INNOVATION PERFORMANCE OF SMALL AND MEDIUM PRIVATE HOSPITALS IN INDIA: ROLES OF OPEN AND CLOSED INNOVATION

by

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Thesis submitted in fulfilment of the requirements
for the degree of
Doctor of Philosophy

July 2019

ACKNOWLEDGEMENT

In the name of Allah, Most Gracious, Most Merciful. Praise be to Allah for His mercy which has enabled me possible to complete this thesis.

Firstly, I would like to express my sincere gratitude to my supervisors Associate Professor Dr Hasliza Abdul Halim and Professor Dr Noor Hazlina Ahmad for the continuous support of my Ph.D study and related research, for their patience, motivation, and immense knowledge. Their guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better supervisor for my Ph.D study.

My sincere thanks also goes to Dr. Nastaran who introduced me to both of my supervisors. Without their precious support it would not be possible to conduct this research. I am very grateful to my friends Dr. Haniruzila Hanifah, Roshni Ann George, Husna Ara, and others for their help and support during my Ph.D. I would also like to thank my E-47 PhD room colleagues for providing warm and friendly environment.

My biggest appreciation goes to my parents for their financial, moral support and well wishes. I would also like to express my thanks to my parents-in-law and my sister-in-law Dr. Zoya Khan who always support and encourage me during writing this thesis and my life in general. My especial thanks to my husband Dr. Mohammad Jamal Khan who has always been my source of strength, motivation, encouragement, and helping me the thesis by all means.

Above all, I owe it all to Almighty God for granting me the wisdom, health and strength to undertake this research task and enabling me to its completion.

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PRESTASI INOVASI HOSPITAL SWASTA KECIL DAN SEDERHANA DI INDIA: PERANAN INOVASI TERBUKA DAN TERTUTUP

ABSTRAK

Inovasi semakin meningkat menjadi amalan yang lazim untuk menambahbaik prestasi hospital. Di India, inovasi di hospital adalah penting dan perkhidmatan kesihatan memberi perkhidmatan kepada lebih daripada dua pertiga penduduknya. Walaupun inovasi adalah penting di hospital swasta yang besar, amalan konsep ini masih kurang dilaksanakan di hospital swasta yang bersaiz kecil dan sederhana. Kajian terdahulu mengenai inovasi prestasi organisasi kesihatan banyak memberi tumpuan terhadap hospital swasta yang besar dan faktor-faktor yang memberi kesan ke atas prestasi inovasi di hospital swasta kecil dan sederhana telah diabaikan. Maka, tujuan kajian ini dijalankan untuk mengkaji faktor-faktor yang memberi kesan terhadap prestasi inovasi hospital swasta kecil dan sederhana iaitu amalan inovasi terbuka dan inovasi tertutup. Selanjutnya, adalah penting untuk mengkaji kesan orientasi inovasi perkhidmatan, pembelajaran organisasi, dan budaya inovasi terhadap inovasi terbuka dan inovasi tertutup yang membawa kepada prestasi inovasi. Selain itu, kajian ini juga mengkaji kesan mediasi inovasi terbuka dan inovasi tertutup di antara orientasi inovasi perkhidmatan, pembelajaran organisasi, budaya inovasi, dan prestasi inovasi. Kajian ini direka bentuk sebagai kajian kuantitatif yang mana data dikumpulkan pada satu masa. Kajian ini menggunakan teknik persampelan tanpa probabiliti dan data telah dikumpulkan daripada hospital swasta kecil dan sederhana dari tiga negeri di India (Delhi, Uttar Pradesh, dan Uttarakhand). Borang soal selidik telah dihantar kepada doktor di hospital swasta kecil dan sederhana secara elektronik. Secara keseluruhannya, 186 borang soal selidik telah dikembalikan dan hanya 173 borang soal selidik lengkap

yang boleh digunakan untuk analisis data. Data telah dianalisis dengan menggunakan 'partial least square structural equation modeling' (PLS-SEM) melalui smartPLS. PLS adalah alat analisa bukan parametrik dan data kajian didapati tidak normal. Oleh itu, PLS adalah lebih sesuai untuk analisis data dalam kajian ini. Keputusan analisis data mendapati bahawa orientasi inovasi perkhidmatan, dan dua dimensi pembelajaran organisasi, iaitu penerimaan pengetahuan dan memori organisasi mempunyai kesan positif yang signifikan terhadap inovasi terbuka dan inovasi tertutup, sedangkan budaya inovasi mempunyai kesan positif yang signifikan terhadap inovasi tertutup. Penemuan juga menunjukkan bahawa inovasi terbuka menjadi mediasi di antara orientasi inovasi perkhidmatan dan dua dimensi pembelajaran organisasi iaitu penerimaan pengetahuan dan memori organisasi, sedangkan, inovasi tertutup menjadi mediasi terhadap hubungan di antara orientasi inovasi perkhidmatan, memori organisasi dan budaya inovasi. Kajian ini mempunyai sumbangan teori dan praktikal, terutamanya dalam menjelaskan peranan utama inovasi terbuka dan inovasi tertutup terhadap prestasi inovasi hospital swasta dan sederhana. Pada sudut pandangan praktikal, penemuan kajian memberikan maklumat yang berguna kepada pembekal perkhidmatan dan pembuat dasar untuk meningkatkan prestasi keseluruhan hospital swasta kecil dan sederhana.

