



Service-Profit Chain Analysis in Healthcare Services

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ABSTRACT

Focus on service-profit chain by organizations in the service sector has been found to be of crucial importance. Companies in varied sectors like banking, airlines, restaurants and healthcare have become industry leaders by focusing on aspects of service-profit chain. This paper presents an analysis of service-profit chain in the healthcare sector. Taking two examples of hospitals from India and one from abroad this paper brings out the importance of focusing on the service-profit chain in this sector. An analysis of the practices in these hospitals, with a major focus on Aravind Eye Hospital, will give a perspective of how these hospitals have focused on the service-profit chain and made them efficient and effective and have enhanced their customers' satisfaction. Service-profit chain analysis can help healthcare organizations to be customer focused. It can motivate organizations to develop attractive value propositions for customers. It can also provide a warning to organizations that are neglecting the interests of employees. Overall, the service-profit chain provides a useful framework for healthcare organizations in developing their strategy as well as implementing day-to-day operations.

1. Introduction

Service-profit chain is one of the most important areas of enquiry that concerns delivery of services in its totality. The chain shows how various links can affect the revenues of an organization. Frontline employees play a very crucial role in this link, as they are the ones who are interacting the most with customers (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994). Heskett *et al.* (1994) contend that when organizations keep customers and employees at the center of their decision making, a radical change occurs in the way the organization does its business. It has been estimated that the lifetime value of a loyal customer can be huge taking into account retention, repeat purchase and referrals due to these customers. A growing number of companies across varied sectors like banking, airlines, restaurants, and healthcare have focused on the service-profit chain to become service leaders in their areas through increased customer satisfaction (Chicu, Valverde, Ryan, & Batt, 2016; Gelade & Young, 2005; Lee, Lee, & Kang, 2012; Javalgi & Moberg, 1997). This paper presents an analysis of the service-profit chain in the healthcare services. With the help of a few examples, mostly from the Indian context, the paper will try to illustrate the benefits of focusing on the service-profit chain

in this sector. It may be seen that healthcare organizations can greatly benefit by focusing on all the links of this chain.

2. The Service-Profit Chain

The service-profit chain depicts a relationship between employee satisfaction, customer satisfaction, customer loyalty and an organization's profitability. Figure 1 shows the links in the service-profit chain as proposed by Heskett *et al.* (1994). This chain underlines the importance of having an integrated approach towards Marketing, Operations and Human Resource in an organization (Lovelock, Wirtz, & Chatterjee, 2006).

Following are the eight links in the service-profit chain as proposed by Heskett *et al.* (1994):

1. Customer loyalty drives profitability and growth
2. Customer satisfaction drives customer loyalty
3. Value drives customer satisfaction
4. Employee productivity drives value
5. Employee loyalty drives productivity
6. Employee satisfaction drives loyalty
7. Internal quality drives employee satisfaction
8. Top-management leadership underlies the chain's success

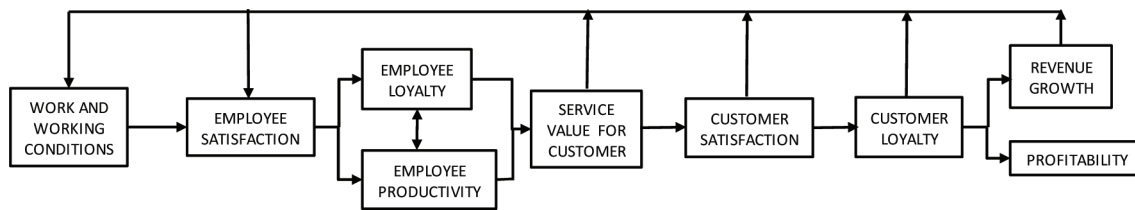


Figure 1. The Links in the Service-Profit Chain. Source: Heskett *et al.* (1994)

Service-profit chain underlines the importance of customer loyalty in driving profits and growth of a company. Customer loyalty in turn depends on customer satisfaction. Customers are satisfied when there is value for customer in the service. Value in a particular service comes from employee productivity in the particular organization. Further, it is employee loyalty that brings in employee productivity. Employee loyalty in turn depends on how satisfied the employees themselves are with their work and working conditions. It is internal quality of their working environment that contributes to the satisfaction of employees. And finally it is the top-management leadership in the organization that contributes to the success of the service-profit chain.

3. Service-Profit Chain Analysis In Healthcare Sector

Heskett *et al.* (1994) while propounding their theory of service-profit chain analysis have used various examples from airlines, banking and fast food sectors to explain the concept. Extant literature after the seminal work of Heskett *et al.* (1994) on service-profit chain, has also analyzed various service sectors to establish the relevance of service-profit chain in those sectors. But there has been rarely any study that analyzes the service-profit chain in the healthcare sector – one sector that seems an ideal candidate for such analysis. It is not that there have been no studies to understand the service delivery in this sector, but these studies have mostly been in the nature of understanding some of the links of the service-profit chain, viz., customer satisfaction, employee satisfaction, employee productivity, etc. But, studies analyzing the service-profit chain in its entirety for this sector are lacking. An exception is a study done at a private hospital in Thailand (Panjakajornsak, (2009) that has tried to find the relationship between the various links of the service-profit chain.

