in use or context' and 'consumer well-being' in transformative service research.

4.2 Literature Background

4.2.1 Consumer Vulnerability in Covid-19

Many factors of consumer vulnerability are reported in healthcare services literature, including individual-level factors and situational factors. Individual factors

include the consumer's mental status (Sharma et al., 2017), chronicity of disease (Gurrieri, & Drenten, 2019), age, avoidance behavior, self-resilience (Iqbal, & Imran, 2022), and health literacy (Virlée et al., 2020b). Situational vulnerability is primarily studied in the context of disasters and emergency services. Some of the situational factors leading to consumer vulnerability are structural disruptions (Baker, 2009), lack of collectivism, unethical practices (Cheung, & McColl-Kennedy, 2015), and transitioning social capital (Cheung et al., 2017).

Consumer vulnerability assessment may be contingent upon self-perceptions or depend on the observer's (e.g., policymakers) perception (Hill, & Sharma, 2020). For example, some of India's recent studies have used policy level vulnerability assessment indicators which include socio-economic profile, housing and hygiene, public healthcare infrastructure, health status and comorbidities, and pollution levels (Acharya, & Porwal, 2020; Sarkar & Chouhan, 2021). Most of these factors are situational in nature. Baker et al. (2005) had argued that consumers' self-perception is more critical to make any claims about vulnerability. Later, Baker (2009), in his analysis of natural disasters, argued that consumer vulnerability is a dynamic process influenced by contextual factors that have inherent obstacles against allowing resilience. In an attempt to integrate both these perspectives, Hill, & Sharma (2020) have adopted a resource-based stance and defined consumer vulnerability as a state in which consumers are prone to harmful consequences because of the restricted access and control over resources, which represses their capacities to function.

The community spread of Covid-19 infections and lockdown restrictions had imposed tight constraints over access to resources and consequently increased vulnerability levels. Healthcare consumers undergoing treatment had been facing restricted mobility both due to physical illness and institutional quarantine norms. Lack of firsthand experience and existential pressure further contributed to their negative feelings (Sahoo et al., 2020). Also, what makes the COVID-19 crisis different from other situations like floods or earthquakes, is that customers often hesitate to offer help or share the resources due to fear of infection. Infact, Covid19 depicts additional fear i.e., precautionary fear along with general health fear (Iyer, R. D., & Iyer, G., 2020). Widespread social stigma, discrimination in service, moral weakness, and collective selfishness are other reported factors that create obstacles in resource sharing practices (Singh et al., 2020; Drury et al., 2020). Thus, a resource-based view of consumer

vulnerability is likely to provide a way to develop a conceptual framework towards integrating the consumer vulnerability with consumer resource integration.

4.2.2 Consumer Resource Integration and Wellbeing

Resource integration is a well-discussed stream of service research area that builds on one of the foundational premises of service-dominant logic (Peters, 2018; Kleinaltenkamp et al., 2012; Vargo et al., 2020). The importance of resource integration is also well established in healthcare value co-creation literature (Pham et al., 2019; Zainuddin et al., 2016; McColl-Kennedy et al., 2012). There is a growing consensus among the researchers that healthcare consumers proactively integrate healthcare services resources to realize their well-being (Frow et al., 2016). Sweeney et al (2015) present a detailed view of the patient performed activities within and outside the clinic where consumers are seen to use various forms of private, public, and self-generated resources. Frow et al.'s work (2016) explains how healthcare consumers share their resources in a service ecosystem to co-create value. Resources in service literature are generally classified into operant and operand resources, both of which are highly important for healthcare services (Vargo & Lusch, 2004; McColl-Kennedy et al., 2012) and helps to realize variety of values in different service settings (Pandey, & Kumar, 2020).

Operand resource implies a resource that is acted upon, i.e., the actors act upon this resource using his knowledge or skills (Vargo & Lusch, 2004). Operand resources include material artifacts, technology such as electronic gadgets, apps, etc., which are used during the resource integration process. Operant resources are intangible resources that provide capabilities to work on additional resources and keep on updating, during the resource integration process (Arnould et al., 2006). Thus, both operand and operant resources seem to complement each other. Arnould et al. (2006) suggest that customer operant resources can be classified into social resources, cultural resources, and physical resources. In the healthcare context, social resources involve patients getting social support in terms of information, motivation, sympathy, and instrumental assistance, particularly from family and friends (McColl Kennedy et al., 2017). Cultural resources involve shared historical knowledge, traditional practices, history, and imagination. Physical resources include individuals' physical and mental strengths, including self-

efficacy, emotions, and optimism (Baron and Harris, 2008). Healthcare consumers integrate such resources through multiple routes such as knowledge creation, experience sharing, and support giving practices (Thuy, 2016; Nambisan & Nambisan, 2009). More recently, Chen et al (2020) highlighted the importance of such resources in a healthcare setting and mentioned how the consumer makes a balance between resource contributions and the surrounding challenges by taking psychological ownership. On the related lines, within healthcare, Virlée et al (2020a) identify that consumer's resource integration activity is influenced mainly by systemic factors (along with individual and dyadic factors) like social support and system connectivity.

Earlier studies of crisis context, emphasize the importance of different types of resources in terms of social capital and their varied role in consumer health. For example, Cheung et al (2017) prove that various forms of social capital (as a social resource), i.e., bonding, bridging & linking social capital positively influences the well-being and resilience. Wu (2020) elucidates how different forms of social capital at different levels of society, help to mobilize the resources during COVID-19 crisis. Among other important contributions, Pellerin & Raufaste (2020) explained the role of psychological resources such as hope & gratitude, self-efficacy, personal wisdom, acceptance, optimism, gratitude towards the world, & gratitude of being, in realizing well-being and Rossettini et al (2021) explore the role of emotional intelligence (as a resource) in building resilience during Covid19. Few recent studies emphasize the importance of similar resources from the provider side, like Chatterjee et al. (2022) focus on resource integration for front line employees in healthcare and Smith (2020) concentrate on equal distribution of resources among healthcare workers.

The pandemic situation drastically hindered the access and mobility of resources all across the worlds. Consequently, healthcare consumers had been burdened with finding their own way of sourcing and integrating resources to overcome the resource mobility barriers. The resource integration challenges are further instigated by a lack of trust, low belongingness, lower self-control, and uncertainty in communication during the pandemic period (Barnes et al., 2020).

4.3 Research Method and Data

The study uses 'Modern Netnography' i.e., Passive Netnographic approach with least intervention (Costello et al., 2017) which is argued to be suitable for sensitive

topics such as health, especially due to less social desirability bias (Langer & Beckman, 2005). This online ethnographic (Netnography) method is chosen due to three crucial reasons: first, it provides the data in a natural setting and gives a clear picture of a consumer's lived experiences (Kozinets, 2010); second, it is beneficial for understanding the hidden mental activities of consumers (Heinonen and Medberg, 2018; Verma et al., 2020) and third, it is frequently used by service researchers to understand consumers within crisis and disaster like situations (Tuzovic et al., 2017). Also, the study carefully analyzes Dodds & Hess's (2020) framework to adapt this research method in the present study context. Azzari & Baker's (2020) guidelines has been adopted to make qualitative interpretations of the collected data. The study follows a five-step procedure for using Netnography as suggested by Kozinets, (2002). These steps are described below:

4.3.1 Five step of Netnography procedure adopted in study

4.3.1a Research Planning: Since the consumer is vulnerable and their health issue is a sensitive matter, direct interaction is avoided as consumer feelings of guilt and fear may bias the data. In this line, mainly two options emerge: first is observing the actors on online platforms in a covert way, and second is collecting the consumer experiences (post-event) shared over online media. Here, the first option is rejected, as it involves several ethical issues and may involve researcher's observation bias.

4.3.1b Entree: Many online platforms are explored where COVID-19 survivors have shared their disease recovery experiences. Eleven such platforms are identified: Facebook, YouTube, Instagram, blogs, Twitter, e-newspapers, online news footage, e-magazines, TV shows, company websites by company personnel, and Q&A platform (like Quora). Some of these platforms are excluded based on the nature of textual and verbal data. For example, Twitter is excluded for their short content, Instagram for less text and more pictures, etc.

Overall, based on manageability of volume and quality of data, YouTube, e-newspapers & news footage, and online Q&A platform were selected. These platforms offer rich data ranging from highly personal (e.g., YouTube stories) to public (e.g., E-newspapers) in different formats. Similar online platforms have been used by earlier research on pandemics (Cheung, & McColl-Kennedy, 2015; Lee, 2014; Shorey et al., 2020).

4.3.1c Data Collection: After selecting the platforms, a large amount of user-generated content such as user stories, narratives, and interviews are extracted to form the database (see table 4.1 below). Kozinet's (2010) guidelines are further followed to reduce the size of data set to make it manageable for the study. For example, short stories (less than 100 words) and stories written purely by the second party (e.g., service providers) are not considered. Stories written by a caretaker (e.g., a close family member) are included in the study because there may be a coherence of interest between them. Stories with more technical descriptions of medical procedures are discarded because the aim is to understand consumer involvement and their practices in the recovery process. Also, stories that were deviating away from the topic, such as those complaining about government policies or blaming others for crisis instead of sharing their own activities & experiences, are discarded.

Overall, as implied from above exclusion criteria the study follows a focused purposive sampling. Total 101 user stories were collected from different platforms till the point of saturation. These 101 stories when transcribed results into rich textual data occupying 145 single-spaced pages of an MS Word document. This saturation was easily achieved in 101 data points since the study focus on Indian context only. The data was captured over a period of 3 months which represents the peak of covid19 wave in India. This data was scrapped in retrospective mode (after the story was published) and it represented a timeline of 10 months (i.e., stories are from March 2020 to Dec 2020).

Interest in Indian stories was due to two reasons. First, the population of country is substantially large compare to available health resources. Second, Indian people are more inclined towards frugality and creative use of scarce resources (Soni, & Krishnan, 2014). A sample story of one of the Covid19 survivor sourced from e-newspaper is depicted in Figure 4.1 below.

Figure 4.1: A Sample Story of Covid19 survivor (Sourced from E-newspaper)

Printed from
THE TIMES OF INDIA

MY COVID: "Fight with COVID infection taught me to appreciate little things in life"

TIMESOFINDIA.COM | Jul 24, 2021, 07.22 PM IST

[redacted] and her husband had a standoff with the infectious coronavirus on the onset of the second wave. They were hospitalised when their lungs were more than 60 per cent infected. The doctors were unsure if they would be able to recover from it or not. But they stayed optimistic and came back stronger. Here is their story and lessons learned...

Out of all known deadly viruses known to the world, SARS COV-19 has a special power to systematically attack your mindset and spirit to live first. Let's look at its initial symptoms - sensory loss, breathlessness, high fever and highly contagious within your family. Worst is its remedial measure – social isolation. My husband and I had a standoff with this virus at the outset of the notorious second wave of covid infection in India.

I still remember the dark day when first my husband went from high fever to breathlessness within 4 days. We admitted him in an emergency on 9th April at midnight thinking that he will be discharged in no time. Thankfully, the second wave was still in the beginning stage at that time, and he quickly got a bed in a private hospital in Gurgaon. I was asked to leave the hospital immediately while he was being taken to the COVID ward with a mobile phone as the only mode to be in touch with him. It was hard to abandon him like this but that is what COVID protocol demands. The next day, I called his treating doctor, and the words still ring in my ears "you are too late to bring him to hospital. His infection has damaged 70% of his lungs and part of his kidney. We will be doing whatever we can but cannot guarantee anything now. He will be at 6-7 litres of oxygen and the next 4 days are going to be very crucial for his survival".

My hands were trembling and my eyes were welling up and my family was trying to console me from a distance (it was so weird!) as I was in isolation due to COVID symptoms. I promised myself that I will be strong mentally and not let this virus have a moral win over me. With some failed attempts to arrange Plasma for my husband and the stress of administering him an immunity suppressing injection – tocilizumab as his body had entered cytokine storm, the next 4 sleepless days had only one question whether we will be able to see him again or not. He was in ICU and not in a position to talk. The only channel of communication was his doctor's one call per day on his health status update. On the 5th day, my husband video called, and I heard his muffled words from his oxygen mask that ignited our spirits again. He fought hard physically and mentally during this time. He survived the beeping machines, crying fellow patients, tired medical staff, several injections, everyday struggle with an oxygen machine and seeing dead body caskets in his ward.

While at home, my fever and COVID symptoms were confusing me but on 14th April, I was suffocating when coughing. I rushed to the emergency room of the same hospital but their first approach was to deflect on account of the unavailability of beds in the COVID ward but I managed to get an HRCT done somehow that day. I continued with my telemedicine but on 16th April, I felt chest pain in every breath I took and my fever was not going down below 102 degrees. I rushed to the hospital and cried to get myself admitted. After lying for 6 hours in a makeshift space for COVID patients at the hospital, I luckily got a bed. My HRCT report revealed that I too was suffering a 60% damage level in my lungs. During the treatment, my perspective on life and death changed. I started valuing life and the breaths we take. No more complaints, obsessing over issues etc. and just praying to God to feel the sunlight and wind again. With multiple syringe pricks turning my arms black and blue, no sense of smell and taste, fever peaks and falls, excruciating body ache, howling patients including kids and no friends and family to hold me, negative thoughts were looming over but my husband's video call from the ICU ward next door kept me together. We just talked normally as if nothing happened and never shared our dark thoughts or suffering as both of us knew that it would not help us in any way.

Finally, both of us were discharged on 24th April together and I hugged him hard to feel his heartbeat for several minutes. I devoted the next few days to help people in my network with positive thoughts, treatment awareness and sharing my experience with those who were still struggling with this pandemic. Because, I knew that before they break down physically, the virus will defeat them emotionally. Unfortunately, we lost our college best friend aged 34 years, sometime later in June, who was hearty and healthy unless this virus found him too. This tragedy further reinforced the belief in me, that nothing is more precious or important than every breath you take and having your loved ones always around you. Life is that simple!

Table 4.1 (Author self-created)**:** Data Summary (Collected data were published online from March 2020 to March 2021)

Data Source	**Number of stories** (Narratives, clips, etc.)
News footage Main News Channels: CNN News 18, AajTak, India TV, Star News, DD News, India Today, Zee News, IBN 7, NDTV India, Republic world.	32
E-newspaper articles and news chatters (Major newspapers: The Hindu, Times of India, Indian Express, Hindustan Times, The Economic Times, Daily News and Analysis, Deccan Herald)	26
Q & A Platform (Quora)	10
YouTube	33
Total	101

4.3.1d Data Analysis and Interpretation: Line by Line manual coding is done for initial code generation, and Nvivo Qsr-12 tool is used for thematic mapping of codes from the collected data. Data is analyzed using the hermeneutic phenomenological approach (Thompson, 1997), where the focus is not on the abstract meaning of narratives but on drawing out the essence or purpose behind them. This approach helped us to translate consumer activities and experiences into key resource integrating practices. Researchers had tried to gather implicit knowledge about consumer's well-being efforts under vulnerable situations from the explicit consumer narratives. Here, the data (i.e., user generated content from 101 stories) is phenomenologically reduced to several themes first based on open coding, then unique themes are grouped to understand vulnerabilities and resource usage. In this process, the resource integration literature is referred forth and back to finalize the candidate themes. Here, the sourcing of data from multiple platforms offers triangulation (of source) to the study. Also, to ensure reliability, both authors of the study (key author and supervisor) separately perform open coding and then compared their thematic findings. Next, they iteratively had rounds of discussion to consensually obtain the common themes. However, the Cohen kappa, an inter-rater agreement is not measured, as this technique is suggested for purely deductive studies where both the raters use common categories (coming from

priori framework) and are already aware of categories under which text is to be mapped (Gwet, 2014; McDonald et al., 2019).

Note: For a brief understanding of the initial codes that converge into higher order themes in the present study, *see appendix 4.*

4.3.1e Ethical Standards: The study uses consumer-generated content (stories and narratives), which is publicly available on online platforms, and there is no direct consumer interaction as it occurs during interviews, surveys, or observations. Therefore, the question of ethical consent for such public postings does not arise (Rosenberg, 2010). Still, following the ethical guidelines, all the individuals' names (extracted from the data) are kept anonymous.

4.4 Research Findings and Discussion

4.4.1 Pandemic Induced Consumer Vulnerability

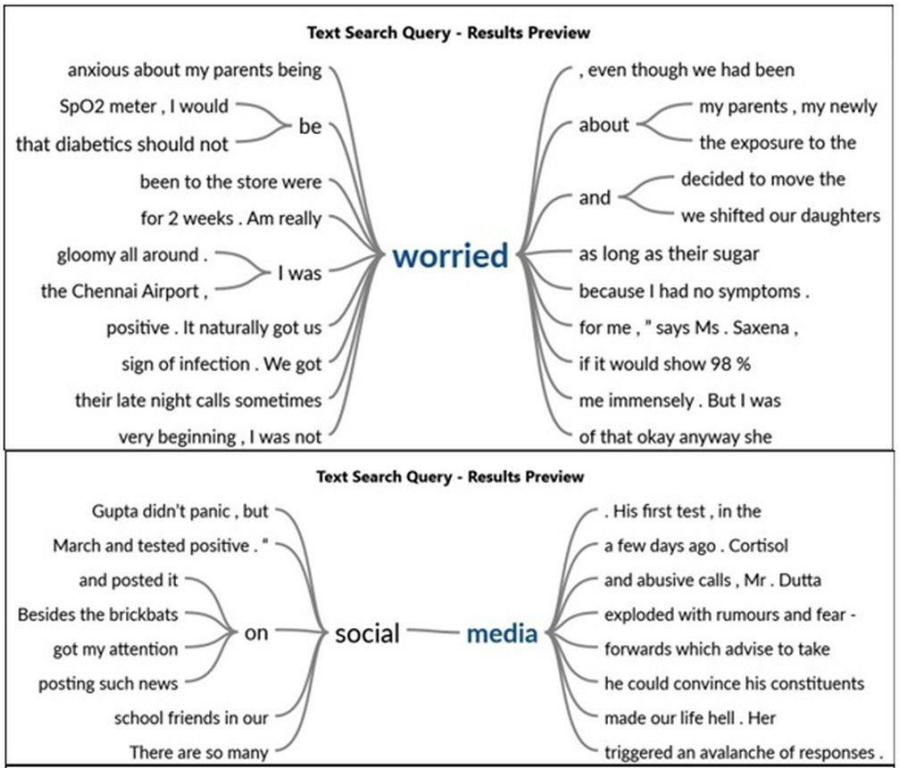
Different types of factors are identified which have contributed to the vulnerability experiences of COVID-19 survivors. Both individual-level and situational factors are identified and analyzed with the help of manual coding and outputs provided by Nvivo QSR12 (See Figure 4.2a & 4.2b as one of the outputs).

Individual-Level Factors: Individual factors leading to consumer vulnerability may be physical and psychological.

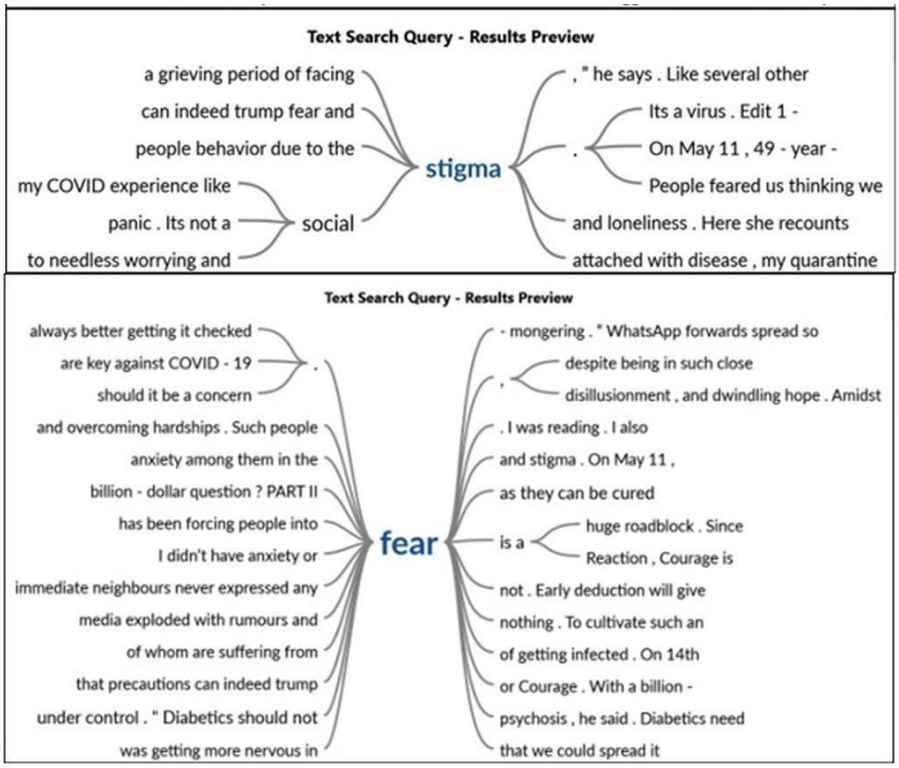
Physical vulnerability implies difficulty in movement, that hinders the routine activities and results into a low level of energy or diminished strength (Lee, & Scanlon, 2007). Our findings expose that the COVID-19 survivors experienced severe fatigue due to multiple medical problems like headache, breathing difficulties, high fever, nausea, and dizziness. The feeling of being physically restrained under quarantine norms had further added to their mental distress. Some of them have even experienced a memory loss due to which they have to depend on others.

Figure 4.2 (Author self-created): Word trees (output of Nvivo QSR12) of selected words indicating consumer vulnerability

(Figure 4.2a)



(Figure 4.2b)



This physical vulnerability (both at physical and mental level) is clearly reflected in the following quotes of patients (health consumer):

"I had never experienced such a severe headache in my life. The fever went up to 102 degrees and left me feeling exhausted. I could barely walk and move my hands".

"I was having muscle pain, headache and fever of 103 F and mental confusion. By mental confusion mean i was not able to decide what should i do".

Psychological vulnerability implies high sensitivity to stress, which is revealed through a negative emotional state. The critical psychological factors observed in the study about the COVID-19 survivors having negative emotional states are feeling helpless, feeling regretted, feeling lonely, experiencing guilt, shame, and anger. Similar psychological states have been reported in one of the narratives as follows: *"I felt immensely guilty, wondering if I had unknowingly infected other people. I called up my primary contacts and apologized to them".*

Further, most of the COVID-19 survivors experience a deficit of vital psychological resources like hope, confidence, and a sense of coherence. These are the key coping resources which are attributed to lower resilience (Sinclair, & Wallston, 1999). Thus, being in a negative emotional state, and that too without such vital coping resources, exaggerate the consumer's psychological vulnerability, and the same is revealed by the following quotes:

"When I entered the COVID ward on 12th September, it was all full. But, from 27th to 2nd October, I was the only patient in the ward. Most other patients had recovered. Even patients admitted after I got well before me and got discharged. This used to make me disappointed, and I started to lose all my hope & confidence."

Depicting lack of hope and confidence (psychological / coping resources)

"Though aware of the fact that he has to stay put in the isolation ward of the hospital for at least 14 days, he said after four-five days, no matter how hard one tries "boredom and frustration" starts creeping in." *depicting helplessness*

Situational Factors: The situational factors identified in this study are further classified under three important heads: social stigma, social media panic, and uncertain service environment.

Social Stigma: A hostile social environment during Covid19 situation is created by a combination of factors like lack of social support, growing stigma, and social exclusion. Growing stigma in society is observed as a critical issue that has affected the consumer's propensity to recover. An example of growing stigma could be seen in the following illustrative quotes:

"people interacting with us become fearful when they hear we are COVID survivors. There was considerable anxiety, among them is the fear that we could spread it even after the quarantine period had ended. When the (municipal) corporation stuck stickers outside our domestic help's house, she complained people were treating them as if they had been tested positive."