INNOVATION PERFORMANCE OF SMALL AND MEDIUM PRIVATE HOSPITALS IN INDIA: ROLES OF OPEN AND CLOSED INNOVATION

ABSTRACT

Innovation is increasingly becoming a common practice within the hospitals to improve the performance. In India, innovation among hospitals is prevalent and the healthcare services serve to more than two third of its population. Although innovation is significant among the large private hospitals, the practice of this concept is still lacking among the small and medium private hospitals. Previous research on innovation performance of healthcare organizations mostly focused on the large private hospitals, and the factors affecting innovation performance among small and medium private hospitals were neglected. Therefore, this study aims at examining the factors that affect the innovation performance of small and medium private hospitals namely open innovation and closed innovation practices. Subsequently, it is also pertinent to investigate the impact of service innovation orientation, organisational learning, and innovation culture on open innovation and closed innovation that lead to innovation performance. Further, this study also examined mediating effect of open innovation and closed innovation between service innovation orientation, organisational learning, innovation culture, and innovation performance. This study was designed as a quantitative study and data were collected at one point of time. The study used non-probability purposive sampling technique and the data were collected from small and medium private hospitals from three states of India (Delhi, Uttar Pradesh, and Uttarakhand). Questionnaires were sent to the doctors of small and medium private hospitals through electronic mail. In total, 186 questionnaires were returned and only 173 completed questionnaire were found useful data analysis. The data was analysed

using partial least square structural equation modelling (PLS-SEM) via smartPLS. PLS is a non-parametric analysis tool and study data was found non-normal. Therefore, PLS is more appropriate for data analysis in this study. The findings of data analysis found that service innovation orientation, and two dimensions of organisational learning i.e., knowledge acquisition and organisational memory have significant positive impact on open innovation and closed innovation, whereas, innovation culture has significant positive impact on closed innovation. Findings also showed that open innovation mediates the relationship between service innovation orientation, and the two dimensions of organisational learning i.e., knowledge acquisition and organisational memory, whereas, closed innovation mediates the relationship between service innovation orientation, organisational memory, and innovation culture. The study has both theoretical and practical contribution, especially in explaining the significant role of open innovation and closed innovation on innovation performance of small and medium private hospitals. In practical point of view, the findings of the study provide useful information to service providers and policy makers to improve the overall performance of small and medium private hospitals.

CHAPTER 1

INTRODUCTION

1.0 Introduction

India is a developing country. At present, India is the second most populated country in the world with a population of 1.34 billion. The figures show that one out of six people on this planet live in India, as India represents 17.85% of the world's population. The Ministry of Health and Family Welfare (2017) predicts that with a growth rate of 1.2%, India's population is going to be increased to 1.53 billion people by the end of 2030.

With an increase in population, healthcare has become critical, as nobody wants to live with illness. Although it is inconceivable to prevent the entire population from contracting diseases, an effective healthcare sector plays a significant role in securing the health and well-being of the population. In terms of revenue and employment, healthcare is the largest sector in India (India Brand Equity Foundation, 2017). It uses several channels to prevent and treat diseases such as hospitals, clinical trials, health insurance, medical tourism, telemedicine and medical equipment (IBEF, 2017). India's healthcare system is classified into public and private healthcare. The public healthcare system is governed by the government and comprises secondary and tertiary care institutions which focus on providing basic healthcare facilities in rural areas. Whereas, the private healthcare system focuses on metropolitan, tier I and tier II cities (India Brand Equity Foundation, 2017).

According to the Ministry of Health and Family Welfare (2018) total healthcare expenditure for India for the year 2015-16 was Rs. 4,83,259 crores which constitutes 3.84% of GDP and per capita expenditure of Rs 4,116. The government

health expenditure constitutes 1.18% of GDP and per capita is Rs. 1,261. The expenditure on health from out of pocket is 2.33% of GDP and per capita is Rs. 2,494.

Table 1.1: *Key Health Financing Indicators for India: NHA Estimates 2015-16*

S. No.	Indicators	NHA 2015-16
1	Total Health Expenditure (THE) as % GDP	3.84
2	Total Health Expenditure per capita (Rs.)	4116
3	Current Health Expenditure (CHE) as % of THE	93.7
4	Government Health Expenditures (GHE) as % of THE	30.63
5	GHE as % of GDP	1.18
6	GHE as % of General Government Expenditure (GGE)	4.07
7	Per capita Government Health Expenditure (Rs.)	1261
8	Current Government Health Expenditure (CGHE) as % of GHE	79.47
9	Union Government Health Expenditure as % of GHE	35.62
10	State Government Health Expenditure as % of GHE	64.38
11	Government based Voluntary Health Insurance as % of GHE	3.13
12	Household Health Expenditure (incl. insurance contributions) as % of THE	64.76
13	OOPE as % of THE	60.59
14	OOPE as % of GDP	2.33
15	Per capita OOPE (Rs.)	2494
16	External/Donor Funding as % of THE	0.7
17	AYUSH as % of THE	11.9
18	Pharmaceutical expenditures as % of CHE	35.4

Source: Ministry of Health and Family Welfare (2018)

The World Health Organisation (WHO) stated that in India, most of the healthcare expenditure is from private spending which averages US$75 per capita (Asrar, 2017). As per the report of India Brand Equity Foundation (IBEF, 2018) in the year 2017, the Indian healthcare market was worth US$160 billion, and it is expected that by 2022 it is going to increase by US$372 billion. In 2017 financial year, India's hospital industry was worth Rs.4 trillion (US$ 61.79 billion), and it is expected to grow

in the 2022 financial year by CAGR (Compound Annual Growth Rate) 16% to 17% to reach Rs. 8.6 trillion (US$ 132.84 billion)

According to Ministry of Health and Family Welfare (2019) the public health expenditure has remained constant at approximately 1.3% of the GDP between 2008-09 and 2015-16, and increased marginally to 1.4% in 2016-17, and in the year 2018 it spend 1.02% of GDP. The National Health Policy, 2017 has proposed to increase the public health expenditure to 2.5% of the GDP by 2025 (Ministry of Finance, 2017). Further, India also spends one of the lowest amounts ($23) in terms of per capita public health expenditure, in comparison to other developing countries like Indonesia ($38), Sri Lanka ($71), and Thailand ($177) (Ministry of Health and Family Welfare, 2017). It is estimated that 68% of the health expenditure is borne by consumers in India.