In view of the above, this paper attempts at doing a conceptual analysis of the service-profit chain in the healthcare sector. The paper will initially give a brief description of practices followed at three hospitals, viz., Aravind Eye Hospital and Narayana Hrudayalaya from the Indian context and Shouldice Hospital of Canada, each

of which have made a mark in their respective fields of specialization and have become case studies for best practices in the healthcare sector. Latter part of the paper will discuss the eight links in the service-profit chain using Aravind Eye Hospital as an example. Wherever required, instances from the other two hospitals will also be quoted.

3.1 Aravind Eye Hospital

The genesis of Aravind Eye Hospital goes to 1976, when Dr. Venkataswamy, after his retirement founded a 20 bed eye hospital at Madurai (Tamil Nadu). The goal of the hospital was to offer quality eye-care services at an affordable cost. In 1978, to provide free services to the poor a 70 bed hospital was opened adjacent to the main hospital. Although Dr. Venkataswamy had a vision of having free-for-all hospital to provide services to the poorest people of society, he did not want to depend on donations. And as such he established a hybrid model where the hospital had differential pricing for its services to people of different socio-economic categories. In this way the hospital cross-subsidized its poorest customers from the other category of customers (Rangan, 1993).

The mission of Aravind Eye Hospital is to eliminate needless blindness. And for this the hospital has majorly focused on cataract operations, as cataract is the major cause of blindness in India and is mostly age-related. Also economic status of a patient affects the decision of getting operated or not. By focusing on the segment of patients which requires this treatment the hospital has been able to reach to the poorest patients who would have remained blind for lack of money.

Presently Aravind Eye Hospital has centers spread across India and sees one of the highest inflow of patients among hospitals across the world. The not-for-profit hospital has efficiently utilized its resources and made process innovations that have made the hospital non-dependent on donations and self-sustaining. Aravind Hospital has been sharing its model with other hospitals to make them efficient too.

As there are very large number of people suffering with eye ailments, the market for Aravind Hospital services is large. To create awareness regarding its services in the rural areas of the country, Aravind Hospital organizes eye checkup camps and offers to treat those who cannot afford

the cost of treatment, absolutely free of cost. The hospital offers paid services and free services depending on the socio-economic status of the patients. It aims to keep the ratio of paid to free patients at 1:2, to keep the business viable. This ratio has mostly been around 1:3, and still with the efficient processes of the hospital due to its innovations, it has been sustaining itself.

For Aravind Hospital, attracting customers is not a problem as it provides services at a very low price. What is noteworthy is that many of those who can afford higher costs also prefer Aravind Hospitals because of its high quality services. This again is a result of the innovations in delivery of services at the hospital. While Aravind Hospital is not looking at profits being not-for-profit organization, it definitely seeks to increase its surplus so that it is self-sustaining. With mostly its self-generated funds, the hospital has been able to venture into manufacturing intraocular eye lenses, and thus further reduce the costs of its services and provide value to its customers (Rangan, 1993; Rangan, 2007).

3.2 Narayana Hrudayalaya

Dr. Devi Prasad Shetty founded Narayana Hrudayalaya in 2001, with the first hospital coming up at Bengaluru (Karnataka). The hospital is a cardiac specialty hospital, with motto of providing health to all. Like Aravind Hospital, Narayana Hrudayalaya also with its innovations has been able to bring down cost of delivery of its health care services while maintaining high quality. Narayana Hrudayalaya by leveraging economies of scale is able to provide such a reduction in price to its customers. The hospital is a private limited company and has become a chain of hospitals across India and with plans to expand globally. Just like the way in which Toyota through its emphasis on quality centered processes brought a new dimension to assembly line manufacturing, Narayana Hrudayalaya through innovative processes brought a new model of delivery in healthcare services. The hospital has particularly become known for its pediatric cardiac services. The hospital group is expanding through private equity and reports profits even better than average of US hospitals (Anand, 2009).

Narayana Hrudayalaya also follows a system of differential pricing, cross-subsidizing lower income group patients from the income from the well to do patients. On the suggestion of Dr. Shetty, the Karnataka government launched an insurance scheme called Yeshasvini for farmers. With a contribution of Rs 5 per month from the farmers, the government contributed Rs 2.50, and the insured was eligible for any medical procedure costing Rs 1,00,000 at any of 150 hospitals in 29 districts (Khanna, Rangan, & Manocaran, 2005).

Narayana Hrudayalaya categorized its customers in three categories: those who were insured under the Yeshasvini scheme, who did not have to pay any fee (these constituted around 30% of all patients), the insurance cover provided for most of the cost incurred, but the hospital still had to pitch in its own funds for these patients; those not insured and admitted to general ward, they paid over and above the cost incurred (they constituted around 40% of total patients); those who opted for semi-private and private rooms (they constituted around 30% of the total patients), they paid more than the second category patients. Again as in the case of Aravind Hospital, even those who could afford to pay more, came here because of the high service quality.