"I was having mild symptoms, still on a precautionary note we call … lab person for sample collection. The moment, guy in white lab-coat reaches our home, the whole society were peeping into our house as if we have made some crime and its not the lab person instead a police to caught some thieves. We were scared and could not sleep that night thinking what will happen next"

Social exclusion is observed to be a likely consequence of social stigma (Sayce, 1998), further worsening the individual's vulnerability. An example of social exclusion is reflected in the following quote:

"We recovered and returned to our village by May 6, but the villagers have ostracized us. My husband was working in a cycle repair shop, and he was replaced. I am unable to find work because no one wants to hire us. In fact, they do not allow us to travel in the same auto-rickshaw, despite the fact that we are free of the virus now".

Literature also asserts that the right kind of social support can buffer the psychological stress experienced by any individual in the society (Taylor, 2011). However, on the contrary, most of the COVID-19 survivors reported that they experienced social isolation.

Social Media Panic: Digital spaces played an essential role during the COVID-19 pandemic because this was the only medium to interact, particularly during the peak

period. But individuals have reported that social media platforms have been flooded with rumors, misinformation, and faster spread of stigma. One of them has quoted:

"Social media made our life hell. Her parents were asymptomatic when they came to India…it is not like we deliberately brought this virus here. We were even called agents of death!".

Another one has quoted *that*

"WhatsApp forwards spread so many lies. If nine people are infected, they will say 60. They have to exaggerate, which leads to needless worrying and social stigma".

Earlier studies have also found that online news and social media platforms increased fear and panic during the COVID-19 crisis through the propagation of different types of situational information (Sharma & Ghura, 2020). Bruning et al. (2020) have argued that misinformation spread through social media could negatively affect an individual's ability to control his behavior, thereby increases their vulnerability.

Uncertain Service Environment: Uncertainty in a service environment is characterized by immature service protocols, inadequate information supply, lack of guidance, and an absence of consumer support functions. The study observed that the formal rules and regulations created for COVID-19 management were inadequate and premature initially, and unable to identify who should be given medical attention at priority. The following quote indicates it:

"however, the temperature hovered in the range of 100-101 F for over a week. The protocol back then was that patients would be admitted to the hospital only when they showed symptoms such as respiratory distress. But when his blood pressure started dropping even after taking regular BP medicines, we got him admitted".*

Moreover, access to information and transparency were observed to be seriously compromised during the COVID-19 crisis. In a poorly governed service environment, COVID-19 survivors felt more susceptible to vulnerability, as reflected through the following quotes: *"Something that distressed me greatly was an absolute lack of clarity in the whole process from the time I got detected with COVID to planning to fly back home. I was always at the edge, wondering what lay ahead. Nobody was able to provide clear guidance and would direct me to someone else who was even more clueless".*

Another comment also reflects poor governance at healthcare institution as depicted below:

"After all the OPD paper work, we waited for around 3 hours to get a checked by the presiding doctor. It was very sad to see many patients with cough and fever including myself stand in long queues, not maintaining proper social distancing and getting shouted at by the security guard".

4.4.2 Resource Integration Practices to Overcome Vulnerability

The study identifies different forms of resource integration practices in the recovery process adopted by the COVID-19 survivors. Based on the primary data, the study identifies four broad categories of operant resources from the consumer's perspective, psychological, social, cultural, and technology. These resources are accessed and applied by consumers to overcome their vulnerability in the COVID-19 pandemic situation, and thereby created a much-needed source of resilience.

Psychological Resources: Earlier pieces of evidence have confirmed the positive role of psychological resources on well-being and reported their usefulness in coping with stress (Pellerin, & Raufaste, 2020). The type of psychological resource accessed and used by the individuals generally depends on the situation. Knowledge and skills are the critical operant resources that COVID-19 survivors have used to respond to their vulnerable situations. Apart from this, there were other interesting observations. Here, the COVID-19 survivors are found to be using a multitude of psychological resources, including willpower, hope, optimism, mental preparedness, proactiveness, self-control, and spirituality. Willpower is the ability to override unwanted thoughts and focus on important goals. Willpower is observed as the essential resource used by a large number of COVID-19 survivors both at individual and collective levels. It helped them survive the stressful situation and overcome their negative emotional state. For example, one of the quotes goes like this:

"My daughters were also quarantining, and my siblings were trying their best to keep them healthy and happy. Yet, their late-night calls sometimes worried me immensely. But I was sure I would not let anything overcome our willpower".

The source of willpower wasn't just family and friends, but it was also rooted within onself. Some consumers revealed that they re-strengthened their willpower by

using the self-affirmation technique and constantly saying favorable to self. An illustrative quote is: *"He told himself staunchly that he will fight and that he will win and defeat the illness. He reminded himself that 'one can only create an invincible self after defeating a great enemy' While his health parameters were negative, his resolve stayed strong".*

Keeping oneself mentally prepared and proactive towards situational vulnerability has also helped many to overcome the crisis. Positivity, hope, and optimism represent positive psychology's importance in consumer recovery and sustaining health (Luthans et al., 2007). Such psychological resources helped to overcome fear and emotional instability, which were instigated either due to genuine medical issues or imaginary projections of rumours and misinformation over social media. Such psychological resources provide the ability to control physical action (Andersen et al., 2015). Some of them reveal the same as this quote indicates:

"One thing I have been taught is to "be prepared" for anything. So, should an emergency occur, I started sending my daughter all the insurance and other important details. Naturally she got annoyed, but I had to tell her that she would be required to take care if need arises and this will help. Of course, a reluctant face with clenched fist showed up saying, if the results come "Negative", I will punch you".

Spirituality is also observed to be helping the consumer recover from social isolation and mental distress. Over and above all, Spirituality has been seen to overcome the existential pressures that emerged during the crisis. Spirituality has been seen to provide strength to deal with uncertainty and increased the willpower through wishful thinking during the treatment and afterward. Some of the quotes mention:

"*What I didn't learn in my entire life I have imbibed in just two months. The Almighty has taught me the essence of life……"I am grateful to Allah for giving me a new lease of life. I was under severe mental stress after getting to know about the COVID-19 status".*

"I still remember I was lying on bed with lot of throat pain, fever, and decongestion. That time, my whole life flashes in front of my eyes in fast forward mode. I was thinking what I have done good and bad in life. To whom I have hurted or said something wrong. I realize myself close to real values of life compassion, empathy, forgiveness. Its like getting closer to god".

Spirituality has also been taken up to be integrated with public health programs to fight this pandemic (Ribeiro et al., 2020) and has emerged as a new dimension of consumption during the crisis (Mehta et al., 2020).

Social Resources: Social resources are the key to get most of the psychological resources discussed above. Social capital represents a social resource that reduces vulnerability imbibed due to environmental uncertainty, particularly during a crisis (Malherbe et al., 2020). Social capital implies a crucial source of social support that extends resources in multiple ways, such as informational, emotional, instrumental, and experiential (Beatson et al., 2020). Informational support increases the individual's sense of empowerment and decreases the feeling of perceived powerlessness. Similarly, emotional support is observed as an essential factor in a consumer's well-being realization. It boosts the actor's ability to survive mental distress and enhances positivity and mental preparedness. For example, one of the consumers quoted: "*Many even have called up asking if I needed any help, It gives me a good feeling when you know good people are out there and they have concern for you*". Few consumers reported that they reinforce their emotional resource (e.g., bonding within the family) to strengthen their resilience capacity as depicted in the following illustrative quote: *"We made sure to have all the meals together even though they had to eat in their respective rooms but they sat near the door so that we could see each other."* Although most of the emotional support is offered by family, friends, & relatives, some of the emotional resources are also shared by extended service environment such as government officers and surrounding patients. Social support also provides instrumental resources, i.e., physical activity is done by others in performing several functions such as meditation, physical exercise; help in improving drug compliance, accessing healthcare information, and seeking spiritual support. Experiential support is indicated through getting insight from others who have already gone through similar experiences. Such support acts as an essential resource in healthcare recovery, especially when the situation is uncertain and vulnerability is high (Snyder, & Pearse, 2010). In this line, some of the quotes mentions:

"I have one bad habit, whenever I hit a roadblock, I try to find some support system to overcome it. So, first hand I could remember that Mr X, who stayed two floors below my apartment, had recovered from this virus. Of course, he turned out to be one

of the most positive persons. He guided me where to go for testing and gave me numbers and said not to worry and call him anytime for help".

"Isolation was hard on me; this was when I felt the need to communicate with another person who had also battled Covid".

Experiential support has been found to make the consumers immune to a sudden shock of health crisis. It has also been seen to help with self-validations in the situations of uncertainty. Overall, the study observed the phenomenon of social resource sharing among consumers (covid19 survivors) within a high-contact service setting from a theoretical point of view.

Cultural Resources: The cultural resource takes the form of cultural health capital that helps manage stigma (Chang et al., 2016) and social exclusion (Madden, 2015). Such resources are identified to deal with situational vulnerability during the crisis. While earlier research on services focuses more on 'shared knowledge' as a proxy to cultural resources, this study observes two critical cultural resources shared among the COVID-19 survivors: cultural values, and traditional know-how. Among the cultural values, compassion and connectedness played a crucial role in the consumer's recovery and overcoming vulnerability experiences. Compassion reinforces optimistic feelings for others, which later percolate into self-optimism. It also offers a sense of purpose to emotional empowerment and a useful resources to overcome the vulnerability. One of the indicative quotes mentions:

"As I continue on my path to recovery, both emotional and physical, I would like to offer the same space and non-judgmental support to others going through the same. The aim is to create a community where people feel safe enough to express themselves as well as experience a sense of togetherness in their fight against Covid".

The study has also observed that consumers use their traditional know-how, like knowledge about Yoga and herbs to recover faster. Thus, traditional know-how has helped in overcoming physical, and psychological vulnerability. For example, one of the individuals quoted:

"The doctor asked him if he still needed oxygen support. Something told Mr. X that he needed, now, to fight the battle from within. He told the doctors that he would

not continue with medical oxygen. Instead, he started breathing exercises that he had learnt in Yoga. Yoga techniques like 'anulom-vilom' (the alternate nostril breathing) belonging to the 'pranayama' discipline of Yoga enabled him to bring his oxygen saturation level much closer to normal. Mr X could see this on the monitors in front of him within minutes. This was the first time Mr. X saw how effective Yoga techniques could be. He was winning the battle".

The traditional healing practices of consumer reflects the codified knowledge emerged through cultural inheritance and this knowledge system turns into a cultural value in practice

Technology: Resources are also identified in different forms of technological manifestations, such as aerial robotics, big data, IoT, social media, remote sensibilities, ICT, etc., that help in crisis management (Henkel et al., 2020). In the current observation, GIS-enabled apps are observed to be helping in various ways, such as maintaining social distancing, finding proper healthcare facilities in the proximity, etc, as reflected through the following quote: *"Use of 'Aarogyasetu' app will tell you the nearest testing centers, Quarantine Centers and hospitals and also if there are any people nearby who have tested positive recently. Make use of it'.*

Technology has reduced the communication gap between healthcare service providers and consumers through increased access to information and ancillary healthcare services. Many ICT platforms, like group chat, video calls, and interactive voice calls, help to connect with many people to get relevant social support. Interestingly, the study has also revealed instances of technology avoidance. For example, refrainment from news and social media platforms to avoid pessimistic news, social media rumours, misinformation etc. Sharing of health gadgets are also observed, as reflected in this quote:

"he asked me if I have an Oximeter, I had already ordered one, but it was expected the next day, knowing that it is yet to come, he gave the one he had".

GIS (geographic information system) technology' is observed to improve governance by helping the consumer to find proper healthcare facilities without wasting time, as reflected in the following quote:

"Use of Aarogya setu app will tell you the nearest testing centers, Quarantine Centers and hospitals and also if there are any people nearby who have tested positive recently. Make use of it'.

4.5 Theoretical Contributions and Future Research Directions

This study provides an understanding of resource integration during the COVID-19 crisis through dual lenses of vulnerability involving individual and situational factors. The study, first of all, identifies critical vulnerabilities experienced by healthcare consumers. It then identifies several forms of consumer resources that are used to overcome these vulnerabilities and the processes by which those resources are integrated to realize well-being in the course of recovery. The findings elucidate the nuances of resource access, resource interaction, and resource integration within the COVID-19 crisis setting.

Health consumer behavior is seen to emerge in terms of new ways of resource mobilization and usage. It especially complements the existing knowledge in three important ways. First, it adopts the 'Resourceness' perspective (Peters, 2018) by elucidating how consumers harness their personal or contextual resources by using their capability and agency during the crisis. In other words, it confirms the notion that *"Essentially, resources are not; they become"* (Zimmermann, 1951; Vargo & Lusch, 2004). Second, it emphasizes the importance of less discussed operant resources such as physical, psychological, technological, and cultural resources within the context of vulnerability and resilience. Third, it highlights the importance of social value co-creation, where the co-creation responsibility is shared equally by each stakeholder in the society (Ratten, 2022). For example, it is observed here that COVID-19 patients proactively integrate the resources sourced from their social surroundings and realize wellbeing for themselves and for others in the healthcare ecosystem. This reflects the sense of altruistic values among COVID-19 survivors and their orientation to support other fellow members of society. Further, the study observes that consumers are actively involved in experiential or emotional support giving activities that reflect a sense of social cohesion. Such cohesion could help in alleviating COVID-19-induced social vulnerabilities experienced by consumers. Thus, the study contributes to social aspects

of value co-creation, where the value is assumed to be socially constructed by actors. This also aligns with Edvardsson et al.'s (2011) idea of co-creation, i.e., value is socially constructed in the co-creation system. Additionally, the study depicts the use of technology as an operant resource in the co-creation efforts made by COVID-19 survivors. This highlights the importance of digital resources in the customers' co-creation journey. Drawing from such a hint, strategists could plan as to what digital tools should be accommodated in the healthcare system to harness the actors' co-creation capability during crises.

This work's theoretical significance lies in its potential to contribute to transformative service research in general and the theory of resource integration in a pandemic context. Transformative service studies confirm that well-being is the primary goal of all the healthcare service system actors (Anderson & Ostrom, 2015). Consumer well-being is directly related to their resource integration efforts (Sharma et al., 2017), however, resource contribution and application rely on situational challenges that impede the smooth mobility of resources (Chen et al., 2020). Vulnerability experienced by healthcare consumers enhances their resource constraints, and thus the potential of resilience becomes context-dependent. As stated in prior research and confirmed through the current findings, vulnerability doesn't always impede wellbeing efforts but sometimes creates innovative approaches to resource integration to cope with the crisis. In-fact some of the creative resource usage habits developed during covid19 crisis could be harnessed by consumers for future post pandemic time. For example, spirituality as a transcendental resource and social media as technological operant resource could imbibe within normal transformative service consumption practices to maintain sustained wellbeing. The growing role of social media and information technology platforms in the value co-creation process is largely acknowledged in the recent literature (Li & Tuunanen, 2022). The study findings also have strong implications for the dark side of ICT-mediated co-creation, as they talk about social media panic during COVID-19. This implies that if social media is not managed positively, it can result in rumors, the spread of misinformation, stigma, and fear among COVID-19 survivors. Hence, ICT platforms should be positively harnessed in pandemic situations. Finally, based on the overall understanding generated through this study, we proposed following framework for further research (Figure 4.3).

The proposed framework in this study is inductively designed based on the findings of the work. Here, the factors inducing vulnerability are categorized under one group, and the resources combating vulnerabilities are grouped separately. Depending upon the nature of resources, they are mainly positioned as psychological, social, cultural, and technological resources. Support is drawn from consumer culture theory (CCT) literature for such categorization of resources (Arnould et al., 2005). The significance of the framework lies in its exhaustive combination of varied resource pools, which consumers access and integrate to realize wellbeing and overcome vulnerabilities during COVID-19. The framework could be used by both marketing (in general) and transformative services (in specific) researchers to probe deeper into VCC during liminal time and ask relevant future research questions. Some of these important questions are discussed next, highlighting how the proposed framework could enhance existing research.

First, the framework proposed in the study could help the researchers investigate the joint effect of varied customer resources on overcoming vulnerability and realizing wellbeing. Earlier studies largely focused on one type of resource at any given instance. For example, the influence of psychological factors or simply the social resources accessed by customers How psychological and social capital jointly affect the health consumers' resilience journey is yet to be investigated. A few questions that can be addressed in this direction are as follows: 1. Does social capital mobilized by actors enhance or decline the power of psychological capital during liminal time? 2. What is the net effect of actors' psychological and social capital? Does it act synergistically or antagonistically on service outcomes? 3. How does the set of customer resources change its pattern with time? Do resources create a linear positive effect with time, or do they create a curvilinear effect, i.e., with increased resources, are consumers able to combat more vulnerabilities, or does this resource support work only up to a certain extent and later converge to a negative outcome?

Second, the framework observes "spirituality" as a unique component of customer resources to fight crises. Spirituality is often discussed within medical science literature; however, its usage as a customer resource is still in its infancy within service research. Future work could focus on spirituality in the context of value co-creation during liminal time. Some of the questions that can be addressed are as follows: 1. How is spirituality imbibed, harnessed, and transformed within the day-to-day activities of

healthcare consumers facing the unique challenges of the pandemic? 2. Is spirituality more of an intrinsically created resource element, or could it be transferred from one consumer to another within a co-creative ecosystem? 3. How is spirituality connected to consumer resilience during a pandemic? Do actors' broader institutional norms influence their capacity to exploit spiritualism as a psychological resource against vulnerable experiences?

Third, the framework accommodates a 'technology as operant resource' which has been scantly discussed in earlier studies. Here, the author believes that technology and customer resources go hand-in-hand. In-fact, digital tools or platforms enhance the resource capacity of consumer. For e.g., even the consumers who are inherently introvert or sceptical to connect with other members in the society, easily talk with thousands of people using social media platforms. They frequently offer and receive emotional support within the online network. Future work could focus on such support exchange touching the digital and social realm of health consumer. In this line, some of the relevant future questions could be as follows: 1. How the consumers depend on technology to enact unique co-creative roles during crisis situation? 2. What is the true nature of technology enabled co-creation? Is it only the medium of resource sharing or it helps in customer resource development during liminal time? 3. What is the negative impact of technology usage during recovery from health crisis? How technology adds complexity to health consumer's resource access and resource integration efforts? What sort of modern technological interfaces are reliable or non-reliable in overcoming pandemic induced vulnerabilities and co-creating wellbeing?

Overall, the framework guides how health consumers could use the existing resources creatively to overcome different types of vulnerabilities, thereby realizing wellbeing. The study highlights how the COVID-19 survivors participate in the healthcare service processes, put efforts into co-creating with each other or service providers, and ultimately make the healthcare resilience process more sustainable and fruitful. Thus, the study contributes to the customer role within value co-creation by deepening knowledge about resource usage under liminal conditions. It represents how the customer transforms within its role from mere recipient of resources in the healthcare system to active contributor of resources during vulnerability. Hence, the study broadens the value co-creation theory from a resource integration and consumer vulnerability perspective.

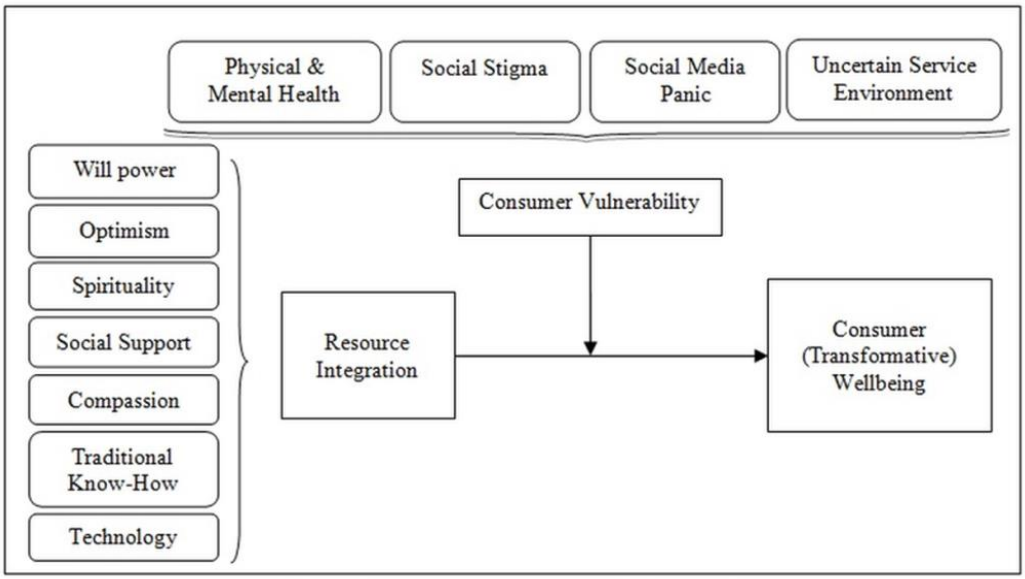
Apart from the significant contributions and the key questions (as cited above) emerging out of this study, the project also reflects the possibility of proposing a strong "resilience framework" based on the key findings of the work. However, this requires in-depth exploration of knowledge areas outside of marketing (i.e., literature on resilience, spirituality, and social medicine). Hence, it is hereby proposed as a future agenda item (discussed below) that could be harnessed by upcoming researchers who are especially interested in interdisciplinary value co-creation research.

The focus of this study is to explore value co-creation during a liminal situation. It observes the variety of resources accessed, mobilized, and integrated by COVID-19 survivors to overcome crisis induced vulnerability and realize value in healthcare. The key resources observed here were either psychological, social, or cultural in nature. There were a few technological resources as well that helped the consumer in the co-creation journey. These findings about the dispersed resources give a hint that future research could classify them and observe their effect on co-creation during liminality using some structured resource typology. Such a resource-typology could be adopted from the sociology literature. For example, Coleman's (1988) idea of 'social resources as human capital' could be one interesting lens to extend the study. Similarly, the patient's social network could be observed through the health inequality lens rooted in sociology (Fox, 1988).

Next, the current study talks about the different types of vulnerabilities experienced by COVID-19 survivors and how the resources helped them overcome those vulnerabilities. However, this phenomenon of overcoming vulnerability and realizing wellbeing could also be observed from the 'Resilience' perspective. Resilience in healthcare means the actor's ability to recover from unforeseen health situations that are beyond the control of the conventional medical service system. This resilience knowledge is rooted in the literature on 'Disaster Risk Reduction' (Haldane et al., 2021; Wulff et al., 2015). It would be interesting to observe how the health consumer's immediate social network helped them sustain or enhance their resilience capabilities, especially during crises. Such resilience could be explored in the healthcare service ecosystem, both at the individual patient level and at the community level, involving fellow patients, medical professionals, patients' families, friends, and paramedical staff involved in healthcare.

Further, this study largely focuses on consumer experiences, vulnerabilities, resource capacity, and wellbeing, along with some activities of medical professionals involved in care. It ignores the role of other actors and institutional arrangements that had a direct or indirect effect on consumer wellbeing realization. Thus, future research could focus on these aspects, like the role of public institutions, governance during pandemics, the role of supporting medical staff, the role of medical products and devices, and the role of ICT structures in supporting patients' co-creation and resilience journey. Considering these components together could provide a holistic view of consumer co-creation efforts in the overall social ecosystem. It could help in designing a robust resilience framework for VCC during crises. Such a framework, if developed properly, could address multiple facets of health crises, like emergency medicine, logistic management, crisis communication, patient recovery, medical professionals' security, government disaster planning, individual vulnerability, medical continuity, and community connectedness during crises.