The National Health Profile released that the public health expenditure of India is the lowest in the world compared to most low-income countries such as Nepal, Bangladesh, Indonesia and Myanmar which spends 1.4% of GDP respectively, while India spends 1.02% of GDP on public healthcare (Yadavar, 2018). As for the GDP spent on healthcare in South East Asian countries, Maldives spent 9.4%, Sri Lanka spent 1.6%, Bhutan spent 2.5%, and Thailand spent 2.9% (Yadavar, 2018). Figure 1.1 shows public expenditure on health by countries whereby India records the lowest expenditure.

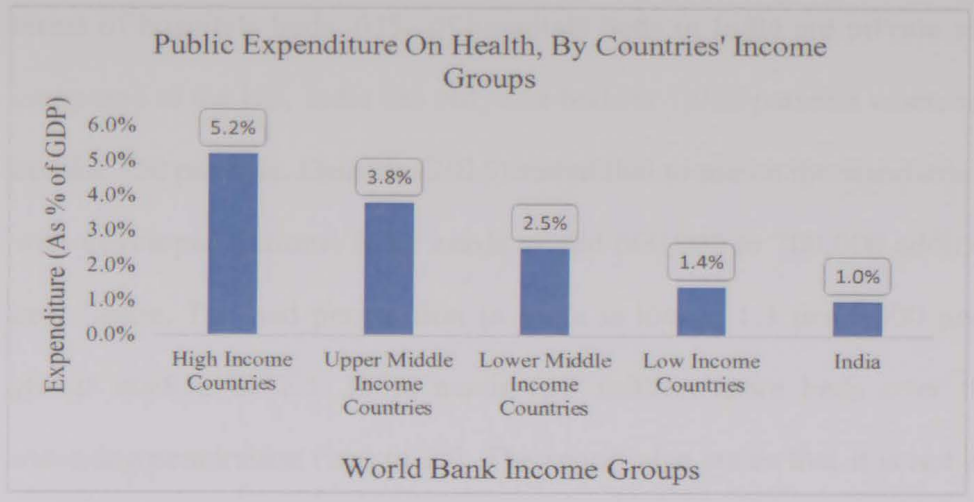

Figure 1.1: Public Expenditure on Health, By Countries Income Groups (Source: National Health Profile, 2018)

Therefore, low spending on healthcare from government discourage doctors and they move to the private sectors. Researcher, Brady and Saranga (2013) mentioned that, in total, India has 15,000 hospitals out of which the private sector owns 60%. Out of 660,000 doctors, 80% are working in private hospitals. For a population of 10,000, there are six doctors and 13 nurses. This means that there is only one doctor to treat 1700 people. In India, 50%-70% of the population lives in rural areas. Only 20% of doctors are dedicated to their treatment while the remaining 80% are working in urban areas. According to Brady and Saranga (2013), only 15% of the population have private health insurance, and for better healthcare, around 25% of the population has to pay by borrowing or renting their property due to which most of them are living below the poverty line. Therefore, it is also estimated that in India one million people die annually because they are not getting adequate healthcare facilities.

According to the Department of Health and Family Welfare (2017), in terms of hospital beds and nurses, India compares itself with the US and China. In terms of specialists at rural community health centres, India lacks behind with 81%, and in

terms of hospitals beds, 63% of hospitals beds in India are private sector owned. As compared to the US, India has only one bed for 1,050 patients whereas the US has one bed for 350 patients. Deloitte (2015) stated that to match the standards of hospital beds with developed nations, India needs to add 600,000 to 700,000 additional beds in the near future. The bed penetration in India is low at 1.3 per 1,000 people against the global median of 2.5. India needs two million more beds over the next decade assuming penetration rises to 2.0. The report also states that it is not only about beds, there is also a shortage of healthcare personnel particularly physicians and nurses compared to other developed countries. Physicians density is low in India and Thailand. If we consider the US as the benchmark, then calculations indicate that India needs an additional 3.5 million physicians and 19.7 million nurses by 2020 (per 1000 population) (Lynch, 2015).

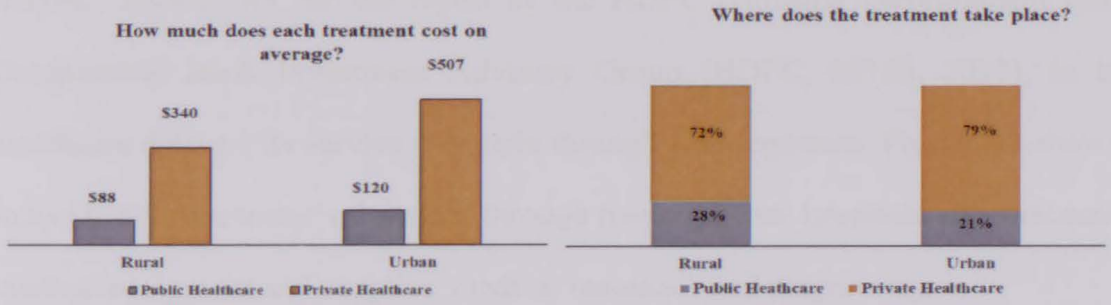

Figure 1.2: Per Capita Health Expenditure (Source: World Health Organization)

According to the World Health Organisation (WHO, 2017), Figure 1.2 shows that in rural areas, private spending treatment cost an average of US$340, and in urban areas, private spending treatment cost on average is US$507, which shows that on average US$75 per capita is coming from the people's own pocket. Figure 1.2 also shows that most of the people in urban and rural areas prefer treatment in the private sector with 79% and 72% respectively. The reason for preferring private healthcare is low government spending on the public healthcare system. According to Yadavar

(2018), as India comes under the low middle-income group of nations, it is the sixth biggest out of pocket (OOP) health spender. Therefore, the private health sector is developing in India.