Figure 4.3: Proposed Future Research Framework **(Author self-created)**



4.6 Managerial Implications

The study has direct implications for policy makers and health practitioners who facilitate resources to health consumers helping them realize their wellbeing. The study

highlights which type of operant resources are actually mobilized and integrated by the end consumer. This knowledge would help the practitioners to design a right resource system, preferably a mix of operant (psychological, social, and cultural) and operand (technology) resources that efficiently harness the resilience capacity of health consumers (patients). Many countries realized that even early lockdown had not helped them overcoming structural vulnerabilities induced by the pandemic. This study could guide them about the real vulnerabilities experienced at an individual and situational level that could have an effect on structural vulnerabilities or systemic efforts made by the government. The study, however, does not exclusively focus on government efforts but tries to understand how the last actor of ecosystem (patient) perceived the situation during service consumption. For example, the social media panic is a sign that the government needs to somehow manage the Web 2.0 platforms or formal new channels to prevent any kind of mis-information, fear, and negative sentiment. In other words, the study has implications for ICT policy of the country. Lastly, the study implicitly offers suggestions for informal institutions like family, society, and religious centers that are always responsible for individual health actions such as preventive health behaviors or compliance behaviors. For example, emotional, experiential, and instrumental support (observed within social resources in the study) are integrated informally within health actors' daily resource exchange activities. Also, the benefit of these resources depends on its usage (in positive or negative way). Thus, social resource knowledge is a must to overcome vulnerability and realize social wellbeing. Additionally, the learnings about resource integration practices during this liminal time of Covid19 have relevance for recent or future crises (big or small) as well. To cite some of the recent health situations where study findings could be used are Monkey pox, Langya virus, Ebola, Dengue, Spanish Flue, and Black Fungus (CDC, 2022). However, the study also admits that each pandemic is unique on its own and thus future work could test if these resource practices are helpful directly or indirectly to overcome actor's vulnerability during other crisis situations.

4.7 Conclusion and Limitations

Healthcare is one of the most valuable service industries shared by both public and private institutions. COVID-19 has created an enormous amount of uncertainty, stress, fear, and anxiety, in which people struggled to find new ways to cope through

personal efforts. The situation has compelled everyone to adopt new ways of accessing and using resources through technological platforms to pursue well-being. This study provides insight into Indian healthcare consumers, how they respond to the pandemic-induced vulnerability, what resources they search for, and how they channelize and integrate them during the recovery process. The well-being efforts during this period are primarily made through personal and social resources because the best of the government efforts are found to be lagging far behind the expectations of a population of this magnitude. During the COVID-19 induced pandemic, public policy should be made for the smooth flow of resources across the market and citizen/consumers for the post pandemic time by considering the innovative resource integration approaches adopt during the Covid19 crisis. Similarly, business organizations work towards innovating strategies and approaches to advance the institutions and technological platforms to facilitate such resource integration practices towards the post-pandemic period.

Pointing towards the limitations, only Indian healthcare consumers' data published primarily on Indian platforms is used in this study, which may have specific cultural and vulnerability biases. Thus, future work could explore the same resource dynamics within other developing countries to check for similarities and differences across cultures. Second, the study largely involves the consumer's phenomenological integration of resources, while the provider' view is considered partially. Future work could focus exclusively on provider side resource integration.

At the end, this study gives four important suggestions for the post pandemic world. First, society should co-innovate social capital and associated resources equally with institutional support structures. Second, social media should be seen as both a positive and negative catalyzer within resource formation practices and thus needs to be controlled and configured precisely for health-based interactions. Third, traditional knowledge (culture) based elements and transcendental forces should be given due importance in the resilience journey, as majority of Indians have relied on the same in the lack of health. Fourth, the psychological factors are interwoven within the actor's immediate social context, thus all the interventions for improving psychological resource capacity should consider a socio-psychological perspective.

4.8 Summary

This chapter elaborate upon the second study of the current project. It focuses on different types of vulnerabilities experienced by special type of health consumer i.e., covid19 survivor and what resources ultimately helped them in overcoming vulnerability. It draws a hint from literature that consumers use their capabilities to integrate the resources even when the institutional settings are disrupted. Alongside, the chapter reviews the concept of consumer vulnerability and resources/resource integration. Similar to study one, this study also follows the netnography approach where 101 user stories are extracted from multiple online sources and analyzed qualitatively. However, compared to study one, this study uses slightly different approach. Here, the data was analysed using the hermeneutic phenomenological approach (Thompson, 1997), where the focus is not on the abstract meaning of narratives but on drawing out the essence or purpose behind them. Earlier researchers had tried to gather implicit knowledge about consumer's well-being efforts under vulnerable situations from the explicit consumer narratives. Analysing narratives helped the author to translate consumer activities and experiences into key resource integrating practices. The complete findings are summarized around vulnerability experiences and resource usage. The study uncovers the key situational factors enhancing vulnerability among Covid19 survivors like social stigma, social media panic, etc. Further, the relevant resource-set are identified which reflects the less discussed operant resources helping the actors to overcome pandemic induced vulnerability and creating resilience in their journey towards wellbeing. Lastly, the chapter reflects upon the important theoretical contributions and practical implications of the study.

The chapter concludes with important suggestions to policymakers like there is a need to co-innovate social capital, more focus is required on institutional support structures, need to manage/neutralize the negative effect of social media, and equal importance must be given to person’s social characteristics (i.e., value-in-social-context) while improving their psychological resource capacity.

Chapter 5

Study 3: C2C Value Co-creation in Healthcare: The Role of Social Capital, Sense of Belongingness, and Well-being

5.1 Introduction

> "I said to my surgeon, I would rather go with a newer plastic scaffold instead of a metal stent" (Online Health Community)

Quotes like the above reflect the patient's active role within modern patient-centric healthcare. Researchers who adopted Service dominant logic (SDL) paradigm have identified emerging patient roles in value co-creation practices and tried to understand the pattern of resource integration between patient and doctor (McColl-Kennedy et al., 2012; Virlée et al., 2020a). Such resource integration practices have also caught the attention of researchers who adopted a more focussed philosophical stand, Customer Dominant Logic (CDL) to study this phenomenon. CDL proposes that consumers actively integrate the resources and co-create value in C2C interactions, and while doing so, they realize personal becnefits even without the presence of any service provider (Heinonen et al., 2010; Heinonen and Strandvik, 2015).

Patient-to-patient value co-creation is widely observed within social media healthcare communities, where health consumers try to create value for each other by frequent exchange of resources (Shirazi et al., 2021; Zadeh et al., 2019). The commonly exchanged resources are informational, experiential, and emotional support resources. For example, patients exchange the drug information, disease experiences, fitness routines, and personal medical reports on social media platforms. The HINT survey 2019 found that approximately 86% of internet users engage in at least one social media activity for health (Chou et al., 2021). This may be one of the reasons that motivated researchers to look into C2C value cocreation within social media context. A few earlier studies examined value co-creation among online healthcare consumers primarily from conventional perspectives like knowledge sharing, service innovation, membership continuance, information seeking, and emotional support practices (Zhao et al., 2015; Shirazi et al., 2021). Investigation of healthcare from the C2C value co-creation lens is

rarely discussed. Thus, this study takes the opportunity to fill this gap by studying patient-to-patient value co-creation within the social media context.

The significance of studying the patient-to-patient value co-creation is further advocated by many researchers. For instance, Strandvik (2018) argued that if the doctor wants to know beyond the visibility lines of medical service encounter, he needs to explore inter-customer activities within the customer network. Drug compliance a major challenge in healthcare is critically influenced by patients' wider network, including friends, family, and online companions. Additionally, researchers have started looking at C2C social platforms where consumers are observed in different roles like as endorser and as emergency information seeker (Schwob et al., 2022; Li et al., 2022).

Individual's co-creation efforts in C2C settings are always influenced by the surrounding social system in which they are embedded (Laud et al., 2015). In this line, there is a possibility of establishing the relationship between social capital and value co-creation (He et al., 2021; Cao et al., 2022). Thus, the current work adopts the principles of social capital theory in the online context to narrow down the scope of study, and assumes that the actor's stock of online social capital positively influences their C2C value co-creation behaviours. Additionally, the possible factors that mediate the effect of online social capital on C2C co-creation behaviour are scantly explored. Hence, the study uses the need to belong theory (Baumeister and Leary, 1995) to argue that consumers' belongingness towards other individuals or community could trigger their active involvement in C2C value co-creation behaviour. Overall, the study assumes that sense of belongingness is connected to social capital on one side and to value co-creation on the other side; based on which study investigates the following research question:

Do health consumers' online social capital affect C2C co-creation behaviors indirectly through a sense of belongingness (SOB)?

Further, the study capitalizes on two important opportunities in existing literature to finalize the research model. First, the value co-creation is often explored in online communities using complicated socio-material factors like platform characteristics and system efficiency (hard resources), ignoring the individual social capital (soft resources) on online space (Priharsari and Abedin, 2021; Ding et al., 2022). Second, constructs

used to represent social capital components (structural, relational, cognitive) broadly vary from offline to online healthcare context (Fan et al., 2019; Meek et al., 2019). For example, structural social capital is represented by network centrality or network density in an online setup and by social and civic participation in an offline setting (Fan et al., 2019; Pitkin Derose and Varda, 2009). Thus, the social capital dimensions relevant to the online environment must be investigated. Here, the study uses member's trust, perceived similarity and familiarity towards other online members representing relational, cognitive, and structural social capital dimensions in the online environment (for details see hypothesis development section)

Lastly, this study focuses on the broader consequences of C2C value co-creation. Earlier studies concentrated on limited marketing outcomes like satisfaction, loyalty, and willingness to pay (Mathis et al., 2016; Tu et al., 2018). The impact of co-creation on consumers' subjective well-being is yet to be explored. Based on the activity theory (Lemon et al., 1972), the current study assumes that positive value co-creation activities in online space boost the actor's sense of well-being. Thus, the present study asks:

Does C2C value co-creation behaviors imbibe the feeling of subjective well-being among online healthcare customers?

Overall, as guided by the above-discussed research questions, the study plans to test the influence of tri-component social capital on C2C value co-creation behaviors via a sense of belongingness and the further tests the impact of value co-creation on healthcare consumers' subjective well-being.

The study has two-fold contributions. First, it contributes to nascent knowledge about the underlying mechanism of value co-creation by focusing on the mediating role of a sense of belongingness between social capital and C2C co-creation. Second, the study contributes to the consequences of value co-creation in a virtual setting by exploring the relationship between co-creation and well-being. Overall, the study has implications for C2C platform owners who want to create a sustainable online health community for patients and the extended network of social actors.

5.2 Theoretical Background

5.2.1 Theory of Value co-creation

The early idea of value co-creation has travelled from 'Service-Dominant Logic' to 'Customer Dominant Logic' (CDL). 'Customer Dominant logic (Heinonen et al., 2010) argues that value is phenomenologically created in the customer's sphere (see figure 1.1) where the service provider has the least influence (Heinonen and Strandvik, 2015). It means the final value creation lies in the hands of the end consumer. Also, as consumers access the resources not in isolation but with the help of fellow consumers, value tends to be situated in the individuals' social context (Laud et al., 2015), which is also inferred as social layers of C2C value co-creation (Rihova et al., 2013). C2C value co-creation lens could be understood as one actor creating value for another actor (and vice versa) by reciprocating resources sourced from the social surrounding (Laud et al., 2015; Rihova et al., 2013). C2C value co-creation integrates the conventional knowledge of C2C interactions and value-in-social context (Laud et al., 2015; Heinonen et al., 2010). C2C value co-creation studies are popular in tourism research to explore especially the who (actors) and where (site of C2C co-creation) aspects of co-creation (Rihova et al., 2013).

In healthcare, a handful of studies try to understand value co-creation within online health forums. To cite a few, Shirazi et al. (2021) use the 'peer to peer interaction' perspective, and Zhao et al. (2015) explore the 'knowledge sharing' viewpoint. Surprisingly, no one uses the C2C value co-creation lens except Zadeh et al. (2019), who conceptualized C2C value co-creation in social media; but outside healthcare. Thus, it signals the potential of C2C value co-creation to understand the consumer in the online social space.

5.2.2 Theory of social capital

Social capital represents the 'resources that accrue from membership in a social network' (Bourdieu, 1984). Coleman (1988) uses the term potential resources to represent social capital and proposes that resources and value outcomes are embedded together. The resource-based view of social capital aligns with the resource-sharing practices within C2C value co-creation (Rihova et al., 2013). Social capital is observed in literature from two different perspectives. One is the network perspective, where

social capital is perceived as bonding and bridging capital which are determined by the strength of ties (Putnam, 1993). The second is the functional view, which looks at social capital from structural, cognitive, and relational aspects (Nahapiet and Ghoshal, 1998). The structural dimension represents the existing network of relations, and the relational dimension reflects the personal characteristics of relationships like trust and norms. The cognitive dimension means the shared representations and interpretation of common meaning in a relationship. All these three aspects are strongly relevant for C2C value co-creation. It is found that studies use a variety of structural, cognitive, and relational dimensions in the context of online co-creative space (Fan et al., 2019; Meek et al., 2019). Online studies often use related but different indicators to represent these dimensions, often borrowing them from offline studies. However, given the unique nature of the virtual setting, social capital dimensions are further explored to identify the important aspects which are critical to value cocreation.

The C2C community has a dense network of interpersonal relations where individuals reciprocate the trust and interpret common meanings based on their social practices. In this line, Cao et al. (2022) recently found that social capital is an antecedent to value co-creation behavior in an online (brand) community. The current study focuses on three crucial factors, i.e., familiarity, perceived similarity, and trust directly relevant to an online setting. Here, trust is most appropriate in the online context as it is an essential pre-condition for cooperative behavior (Zhao et al., 2012). Familiarity and perceived similarity are other factors deemed fit for this study as they represent the 'Interpersonal interaction' notion dominant in social media (Shen et al., 2010).

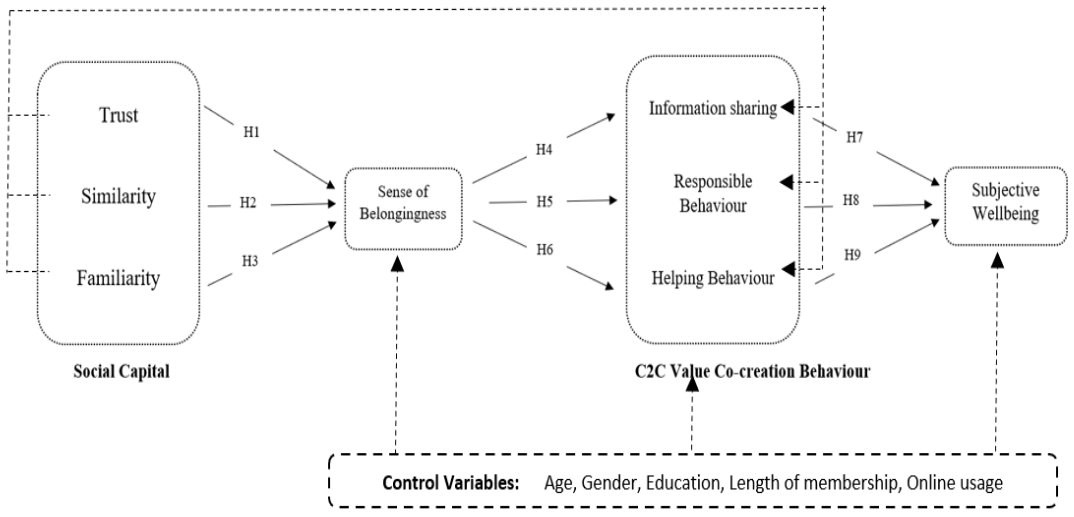
5.2.3 Theory of belongingness

Baumeister and Leary (1995) propose that the *"need to belong, that is, a need to form and maintain at least a minimum quantity of interpersonal relationships, is innately prepared (and hence nearly universal) among human beings."* Their proposition implies that members of online social platforms would also form strong bonds with fellow actors (online community member) due to an intrinsic desire for a close relationship. Here, the study assumes that online health community members would perceive an emotional bond among each other when they realize that another actor is concerned about their health. Further, emphasizing the importance of the need to belong, Guan (2016) confirms that a deprived sense of belonging weakens the

person's ability to sense the social cues in an online environment, negatively affecting overall online social participation. Similarly, De Cremer and Leonardelli (2003) confirm that the need to belong drive the individual towards the collective interest of other people. This aligns with the citizenship aspect of value co-creation (Yi and Gong, 2013), where a person tends to help others without any expectation. The link between belongingness and value co-creation is also evident through earlier studies. For example, Yen et al. (2020) found that customer engagement, which includes belongingness as its core dimension, positively affects value co-creation behavior.

Prior studies observed identity, satisfaction, trust, social support, and reciprocity as 'belongingness-antecedents' (Barr et al., 2016; Lin, 2008; Liu et al., 2020; Sánchez-Franco and Roldán, 2015). Trust among online members strongly influences a sense of belongingness because of its ability to reduce uncertainty in the environment (Lin, 2008). Next, familiarity and perceived similarity are meaningfully related

Based on the above-discussed theories, the study proposes the following conceptual framework for research (see figure 5.1).



-------- = Not hypothesized relationship but tested in the study

⟶ = Hypothesized relationship

Figure 5.1: Proposed research model **(Author self-created)**

5.3 Hypothesis development

Trust

Trust has different definitions and perspectives. Interpersonal trust is always relevant for virtual communities characterized by anonymous interactions (Lin, 2008). Mayer et al. (1995) define trust *"as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action …"* (p. 712, Mayer et al., 1995). Based on the above definition, the current study assumes that online consumers strongly believe that other members will perform co-creative behavior as per their expectations and will not take undue advantage of their vulnerable situation, such as those arising out of low health literacy. Sánchez-Franco and Roldán (2015) assert that trust among online members positively influences their perception of community support, which could reinforce the sense of belongingness for it.

Further, Kathuria and Kumar Pandya (2020) conclude that trust reflects a sense of connectedness among members, promoting a feeling of responsibility and belongingness toward the community. On the contrary, negative trust positively influences thwarted belongingness comprised of loneliness and burdensomeness, while positive interpersonal trust negatively influences the same (Chen et al., 2017). Loneliness and burdensome are inherently experienced within healthcare; thus, trust seems to play a protective role against it and harness the feeling of companionship. Apart from the above findings, 'Social capital theory' assumes that trust is a key component embedded in relations with strangers (Bourdieu, 1984). Such strange relationships are highly possible in social media communities where people hardly know each other prior. Based on all the above arguments, the study posits that:

H1: Trust among members positively influences their belongingness towards the social media health community

Perceived similarity

The perceived similarity is understood in literature as commonality in interests, values, and goals as perceived by group members (Zhao et al., 2012). It relates to health consumers' common goals or interests due to similarities in the chronicity of disease, information-sharing practices, and preventive health behaviors. This habit of looking for similarities is deeply rooted in human behavior. Individuals often self-identify with

the group based on In-group similarities and out-group differences (Tajfel, 1978). Smith (1998) argues that perceived similarity improves the relationship quality. The relationship elements such as open communication and commitment among group members are crucial for the healthcare community because, if harnessed correctly, they could imbibe a strong sense of belonging among members. Consumers are generally motivated to categorize themselves based on perceived similarities. This helps them in reducing subjective uncertainties, which in the healthcare context could be patient's fear of susceptibility towards the disease and lack of mental preparedness in the health journey. The contemporary principle of 'Homophily' supports this 'similarity-belongingness' relationship, as it argues that similar people bond together using the proverb *"birds of a feather flock together"* (McPherson et al., 2001). Whenever the healthcare consumer feels that others in his network are exactly like him, then there is a high possibility that he will form emotional ties with them. Also, he will try to reciprocate via informational or experiential support and move into a confidant relationship with those members in the social network. Above mentioned practices ultimately create a sense of attachment among members, thereby representing a sense of belongingness. Thus, drawing support from the above arguments, it is hypothesized that:

H2: Perceived similarity positively influences health consumer's belongingness towards the social media health community

Perceived Familiarity

Familiarity could be understood as a member's understanding of other individuals, their activities, and practices enacted in the virtual community. The more the individuals are familiar with one another, the more they will trust each other (Gefen, 2000). Familiarity is observed to influence the actor's immersion in an object (Qin et al., 2009), which is representative of belongingness. Further, Reis et al. (2011) prove that high familiarity between individuals promotes 'inter-personal attraction,' a primary cue for belongingness. Shen et al. (2010) found that familiarity and perceived similarity significantly influence virtual community loyalty. Over social media health community, consumers could gain familiarity with other members in unique ways; like knowing their posting style, type of information/emotion shared, health values, and common interests. This knowledge could gradually reach to intimate level and develop a feeling

of immersion in the community. Finally, the 'psychological ownership theory' (Pierce et al., 2001) assumes that intimate knowledge about any object or person (like an online community or its members) could enhance the sense of ownership (which is similar to belongingness) towards it. Overall, based on the above arguments, it is hypothesized that:

H3: Perceived familiarity positively influences health consumers' SOB towards the social media health community

C2C co-creation

Value co-creation as a construct is operationalized in empirical research using different dimensions and theoretical assumptions. Yi and Gong's (2013) VCC dimensions are adopted in this research. The primary reason to use Yi and Gong's conceptualization is that it includes citizenship and prosocial aspects directly related to the 'value for others' perspective of C2C value co-creation. This study mainly focuses on Information sharing, Responsible behavior, and Helping behavior, which reflects the actor's resource contribution to other online members.

The first two reflect participation, and the last manifests citizenship behavior (Yi and Gong., 2013). Information sharing is crucial for online members to support each other and add value by improving their health literacy. Responsible behavior reflects how individuals (health community members) fulfil each other's expectations and sustain their responsibility towards the community. Helping represents the consumer's effort to solve the problems of other members and enhance their health experiences (Yi and Gong., 2013; Fang et al., 2019; Zadeh et al., 2019).

Information and knowledge are both essential resources exchanged in C2C co-creation. Park et al. (2014) confirm belongingness as a critical antecedent of information seeking and sharing. Additionally, Cho et al. (2010) found an indirect influence of belongingness on knowledge sharing via reciprocity and self-efficacy. McLure Wasko and Faraj (2000) invent that members share knowledge not only for self-interest but for community interest, i.e., for the feeling of giving back to society and realizing satisfaction by helping others. Similar behaviour can be observed in C2C co-creation in the healthcare community, where patients are interested in helping other members much beyond the information exchange.

Health consumers could help other online members when they perceive high belongingness in the online space. Belongingness is also observed to be a critical factor

in promoting prosocial (helping) and preventive health behavior during covid-19 (Marinthe et al., 2021). Thus, it is reasonable to argue that whenever online health consumers associate themselves with a group, they mutually share operant resources (health knowledge/medical skills/empathy) that helps other individuals practice preventive health behaviors like healthy eating, drug compliance, etc. Interestingly, social networking sites offer more resource-sharing options via innovative platform features like tagging, wall-posting, and web-sharing.

'Need to belong' theory assumes that forming interpersonal bonds is not a luxury desire but a basic human need (Baumeister and Leary, 1995) which could be facilitated via social media platforms. Once this need is realized, it often induces positive consumer behaviors, like positive word of mouth and cooperation with other members (De Cremer and Leonardelli, 2003). Thus, it is argued that when online members are closely attached, they also engage in positive prosocial behaviors representing C2C co-creation. Hence, the present study posits the following hypothesis:

H4-H6: Health consumers' belongingness towards social media health community positively influences their C2C co-creation behavior, i.e., Information sharing behavior (H4), Responsible behavior (H5), and Helping behavior (H6).

Subjective Well-being.