1.1 Background of the Study

1.1.1 Healthcare Delivery System in India

India is the second most populated country in the world with 1.34 billion people. In terms of nominal gross domestic product, India is the world's 10th largest economy with a GDP of US$1.9 trillion (HDFC, 2017). The average healthcare expenditure of India in the year 2004-2013 was 4% of GDP, in the year 2015 it came to 3.8%, and in 2018 it dropped to 1.02% of GDP. Due to lower healthcare expenditure, India lacks behind other developing countries like Malaysia, China and Indonesia (HDFC, 2015a). As per the report of the HDFC (Housing Development Finance Corporation) Bank Investment Advisory Group (HDFC, 2015b, 2017), in India, healthcare delivers its service to people through five segments. Figure 1.3 shows the Indian healthcare sector's functions through five segments: hospitals, pharmaceuticals, medical equipment and supplies, medical insurance and diagnostics.

Healthcare Market Functions Through Five Segments

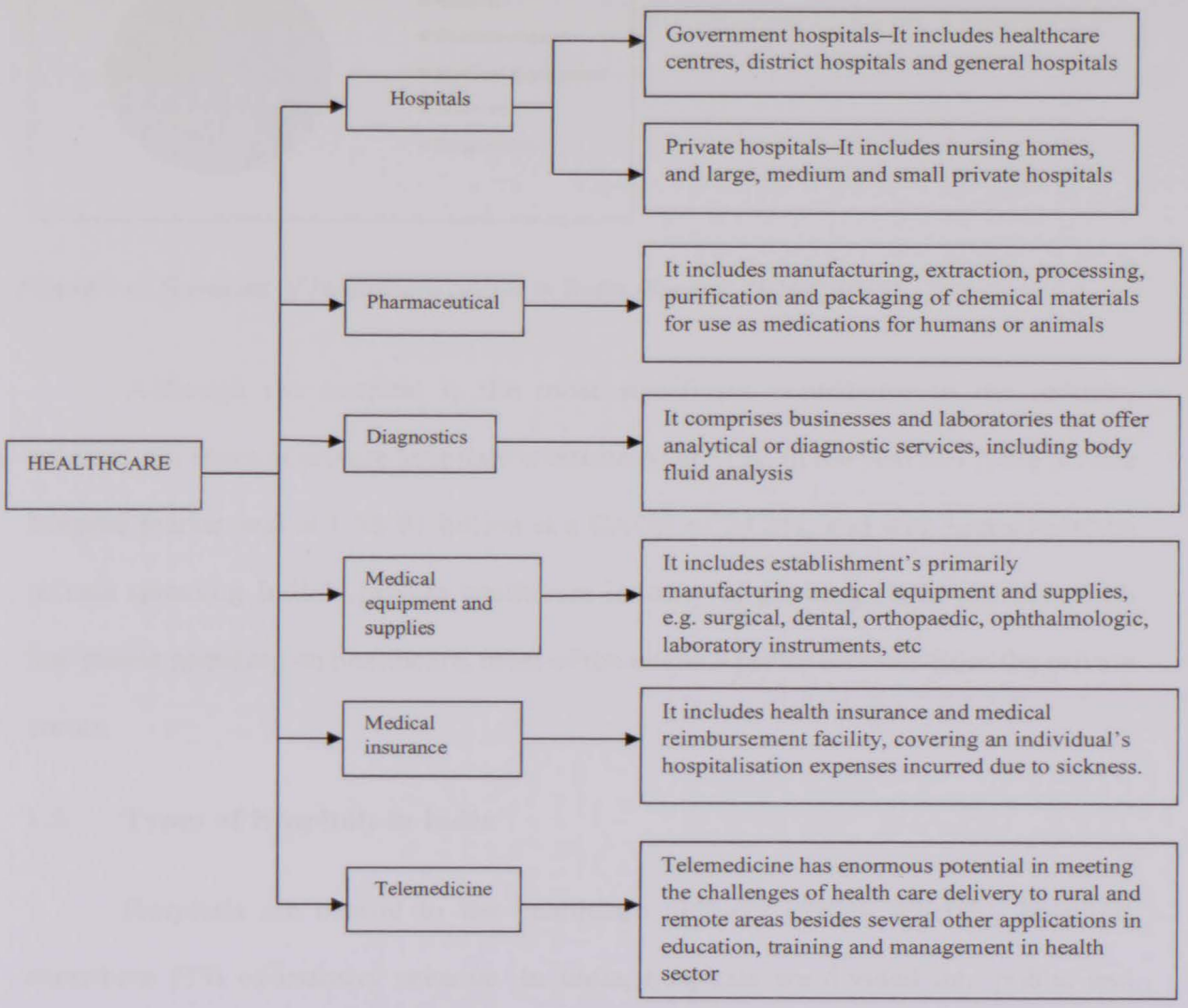

Figure 1.3: Five Segments of Healthcare Market (Source: IBEF,2016)

From these five segments, Figure 1.4 shows that hospitals is the largest segment. Hospitals contribute 71% of the industry revenue, pharmaceuticals contribute 13%, medical equipment and supplies contribute 9%, medical insurance contributes 4%, and diagnostics contributes 3%. The hospital segment constitutes more than 70%

of the Indian healthcare market and is among the fastest-growing segments in the healthcare spectrum.

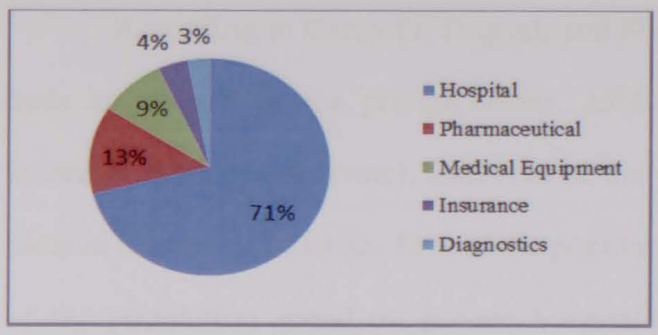

Figure 1.4: Segments of Healthcare Sector in India (Source: HDFC,2015)

Although the hospital is the most significant contributor to the industry revenue, the share of private hospitals is estimated at 71%. In the year 2017, the private hospital market was at US$ 81 billion at a CAGR of 24.2%, and with increase in the private spending India's private healthcare industry is growing (IBEF, 2018). With low public spending on healthcare, most of the citizens prefer services from the private sector.