The current study assumes that when online health consumers engage in C2C co-creation behaviors, it imbibes the feeling of happiness, significantly impacting their health-life satisfaction. There are different perspectives to understanding well-being, i.e., eudemonia, hedonic, psychological, social, etc (Diener, 1984, 1985; Ryff 1989; Ryan and Deci 2001; Carruthers and Hood, 2004). This study confines to individual cognitive view, which accounts only for a person's internal experience contrary to the external frame of reference (Diener et al., 1985; Fang et al., 2019). External frame means when outside individuals say a psychologist evaluate a person's wellbeing via judging his autonomy, maturity, and other relevant indicators (Diener et al., 1997). Subjective well-being could be simply understood as a '*person's conscious evaluation of his whole life or about specific aspects of his life'* (Diener, 1985). Following the above definition, the study focuses on the consumer's evaluation of the health aspect of his life. Sharma et al. (2017) asserts that when the healthcare consumer enacts unique co-creation roles, it results in both, hedonic (sense of happiness) and eudemonic well-

being (a sense of purpose). Additionally, well-being is less discussed in an online context. The experiential perspective (i.e., If a person experiences his life as good, it is assumed to be so) of subjective well-being (Diener et al., 1985) aligns with the phenomenological perspective of C2C co-creation. It is plausible to assume that when a consumer feels more connected to the community, he shares the resources and co-creates with individuals, which infuses the 'helpers high' feeling. Such feelings signify sense of purpose and well-being. Lastly, Lemon et al.'s (1972) activity theory affirms that a person's activities positively influence their subjective well-being. Lemon et al.'s (1972) understanding of social activity as patterned social action involving others can be translated to C2C value co-creation context where C2C interactions are assumed to be a positive social activity voluntarily performed by one member for the other online health consumer. The voluntary C2C actions involves helping others, sharing information, and acting responsibly. So, it is hypothesized that:

H7-H9: C2C value co-creation behaviors, i.e., Information sharing (H7), responsible behavior (H8), and helping behavior (H9), positively influence the subjective well-being of health consumers in the social media health community.

5.4 Method

5.4.1 Sample and data collection

The study relies on the online survey method for collecting data. The survey link (using google form) was posted on the selected health communities on Facebook (see appendix 12). Facebook was chosen as it is the best platform for reflecting many C2C online healthcare interactions. The study confines to 'Diabetes' health condition, which is classified under chronic disease of the 21st century. Before posting the survey, several criteria were used to select the FB diabetic groups based on netnography guidelines (Kozinet, 2002). First, the group should be public, i.e., openly accessible without restrictions. Second, the group should be old (minimum two years old) so that it has a significant number of patient interactions, more sharing of disease experiences, and a variety of health consumers (type I, Type II diabetic people). Third, the administrator should have been permitted to post the survey in the group. The groups which were dominated by any third-party interactions were ignored. Imposing these inclusion and

exclusion criteria has narrowed down the selection to ten FB groups on which the survey was posted.

The clear purpose of the research, assurance of data confidentiality, and other requirements like health condition, minimum age, etc., were communicated in the survey introduction. Also, relevant filter questions were used to target suitable participants. The data collection process took four months (July-Oct 2022). The group admin helped us collect the data by posting frequent reminders to the group members to fill out the survey. At the end of the fourth month, 405 usable responses were received, giving a 67.5 % response rate (sent to 600 prospective respondents). The usable responses are the complete responses. Table 5.1 shows the demographic details of respondents. As per Soper's (2020) prior sample size calculator for SEM, the sample size taken in this study (360, after excluding missing and inconsistent data) was sufficient as the minimum sample suggested to detect the effect as per the complexity of the structural model was 177. This is based on eight latent variables, 30 observed variables, a p-value of 0.05, and an anticipated medium effect size of 0.03. The three hundred sixty responses collected here also align with Hair et al. (2010) rule of thumb, i.e., observation to variable ratio should be 10:1.

Table 5.1: Demographic Profile of Respondents

Variable	Category	Number	Percentage
Age	18-27	54	15.0
	28-37	145	40.3
	38-47	91	25.3
	48-57	42	11.7
	58-67	13	3.6
	68 or above	15	4.2
Gender	Female	153	42.5
	Male	207	57.5
Education	Higher Secondary School or below	39	10.8
	Graduation	132	36.7
	Post-graduation or above	189	52.5
Membership Length	6 months or below	158	43.9
	7 to 12 months	85	23.6
	13 to 18 months	74	20.6
	19 months or above	43	11.9

Online usage	equal to or less than 30 min	53	14.7
	More than 30 min and less than an hour	138	38.3
	More than an hour and less than 2 hours	142	39.4
	More than 2 hour	27	7.5

5.4.2 Measures and pilot testing

All the measures were adopted from previous studies. Familiarity and Similarity measures were adopted from Shen et al. (2010). Trust was adopted from Chen and Hung, 2010, and the sense of belongingness was adopted from Teo et al. (2003). Information sharing, Responsible behavior, and Helping behavior were adopted from Yi and Gong (2013), and Subjective well-being was adopted from Diener et al. (1985). However, slight changes in wording were done to align with the current study's context. The questionnaire was pre-tested (by de-briefing) with five online health consumers who have been active in the social media health community for at least the past six months. Next, a pilot study was done on 60 target respondents before going for the primary survey (*see appendix 5 for pilot study results*). It helped to check the reliability of the scale and item loading to ensure that the correct items are retained in the primary survey.

Apart from theoretically relevant constructs, the study includes some control variables. These variables are assumed to play an important role as per previous studies (Chen et al., 2018; Zadeh et al., 2019; Zhao et al., 2012) within the proposed relationships in the study's model. The control variables measured were Age, Gender, Education, Length of membership, and Online usage.

5.5 Data analysis and Results

Before proceeding to the primary data analysis, data were checked for unengaged responses, missing values, and normality. This pre-processing results in 360 cases as the final sample size. Here, the skewness lies in the range of – 0.436 to 0.043 (should be -1 to 1) and kurtosis in the range of – 0.654 to – 0.010 (should be -3 to +3), within the specified limits (Hair et al., 2010). Also, the basic assumptions of linearity and multicollinearity were confirmed. VIF values were less than five reflecting no

multicollinearity issues. For detailed understanding of pre-processing of data mentioned above, please refer to *appendix 6*.

5.5.1 Measurement model testing

After above initial checks, a confirmatory factor analysis was conducted to check the reliability and validity of the key constructs and the fit of the measurement model. The first measurement model was moderately modified based on modification indices. Error terms of a few items belonging to a similar construct were allowed to correlate, yielding an improved model with better-fit indices i.e., Chi-sq /df ratio = 1.578; CFI = 0.96; GFI = 0.90; RMSEA = 0.040; RMR = 0.040 (see *appendix* 7 for final measurement model and the fit indices). In the final model, all the items loaded significantly on their corresponding constructs without showing any cross-loadings. Cronbach's alpha and composite reliability values (above 0.7) revealed acceptable reliabilities. All the measures reflected acceptable AVE as well, i.e., above 0.5 (see table 5.2 for reliability of constructs)

Table 5.2: Reliability of constructs based on CFA

Construct	Indicators	Factor Loadings	Composite Reliability	Cronbach Alpha	AVE
Trust (Chen & Hung, 2010)	1. Members in this health community have reciprocal faith-based and trustworthy relationships. 2. Members in this health community will not take advantage of others even when the profitable opportunity arises. 3. Members in this health community will always keep the promise that make to one another	0.649 0.753 0.735	0.756	0.755	0.509
Perceived Similarity (Shen et al., 2010)	1. I share similar values with other members of this Health community 2. I share similar interest with other members of this Health community 3. I share similar preferences with other members of this virtual community 4. I participated in this Health community for the same purpose as other community members do	0.787 0.828 0.834 0.725	0.873	0.885	0.632
Familiarity (Shen et al., 2010)	1. I have a shared language with other members of this health community 2. Members of this health community are as familiar to me as good friends are.	0.709 0.724 0.928	0.883	0.891	0.657

	3. I have frequent interactions with other members of this health community by posting or replying to post in the form of comments 4. The health community members feel familiar to me	0.860			
Sense of Belongingness (Teo et al., 2003)	1. I feel a strong sense of being part of this online health community 2. I enjoy myself as a member of this health community 3. I am very committed to this health community 4. Overall, there is a high level of morale in this health community	0.713 0.736 0.705 0.690	0.804	0.820	0.506
Information Sharing Behaviour (Yi & Gong, 2013)	1. I clearly explain the health information I want to know. 2. I give the community members proper health information. 3. I provide necessary health information so that other community members can express themselves well. 4. I answer the health service-related questions as I can.	0.786 0.828 0.604 0.762	0.835	0.844	0.562
Responsible behaviour (Yi & Gong, 2013)	1. I perform all the tasks that are required. 2. I adequately complete all the expected behaviours. 3. I fulfil responsibilities to the community. 4. I follow other community members' directives or suggestions	0.754 0.778 0.824 0.704	0.850	0.848	0.587
Helping behaviour (Yi & Gong, 2013)	1. I assist other members in the virtual community if they need my help 2. I help other members in the virtual community if they seem to have problems 3. I teach members in the virtual community if they need me to solve problems correctly 4. I give advice to other members in the XXX virtual community	0.713 0.737 0.722 0.674	0.804	0.803	0.507
Subjective Well-being (Diener et al., 1985)	1. In most ways, my health life is close to my ideal 2. The conditions of my health life are excellent 3. I am satisfied with my state of health in the life	0.762 0.654 0.738	0.762	0.760	0.517

Discriminant validity was checked by comparing the square root of the AVE of every latent construct with the inter-construct correlations (Fornell and Larcker, 1981). None of the inter-construct correlations in all comparisons exceeded the square root AVE (see table 5.3 for validity measures). Additionally, common method bias (CMB) is avoided

using relevant procedures like separating criterion and predictor variables and ensuring data anonymity. Additionally, a Harman single-factor test was conducted to cross-check CMB. A single-factor measurement model explained only 33.803 % of the variance, far below the 50% threshold (see appendix 8).

Table 5.3: Validity Measures

Constructs	CR	AVE	MSV	MaxR(H)	TRT	PS	FA	ISB	HB	RB	SOB
TRT	0.756	0.509	0.312	0.762	**0.714**						
PS	0.873	0.632	0.312	0.878	0.558***	**0.795**					
FA	0.883	0.657	0.370	0.918	0.448***	0.258***	**0.811**				
ISB	0.835	0.562	0.391	0.852	0.497***	0.333***	0.532***	**0.750**			
HB	0.804	0.507	0.445	0.806	0.530***	0.529***	0.438***	0.626***	**0.712**		
RB	0.850	0.587	0.378	0.856	0.502***	0.398***	0.608***	0.615***	0.592***	**0.766**	
SOB	0.804	0.506	0.445	0.804	0.556***	0.542***	0.558***	0.526***	0.667***	0.578***	**0.711**
WB	0.762	0.517	0.259	0.769	0.509***	0.431***	0.261***	0.427***	0.441***	0.468***	0.462***

Note: The bold diagonal values are the square root of AVE's constructs, whereas other values are correlations between the constructs. CR Composite Reliability, AVE = Average variance extracted, MSV = Maximum shared variance

* = Significant at the 0.05 level; ** = Significant at the 0.01 level; *** = Significant at the 0.001 level

5.5.2 Structural model testing

Next, the structural equation modelling (SEM) was used to test the hypothesized relationships in the study. The structural model reflected a good fit as Chi-sq /df ratio (1.494) was fair enough, and other fit indices were also within the acceptable threshold i.e., CFI = 0.955; GFI = 0.893; RMSEA = 0.037; RMR = 0.043 (see appendix 9 for final structural model and fit indices). The final results gave evidence in favor of all hypotheses from H1 to H9 except H7 (Hypothesis testing results are presented in table 5.4). Three online social capital factors (trust, perceived similarity, familiarity) positively influenced members' sense of belongingness to the online health community. Next, a sense of belongingness is found to positively affect all three C2C co-creation behaviors, i.e., Information sharing, Responsible behavior, and Helping behavior. Lastly, responsible and helping behavior is found to influence well-being significantly. In contrast, information-sharing behavior does not affect the actor's subjective well-being. Lastly, the R-square values for outcome variables were sufficient as per Henseler et al. (2016) guidelines, as R2 for a sense of belongingness was 0.53, for Information sharing was 0.42, for Responsible behavior was 0.50, for Helping behavior was 0.52, and for Wellbeing was 0.34.

Table 5.4 Results of the main effect hypothesis testing

Hypothesis	IV	DV	Std effect	Critical Ratio	P value (sig at)	Support
H1	TRT	SOB	.190	2.401	0.016*	Yes
H2	PS	SOB	.331	4.742	0.001***	Yes
H3	FA	SOB	.393	6.116	0.001***	Yes
H4	SOB	ISB	.216	2.377	0.017*	Yes
H5	SOB	RB	.230	2.717	0.007**	Yes
H6	SOB	HB	.449	4.692	0.001***	Yes
H7	ISB	WB	.125	1.389	0.165ns	No
H8	RB	WB	.277	3.165	0.002**	Yes
H9	HB	WB	.212	2.362	0.018 *	Yes

* = Significant at the 0.05 level; ** = Significant at the 0.01 level; *** = Significant at the 0.001 level; ns = Not significant

Regarding the control variables, online usage shows a significant but negative influence on subjective well-being (standardized path co-efficient = - 0.224, CR = -

4.148, $p < 0.001$). It is inferred that members who spend more time in online space experience less subjective well-being. Few other control variables were found marginally significant (at 0.10 significance level), i.e., gender (co-efficient = -.079, CR = -1.665, p = 0.096), education (std co-efficient = .080, CR = 1.701, p = 0.089), membership length (std co-efficient = -.084, CR = -1.74, p = 0.082) on the sense of belongingness and membership length on subjective well-being (std co-efficient = -0.104, CR = - 1.907, $p < 0.057$). Based on the above information, it is inferred that members with less membership tenure experience more belongingness than members with longer tenure. At the same time, a positive co-efficient for education implies that the higher the education, the more will be the sense of belongingness experienced by the member. Again, the negative coefficient for gender indicated that female members tend to perceive more belongingness towards the community than male members. Similarly, the negative coefficient for membership length for well-being signifies that members who have been in the community for a long-time experience lower well-being (for full results related to control variable see appendix 10)

5.5.3 Mediation check

Once the main effects are tested, the significance of mediating effects is checked using Preacher and Hayes' (2008) Bootstrap estimation approach. Here the 2000 bootstrapped sample was used in AMOS. The underlying principle of the bootstrap approach is that it does not depend on the normal distribution and extracts a set of samples from the initial sample. It means the chances of standard error estimates and confidence intervals giving wrong inference (based on the assumption of normal distribution) for mediating effect is largely reduced. If 95% bootstrapped confidence intervals for indirect effect estimates do not include zero, then the mediation effect is considered statistically significant (Zhao et al., 2010). The study found that a sense of belongingness mediates the relationship between social capital factors and C2C co-creation behaviors. Thus, it is inferred that trust, perceived similarity, and familiarity indirectly affected information sharing via a sense of belongingness. It means the higher the trust, perceived similarity, and familiarity among online members, the higher the sense of belongingness experienced towards the community, that further enhances the information-sharing behavior of online health community members. Similar significant mediating effects were observed for responsible behavior and helping behavior; It

means the mediating effect worked on all three types of C2C co-creation behaviors adopted in this study. Next, out of nine mediating paths, four paths were fully mediated in the present study (i.e., PS → SOB → ISB; PS → SOB → RB; TRT → SOB → HB; FA → SOB → HB) and the rest were partially mediated (See table 5.5).

Table 5.5: Results of the mediation analysis

Model Pathways	Estimated coefficient	95% CI		P value (sig at)	Support	Type of Mediator
		Lower	Upper			
TRT → SOB → ISB	0.041	0.003	0.126	0.033*	Yes	Partial
PS → SOB → ISB	0.071	0.005	0.176	0.034*	Yes	Full
FA → SOB → ISB	0.085	0.003	0.192	0.042*	Yes	Partial
TRT → SOB → RB	0.044	0.003	0.120	0.033*	Yes	Partial
PS → SOB → RB	0.076	0.014	0.156	0.017*	Yes	Full
FA → SOB → RB	0.091	0.012	0.174	0.026*	Yes	Partial
TRT → SOB → HB	0.085	0.010	0.197	0.026*	Yes	Full
PS → SOB → HB	0.148	0.063	0.274	0.001***	Yes	Partial
FA → SOB → HB	0.176	0.093	0.289	0.001***	Yes	Full

* = Significant at the 0.05 level
** = Significant at the 0.01 level
*** = Significant at the 0.001 level
n.s. = Not significant

5.6 Discussion

The study explicitly confirms that all three social capital factors unique to the social media health community, i.e., trust, perceived similarity, and familiarity, positively influence the sense of belongingness, positively affecting information sharing, responsible, and helping behavior. A similar mediating role of a sense of belongingness is evident in earlier non-value co-creation studies (Zhao et al., 2012; Kim and Zhu, 2022). Overall, the present study expands the conventional knowledge about the social capital-value co-creation relationship (Cao et al., 2022; He et al., 2021) by identifying how social capital affects value co-creation. The study confirms the direct influence of trust, perceived similarity, familiarity which represents relational, cognitive, and structural dimensions of social capital, on sense of belongingness. These findings are consistent with earlier studies (Zhao et al., 2012). Similarly, the relationship between a sense of belongingness and information sharing, responsible, and helping behavior is

significant and in line with the earlier studies (Liu et al., 2020). Here, familiarity and perceived similarity influence on SOB is stronger than trust (β FA = 0.393 > β PS = 0.331 > β TRT = 0.190). We infer that members feel more bonded towards their community when they perceive similarity and familiarity with other members. This is reasonable as patients often compare their symptoms with other community members and associate with them by looking at their posting style or content.

Next, the study explored the outcome of value co-creation by testing the influence of C2C co-creation behaviors on individuals' subjective well-being. We found that responsible and helping behaviors positively affect consumer well-being. This was expected following prior literature. For example, Weinstein and Ryan (2010) confirms that helping others, when it is a choice or voluntary, just like in C2C co-creation, elicit higher well-being among individual. This study found that the third type of co-creation behavior, i.e., information sharing, does not influence consumer well-being.

In contrast, earlier studies (e.g., Chiu et al., 2015) have found a dominant role of informational support in individuals' subjective well-being. Here, we assume that active participation in information-sharing activities could imbibe negative experiences among individuals, resulting in 'Ill-being' instead of well-being; which might neutralize the positive effect of information sharing on an actor's well-being. Besides this, several other studies (Sharma et al., 2017; Akter et al., 2022) confirm the positive impact of value co-creation behaviors on consumers' well-being.

The present study also controls age, gender, education, tenure, online usage while exploring the variance in sense of belongingness, C2C co-creation behaviors, and subjective well-being. Among all the control factors, only online usage found to show a significant negative effect on subjective well-being (standardized path co-efficient = - 0.224, CR = - 4.148, $p < 0.001$). This was contrary to our expectation as we assumed that members who spend more time in the health community would gain more insight into their health and condition their health practices to realize well-being. The underlying reason for this surprising result could be that members spending more time in online space may get overloaded with irrelevant Information. This information overload might hinder their standard health practices or trigger co-destructive health practices resulting in low subjective well-being. Few control variables affect the model relationships but at the marginal (i.e., 0.10 significance) level (see appendix 10). Ultimately, the study gives a comprehensive picture of both antecedents and consequences of C2C co-creation in a social media health community setting.

5.7 Theoretical Implications

The study contributed to evolving knowledge on C2C value co-creation (Rihova et al., 2013; Zadeh et al., 2019) by elucidating the dynamics of healthcare consumers' co-creative behaviors, especially within social media platforms. It highlights how a health consumer's online social capital strongly influences their co-creation behavior by enhancing their sense of belongingness. The findings emphasize at the importance of social capital in a virtual space (Lin, 2008) by highlighting the resource integration behaviour . The two knowledge areas, i.e., 'value co-creation theory' (Vargo and Lusch, 2004) and 'social capital theory' (Nahapiet and Ghoshal, 1998) are used in this study and extended into each other. Next, the study expands the application of the 'need to belong theory' (Baumeister and Leary, 1995) by providing empirical evidence that SOB enables C2C co-creation behaviors in the online health community. Overall, the study is unique compared to earlier studies (e.g., He et al., 2021; Cao et al., 2022) that focussed only on the direct relationship between social capital and value co-creation. Also, the study expands the limited perspective (like the ethical or social support angle) used in earlier studies to understand the value co-creation (Latif et al., 2022). The study does so by adapting the broader social capital lens. Lastly, the study contributes to the scant literature on the outcome of value co-creation and confirms a positive relationship between C2C co-creation behaviors and individuals' subjective well-being. Thus, integrating the above findings, the present study contributes to knowledge on antecedents of C2C co-creation on one side (i.e., SC-SOB-VCC) and the consequences of C2C co-creation on the other side (i.e., VCC-SWB) through a novel conceptual framework (figure 5.1).

5.8 Managerial Implications

The study highlights that social capital elements like trust, familiarity, and perceived similarity play a significant role in infusing a sense of belongingness among online members in the virtual health community. Thus, social media managers interested in individuals' healthy participation and belongingness towards their community could harness these factors. For example, managers could design the platforms to enhance the information credibility and community support perception, enhancing the interpersonal trust among members. Second, based on C2C co-creation

behaviors observed in the study, managers could take adequate steps to reinforce information sharing, responsible, and helping habits of community members. Since the study found that information sharing does not necessarily improve the well-being of individuals, despite its potential, practitioners should be cautious about negative information-sharing practices (e.g., drug prescription and medical brand endorsements) and alert the participants of their longer stay in online space. Such caution may also help to the value of co-destruction possibilities in the online community.

5.9 Limitations and future research directions

The study has a few limitations that can carve new directions for future work. *First*, the study is confined to a single chronic disease, i.e., diabetes. Future work should test the results in the context of other chronic diseases (e.g., Cancer). *Second*, the present study focuses on an online population of a developing country, primarily from India. These results could be cross-checked in developed nations that are inherently more adaptive in online activities and differ on individualist-collectivist cultural scale. Third, the study looks at the role of social capital factors in the proposed model, highlighting the importance of the actor's social system. However, this social system might be influenced by a reservoir of the actor's psychological capital. Thus, future research could explore the moderating effect of psychological capital in the same model.

5.10 Summary

This chapter discuss the final study of the current project where the conceptual framework is established and tested using empirical data. In other words, it follows a quantitative approach contrary to study 1 and 2 where the data was qualitative in nature. Using the principle of social capital and the logic that value is always embedded in social context, the study explores patient-to-patient (C2C) value co-creation within social media health communities. It investigates the influence of online social capital factors on C2C value co-creation behaviors via the sense of belongingness. Here, the chapter elaborate upon the importance of member's belongingness towards other online members using the need to belong theory. The study proposes a relationship between SOB and social capital, and SOB and C2C value co-creation behaviour. Overall, the mediating effect of belongingness explains the underlying mechanism behind the social

capital and value co-creation relationship, which earlier studies ignored. The study also examines the influence of value co-creation on consumer's subjective wellbeing. Here, the study uses activity theory to posit that individuals' involved in positive co-creation activities like information sharing, sense of responsibility, and helping others in the online space experiences a high state of wellbeing. The chapter talks about relevant inclusion and exclusion criteria used to select the final sample of Facebook diabetic health communities. It relies on cross sectional data collected via online google form surveys. The study briefly explains about the sample size, measures used, pretesting, pilot test, and preprocessing of the data. Next, the chapter elucidate the two steps of structural equation modelling (SEM) technique, i.e., measurement model and structural model. The model fit indices were properly checked in both the stages. This co-variance-based SEM used in the study confirms that all the hypothesized relationships are significant except for one (i.e., H7: ISB-SWB). The results reflect that few paths were partially and few were fully mediated. Ultimately, the study adds knowledge to the existing customer domain of value co-creation by highlighting both the antecedents and consequences of C2C co-creation. The chapter concludes with theoretical and practical implications. It suggests ways for social media managers to harness the virtual co-creative environment and improve individuals' well-being. Lastly, few limitations are discussed in the chapter like the study confines to single disease on online community and focus only on developing nation.