1.2 Types of Hospitals in India

Hospitals are central to the healthcare delivery system whereby hospitals contribute 71% of industry revenue. In India, hospitals are divided into public and private hospitals. Public hospitals include general hospitals, healthcare centres, and district hospitals, whereas, private hospitals include nursing homes, large private hospitals and small and medium private hospitals. The main objective of hospitals whether it is public or private is to deliver healthcare services whenever needed and deliver quality and cost-effective healthcare service to the public (Bumb, 2014; IBEF, 2016). In India, only 20% of the population prefer public hospitals, while the

remaining 80% of healthcare services are provided by private hospitals (Bumb, 2014; Yadavar, 2018).

According to Gangolli, Duggal, and Shukla (2005), in India, 74% of hospitals beds are owned by the private sector, 25% of the people are covered by health insurance (public or private), and 71% of the population spend from their pocket to receive treatment. In India, 32% of the population spend on public hospitals and 68% of the population spend on private hospitals (WHO, 2017). The reason for high spending on private hospitals is the rise in income with many preferring the quality of service provided by the private healthcare sector. In government-run healthcare centres, people are not getting the quality of healthcare they expect, there is a shortage of specialised doctors and diagnostic equipment, leading the population towards the private sector and spending from out of pocket.

1.2.1 Public Hospitals

Public hospitals are those hospitals which are completely and entirely run by government funding. At present, the government spending on health is 1.02% of GDP which is lower than other developing countries (WHO, 2017). People living below the poverty line or prefer getting treatment from public hospitals (general or district hospital). The government governs public hospitals, so they have more funds compared to the one person or group of people. Nevertheless, they are unable to provide quality healthcare. This is because the government has a limited budget allocation to healthcare.

According to Duran, Kutzin, and Menabde (2014), India's public healthcare system has a three-tier structure: primary, secondary and tertiary facilities. The primary tier includes primary healthcare centres and community healthcare centres.

The secondary tier includes district hospitals which function for people in rural areas. The tertiary tier includes institutions which provide healthcare facilities to urban areas, and these are equipped with advanced diagnostic and therapeutic facilities.

Deloitte (2015) stated, "India's public healthcare system is patchy with underfunded and overcrowded hospitals and clinics, and inadequate rural coverage". People are moving to the private sector as the facilities provided by public hospitals are not good. India has 65 million diabetes sufferers, which is the world's highest (Deloitte, 2015) and sometimes emergency doctors and equipment are not available.

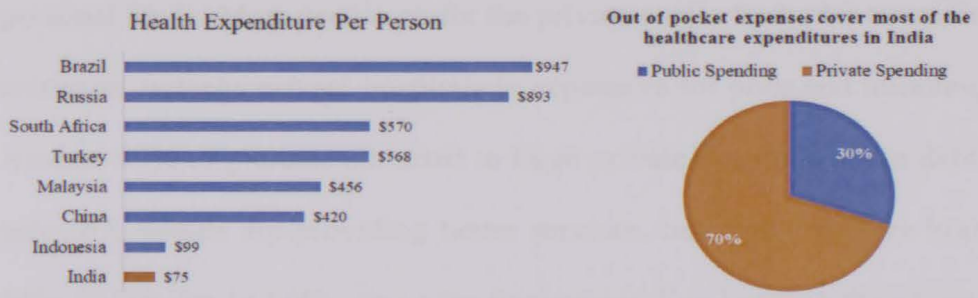

Figure 1.5: Health Expenditure and Out of Pocket Expenses (Source: WHO, 2017)

Figure 1.5 shows that in India the health expenditure per person is US$75 which is lower than other developed countries. The out of pocket expenses covers most of the healthcare expenditure and makes up 70% of total expenses on healthcare (Asrar, 2017). Previously, total patient care provided by the private health sector was only 5-10%, but with low government spending on healthcare, the private sector growth has increased with outpatient visits at 82%, inpatient expenditure 58% and births in institutions 40% (Sengupta & Nundy, 2005).

1.2.2 Private Hospitals

A private hospital is owned and governed by a person or many people who are managing the finances on their own. The finance, administrative staff, and all the doctors are under the control of the private body (Baru, 1998). The hospitals with more than 100 beds are missionary and hospitals with more than 200 beds are large private hospitals (Kate, 2013) such as Apollo Hospital, Fortis, Medanta, Tata Memorial Hospital, Lilavati Hospital and Research Centre (Santosh, 2018).

In private spending, India is among the top 20 countries with 82% from personal funds. Most people prefer the private sector for better treatment facilities, but treatment in large private hospitals is expensive for poor and middle-income people. Around 40% of patients admitted to large private hospitals are in debt. Though large private hospitals are providing better services, but their costs are high due to which 25% of farmers in India are under the poverty line because they borrow or sell their assets to cover their health expenses (Bawaskar, Bawaskar, & Bawaskar, 2012; Sengupta & Nundy, 2005). As the Indian government is not putting much effort into healthcare, this is the reason why people are moving towards the private sector.

Though large private hospitals are expensive, people will opt for them due to their good facilities, better equipment and proper care. These little yet but costly services provided in a private hospital make it the first choice for any patient who can afford the price. Since no one wants to risk their lives due to negligence in treatment, private hospitals remain popular (Asrar, 2017).

The large private hospitals are for those who belong to the high-income group as people from the low or middle-income group cannot afford it. Usually, they take loans or sell their assets for treatment. Government hospitals are in poor conditions,

underfunded and overcrowded (Deloitte, 2015) and the performance of small and medium private hospitals is not good as they lack human resources and capital (Bhate-Deosthali, Khatri, & Wagle, 2011).