Chapter 6

General Discussion and Conclusion

The primary aim of this thesis was to understand the customer's value co-creation in healthcare context through a combination of qualitative and quantitative studies. The context is important because Healthcare services and information are considered high on credence factor where trust, reliability and long-term outcome experiences are critical for the customers. The study relies on customer-dominant logic as a philosophical foundation and other seminal principles of service-dominant logic, such as resources integration, value-in-use or value-in-experience, and customer sphere of value co-creation. The project observed C2C value co-creation among two unique kinds of healthcare contexts in separate studies. First, the diabetic consumers in social media health communities (study 1 & 3) and second, the Covid19 survivors (considered as limonoids) under vulnerable situations (i.e., study 2). The present chapter aims to discuss the project's key findings and provide an overall summary by highlighting the important theoretical and managerial implications. Since each of the three studies have its own discussion and implication sections, this chapter summarizes only the key findings and implications concisely. The chapter concludes with important limitations and relevant directions for future research.

6.1 Summary and discussion of key findings

6.1.1 Study 1 key findings and discussion

Study 1 was motivated by emerging research acclamations that value co-creation exists even beyond the provider-customer dyad (Finsterwalder and Kuppelwieser, 2020a; Uhrich, 2014; Virlée et al., 2020a) and a lot of resource sharing takes place among consumer network within virtual space (De Martino et al., 2017; Zhao et al., 2015; Shirazi et al., 2021). Thus, the study tries to answer the key question, i.e., what kind of C2C value co-creation practices are enacted by health consumers on social media spaces? In response to the above question, the study identified thirteen unique value co-creation practices that were enacted by diabetic health consumers on online platforms (FB & YT). These practices are identified using social practice theory

when health consumers are involved in various types of co-creative actions guided by online community norms. This particular study uses the unobstructed natural online ethnographic method, i.e., Netnography, which has emerged as the most relevant method to learn about consumers within a virtual setting. The initial findings suggest that C2C practices were of varied nature, and some of them were contrasted with each other. The practices were structured into four quadrants based on two types of variations, i.e., value co-creation to co-destruction practices and active style of value co-creation to passive value co-creation style. This 2x2 typology of C2C practices identified in this work provides a better understanding of the pattern of resource integration and how this pattern helps or hinders co-creation. Talking specifically about each practice, few practices were consistent with earlier practices observed in VCC studies, like advising, sharing experiences, seeking information, and helping. Few practices, like confession, benchmarking, spiritual support seeking/offering, confounding, and collective knowledge creation, were identified as unique practices as they were rarely observed by researchers in other contexts. Overall, the study contributes to the customer sphere of value co-creation, emphasizing the importance of C2C activities within the consumer ecosystem. There are several studies that explore B2C value co-creation but studies on C2C value co-creation largely remain at the conceptual level. Thus, this is one of the early studies empirically confirming C2C value co-creation using the evolving customer-dominant logic.

6.1.2 Study 2 key findings and discussion

Study 2 of this project tried to understand the health consumers' value co-creation in a different setting, i.e., Covid19 health crisis. This study was designed as per the need and opportunity of that situation and an opportunity that represented a liminal time. During this liminal time of Covid19, actors experienced more resource challenges and a compelling pressure to co-create with each other (for their survival) due to Covid-led global disruptions. Liminal space is simply characterized by difficulty in accessing, mobilizing, and integrating the resources; therefore, the study focused on identifying the types of 'consumer resources' along with the unique co-creation practices when consumers encounter vulnerability. Thus, this study confirms the application of vulnerability within services marketing and, more specifically, within transformative

services. The study initially tried to answer what factors have contributed to the vulnerability of healthcare consumers during covid19 pandemic. Answering this question, the study suggested that a variety of individual and situational factors are responsible for inducing vulnerability among Covid19 survivors. Next, the study suggested that consumers overcome the covid19 induced vulnerabilities using a few broad categories of operant resources classified under four categories, psychological, social, cultural, and technology. For this, the study adopted the natural 'Netnographic' method, where the user-generated content is analysed using a hermeneutic phenomenological approach.

Contrary to earlier work (Johns & Davey, 2019; Kim, 2019), this study confirms that vulnerability does not always hinder co-creation; instead, it also triggers the actors to utilize the latent resources and realize wellbeing effectively. Also, the study observes 'technology' as a critical operant resource helping consumers in their covid19 recovery, which otherwise was mostly recognized as an operand resource in the literature. This is consistent with recent literature that confirms the dual role of information technology i.e., as operant and operand resource (Hsiao, 2022; Akaka & Vargo, 2014). Additionally, since the study focuses on consumers' resource integration efforts during overall recovery journey, it considers few B2C interactions as well. However, the primary focus remains on C2C interactions only. The study adds knowledge to consumer operant resources and their role in value co-creation during liminal situation.

6.1.3 Study 3 key findings and discussion

Study 3 somewhat extends the observations made in Study 1 via an empirical approach. The findings of study 1 provides a hint that many of the C2C value co-creation practices are influenced by the consumer's surrounding social network in which they are embedded. In line with our findings, recent studies have also emphasized the importance of actors' social embeddedness in value co-creation (Wajid et al., 2019; Laud and Karpen, 2017). Thus, study 3 adopted the social capital perspective to understand C2C value co-creation. The study is extended to capture a complete picture of value co-creation behavior along with its antecedents and outcomes in the C2C context. Here, the focus largely remained on contribution-centric behavior where one actor develops a sense of responsibility to contribute toward other connected actors in the given space. The study also enriches the understanding of C2C value co-creation by

explaining the underlying mechanisms of how consumers' online social capital affects their C2C co-creation behavior. For this, the study introduced the concept of sense of belongingness and hypothesized its relationship with social capital and value co-creation behavior. Three key aspects of social capital, i.e., trust, similarity, and perceived familiarity, which are unique to the social media health community are taken up for this study. The study specifically questions how health consumers' online social capital affects C2C co-creation behavior indirectly via a sense of belongingness. Answering to above question, the study found that all the three social capital dimensions have shown a significant positive influence on the sense of belongingness, which in turn positively affects health consumers' value co-creation behaviors. Apart from confirming such mediating effect, the study also examined the impact of value co-creation behavior on actors' subjective wellbeing. This broadens the research on outcomes of value co-creation, which is still in its infancy (Carvalho & Alves, 2023). The study observed that the first two C2C co-creation behaviors (i.e., responsible and helping behavior) positively affects consumer wellbeing, while the third C2C co-creation behaviour (i.e., information sharing behaviour) does not show any significant influence. The project properly explains the reasons for such anomaly (see Chapter 5 discussion section). The study relies on online survey data sourced via Facebook health community. The data was analysed using a covariance-based structural equation modelling technique. Overall, the study adds knowledge to C2C value co-creation by offering insights into both the antecedents and consequences of C2C value co-creation. Also, this is one of the early studies within the transformative healthcare area that empirically model C2C co-creation behavior which otherwise remained at the conceptual level discussions. Also, the majority of the VCC studies exploring the virtual settings concentrate on technical traits (i.e., platform characteristics). The human perspective in online space were not given due attention. This study adds knowledge of human perspective in the online space by linking ‘online social capital’ to value co-creation.

6.2 Overall theoretical implications

The study largely contributes to transformative service research in healthcare, where cocreation plays a critical role. (Pham et al., 2022; Chatmi et al., 2023; Osborne, 2018; Osei-Frimpong et al., 2017; Hardyman, 2015; McColl Kennedy et al., 2012). These researchers observed that health customers have started playing an active role in

disease management and harnessing their resources in B2C health service encounters. The current study narrowed down the focus and explores the consumer's co-creation with similar actors in the customer sphere, i.e., within C2C interactions. Thus, the project adds value to existing knowledge on value co-creation in healthcare from the customer perspective through several important ways.

First, the current study overcome existing studies' limitations (Osei-Frimpong et al., 2015; McColl-Kennedy et al., 2012; Rihova et al., 2015; Virlée et al., 2020b) that primarily focus only on provider-customer co-creation by extending the VCC research focus from a joint sphere (B2C) to customer-to-customer (C2C) co-creation, and healthcare has offered an ideal context to add knowledge in this direction. the Second, the study highlights the possibility that value could be co-destroyed irrespective of providers' best resource offerings, thus resulting into value co-destruction, (Kashif & Zarkada, 2015). Interestingly, the study infers that value co-destruction could be active or passive and positive or negative, and thus highlighting on the intentional role of the involved actors. Thus, the proposed VCC-VCD practices typology (Figure reference) simplified the complexity of value co-destruction and helped in reaffirming the duality of value co-creation. Third, the research helps to understand the importance of co-creation in a virtual setting, an area that is still emerging and not fully understood (Chou et al., 2016; Rodríguez-López, 2021; Rashid et al.,2019). The study highlighted how consumers involve themselves in C2C activities in the online environment and co-create voluntarily on a public platform. Some of the explicit voluntary practices observed in the study were helping others, advising, offering spirituality, and offering empathy. The study adds knowledge about how patient communities evolved as C2C value co-creation platforms, and does it facilitate the resource dynamics for co-creation.

The study adds to the body of knowledge related to consumer social practices within C2C communities. Earlier studies explored co-creation practices among brand communities, sports communities, and tourist groups. Notably, there has been limited exploration of co-creation practices in the healthcare sector in the online health community. Thus, the findings of the study contribute in this direction. The research also complements the existing knowledge on the systemic nature of consumer co-creation by highlighting the ‘value in social context’ within the online consumer ecosystem. Here, patients' friends, family, and online acquaintances, along with fellow patients in the online community, represent the social context of consumers within the

social media community. In a way, it broadens the existing knowledge on service ecosystems, which largely looks at co-created value from the provider's lens, ignoring the idiosyncratic role of customers and their whole value creating network. Next, the study extends the boundaries of customer dominant logic by elucidating the consumer's day-to-day co-creation practices within high-involvement healthcare settings. Most of the consumer's online co-creative practices are independent in nature and least influenced by the medical service providers present in the offline system. Further, the study observes various types of spiritual support activities enacted by health consumers within C2C interactions. This contributes to a better understanding of the transcendent nature of co-created value. Lastly, there were hints in existing studies that resources are socially constructed and exploited more effectively when mobilized collectively by social actors (Laud et al., 2017). This research gives testament to such an argument by empirically confirming that health consumers and their companions in the immediate social network jointly integrate the resources, realizing value. Lastly, the framework proposed in the study could simplify the typology of value co-creation. It may help to connect the two different ends of co-creation, i.e., the positive and negative ends represented by value co-creation and value co-destruction, respectively.

Study two of this project adds more insight to the findings by extending the study on Covid19 survivors in the context of vulnerability during liminal situations (Sebastiani & Anzivino, 2021; Cheung & McColl-Kennedy, 2015). The study unfolds various type of vulnerabilities that health consumers experience during the liminal time of covid19 pandemic, and the resource integration practices that they used to overcome it to realize wellbeing. Thus, consumer vulnerability perspective in value co-creation research, which was overlooked for long (Kim, 2019; Min et al., 2022; Sharma et al., 2017) has been addressed in detail. This importance of studying vulnerability makes more sense in asymmetric service areas like healthcare. Second, the study contributes to a better understanding of the role of resources in value co-creation in liminal times. Thus, it adds to the limited knowledge of co-creative resource integration under liminality and within liminal studies (Chatterjee et al., 2022; Ratten, 2022; Sharma, 2021). The study highlighted that consumers draw upon various operant resources sourced from their immediate social surroundings and harness them to realize wellbeing during uncertain times.

Next, the study highlights the importance of social value co-creation by elaborating on the cohesive efforts of COVID-19 survivors to overcome distress and realize wellbeing. It reflects the environment of 'care for each other' within healthcare settings. Patients are found helping other actors go beyond their own self-interest and personal health goals. Here, various types of social support resource exchange are observed occuring among actors, which contributes to the literature on social support in healthcare. Spirituality and empathy emerge as unique support resources within a liminal healthcare setting. The study also observes the positive role of technology, especially as an operant resource. It has been found that ICT platforms and associated technology (like geospatial features, navigation support, robot technology) help the covid19 survivors in early detection, prevention, and control of pandemic induced vulnerabilities. Thus, the study adds value to vulnerability and assistive technology literature. The study findings also have strong implications on the dark side of ICT literature as it talks about social media panic during covid19. This implies that if social media is not managed positively it can result in negative consequences for health consumers and the healthcare system as well. Finally, based on the overall understanding generated through the study, a framework is proposed. This framework represents the factors inducing vulnerability and the resources combatting those vulnerabilities. This framework could be used by both marketing (in-general) and transformative services (in-specific) researchers to probe deeper into VCC during liminal time.The third study of the current project investigated the functional role of social capital into C2C value co-creation behaviour to map the underlying mechanism of the cocreation process and its impact. Social capital component helped to understand the social layers beneath C2C value co-creation (Rihova et al., 2013). The tri-component social capital framework representing structural, cognitive, and relational dimensions have offered a reasonable theoretical antecedent of VCC in healthcare context. For example, trust between consumers explains intra-group value co-creation. The project specifically looked at how the consumers' online social capital affects their sense of belongingness, affecting their C2C co-creation behavior. Thus, the sense of belongingness explains the mediating mechanism behind the social capital—value co-creation relationship which contributes to the scant knowledge of how value co-creation unfolds (Keeling et al., 2021; Saarijärvi, 2012; Zhang & Chen, 2008). Additionally, the study contributes to the limited knowledge on outcomes of value co-creation (Shulga & Busser, 2021; Fusco et al., 2023; Bianchi, 2021). The project observed that online

members' C2C value co-creation behavior positively affects their subjective well-being. Thus, it helps to understand the consumer's positive externalities in healthcare.

Overall, the study challenged the conventional perspective that consumers play a passive role in healthcare service processes, uncovers the actors' social embeddedness by linking it to social capital, and projected the impact of co-creation onto wellbeing dimensions. The study empirically contributes to the knowledge of the platform based C2C co-creation in the transformative healthcare research. Further, the social capital perspective attempted to add contextual insights on how value embedded in social experiences facilitates value realization, as emphasized in VCC literature (Edvardsson et al., 2011; Laud & Karpen, 2017). Next, the exploration of value co-creation during the pandemic emphasizes how health consumers or citizens in general co-create public value (i.e., an extended form of social value or value by citizen for citizen), thereby reducing the susceptibility to diseases and improving resilience. Thus, the study also offers peripheral insights to resilience theory and its future application to understand cocreation in vulnerability contexts. Lastly, the study has substantial implications for marketing concepts closely related to value co-creation, like consumer engagement, collaborative value creation, and joint service experiences. All these concepts were centred around active customer involvement and resource contributions. Also, the study garner empirical evidence on the role of VCC for patient empowerment, patient engagement, and patient activation which are the concepts growing in parallel, within the medical literature.

6.3 Overall managerial implications

The project findings have strong implications for managers, health practitioners, and policymakers. Firstly, the adopting of C2C perspective helps the service providers understand the true dynamics of consumer value co-creation in healthcare, which falls beyond the 'line of visibility'. In other words, healthcare providers could better understand how the consumer community co-consumes the service value offered in the medical service encounters in a space away from the doctor-patient interaction. For example, doctors could understand how the simple information shared in the consulting room is transformed (simplified or distorted) during patient-to-patient interactions.

More specifically, the study benefits key account managers handling health consumer (patient) engagement in social media health platforms. For example, some big diabetic players like Novo Nordisk and Sanofi-Aventis own a social media page or group where they regularly observe the patients, their daily activities, and posting habits. Such an online observation helps them to judge the patient's resource interaction pattern and their expectations from fellow consumers or drug companies. A large amount of online user-generated content analyzed in this project further offers insights to the social media managers as if how to look at the cocreation dynamics on social media platforms. Further, the study observed various value co-creation practices, including positive and negative ones. A clear understanding of such consumer activities could help managers predict the roles that online members could play in social media platforms. Policies and guidelines may further be designed for online platforms which can safeguard against any negative outcome or potential value co-destruction.

Next, the study highlighted that the social context in which online members are embedded directly affects their belongingness to the community. Using the social capital lens, the study helped the managers understand what drives or induces patients' belongingness towards other online patients. This could help them design a better online environment conducive to C2C resource sharing and healthy patient participation. Also, the study observed a link between members' belongingness and co-creation behaviours. This gives managers first-hand information on how the attachment among online members harnesses their tendency to contribute knowledge in the virtual community and help other actors. Lastly, empirical evidence of a positive relationship between C2C value co-creation behaviours and consumer subjective wellbeing could help the community managers plan a better strategy to realize patient wellbeing via online social support. The social capital approach adopted in the study also suggests that consumers' social capital is the key resource to facilitate C2C value co-creation in an online platform. Thus, platform-based policies should be designed to promote interpersonal trust, more social networking opportunities, and easier information sharing among patients.

Lastly, the study has implications for hospital administrators or practitioners involved in developing or managing the patient-centric healthcare processes in their health institutions. The dynamics of patient active participation and their continuous value co-creation efforts learned in this project could guide hospitals on how to foster a

systemic value co-creation in healthcare, i.e., to inform the B2C (doctor-patient) interactions about C2C co-creative interactions (Meynhardt et al., 2016). Hospital administrators could take the hint from this work and design their IT platform to allow patient-to-patient (P2P) interaction and, at the same time, have control over P2P sharing to discourage the potential VCD (value co-destruction) behaviour. This is because VCD in health not only create negative health outcomes for the patients, but also negatively influences the brand value of the healthcare institutions.

The study has strong implications for end consumers, i.e., patients in our case. Patients can learn how to access resources which are not readily accessible in B2C (or doctor to patient) healthcare interactions. The resources sourced via C2C networks are empathy, spirituality, non-medical doubts, over-the-counter drug information, etc which can help patients learn about the right strategies to enhance their quality of (health) life. The study could significantly help chronic patients who want to take more responsibility for their health and reduce their dependency on medical practitioners. It is because the online communities frequently talk about alternative therapy treatments, that help patients who want to switch to complementary and alternative medicine (CAM) from conventional medicine.

Studying value co-creation during liminal situation (Covid19) revealed that limonoids (Covid19 survivors) integrate a variety of operant resources to overcome their vulnerabilities and co-create value to realize well-being. Understanding operant resource usage could help hospital service providers or government bodies design a better, resourceful healthcare system. Such a system is capable of harnessing consumer operant resources against any pandemic-induced vulnerabilities. In a way, the study could guide the development of a resilience plan for the recurrence of pandemic situations as it happened during multiple Covid19 waves. The study found that consumers creatively use social media technology as a dependable resource during uncertain times. Thus, ICT policymakers may enlarge the scope of health 2.0 system to cover more vulnerable sections for a better resource accessibility and mutual sharing. (Van De Belt et al., 2010).

The study findings also suggests that these platforms must mitigate the harms that emerged as by-products of online C2C interactions, like misinformation, self-medication, and fear-mongering, etc. which pose a risk of VCD or negative cocreation outcomes. Such mitigation practices could help the stakeholders involved in emergency

management (Velotti & Murphy, 2020). The study findings hinted that despite continuous efforts from medical service providers, social support sourced via the informal network (other patients, family members, friends, neighbours) remains the top priority of limonoids. Policymakers can use this information to strengthen the informal social networks. They can look into possible ways to involve patients' informal social networks in preparedness against the crisis. The study hinted that patient had lesser trust in formal medical systems during the crisis and depended more on social resources. Thus, future policies could be designed such that patients do not lose trust in healthcare systems and stay connected to co-create with the accessible service providers. In other words, the study has implications for different situations where health consumers experience similar vulnerabilities and directly or indirectly harness their resources to overcome them.

6.4 Research Limitations and Directions for future research

The study suffers from certain limitations. Some of these limitations could act as a guiding torch for future research. First, the research was limited to a single type of health consumer, i.e., diabetic patients. Although diabetes is one of the major reasons for death under non-communicable chronic disease category, the study can be extended to other diseases categories (including comorbid conditions), such as cardiac diseases, strokes, and Chronic obstructive pulmonary disease (COPD), etc., which are equally responsible for worldwide death and needs urgent attention (WHO Health estimates, 2020). Second, there is a scope of a comparative study across online and offline environments to study how cocreation occurs in and how cocreation outcomes are transferred from online to offline setting or vice-versa (Bhatti et al., 2021). Third, the study confines to the population of a developing nation i.e., India which has its own sociocultural characteristics that determines the resourcefulness of available social capital. Additionally, the health infrastructure also makes a difference in terms of how an individual access the healthcare platforms and resources. Therefore, other developing countries may also be studied to check for the generalization of findings. Future research could replicate the same project in developed nations to check for possible differences in C2C value co-creation behaviors and their impact on patient wellbeing. Fourth, the empirical model tested in the project (within study 3) focuses on subjective wellbeing an outcome from customer’s perspective. Future research may check how C2C value

co-creation behavior affect important outcomes directly relevant to firms, like word of mouth, consumer satisfaction, and revisit intention toward firm-managed virtual health communities. Fifth, the study largely focuses on positive value co-creation practices except for a few resources' mis-integration activities observed in the study one. Thus, future research could explore a range of value co-destruction practices, enacted intentionally or non-intentionally by health consumers.

Sixth, the study 2 highlights a variety of operant resources accessed to overcome vulnerability in the liminal context. However, some of these resources may be embedded in each other, or in other unexplored resources. For example, actors' psychological resource may be embedded into their physical resources (Arnould et al., 2006). Therefore, future research could explore the role of hybrid interconnected resources in consumers' resilience journey. Seventh, study two of this project uses only user-generated content published on Indian platforms (print media, YouTube channels, and other social platforms from India). Future research could be based on worldwide data and extend the work's generalizability. Study two uses the context of a single healthcare crisis, i.e., covid19. Future studies could explore the same event in multiple health or non-healthcare crises. Earthquakes, floods, road accidents, terminal illnesses, hospice care, geopolitical conflicts, and economic turmoil are a few such examples. Eighth, study two of this project only ends with proposing the conceptual framework that integrates consumer vulnerability with consumer resource integration. Thus, it leaves the scope to test the proposed model using an empirical approach. Overall, the study talks about several limitations. However, as elaborated above, the author considers these limitations as promising future research directions.

Apart from the above-cited limitations acting as future directions, the study offers a few more important research directions. First, future work can concentrate on personal factors that affect C2C value co-creation practices, like individual personality, co-creation ability, and motivation to co-create. Second, the researchers could explore the value co-creation practices from a collectivist lens, i.e., assuming co-creation to be an inter-group activity instead of a dyadic or triadic activity. Third, researchers can explore the influence of psychological capital along with social capital in the present empirical model (within Study 3). Psychological capital can be tested in different roles, such as antecedent or moderator. Fourth, the well-being dimension can be explored from the dual lenses of the eudemonic and hedonic well-being perspective in the same model (proposed in Study 3).

Despite the limitations cited above, the project offers both depth and breadth to existing knowledge of value co-creation in healthcare. The findings of the study could also be extrapolated to other transformative service areas which has traits like healthcare services. Financial services and Transport services aimed at upliftment of consumer wellbeing are two such examples. Lastly, the implications discussed in the project holds significant value for policymakers, health practitioners, and patient stakeholders. Overall, the study constitutes a starting point to explore the true dynamics of C2C value co-creation in healthcare.