1.2.3 Small and Medium Private Hospitals

The private sector is divided into small, medium and large private hospitals. According to Kate (2013), small private hospitals are those hospitals which are managed by a single doctor with 1-25 beds. The hospitals with 25-100 beds managed by a single or multiple doctors are termed medium private hospitals. Bhate-Deosthali et al. (2011) state that the private sector comprises primary, secondary and tertiary levels. The primary level consists of individual practitioners, whereas the secondary level consists of small and medium private hospitals providing both outpatient and inpatient care with less than 100 beds which are mainly owned by the doctors as sole proprietors (Baru, 1998; Gangolli et al., 2005; Kate, 2013). At the tertiary level, it consists of specialist and super-specialist hospitals or large or corporate hospitals with more than 100 beds. However, there is no official definition given by the government in terms of small and medium private hospitals. Therefore, the proposed study will follow the definition of (Kate, 2013) which is small private hospitals are those hospitals which are managed by the single doctor with 1-25 beds. The hospitals with 25-100 beds managed by single or multiple doctors are termed medium hospitals.

In India, 60%-70% of healthcare services are delivered by the private sector. About 80% of services are provided by the private sector health providers, i.e., small and medium private hospitals (Kate, 2013), and 70% of India's population receive healthcare services from small private hospitals. According to Chatterjee and Srinivasan (2013), of the total private sector hospitals, 80% are nursing homes and

small and medium private hospitals with 30-100 beds, and hospitals with 100-200 beds are 6-7%, and hospitals with 200 plus bed are 2-3%. Most people in India are not rich and cannot afford the cost of treatment in large hospitals, so they usually prefer small and medium private hospitals where they get treatment at a low price. The cost of treatment in small and medium private hospitals is not as low as a public hospital, but their prices are lower than large private hospitals (Bhate-Deosthali et al., 2011).

In India, healthcare industry is one of the fastest growing industries (Shehabi, 2018). As compared to other industries like electronics, telecom, and software industry are facing ups and down, but the healthcare industry has recorded a consistent upward growth trend due to the increase in the population. With a larger population, the number of sick also increases (Deloitte, 2015). People need access to healthcare facilities, and large private hospitals provide that access. India is seeing the corporatisation of healthcare services. One of the challenges faced by the small and medium private hospitals is service provided by the large private hospitals.

As small and medium private hospitals provide healthcare services to 70% of the population, they face challenges due to increased demand from the population and increase in the number of large private hospitals. These challenges include (i) Increased demand for high-quality medical services, (ii) Patients preferring big hospitals due to cashless services provided by health insurers, (iii) Increased demand from patients to provide all the services under one roof, (iv) Government's favour to big hospitals, (v) Increased demand from patients for modern equipment and quality staff, and (vi) Licensing and notification issues from the government (Kate, 2013). To overcome these challenges, small and medium hospitals should improve their services provided to the patients. Studies suggest several solutions for effective growth of small and medium hospitals such as (i) Cost reduction, would improve the services through

proper manpower planning. The management should motivate their staff, purchase proper equipment, and avoid using expensive drugs. (ii) System managing, means that the hospital should manage their system to improve their performance such as decreased waiting time, include ambulance services, canteen, and a relaxing environment for patients. (iii) Marketing, should be performed to increase the growth of the hospitals, marketing is a solution such as: upgrading the infrastructure, providing quality service to the patients, provide affordable services, health insurance schemes, medical tourism, introduce innovative and creative ideas, try to attract more patients and high-profile clients, and try to get NABH (National Accreditation Board for Hospitals) to maintain the standard of the hospital (iv) Innovation schemes, help to increase the growth or improve the performance of the hospital innovation. The innovation schemes should be for both hospital staff and patients and include a pathology lab and use of telemedicine among others (Deloitte, 2012; Kate, 2013)

Previous studies argue for the significant advantages of having well-functioning small and medium private hospitals. These advantages include affordable treatment and easy access to hospitals. The treatment provided by the small and medium private hospitals should be priced such that 70% of the rural population can afford it (Kate, 2013; Padma, Rajendran, & Sai Lokachari, 2010). However, small and medium private hospitals still face difficulties such as expensive equipment which quickly becomes outdated, an increase in the cost of land and huge capital expenditure (Bhate-Deosthali et al., 2011). Small and medium private hospitals should not be afraid of large private hospitals; they should provide the same services as large private hospitals, and quality and affordable services to patients. Previous studies suggest that innovation is the only way for small and medium private hospitals to provide quality care and improve their performance (Brady & Saranga, 2013; Deloitte, 2012).

In the context of service sector researchers suggest that factors like service innovation orientation, organisational learning and innovation culture lead to the improved performance (Morello et al., 2013; Ratnapalan & Uleryk, 2014; Ripolles Meliá, Blesa Pérez, & Roig Dobón, 2010; Tsai, 2013). According to Verbano and Crema (2016), innovation is "the implementation of a new or significantly improved product, services, or process, a new marketing method, or new organisational method in business practices, and it can organise something new in the organisation which has not been available before". It can also be defined as "something new to the organisation or creating new ideas". Marques (2014) defines innovation as "a continuous process of exploring, learning and searching". This continuous process results in new ideas related to markets, organisations, techniques, and products or services.

Service orientation focuses more on determining the preferences of customers rather than emphasising other concerns. In the context of innovation, researchers highlight the significance of the development of service innovation in a firm (Cheng, Lai, & Wu, 2010; Hidalgo & D'Alvano, 2014). Organisational learning strengthens innovation and further leads to improved performance and it can be improved through the innovative learning of the organisation's members (Lipshitz & Popper, 2000; Ratnapalan & Uleryk, 2014). Previous study suggested innovation culture as an important factor towards the improvement of performance (Prajogo & McDermott, 2011). As these factors in the context of service sector leads to improved innovation performance of organizations, therefore this study will incorporate these factors towards the open innovation, closed innovation and innovation performance.

1.2.4 Innovation Performance among Small and Medium Private Hospitals in India

The term innovation is used widely among organisations in India which include both large and small organisations (Pachouri & Sharma, 2016). 'Innovation' is a buzz word in 21st-century healthcare. Innovation is defined as "the introduction and application of ideas, products, services, processes or technologies, which are either new or are improvements of the current system, that benefit individual, a group or the society as a whole" (Deloitte, 2012). The National Knowledge Commission defines innovation as "a process to achieve measurable value enhancement in any commercial activity through the introduction of new or improved goods, services, operational and organisational processes" (Deloitte, 2015).

The concept of innovation has become essential in the healthcare sector because it covers an extensive area of improvements which could include new service, new product, new learning, new technology or new strategy (Omachonu & Einspruch, 2010). Although many private hospitals have started to launch innovative activities, there is very limited evidence on innovation activities among small and medium private hospitals in India (Malpani, 2015).

Small and medium private hospitals experience certain challenges related to unqualified staff, inadequate learning, and insufficient technological knowledge (Chatterjee & Srinivasan, 2013). Therefore, to advance the growth of small and medium private hospitals, it is very important to understand which factors will increase the innovation performance of small and medium private hospitals. The factors that influence innovation performance of small and medium hospitals include innovation, adoption or acquisition of technology, learning, marketing, cost reduction, system

managing, infrastructure, skilled staff, legal and regulatory environment, and financing (Kate, 2013; Panagariya, 2014; Robinson, 2017). These key factors serve as the benchmark that would encourage small and medium private hospitals to enhance their innovation performance. Small and medium private hospitals must realise that innovating once will not help them; it is a continuous process which helps them to be up to date and enhance their performance (Malpani, 2015).

Innovation is also multidimensional, and it is pertinent for a small organisation to survive in this competitive field. The main focus of this study is on innovation performance among small and medium private hospitals. The innovation performance of the hospitals will be measured as incremental innovation. Based on Verbano and Crema (2016), incremental innovation involves minor improvements in organisations such as the reorganisation of tasks, an extension of technological knowledge, and updating learning processes. These minor improvements will lead to significant innovation performance. Whereas, radical innovation leads to thorough changes, such as the acquisition of new technology, new learning process, new services (Verbano & Crema, 2016). Both incremental and radical innovation leads to improvement in the performance, but they are different from each other. Mostly, radical innovation is done in large organisations and is related to the R&D process, whereas incremental innovation is done in small organisations and is related to product and services (McDermott & Prajogo, 2012).

1.3 Preliminary Study

A preliminary study was conducted to obtain a fresh and accurate picture of the small and medium private hospitals with regards to our research interest. The respondents were the doctor/owner of small and medium private hospitals.

Respondents were asked several questions related to their view of innovation practices, opinion on internal and external innovation, and resource constraints they faced. The questions were sent to the respondents through email.

The questions asked were as follows:

i. What innovation practices do you perform in your hospital to improve the performance?
ii. How do you acquire innovation for your hospital in terms of external and internal resources?
iii. What challenges and problems do you face to practice innovation?
iv. What resources constraints do you face?

1.3.1 Findings of the Preliminary Study

The findings of the preliminary study reveal the challenges and problems small and medium private hospitals are facing, their innovation practices and opinion about the internal and external resources, the culture of innovation and resource constraints. The information was collected from four doctors of small and medium private hospitals.

Small and Medium Private Hospital 'A'

The innovation practices in hospital 'A' takes place on a yearly basis to improve performance. A hospital is innovating in terms of incorporation of new treatment modalities, latest medical equipment and the timely upgrade of infrastructure of the hospital. Innovation practices are possible only through trained staff. Therefore, the hospital provides various teaching programmes to its staff to maintain quality and performance. In terms of internal innovation, it is based on valuable feedback of the

patients in terms of quality, cost-effectiveness, and timeliness. The challenge faced by hospital 'A' is with the new staff, as they take time to accommodate innovation through which the practice of new things relatively decreases and cannot achieve the desired output. The main resource constraints in hospital 'A' is skilled and practised labour, staff salaries and high cost for quality and this diminishes the innovation performance.

Small and Medium Private Hospital 'B'

Hospital 'B' adopts innovation to enhance performance. It pursue innovation hospital management processes which help internally to improve the quality of medical services by changing the management functions and administrative tasks. The problem faced by hospital 'B' is poor communication between staff and providers, unhealthy community, unmanageable patient load, poor technological knowledge, and a shortage of nurses and physicians. The primary issue is with quality staff which the hospital must work on and get more exposure related to innovation and learning.

Small and Medium Private Hospital 'C'

Hospital 'C' performs innovation in terms of technology acquisition such as buying new equipment, collaborating with other hospitals for access to modern technology, etc. Internal resources help a hospital prosper, grow and sustain high profitability. Whereas, external resources help a hospital expand the knowledge of the staff. The primary challenge is with the limited staff and equipment availability.

Small and Medium Private Hospital 'D'

Hospital 'D' performs innovation in terms of the latest medical equipment, technology, skilled staff, and innovation in the infrastructure of the hospital. Its

internal innovation is based on the patients' feedback about the technology, service and innovation. The resource constraint is the staff salary which is high for skilled staff.

1.3.2 Implications of the Preliminary Study

The findings of the preliminary study indicate that small and medium private hospitals are innovative. Though the hospitals are innovating, they still face challenges and problems such as the cost required for innovation is too high to meet the expenses, shortage of staff, the problem with the new staff at the time of innovation and technological knowledge. The resource constraints are the availability of skilled and practised labour, staff salaries and high cost for quality, and availability of equipment.

This preliminary study has implications which explain that although small and medium private hospitals are innovating, they appear not to be organised. The disorganised innovation practices could be due to the unavailability of a robust innovation practices model for the small and medium private hospitals which can guide them to systematic innovation practices. The proposed study will develop and empirically test an innovative model for the small and medium private hospitals that will help them to perform innovation practices and ultimately improve performance.

1.4 Research Problem

India is a vast country in terms of area and population. In India, the growth of the healthcare industry is continuous because of the rise in population, increase in income levels, the rise of the economy, and changes in lifestyle.