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Appendix

Appendix 1: CODE BOOK (Lower-level to higher-level codes, code instances, and final themes)

1st order codes (Open codes)	2nd order codes (Axial codes)	Instances of 2nd order axial codes	3rd order codes (Selective codes)	Total instances of Final themes
Seeking purpose in life	Seeking spirituality	21	Seeking and offering spiritual support	37
Trying to experience faith in God				
Developing tolerance and mental preparedness				
Sharing the phenomenological (self-created) meaning of life	Offering spirituality	16		
Engage in religious activities				
Trying to seek other's attention	Self-victimizing	33	Seeking and offering empathy	57
Crying for help or emotional support				
Expressing problems in detail				
Keep oneself in other's shoes	Offering empathy	24		
Representing affective ties				
Other's centered communication (self-sensitization for other's sufferings)				
Depict tacit understanding	Situated learning	20	Collective Knowledge creation	36
Re-created synthesized knowledge				
Virality of information	Disseminated knowledge	16		
Sharing of artifacts, symbols, stories				
Exchanging prevention/cure-related healthcare information	Sharing of information	44	Sharing	122
Sharing medical health records				
Discussing healthcare gadgets and know-how of supportive devices				
Telling a personal story about recovery or disease	Sharing of personal journey & experiences	38		
Talking about the day-to-day routine				
Reciprocating emotions	Sharing of	40		

	Emotions			
Accepting mistakes	Disclosure	17	Confessing	31
Telling truth				
Affirm faith in personal criticism/negative qualities	Taking responsibility	14		
Expressing own guilt				
Verifying facts	Validation	32	Validation seeking	54
Confirming the accurate use of diagnosing tools (like glucometer)				
Confirming if you/I feel the same				
Asking doubts related to food, drugs, exercise, and lifestyle	Doubt clearing	22		
Offering positive affirmations for joint efforts	Expressing harmony in the group	14	Complimenting & Personalizing	72
Respecting others as collectives (a group of individuals or institutions)				
Admiring others and expressing it explicitly	Appreciating	19		
Congratulating individuals				
Sending welcome greetings & customized messages	Welcoming	28		
Interacting with newcomers or lurkers				
Sharing/ asking for personal data (medical records, phone number, etc.)	Trying to intimate or cross privacy barriers	11		
Diagnosing others or helping them to judge their symptoms	Prescription episode	25	Advising	41
Suggesting pills or substituting drugs				
Discussing meal plan (pros and cons)	Counseling	16		
Frequently advises on lifestyle changes, exercise, and precautions				
Giving tips regarding alternative treatment therapies				
Advertising brands	Promoting brands and information	30	Endorsing	48
Giving testimony for online channels and content				
Approving others or their opinion		18		

Spreading positive WOM about certain actors and institutions	Public approval of person/institution			
Discussing hobbies and common goals	Showing Relatedness	33	Relating & Comparing	40
Experiencing congruence in the treatment journey (via experience formation, both first- and second-hand experience)				
Differentiating oneself from others to feel superior	Positive comparison	15		58
Drawing analogy for self-satisfaction and self-understanding				
Feeling envy of others (due to their better health vitals)	Negative comparison	10		
Feeling less privileged (due to negative appraisal of own situation)				
Specifying the rules and norms (for so-called healthy habits)	Setting informal standards	18	Benchmarking	42
Guiding real usage of technology (health apps and platforms)				
Creating a reference point for measuring and interpreting health vitals	Guiding the assessment parameters	24		
Discussing the right indicator of credence check-in services				
Not agreeing with others	Contradicting/not agree	17	Confounding	33
Doing critical evaluation				
Confusing others (explicitly or implicitly)	Trying to misinterpret	16		
Surprising others (explicitly or implicitly)				
Exciting someone to argue	Triggering a debate	14	Poking	36
Giving opening statement for the debate				
Presenting contradictory facts or information				
Disrespecting others	Playing with words and emotions	22		
Asking irrelevant or out-of-context questions				
Blaming others				
65 Open codes	**30 Axial codes**	**667 instances**	**13 Selective Themes**	**667 instances**

Appendix 2: Complete Journey from Data scrapping to Data coding and Theme Generation

1. Anyone on vildagliptin+ metformin??

I have been shifted to this combination . My previous combination of Sitagliptin was

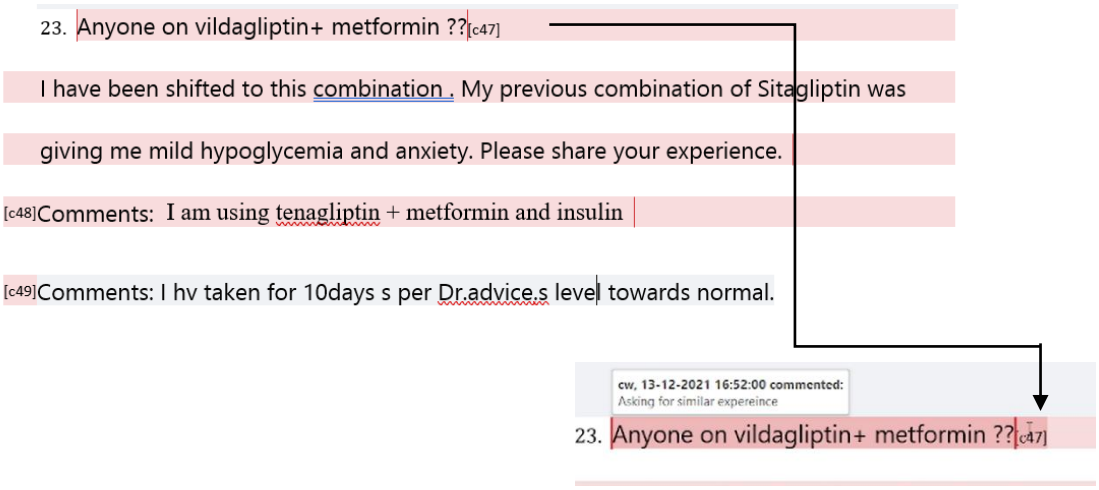
giving me mild hypoglycemia and anxiety. Please share your experience.

Comments:

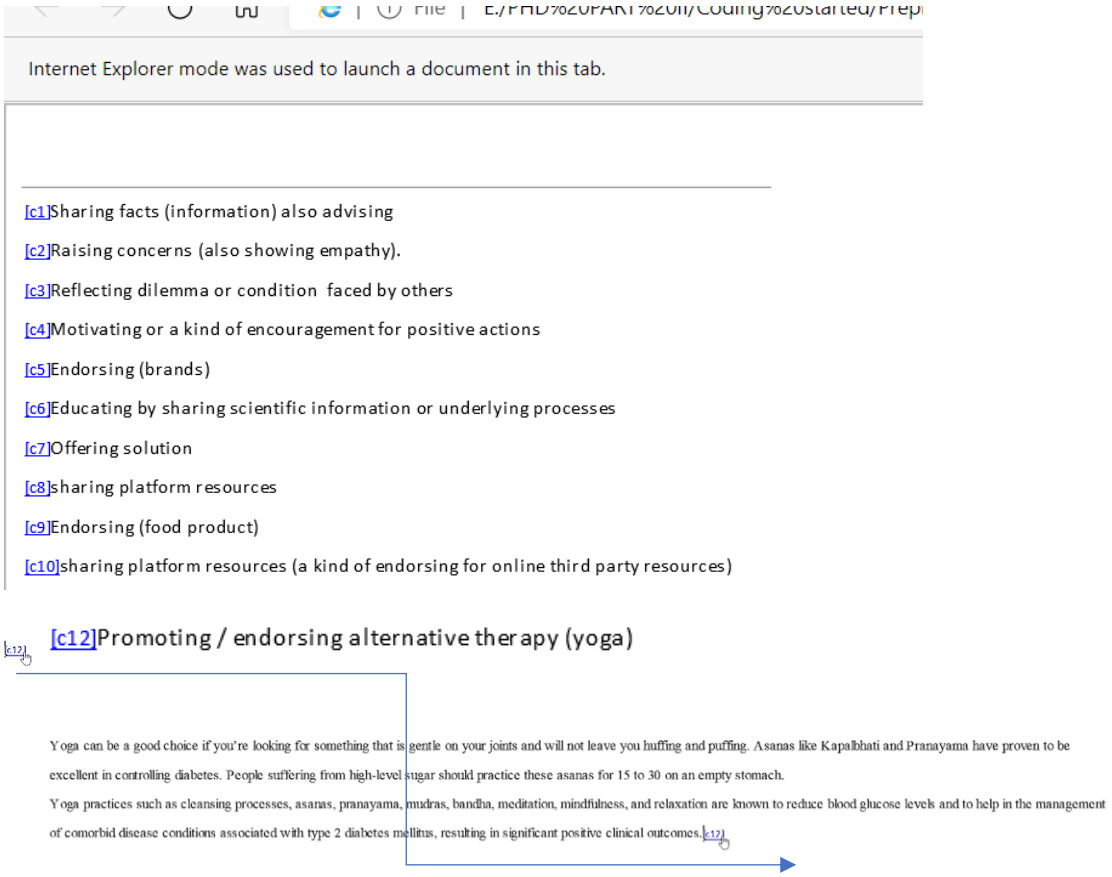
1. I am using tenagliptin + metformin and insulin

2. I hv taken for 10days s per Dr.advice.s level towards normal.

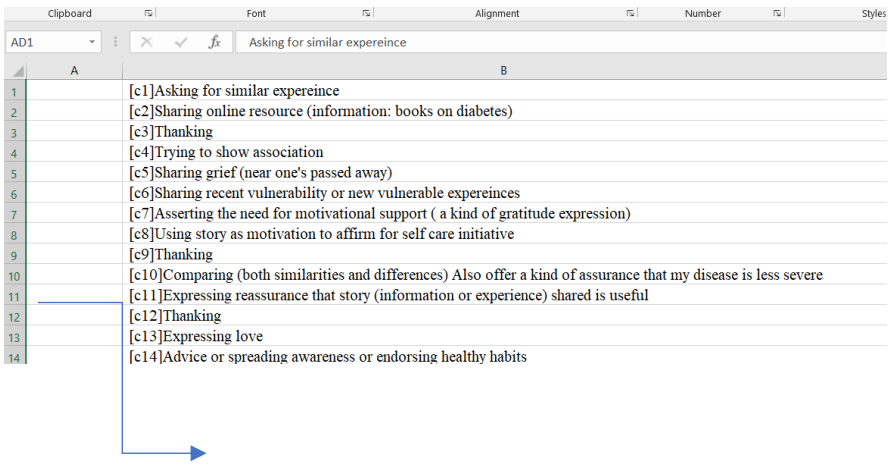
Step 1: Segmenting of the data unit (i.e., FB message) into different smaller parts (groups of words or short sentences using different colors) based on differences in meaning



Step 2: Coding data segments (short sentences) using the comment feature of MS word. When hovered upon, the corresponding comment number depicts the short label (name) assigned to the numbered comment.



Step 3: Extraction of all the codes using a web-based comment extraction feature which helps group codes and moves back and forth between text and codes with a single click. See the bottom part of the figure, which displays how clicking on the C12 comment displays the complete text linked to the corresponding comment. *To understand this method, refer to https://www.datanumen.com/blogs/3-effective-methods-extract-comments-word-document/*



	A	B	D	E
12				
13				**Grouping of codes based on similarity**
14				Thanking on others behalf (showing collectives)
15				Thanking
16				Gratitude
17				Expressing love
18				Appreciate on achievement
19				Appreciating
20				Complementing
21				Congratulating

	A	B	C	D	E
1			Main activities		Excerpts number
2		DOU	**Asking/clearing doubts**		C68, C95, C114,
3					
4		ADV	**Advising**		C44, C35, C61, C96, C111
5					
6		END	**Endorsing**		C5, C9, C12, C16, C87, C88, C113
7					

Step 4: Extracted codes transfer to excel where it grouped (based on similarity) into related activities and mapped to corresponding text (with as many numbers where the supportive meaning is evident). This helps in finding codes across the data.

1st order codes	**2nd order codes**	**3rd order codes**
Exchanging prevention/cure related healthcare information	Sharing of information	Sharing
Sharing medical health records		
Discussing about healthcare gadgets and know how of supportive devices		
Telling personal story about recovery or disease	Sharing of personal journey & experiences	
Talking about day to day routine		
Reciprocating emotions	Sharing of emotions	

Step 5: Moving from first order to 2nd order to higher 3rd order codes resulting in final candidate theme in study.

Sharing:

- *"There is a global epidemic of obesity with prevalence as high as 30 to 40% in a few regions. In India, approximately 139 million people are obese (INDIAB study). Obesity impairs quality of life and reduces life expectancy. All the effects and complications of obesity appear at a lower body weight and a younger age in Indians as compared to the west.For more details about Diabetes Weight Loss visit: https://[c117] .....com/patient-care/weight-loss/"*

Sharing platform resources

- *"Do you or anyone in your family is struggling with Type 2 Diabetes? [c1] I highly suggest these two books (link in description) for some really great information [c2] on Whole Food Plant-based diet".*

Sharing information

- Hlo brother I am from Nepal. Now I am in qatar 4 months ago I got 224 fasting blood sugar[c74] . My doctor told me..... Than after that day star I control my diet no sugar, no white rice, no fasting food. Every early morning I drink fenugreek water and also chew fenugreek and go for morning walk than do 45 min gym. Eat 1 time brown rice, 1 time..... [c75]

Sharing personal journey or experiences

Step 6: Mapping each co-creation activity theme to corresponding excerpts linked to lower order codes where special tags are used to remember minute differences in lower-level codes. For example, the above sharing theme is considered centrally reflected within three lower codes i.e., platform resource sharing, informational resource, and sharing of experiences.

Appendix 3: Identified C2C co-creation practice with sample illustrative excerpts

C2C co-creation practice and Descriptors	Illustrative Excerpts
Seeking & providing empathy Providing empathy: truly understanding what other person is going through via experiencing within their frame of reference (i.e., putting oneself into other's shoes) Seeking empathy: a person's request to understand his situation (from his perspective), i.e., asking for empathy	• *Im a diabetes 2 for 15 years.dont see any progessing..csn i still reseve my diabetes within 3 - 6 months. Help me please..my BG id mostly 23-30..im want to live for my family.* • *I'm diabetic since 23 now 55 and always have high values. I dono what I will do.. I always feel tired canot do my work fastly.. I cried alot myslf.. I tuk so mny diabetic tabs and living.* • *Just been diagnosed with type 2 diabetes and I'm terrified. Plzz help* **Seeking Empathy** • *Yu don't have to explain wht yu r going through or what u r feeling. Being a type2 diab for long, I can sense it all. Many times we feel like giving, we feel like its never going to be easy instead getting worse than before etc…But one thing yu hv to believe is in yourself and your relations. I am there with you. Whenever yu feel like crying wheever yu need a shoulder I am there. We all love yu, no matter what yu say in anger or sorrow. Your sadness, anger, unhappiness everything makes sense to me.* **Offering empathy**
Seeking and providing spiritual support Providing spiritual support: help the person realize meaning in life, experience peace, eradicate the fear of death or loss of faith Seeking spiritual support: a person's request for help him understand the purpose of life and existential value, i.e., asking for spirituality	• *I jst wanna a share. Its been 2 weeks I' m here in hospital got admitted due to high BG. Undergoign serious treatments. My husband, son, everyone is worried. But I am very clear. I do no expect that everything will be fine, Instead I just wann a gain strength to face my sufferings. My believe in God has increased many times. I see God everywhere, in those caring nurses, in my grandchildren sitting next to me. Their smiling faces calm my anxiety. I need many such faces near me.* • *I heard from people that Reiki can cure or even reverse diabetes. Is it true? I just want to try it once. Is there anyone who knows about reiki, what it is? how to practice it? Is it safe? I don know is it some sort of black magic?* **Seeking spirituality** • *Earlier even I use to cry a lot, use to feel pity for myself. But then I realize I have many more years to go. I have to take a choice. I decided that I will not allow this pain overcome me. I know diabetes is just a part of my life but not my complete life. I think everybody needs to understand this.* • *I started doing daily prayers It works for me. It soothens my mind, my soul. Ultimately there is*

	something beyond science. When yu rely on God he will take care of yu. **Offering spirituality**
Sharing Exchange of facts & information, health experiences, diet schedule, daily routine, disease concerns, and emotions	• *Frnds, taking more and more antioxidant rich diet could help to reduce your enhanced B.sugar. Also, taking vitamin C and E could further enhance the positive effect of antioxidants. I have included it in my daily routine and surprisingly got good results as I am able to reduce my Hb1C from 7.9 to mere 6.2. I follow these utube channels (link .....) to learn about anti-oxidant diet* **Sharing Information** • *Hlo brother🙏 I am from Mumbai. Now I am in qatar 4 months ago I got 224 fasting blood sugar. My doctor told me..... Than after that day star I control my diet no sugar, no white rice, no fasting food. Every early morning, I drink fenugreek water and also chew fenugreek and go for morning walk than do 45 min gym. Eat 1-time brown rice, 1 time.....* **Sharing personal journey or experiences**
Collective knowledge creation Represents the group of members actively synthesizing the knowledge to create a pool of new knowledge which helps in co-skilling and transforming the collective intelligence of the community	• *It's always better to lift yr butt off the bench while doing benchpress* This comment is followed by two replies as mentioned below: ***(Reply 1):*** *I agree! But I also want to add that as long as yr feet is planked flat on the surface. Yu will not injure yr back.* ***(Reply 2):*** *Ppl r often confuse in between wht is right or wht is wrong exercise technique as there r many videos narrating same exercise with slightly different approaches. However, I learn from all of them that your body should be at comfort whtever style yu opt. If yu r not at ease, then there is some problem no matter even if u r following the expert technique. So juss listen to yr own body and enjoy the workout.* **Reflecting on collective knowledge creation**
Confessing Act of disclosing personal information or experiences with other members	• *I was devastated and desperate when I came across your video. I have not been following the diet 100% since I had to go on a vacation in between.* • *I had a fast for the whole day as it was an auspicious occasion (lord kartik birthday). Since, I ate only fruits and nuts whole day, I was feeling gud. However, I am feeling guity now as I ended up my fast with 4 aaloo parathas fried in desi ghee (high in carbo). N interstign thing is no one knows this in my family as i ate it after they sleep. Anyways if my husband wd have been awake he would have never allow me eat 4 parathas at once. Jst though of sharing wth u guys.* **Confessing**

Validation seeking Validation seeking: actor's request to help in understanding the truth or validating the required information, idea, or experience, thereby resolving the doubt and authenticating the credibility of a particular fact or message	• *But didn't eating a whole food plant base diet cause your blood sugars to constantly go up and down? Great job!* 👍 • *I just found out I was type 2 but the doctor said to me my A1c was 5.8 he told me the normal is 4.8 I don't understand what does this means because u said the prediabetes was 5.8 maybe they measure the A1c differently* ❓❓ • *Can u pls opine on that. Is it important to go wdout oil.in cooking food or little amount z acceptable".* Reflecting Validation Seeking
Complimenting & personalizing Complimenting: saying positive things about others, especially to admire, encourage, and appraise them Personalizing: showing interest in someone or their activities reflected through informal greetings, frequent talks, and close ties.	• *Your suggestions work like wonders, I' m indeed thankful to u. Yu r doing great social help. Keep helping the ppl like this and share many more info about lifestyle, healthy eating, and do's n don't' for diabetic sufferers* 👏👏👏 *!!!* • *Madam, your thoughts are beautiful like u. No one talks about food and precautions these days. Everyone tries to sell their products or endorse their brands on youtube on the name of diabetes reversal. Thanks for showing us the right path.* • *Can we have group chat. Members who agree plz drop the message. If atleast 10 ppl agrees we will start our googlegroup where we start with our daily diabetes goals. m waiting 4 yr replies frnds.* • *Great Brother, m from ..... (address) India.* **Reflecting personalizing with compliments**
Advising & Endorsing Advising: giving suggestions or offering ideas for useful action Endorsing: public approval of some product, person, or institution	• *Ayurvedic drugs are helpful only if u stop consuming three things. 1. Alcohol 2. Non-veg and 3. Intense allopathic formulations. I hope I'm clear.* . **Advise on medical therapy** • *You need a "Sota magnetic pulser" to pulse all those skin issue areas Pulsar will kill that fungus mold and yeast that's embedded in your skin. God Bless* 😘 **Advise on medical devices** • *Nuts are good but in limited quantity only. Excess of it can make your body extremely dry. Even it could results in high cholesterol which is indirectly harmful for diabetes. Also, few nuts like almonds are only beneficial in winters. In summers it cud create negative effect as they are inherently warm in nature.* **Advise on food habits** • *Sulisent is much better than Vildagliptin. But people often avoid it I think bcoz of price. Still I must say, given its potency it is worth spending 500 rupees on it.* **Reflecting diagnosis episode** • *Patanjali's Amla juice + Dried Karela powder with Madhugrit (2 tabs) twice a daily could lower yr PP sugar than any other allopathic drug. We tried it ourself. In my family 4 ppl my mom, my*

	father, me and my wife are diabetic. We all use it and are getting really gud results. **Reflecting endorsing**
Relating, comparing & benchmarking Relating: to associate with a person, event, or situation, thereby harnessing a sense of kinship Comparing: drawing analogy with something or someone for self-understanding or explanation to others Benchmarking: setting a standard or a reference value based on a comparison of health behaviors and social norms	• *I am on the same journey and the hardest part is to find the Gujarati recipes* 🌶️ *that contain No Sugar, Oil, or Salt (SOS).* **Relating first-hand experience** • *That was great of your wife for helping you reverse your diabetes I am trying to do the same for my partner he was recently diagnosed* ☝️ *and trying to stay informed because I don't want him to live a life of medications* **Relating at caregiver level (caregiver relating to another caregiver)** • *I was "lucky" I guess because my HGA1C results were 6.2%. But like you, it was self-inflicted. I found your video insightful, educational & reassuring. Thank you for the tip* 😊😊😊 • *My father suffers from diabetes and kidney failure and recently had an amputation. I am terrified to end up like him* 😢😢. **Reflecting Comparing** • *It's not the LDL or HDL value tht matters. Wht shd be watched carefully is LDL-HDL ratio. Professionals suggest ideal value of 0.5 to 2. but it depends on age also. So dnt worry if yu hv high LDL, yu r not going to hv heart attack unless yr ratio is seriously disturbed. Moreover, the goal shd be to remain active do aerobic exercise at-least 3 times a week or intense workout 2 times a week. Doing regular exercise can reduce yr LDL and increase yr HDL.* **Reflecting Benchmarking**
Confounding & poking Confounding: the act of disagreeing with others coupled with the intent to argue or surprise Poking: trying to intrude in between discussions, especially to trigger a debate, manipulate/defame others, and gain attention	• *I' m sorry but eating vinegar have lot of side-effects as well. It cud erode the enamel of yr teeth, cud create acidity, cud results in digestive problems, and cud even negatively affect the potassium levels in your body. So, don't fall in attraction that vinegar can reduce BG. It does bit with lot of side effects.* • *You've eliminated all milk products. So from where do you get your Vitamin D and Calcium?* **Reflecting Confounding** • *I doubt cod liver oil containing vit D. It's more of a vit A, I think. Rest, I'm not an expert still can say with confidence tht real source of vit D is in direct sunlight only.* • *Frndz pls check this guy, he pretends to be doc but he is not. I can't find his degree anywhere.* **Reflecting Poking**

Appendix 4: Preliminary codes and underlying themes

Lower order codes	Higher order codes (sub-themes)	Overarching themes
• Physical discomfort • Lethargy • Unfamiliar medical symptoms	Physical vulnerability	Individual level vulnerability
• Mental distress • Experiencing helplessness • Guilt feeling • Lack of confidence • Coping deficit	Psychological vulnerability	
• Lack of support offering • Social exclusion • Unfair Discrimination	Social stigma	Situational vulnerability
• Online threats • Privacy breach • Misinformation • Fear on social media	Social media panic	
• Poor governance • Lack of transparency • Lack of guidance • Distrust on institutions • Inadequate information supply • Power asymmetry	Uncertain service environment	

• Willpower • Self-monitoring • Hope • Optimism • Mental preparedness • Self-control • Proactive • Spirituality	Psychological resources	Operant resources
• Two- way emotional support • Reciprocating Information/knowledge • Co-skilling • Experience sharing • Instrumental assistance	Social resources	
• Compassion (cultural value) • Connectedness (cultural value) • Inherited experiences • Codified knowledge • Family practices	Cultural resources	
• ICT platforms • Social media • Aerial robotics • GIS enabled apps • Telemedicine • Technology avoidance • Technology support devices	Technology as resource	

Appendix 5: Results of Pilot study before going for main survey in study 3

Main objective of pilot study was to measure the reliability of all the items used in the instrument. It also helps to understand the initial factor structure. Total of sixty valid responses were used to conduct this pilot test. Measures were adopted from existing studies. However, few changes were done to fit into the context of this project (see table A).

Table A: *Measures Used in the study along with its sources*

Constructs	Adopted Measures	Source & Original items
Familiarity	Adapted language of the final item 1. I have a shared language with other members of this health community 2. Members of this health community are as familiar to me as good friends are. 3. I have frequent interactions with other members of this health community by posting or replying to post in the form of comments 4. The health community members feel familiar to me. 5. I can discuss just about anything with the members of the health community	Familiarity and Similarity measures are adopted from Shen et al. (2010) study. Original items were as follows: 1. I have a shared language with other members of this virtual community 2. Members of this virtual community are as familiar to me as good friends are. 3. I have frequent interactions with other members of the virtual community by writing or replying to articles 4. The virtual community members feel familiar to me. *5.* I can know who this virtual community member is simply by the nickname he or she uses in the community *(**dropped** as found irrelevant in context to this study because in Facebook platform users already disclose their identity)* 6. I can discuss just about anything with the members of the virtual community. ***The dropped item of above measures were having low loadings in earlier Shen's study also.***
Similarity	1. I share similar values with other members of this Health community 2. I share similar interest with other members of this Health community 3. I share similar preferences with other members of this virtual community 4. I participated in this Health community for the same purpose as other community members do	1. I share similar values with other members of this virtual community 2. I share similar interest with other members of this virtual community 3. I participated in this virtual community for the same purpose as other community members do 4. I share similar preferences with other members of this virtual community

Trust	1. Members in this health community have reciprocal faith-based and trustworthy relationships. 2. Members in this health community will not take advantage of others even when the profitable opportunity arises. 3. Members in this health community will always keep the promise that make to one another	Adopted from Chen & Hung, 2010. It is conceptualized in studies using Ridings et al. 2002. 1. Members in this virtual community have reciprocal faith-based and trustworthy relationships. 2. Members in this virtual community will not take advantage of others even when the profitable opportunity arises. 3. Members in this virtual community will always keep the promise that make to one another Chen & Hung, 2010 This three-item scale is justified as there are studies (Lin, 2006) using as low as 2 items to measure trust in virtual setting.
Sense of Belongingness	1. I feel a strong sense of being part of this online health community 2. I enjoy myself as a member of this health community 3. I am very committed to this health community 4. Overall, there is a high level of morale in this health community	Measures for sense of belongingness is adopted from Teo et al. (2003) which is frequently used within many online studies. This construct is conceptualized in literature using Teo et al., 2003; Chin et al., 1996; Bollen & Hoyle, 1990, Lin, 2007. 1. I feel a strong sense of being part of this virtual learning community. 2. I have complete trust of others in this virtual learning community. (**Dropped** as it involves trust questions which is already asked in above part of the scale. Also, many studies omit this item just to cite Lin, 2007) 3. I enjoy myself as a member of this virtual learning community. 4. I am very committed to this virtual learning community. 5. Overall, there is a high level of morale in the virtual learning community.
Information sharing behaviour	1. I clearly explain the health information I want to know. 2. I give the community members proper health information. 3. I provide necessary health information so that other community members can express themselves well. 4. I answer all the health service-related questions as I can.	Yi & Gong (2013) 1. I clearly explained what I wanted the employee to do. 2. I gave the employee proper information. 3. I provided necessary information so that the employee could perform his or her duties. 4. I answered all the employee's service-related questions
Responsible behaviour	1. I perform all the tasks that are required.	Yi & Gong (2013) 1. I performed all the tasks that are required.

	2. I adequately complete all the expected behaviors. 3. I fulfil responsibilities to the community. 4. I follow other community members' directives or suggestions	2. I adequately completed all the expected behaviors. 3. I fulfilled responsibilities to the business. 4. I followed the employee's directives or orders.
Helping behaviour	1. I assist other members in the virtual community if they need my help 2. I help other members in the virtual community if they seem to have problems 3. I teach members in the virtual community if they need me to solve problems correctly 4. I give advice to other members in the XXX virtual community	Yi & Gong (2013) 1. I assist other customers if they need my help. 2. I help other customers if they seem to have problems. 3. I teach other customers to use the service correctly. 4. I give advice to other customers
Subjective Well-being	1. In most ways, my online social life in this health community is close to my ideal 2. The conditions of my online social life in this health community are excellent 3. I am satisfied with my online social life in this online health community 4. So far, I have gotten the important things I want in this online health community	Adopted from Diener et al. (1985) 1. In most ways my life is close to my ideal. 2. The conditions of my life are excellent. 3. I am satisfied with my life. 4. So far, I have gotten the important things I want in life. 5. If I could live my life over, I would change almost nothing (This item is ***dropped*** as respondents find it hard to comprehend in the pre-test. Also, it is not used by other recent studies like Chiu et al., 2015).

Five forms were discarded due to reasons like they fill same response to almost every question, give no consent to use data for research publication, are not really a member of any social media health platform and thus screened out even before participation using google form skip logic. Since questionnaire in google form were designed such that respondent could not submit the form if any question is left unanswered, therefore there were no missing values for any case. However, quality of unengaged responses was checked simply by observing deviation in responses (i.e., any case having std dev of less than 0.3 in responses for all its indicators is removed). Data was analysed using reliability measure and EFA in SPSS 24. Summary of demographic profile of participants are presented in Table B below.

Table B: *Demographic Profile of Respondents in the Pilot study*

		N	Percentage
Gender	Female	29	48.3
	Male	31	51.7
	Total N	60	100.0
Age	18-27	5	8.3
	28-37	22	36.7
	38-47	14	23.3
	48-57	9	15.0
	58-67	7	11.7
	68 or above	3	5.0
	Total	60	100.0
Education	Higher Secondary School or below	8	13.3
	Graduation	18	30.0
	Post-graduation or above	34	56.7
	Total	60	100.0
Member since	6 months or below	29	48.3
	7 to 12 months	14	23.3
	13 to 18 months	9	15.0
	19 months or above	8	13.3
	Total	60	100.0

First, the reliability test is conducted using scale measure in SPSS 24. Corrected item total correlation, Cronbach's alpha, and Cronbach's alpha if the items deleted are checked properly. Constructs with Cronbach alpha less than 0.7, inter-item corelation less than 0.3, and substantial increase in Cronbach on deleting the item are considered as main indicators to delete any item or construct. As per Reliability test (see table C below), all the latent variables have Cronbach alpha more than 0.7. Also, inter item correlation was more than 0.3 except for FA5 (0.213). It is observed that after deleting FA5 the Cronbach alpha increases up to 0.802. Hence, FA5 is considered as candidate for deletion.

Table C: *Reliability Test Results for Pilot study*

Construct	**Variables**	**Items**	**Corrected item total correlation**	**Cronbach's alpha**	**Cronbach's alpha if the items deleted**
Social Capital	Perceived Familiarity	FA1	.715	.749	.631
		FA2	.663		.653
		FA3	.606		.668
		FA4	.439		.737
		FA5	.213		.802
	Perceived Similarity	PS1	.661	.866	.853
		PS2	.738		.826
		PS3	.777		.804
		PS4	.710		.833

	Trust	TR1 TR2 TR3	.604 .651 .692	.801	.772 .725 .680
Belongingness	Sense of Belongingness	SOB1 SOB2 SOB3 SOB4	.708 .745 .772 .699	.873	.849 .830 .822 .848
C2C value co-creation behaviour	Information sharing	ISB1 ISB2 ISB3 ISB4	.720 .732 .683 .739	.867	.829 .825 .843 .821
	Responsible behaviour	RB1 RB2 RB3 RB4	.818 .865 .864 .692	.916	.888 .870 .873 .928
	Helping Behaviour	HB1 HB2 HB3 HB4	.737 .732 .658 .591	.840	.769 .773 .808 .839
Subjective Wellbeing	Online subjective wellbeing	SWB1 SWB2 SWB3 SWB4	.680 .677 .622 .422	.788	.694 .694 .724 .820

After, reliability the exploratory factor analysis (EFA) was done on the complete 32 items (with special caution about FA5). Key purpose to perform EFA was to identify the underlying structure and assess whether the items that measure the construct fall into the same component (Bryman and Cramer 1999). Also, de Winter et al. (2009) asserts that sample size as low as 50 could be used for EFA. However, the sample size of 60 was still not very large, therefore EFA was performed on the group of items instead of all the items together. This is as per Menon et al. (1996) and Wong & Chow (2018) argument of sufficient analysis based on each observed items and tendency of fewer measurements to give reliable outcome in context to pilot studies. Therefore, three group of variables are selected on which EFA was performed separately. First, were social capital variables (trust, perceived familiarity, perceived similarity); Second, were sense of belongingness, and subjective wellbeing; and third, was C2C value co-creation (key dependent variable in the model). This satisfies the required ratio of 5:1 for observation per item (Hair et al., 2010).

Talking about first EFA, 12 items were put to factor analysis using principal axis factoring and varimax rotation method. KMO measure of sampling adequacy was 0.712 which was above the required threshold level (Hair et al., 2010). The Bartlett's test comes significant at 0.001. Communalities of all the items were higher than 0.40 except FA5. This confirms the initial diagnostics of scale reliability suggesting to delete FA5. Thus, EFA was run again after deleting FA5. This time no item shows communality lower than 0.4. Other statistics like KMO (0.716) and Bartlett's test (sig < 0.001) were sufficient like before. Also, the factor structure emerges more clearly with three factor solution explaining 60.80 percent variance. Loading of each item was above 0.50 which is within the acceptable limits for pilot studies (Hair et al., 2010). Also, no cross loadings were observed which further supports the factor structure.

In the second EFA, 8 items related to subjective wellbeing and sense of belongingness were put to factor analysis using same principal axis factoring, an extraction method and varimax rotation method. KMO value comes 0.750 which was sufficient and Bartlett's test comes significant at 0.001. Communalities of all the items were higher than 0.40 except SWB4. This also aligns with initial diagnostics of deleting SWB4 based on Cronbach alpha if item is deleted statistics (Alpha = 0.820). Thus, SWB4 was deleted and EFA was run again. Finally, two factor solution was obtained with loading of each item above the 0.50 and KMO of 0.743. Also, no cross loadings were observed in the pattern matrix. This two-factor structure explains 63.87 percent of variance.

In third EFA, 12 items related to value co-creation were put to factor analysis using same principal axis factoring and varimax rotation method. KMO value comes 0.814 which was sufficient and Bartlett's test comes significant at 0.001. Communalities of all the items were higher than 0.40. Overall, three factor solution was obtained with loading of each item above the 0.50. Also, no major cross loadings were observed in the pattern matrix. The only cross loading was at RB4 which crossloads on HB. However, it has been ignored as per Hair's rule that if factor loading difference is more than 0.20 then it could be ignored (Hair et al., 2010). The final factor structure explains 68.67 percent of variance. To understand EFA in brief see the table D depicting pattern matrix for group of factors.

Table D: *Pattern matrix for group of factors*

First group of EFA in Pilot study

Rotated Component Matrix[a]

	Factor		
	1	2	3
PS1	.746		
PS2	.837		
PS3	.719		
PS4	.621		
FA1		.826	
FA2		.824	
FA3		.683	
FA4		.565	
TR1			.595
TR2			.801
TR3			.766

Extraction Method: Principal Axis Factoring Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 4 iterations.

Second group of EFA in Pilot study

Rotated Component Matrix[a]

	Factor	
	1	2
SWB1		.841
SWB2		.842
SWB3		.664
SWB4		.451
SOB1	.756	
SOB2	.818	
SOB3	.857	
SOB4	.763	

Extraction Method: Principal Axis factoring.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Second group of EFA in Pilot study after deleting SWB4

Rotated Component Matrix[a]

	Factor	
	1	2
SWB1		.896
SWB2		.870
SWB3		.581
SOB1	.764	
SOB2	.816	
SOB3	.855	
SOB4	.760	

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 3 iterations.

Third group of EFA in Pilot study

Rotated Component Matrix[a]

	Factor		
	1	2	3
ISB1		.817	
ISB2		.797	
ISB3		.689	
ISB4		.699	
RB1	.817		
RB2	.927		
RB3	.887		
RB4	.645		**.413**
HB1			.775
HB2			.899
HB3			.743
HB4			.572

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 4 iterations.
Note: cross loading is ignored as per Hair's 0.20 difference rule

This pilot study confines to EFA alone and CFA was avoided as the model fit measures are bound to be inflated in smaller sample size. Also, Hair et al (2019) suggested minimum sample of 100 for CFA even under optimal conditions (i.e., 5 or fewer constructs, each with more than 3 items, and all communalities of 0.6 or higher). Therefore, the study plans a CFA with larger sample as a part of main survey.

Appendix 6: Results of Data Pre-processing before going for Structural equation modelling

Unengaged responses were screened-out by checking if standard deviation of the response towards the item is less than 0.3. The above criteria were motivated by Downes-Le Guin *et al. (*2012) guidelines. Missing value were checked by observing those respondents who did not complete the whole survey (less than 50%) and left in between. Further, the multivariate outliers were detected via Mahalanobis D^2 in SPSS 24 (Hair et al., 2010). Finally, normality was checked through skewness and kurtosis values (see Table I for skewness and kurtosis values).

Table I: Assessment of normality based on normality test in AMOS 25

Variable	min	max	skew	c.r.	kurtosis	c.r.
WB3	1.000	5.000	-.323	-2.504	-.576	-2.230
WB2	1.000	5.000	-.219	-1.694	-.654	-2.531
WB1	1.000	5.000	-.436	-3.378	-.368	-1.427
SOB4	1.000	5.000	-.201	-1.559	-.388	-1.503
SOB3	1.000	5.000	-.269	-2.084	-.532	-2.059
SOB2	1.000	5.000	-.369	-2.862	-.322	-1.248
SOB1	1.000	5.000	-.357	-2.766	-.263	-1.019
RB4	1.000	5.000	-.185	-1.435	-.308	-1.194
RB3	1.000	5.000	-.287	-2.221	-.306	-1.184
RB2	1.000	5.000	-.264	-2.045	-.440	-1.705
RB1	1.000	5.000	-.346	-2.679	-.185	-.717
HB4	1.000	5.000	-.269	-2.082	-.393	-1.523
HB3	1.000	5.000	-.299	-2.316	-.251	-.973
HB2	1.000	5.000	-.363	-2.815	-.010	-.037
HB1	1.000	5.000	-.384	-2.973	-.234	-.906
ISB4	1.000	5.000	-.056	-.435	-.500	-1.935
ISB3	1.000	5.000	-.183	-1.416	-.120	-.465
ISB2	1.000	5.000	-.199	-1.541	-.619	-2.397
ISB1	1.000	5.000	-.367	-2.841	-.306	-1.184
FA4	1.000	5.000	.043	.334	-.545	-2.110
FA3	1.000	5.000	-.132	-1.021	-.405	-1.570
FA2	1.000	5.000	-.144	-1.116	-.370	-1.434
FA1	1.000	5.000	-.155	-1.203	-.586	-2.271
TRT3	1.000	5.000	-.166	-1.287	-.490	-1.898
TRT2	1.000	5.000	-.198	-1.532	-.590	-2.284
TRT1	1.000	5.000	-.176	-1.365	-.575	-2.225
PS1	1.000	5.000	-.333	-2.581	-.436	-1.687
PS4	1.000	5.000	-.060	-.468	-.637	-2.466
PS3	1.000	5.000	-.108	-.833	-.538	-2.083
PS2	1.000	5.000	-.312	-2.413	-.409	-1.584

Next, the multicollinearity was cross-checked using the variance inflation factor i.e., VIF value in SPSS. If the value is more than 5, it indicates a multicollinearity issue (Grewal et al., 2004). However, the study does not observe any VIF value above 5 and thus multicollinearity was not an issue (see Table II Below for Multicollinearity statistics).

Table II: Multicollinearity statistics for independent variables in the proposed model

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	TRUST	.728	1.374
	PERSIM	.801	1.249
	FAM	.842	1.187

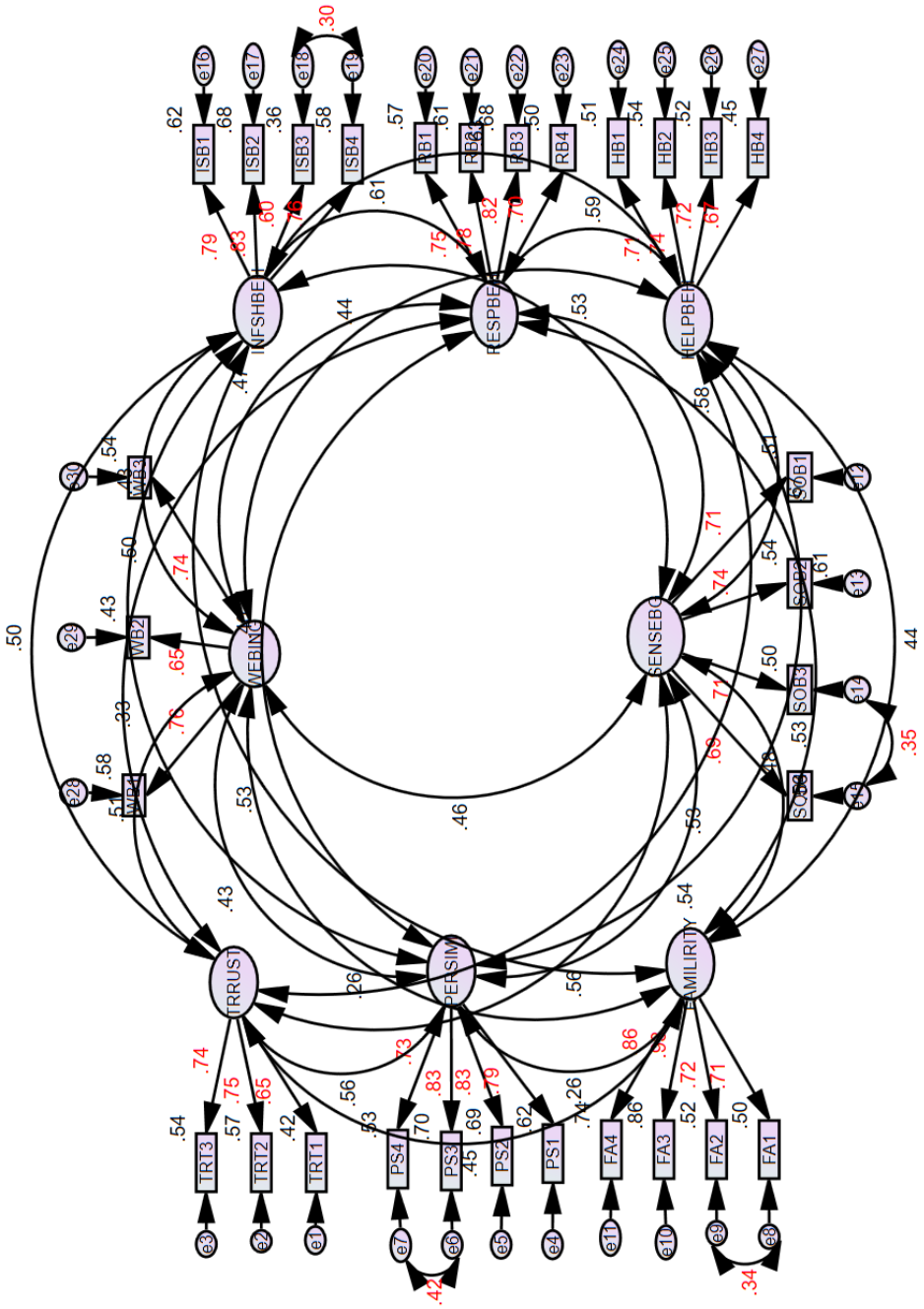
a. Dependent Variable: SENSE OF BELONGINGNESS

1	(Constant)		
	INFOSH	.640	1.563
	RESBH	.654	1.530
	HELPBH	.649	1.542

b. Dependent Variable: WELLBEING

Appendix 7: Final Measurement Model and the Fit Indices

Correlational Model from CFA



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	92	588.757	373	.000	1.578
Saturated model	465	.000	0		
Independence model	30	5895.712	435	.000	13.553

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.040	.901	.876	.722
Saturated model	.000	1.000		
Independence model	.298	.239	.186	.223

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.900	.884	.961	.954	.960
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.857	.772	.824
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	215.757	153.709	285.734
Saturated model	.000	.000	.000
Independence model	5460.712	5216.053	5711.814

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.640	.601	.428	.796
Saturated model	.000	.000	.000	.000
Independence model	16.423	15.211	14.529	15.910

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.040	.034	.046	.997
Independence model	.187	.183	.191	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	772.757	790.147	1130.278	1222.278
Saturated model	930.000	1017.896	2737.038	3202.038
Independence model	5955.712	5961.383	6072.296	6102.296

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.153	1.980	2.347	2.201
Saturated model	2.591	2.591	2.591	2.835
Independence model	16.590	15.908	17.289	16.606

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	256	268
Independence model	30	31

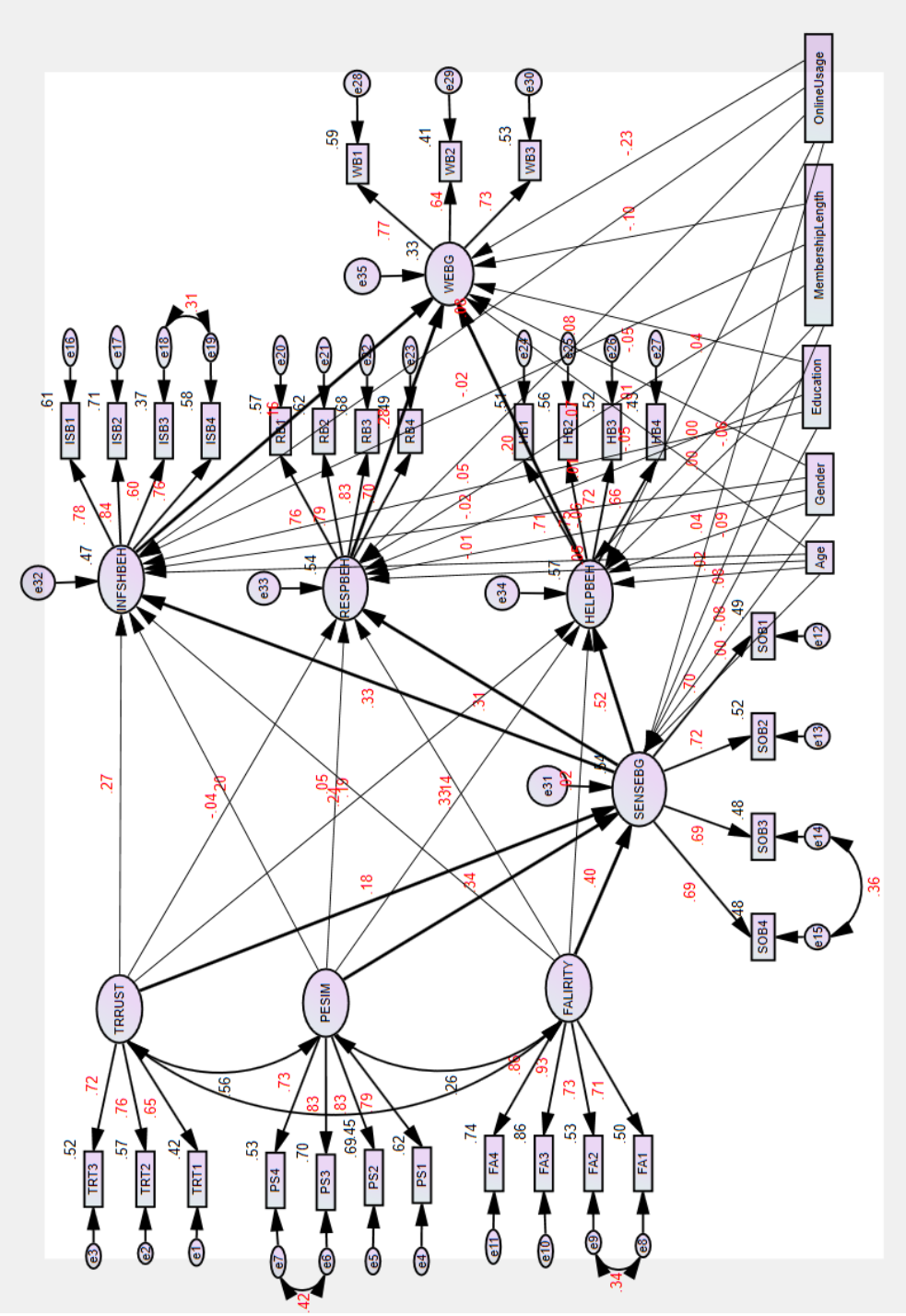
Appendix 8: Results of Common Method Bias