Poor healthcare infrastructure, along with a large population and high poverty levels has resulted in a dismal status of people's health. Although India is a growing

economy and middle-income country, its health indicators are low. Its infant mortality rate is 58 per 1000 births as compared to China and Bangladesh (23 per 1000 births, 54 per 1000 births respectively). About 536,000 women died during pregnancy in 2008 globally of which India accounted for 117,000 (or 22%). India has the highest burden of communicable and non-communicable diseases such as malaria, tuberculosis and diabetics (Deloitte, 2010). To overcome such diseases and improve the healthcare delivery system, India has public and private healthcare sectors. However, more than 80% of healthcare services are provided by private sector mainly small and medium private hospitals in India (Kate, 2013)

People in India prefer going to small and medium private hospitals due to cheaper treatment cost, easy access, quick response to an emergency, and personal care of the treating doctor (Kate, 2013). Although the services are not as good as services offered by large private hospitals, people still prefer to obtain treatment in small and medium hospitals due to the reasons above. Nevertheless, previous studies suggest that there are a lot of improvement needed for small and medium private hospitals in terms of service quality, technology, medical staff, and equipment (Agarwal, 2017; Bhate-Deosthali et al., 2011). According to Deloitte (2012), "Delivering affordable and quality healthcare to India's billion-plus people presents enormous challenges and opportunities. Innovations could be a way out for many people to get quality care at a cost that the nation can afford". Innovation practices can provide assistance to small and medium private hospitals to overcome the challenges they face in providing quality services. These challenges and their solutions has discussed in the following paragraphs.

First, small and medium private hospitals in India perform their functions in an environment similar to other firms and have adopted innovative practices that helped

these hospitals improve their innovation performance. Improved innovation performance helps small and medium private hospitals to earn more profit and offer cost-effective customer services which will help India manage the problems associated with a low-performing healthcare system. Despite accounting for 70% of total hospital beds in India, questions arise concerning the innovation performance of small and medium private hospitals. Deloitte (2012) stated that innovation is the only way for hospitals to improve their performance. Previous researchers (Madhavan, 2014; Mazumdar-Shaw, 2017; Nanath, 2011) and the findings of the preliminary study show that though small and medium private hospitals are performing innovation, their innovation performance remains low. The low innovation performance is due to insufficient technological knowledge, poor relationship between staff, improper record keeping, inadequacy of learning, less focus on internal and external collaboration with patients, competitors, and suppliers, and unskilled manpower (Pachouri & Sharma, 2016; Robinson, 2017; Sharma, 2010). As such, the healthcare delivery system in India should take this matter seriously to put more focus on innovation among small and medium private hospitals in India.

Second, in the current scenario, medical care in India is becoming more corporatised and small and medium private hospitals feel disadvantaged due to the huge investment by large private hospitals in marketing, high technology equipment, and infrastructure (Gadre & Shukla, 2016). However, small and medium private hospitals have the advantage of providing services more locally and patients can trust them more. Small and medium private hospitals need to act more innovatively by adopting open and closed innovation practices and increase their use of information from internal as well as external sources which help to exploit their resources and

improve their innovation performance (Ahmed, Halim, & Ahmad, 2018; Gadre & Shukla, 2016; Malpani, 2015).

Third, Nanath (2011) reported that small and medium hospitals place little importance on the upgrading, creativity, knowledge and skill of their staff. This challenge can be resolved by introducing learning practices which subsequently create a culture of innovation and lead to improved innovation performance. Small and medium private hospitals cannot be competitive and innovative without creative employees (Shinde, 2012). Therefore, organisational learning and innovation culture plays an important role to enhance the creativity, skills and knowledge of the employees. Previous studies claim that organisational learning and innovation culture is an effective approach to the innovativeness of organisations (Morello et al., 2013; Nieva & Sorra, 2003).

Fourth, large private hospitals also challenge small and medium private hospitals in terms of customised quality services to the patients (Bansal, 2016). Providing facilities and services like those offered by large hospitals with small infrastructure and without increasing the cost is a huge challenge for small and medium private hospitals (Bhat, 1999; Bhate-Deosthali et al., 2011; Shinde, 2012). Service innovation orientation is an effective solution for the small and medium private hospitals to provide services to customers according to their need. Service innovation orientation provides new solutions or improving existing services that meet customers' current and future requirements to improve innovation performance (Chuang & Lin, 2017).

Fifthly, small and medium private hospitals provide healthcare services to 70 percent of population and if they are not innovating then this problem effect on

performance (Subramaniam, 2019). Innovation in healthcare is urgently needed to tackle India's growing burden of non-communicable disease. Delivering healthcare at a scale and price point accessible for average Indians calls for innovation of a high order (Subramaniam, 2019).

Lastly, there is a lack of literature focusing on innovation practices and performance of small and medium private hospitals. Previous literature shows that many large and small firms have improved their performance by adopting innovation practices (Bianchi, Campodall'Orto, Frattini, & Vercesi, 2010; Colombo, Piva, & Rossi-Lamastra, 2014; Hochleitner, Arbussà, & Coenders, 2017; Hung & Chou, 2013; Laforet & Tann, 2006; Lichtenthaler, 2008). Innovation practices include the adoption of new technological knowledge, market knowledge, and business models which will result in new products, services, improved products or services, or more value for money for customers. Plenty of literature has explored open innovation and closed innovation practices in manufacturing as well as service firms (Ahuja & Katila, 2001; Ancarani, Di Mauro, Gitto, Mancuso, & Ayach, 2016; Damanpour & Evan, 1984; Länsisalmi, Kivimäki, Aalto, & Ruoranen, 2006; Terziovski, 2010; Thakur, Hsu, & Fontenot, 2012; Tsai & Wang, 2008; Wang, Chang, & Shen, 2015). However, the literature related to small and medium private hospitals in India is scarce. The literature shows (Bawaskar et al., 2012; Bhate-Deosthali et al., 2011) that although private hospitals, especially small and medium private hospitals in India, are providing services to a large section of the population, they have received very little attention from scholars. As a result, very little is known about how the small and medium private hospital market functions and what could be done to improve its performance (Chattopdhyay, 2013; Muraleedharan, 1999).