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.141	33.803	33.803	10.141	33.803	**33.803**
2	2.627	8.756	42.559			
3	1.770	5.898	48.458			
4	1.524	5.081	53.539			
5	1.404	4.681	58.219			
6	1.331	4.437	62.656			
7	1.174	3.913	66.569			
8	1.068	3.559	70.128			
9	.778	2.593	72.721			
10	.666	2.220	74.941			
11	.633	2.110	77.050			
12	.599	1.998	79.049			
13	.567	1.892	80.940			
14	.522	1.741	82.681			
15	.475	1.583	84.264			
16	.472	1.572	85.836			
17	.407	1.357	87.193			
18	.400	1.334	88.527			
19	.395	1.316	89.843			
20	.380	1.267	91.110			
21	.346	1.154	92.264			
22	.332	1.106	93.370			
23	.323	1.075	94.445			
24	.299	.997	95.442			
25	.283	.943	96.384			
26	.260	.867	97.251			
27	.249	.830	98.082			
28	.232	.772	98.853			
29	.190	.635	99.488			
30	.153	.512	100.000			

Appendix 9: Final Structural Model and the Fit Indices

Structural Path model with model fit summary



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	128	750.132	502	.000	1.494
Saturated model	630	.000	0		
Independence model	35	6100.590	595	.000	10.253

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.043	.893	.866	.712
Saturated model	.000	1.000		
Independence model	.258	.266	.222	.251

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.877	.854	.956	.947	.955
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.844	.740	.806
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	248.132	178.593	325.645
Saturated model	.000	.000	.000
Independence model	5505.590	5258.246	5759.430

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.090	.691	.497	.907
Saturated model	.000	.000	.000	.000
Independence model	16.993	15.336	14.647	16.043

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.037	.031	.043	1.000
Independence model	.161	.157	.164	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1006.132	1034.665	1503.554	1631.554
Saturated model	1260.000	1400.433	3708.246	4338.246
Independence model	6170.590	6178.392	6306.604	6341.604

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.803	2.609	3.019	2.882
Saturated model	3.510	3.510	3.510	3.901
Independence model	17.188	16.499	17.895	17.210

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	266	277
Independence model	39	40

Appendix 10: Influence of Control variables on the set of dependent variables in the model

Influence on Sense of Belongingness

Variable	Estimate	P value
Age	.005	.919
Gender	-.079	.096
Education	.080	.089
Length of Membership	-.084	.082
Online usage	-.054	.257

Influence on Information sharing, Responsible Behaviour, and Helping Behaviour

Variable	Estimate			P value		
	HB	RB	ISB	HB	RB	ISB
Age	.026	.049	-.007	.590	.281	.888
Gender	.034	-.069	-.024	.474	.125	.617
Education	.001	.011	.055	.977	.810	.251
Length of Membership	-.012	.060	-.031	.809	.190	.534
Online usage	.029	.071	.066	.539	.114	.170

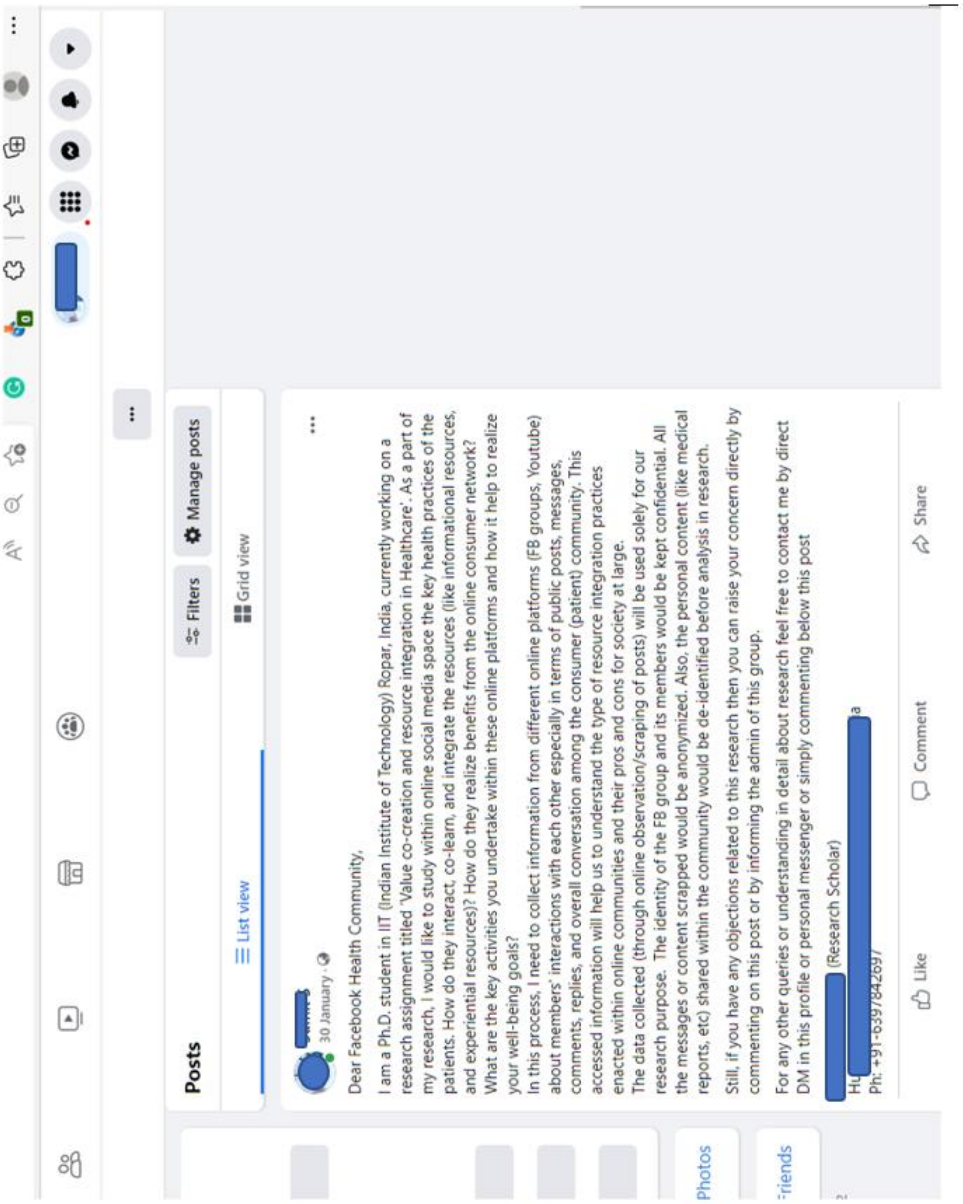
Influence on Subjective Wellbeing

Variable	Estimate	P value
Age	-.050	.352
Gender	-0.16	.762
Education	-.052	.322
Length of Membership	-.104	.057
Online usage	-.224	***

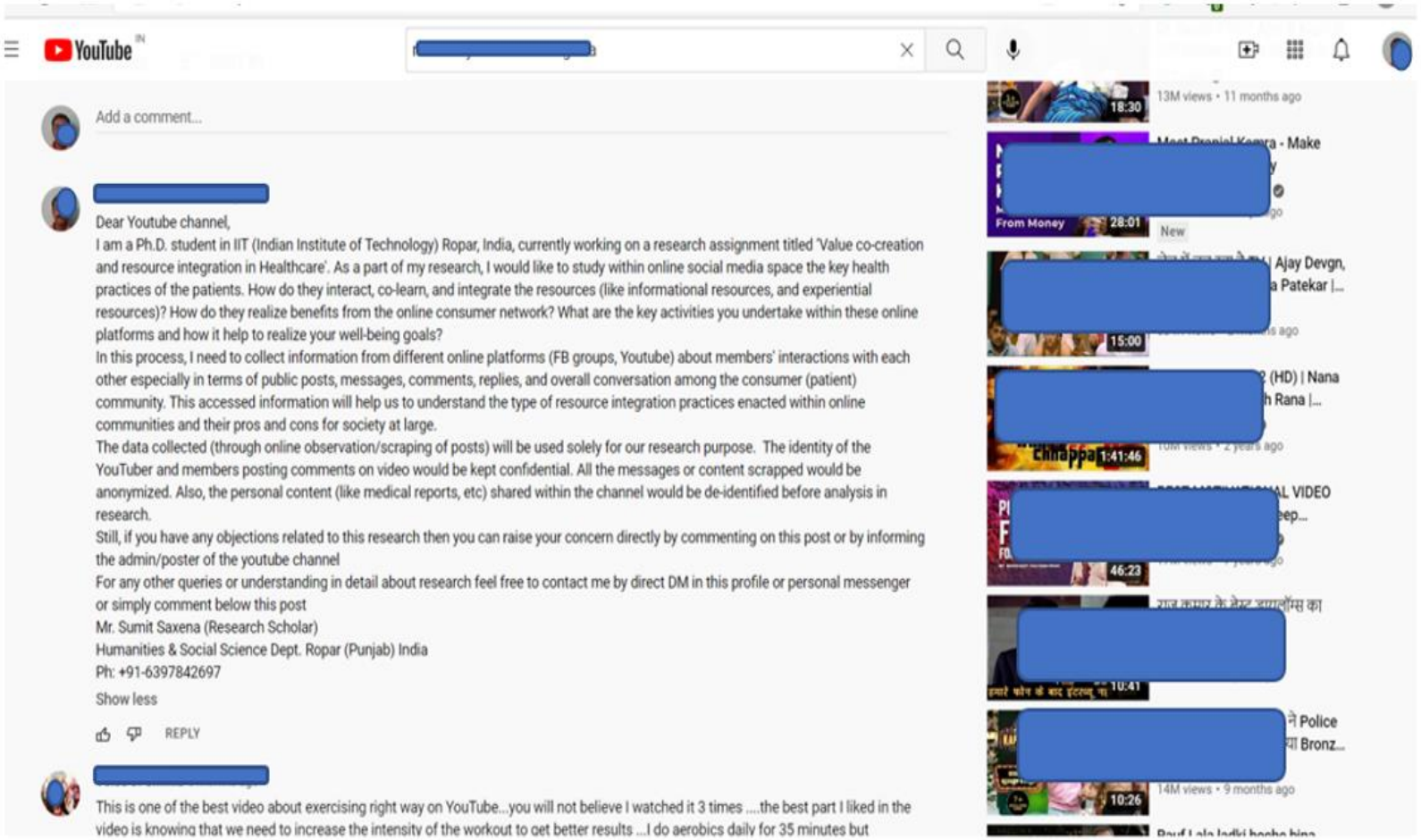
Appendix 11: Informing the members on social media platform regarding research and data collection

The below screenshots depict the public announcement made on social media platform regarding research (explaining the study's objectives, data collection, explaining the use of online content for data analysis, and the anonymity of members.

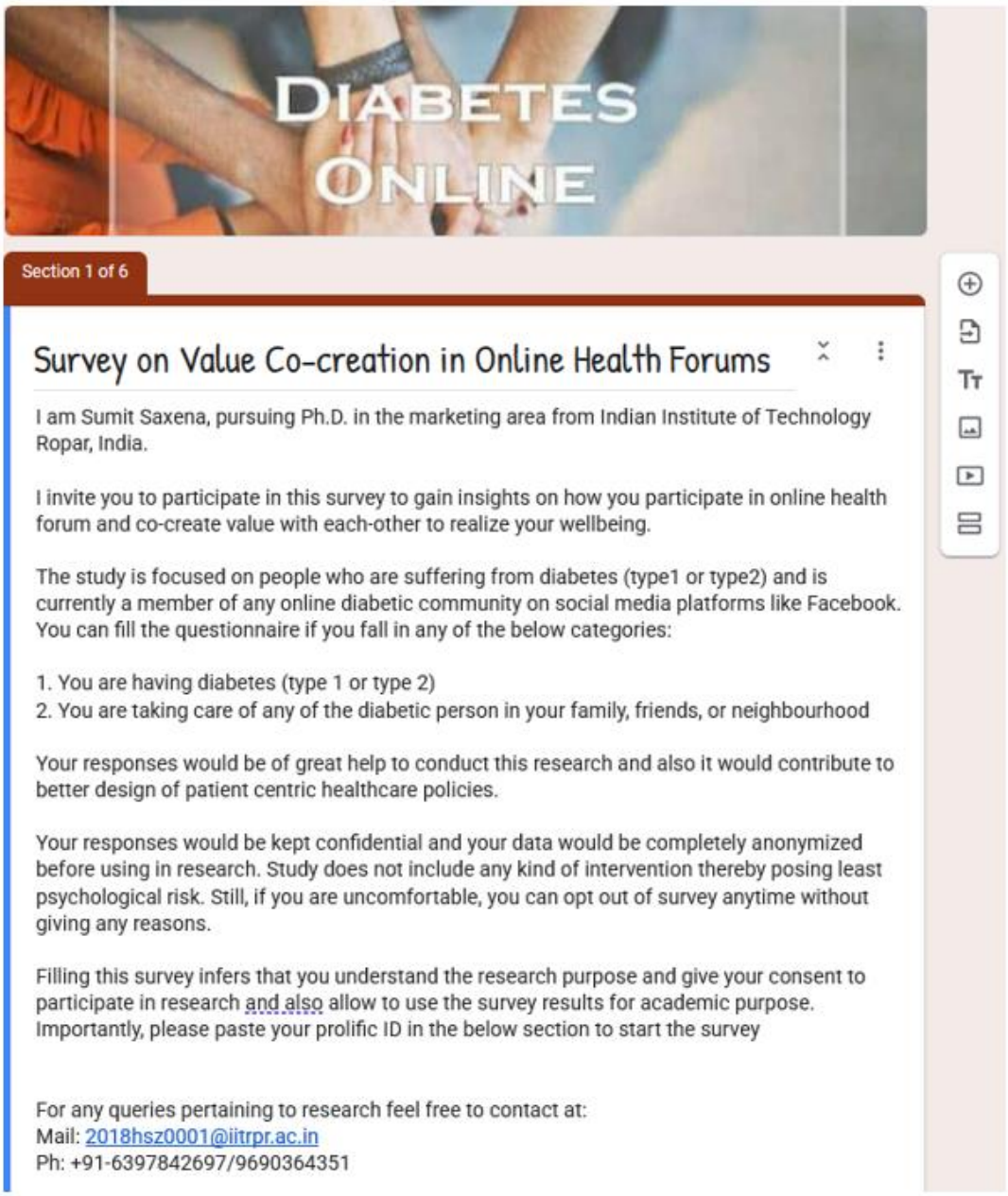
Information for members on FB community



Information for members on YT community



Appendix 12: Google form used in the main survey to collect responses



Please tell are you a member (or has been a member) of any online health community on social media sites like Facebook *

- Yes
- No

Do you give consent to participate in this survey and have no objection to use the results for academic research purpose?

- Yes
- No

Please categorize yourself among one of the following respondents' categories which you think best suits to you *

- You are having diabetes (type 1 or type 2)
- You are taking care of any of the diabetic person in your family, friends, or neighborhood

Instructions

All the questions are in linear scale where you have to express your opinion by ticking any one number from 1 to 7 where '1' is 'strongly disagree' and '7' is 'strongly agree'.

Please read carefully and avoid any random answers as it may affect the research seriously.

I feel a strong sense of being part of this online health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I enjoy myself as a member of this health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am very committed to this health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Overall, there is a high level of morale in this health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I clearly explain the health information I want to know.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I give the community members proper health information.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I provide necessary health information so that other community members can express themselves well.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I answer the health service-related questions as I can.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I perform all the tasks that are required.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I adequately complete all the expected behaviours.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I fulfil responsibilities to the community.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I follow other community members' directives or suggestions

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I assist other members in the virtual community if they need my help

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I help other members in the virtual community if they seem to have problems

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I teach members in the virtual community if they need me to solve problems correctly

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I give advice to other members in the XXX virtual community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

In most ways, my health life is close to my ideal

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

The conditions of my health life are excellent

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I am satisfied with my state of health in the life

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Members in this health community have reciprocal faith-based and trustworthy relationships.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Members in this health community will not take advantage of others even when the profitable opportunity arises.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Members in this health community will always keep the promise that make to one another

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I share similar values with other members of this Health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I share similar interest with other members of this Health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I share similar preferences with other members of this virtual community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I participated in this Health community for the same purpose as other community members do

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I have a shared language with other members of this health community

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Members of this health community are as familiar to me as good friends are.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

I have frequent interactions with other members of this health community by posting or replying to post in the form of comments

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

The health community members feel familiar to me

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Help us know you better

There are few questions left about your demographics. Once you fill it you are you are done with your survey

Age *

- 18-27
- 28-37
- 38-47
- 48-57
- 58-67
- 68 or above

Gender *

- Female
- Male

Education *

- Higher secondary school or below
- Graduation
- Masters or above

Since how long you are using this online health community *

- 6 months or less
- Since 7 to 12 months
- 13 to 18 months
- 19 months or above

How many hours do you spend in online health community on a daily basis *

- less than 30 minutes
- more than 30 minutes and less than hour
- more than 1 hour and less than 2 hour
- more than 2 hour

Great you have completed survey. Please select BYE option below to end the survey. This tick is compulsory to end the survey *

- BYE

SKIP LOGIC IF ANSWERED NO TO MEMBERSHIP QUESTION

Not Eligible

Sorry You are not eligible as per your answer related to 'membership of any online health community on Facebook social media platform.

Thankyou

List of Publications from Thesis

Journal

PAPER 1
Saxena, S., Amritesh., & Mukerji, Bhasker (2023). A Multi-Method Bibliometric Review of Value Co-Creation Research: Emerging Directions and Research Agenda. *The Management Research Reviews*
ABDC (C) INDEXED

PAPER 2
Saxena, S., Amritesh, & Misra, S. C. (2021). Consumer Value Preferences in Healthcare: Insights for Value-centred Management. *Journal of Creating Value*, *7*(2), 219-231.
ABS (1) INDEXED

PAPER 3
Saxena, S., Amritesh (2021). C2C Value Co-creation in Healthcare: Understanding Social Capital, Sense of Belongingness, and Well-being in Virtual Community. *Journal of Nonprofit & Public Sector Marketing (under review)*
ABDC (B) INDEXED

PAPER 4
Saxena, S., Amritesh (2021). C2C Value Co-creation Practices in Social-Media Health Communities. *Journal of Service Theory and Practice (under review)*
ABDC (A) INDEXED

PAPER 5
Saxena, S., Amritesh (2021). Consumer Vulnerability to Resilience: Resource Integration by COVID-19 Survivors in India.
About to submit

Book Chapter

Chapter 1
Saxena, S., Amritesh. (2023). Social Resources and Resilient Workforce: A Qualitative Exploration in Healthcare During Crisis. In Managing and Strategizing Global Business in Crisis Resolve, Resilience, Return, Re-imagination & Reforms (5 R"s). Routledge, Taylor & Francis Pub.

Chapter 2
Saxena, S., Amritesh. (2022). Evolving uncertainty in healthcare service interactions during COVID-19: Artificial Intelligence-a threat or support to value cocreation? In Cyber-Physical Systems (pp. 93-116). Academic Press, Elsevier.

Chapter 3
Saxena, S., Amritesh. (2022). Customer-Centered Antecedents of a Value Co-Creation Ecosystem: Integrating Psychological, Social, and Cultural Processes. In Emerging Ecosystem-Centric Business Models for Sustainable Value Creation (pp. 22-52). IGI Global.

Chapter 4
Saxena, S. (2020). Direct to Consumer Advertising for Prescription drugs & Urgent call for consumer protection: A critical Review. In Multi-Disciplinary Approach towards Sustainable Development, (pp. 346-357). BOOKWELL Publishers, India.

Conferences

Outside India

1. Saxena, S., Ahmed. A., Amritesh. (June 2023). Resource Mis-integration Practices in Third places: Study of Diabetic Patients in India. In International Research Symposium in Service Management: The role of service in the sustainability and wellbeing of the society (IRSSM), Poland 2023. (This paper is appreciated with Merit Award at IRSSM 2023 by University of Economics Katowice)
2. Saxena, S., Amritesh. (June 2022). Companion-Consumer Resource Integration in 'Healthcare Value Co-creation': A Qualitative Study in Context to Metabolic Bone Diseases. In 12th SERVSIG - Reconnect, Rejuvenate, Reshape Conference, USA 2022.
3. Saxena, S., Amritesh. (June 2022). Value Co-creation by Healthcare consumers: Understanding Resource Dynamics in Special Context of Bottom of pyramid. In 12th SERVSIG - Reconnect, Rejuvenate, Reshape Conference 2022.
4. Saxena, S., Amritesh. (2021). Consumer Vulnerability to Resilience: Resource Integration by Covid19 survivors in India. [Working paper Abstract]. In Annual meeting of Association of Consumer Research, ACR Seattle, 2021. (Proceedings: In press)
5. Saxena, S., Amritesh. (2021). Resource misintegration: A multi-level perspective in healthcare service ecosystem (pp. 90). In A. M. Doherty, F. Kerrigan & L.O' Malley (Eds.), Proceedings of Academy of Marketing 2021 Annual Conference: Reframing Marketing Priorities. ISBN: 978-1-9196473-0-2.
6. Saxena, S., Amritesh. (2021, March 18-19). What Imbibes Trust in Chatbot Users? A Multidimensional View in Context to Healthcare Services during Pandemic [Conference poster]. 5th Qualitative Health Research Network Conference: Negotiating trust: exploring power, belief, truth and knowledge in health and care, University College London, England.
7. Saxena, S., Amritesh. (2020, June 10-11). Conceptualizing Value Co Creation in Medical Tourism and Proposing Antecedents using Psycho social Perspective. [Conference abstract]. THE INC conference: Revisiting Value Co-creation and Co-destruction in Tourism, Hospitality & Events, Leeuwarden, The Netherlands.

Conferences

Within India

1. Saxena, S., Amritesh. (2021, Dec 7-9). Exploring the Antecedents of Value Co-Creation through a Systematic Review: Proposed Framework and Future Research Directions. [Conference abstract]. 4th International Conference on Marketing, Technology and Society, IIM Kozhikode, India.
2. Saxena, S., Amritesh. (2020, March 6-7). Revisiting the Intellectual core of Value co-creation: A Bibliometric approach. [Conference abstract]. International conference on Business interventions for effective management of Technology and Innovation, IIM Sirmaur, India. (Proceedings: In print)
3. Saxena, S., Amritesh. (2019, 12-14 Dec). Exploring Value Co-creation Research Using Co-citation analysis: Review of Last 15 years [Conference poster]. 7th Pan IIM World conference: Public policy and management: Emerging issues, IIM Rohtak & MHRD, United service institution of India- New Delhi, India.