3.3 Shouldice Hospital

Dr. Earle Shouldice, in 1945, established the Shouldice Hospital in Ontario (Canada). Dr. Shouldice had studied in detail the possibilities of early ambulation of patients after surgery. He focused on developing a surgical technique of repairing hernia that would be superior to other existing methods and would permit early ambulation of patients, thereby saving valuable time of patients (Heskett, 1983). The Shouldice Hospital in particular focused on treating external hernias and not internal hernias, which would demand deviating from the established procedures of operation and post-operation care. The hospital has become an example of focused excellence.

While the cost of treatment at the hospital is reasonable compared to market rates, it is primarily the expertise the hospital has developed in treating external hernias that attracts patients from different places to Shouldice Hospital. In addition, the hospital has focused a great deal on the customer experience at the hospital. And as such the hospital has in place very convenient processes for consultation and admission. Also the interaction of the patients with the doctors and nurses in the hospital is made very conducive and friendly. Overall, the experience of stay at the hospital for patients, is also one thing that acts as an attraction for the patients. Shouldice Hospital has a human resource management policy that plays a major role in keeping the staff motivated and thus leading to better service to patients. The experience provided to the patients by the hospital is unique and differentiates Shouldice Hospital from other hospitals.

3.4 The eight links in the service-profit chain

(a) Customer loyalty drives profitability and growth:

Services of a hospital are not something that one may look up to for repeat purchase. But, a hospital stands to gain if its customers become *apostles* (Jones & Sasser, 1995) and

recommend others who are in need to consult the hospital they themselves consulted for their ailment. Heskett *et al.* (1994) contend that referrals can significantly increase an organization's revenue, just like customer retention can. Aravind Hospital, Narayana Hrudayalaya and Shouldice Hospital have a large number of patients who come on reference from earlier patients.

(b) Customer satisfaction drives customer loyalty:

Studies point out that patient satisfaction is affected by multiple factors and some of the factors could be quality of care provided, internal environment of the hospital, administrative procedures in place and the communication with the patients and attendants (Ghosh, 2014). Further, the agreeableness of the service provider at a healthcare organization can influence perception of service (Teng & Hsu, 2012). If we consider the example of Aravind Hospital, it treats two categories of patients, those who are treated for free and those who pay for the service. The free category of patients may not have particular expectations from the service, other than that their eyesight will be restored. What can enhance their satisfaction is the fact that the hospital rotates its doctors and nurses between the free hospital and the paid hospital. Thus the patients are assured of getting the same service that the patients who pay for the service get.

The patients who pay for the treatment, will have expectations and upon the fulfillment of these will feel satisfied. One major factor that contributes to the satisfaction is that the hospital is a quality leader in eye care services and as such the patients are likely to get the best service possible in the country. The other factor is that the doctors here become super-specialists and as such the hospital has different doctors to deal with different ailments. Added to these is the fact that the hospital is a philanthropic one. The doctors here are paid a fixed salary and hence the patients are assured of the fact that they will not be over-charged.

(c) Value drives customer satisfaction:

Value for a customer comes from the perception that they are getting more returns compared to the costs they are incurring. Costs, in addition to the money spent, could be things like the time spent, the efforts that went into dealing with the administrative procedures, etc. At Aravind Hospital, for the free category patients, the value is the service itself, for most likely they would not be able to get operated for free at other places. The hospital actually picks up the free category patients through health camps at villages and arranges for transportation for bringing them to the hospital and leaving them to their places back after three to four days of operation. To help these patients

overcome the fear of surgery, the hospital brings together a cohort of people from villages who are operated at the same time and discharged at the same time. Doing this creates a support group for all those operated and helps them in their psychological wellbeing.

For the patients who pay the service fee, the value that they see in the service is that they are getting the best expertise available in the country. Also, as the hospital deals in a huge volume of patients, the hospital doctors gain more expertise and skill with such exposure. This reduces the chances of post-operation complications. Aravind Hospital pays the doctors a fixed salary and the doctors are instructed to avoid prescribing unnecessary diagnostic procedures. As such the patients are prevented from extra cost burden of the procedures. Similar to what Schlesinger and Heskett (1991) describe in their *The Service-Driven Company*, that other organizations may also acquire the latest technology, but to replicate the patient-oriented workforce of Aravind Hospital may be difficult for others, and hence the patients may still want to come to Aravind Hospital.

(d) Employee productivity drives value:

With the concept of lean healthcare management gaining ground, healthcare organizations can dramatically increase their productivity (Kim, Spahlinger, Kin, & Billi, 2006). Aravind Hospital has incorporated lean management to the full and as a result operates over one million cataract surgeries per year. The hospital with a missionary zeal to treat the maximum possible population, doesn't wait for patients to come, instead reaches them through its health camps in rural areas of the country. The hospital has realized that in a country like India, it is the doctors that are a scarce resource and therefore has established procedures that does not utilize doctors for a work that could be done by the paramedics and the nursing staff. Doctors are therefore utilized for surgical works and for diagnosis where their judgement would be required. Thus, doctors are never kept waiting for want of patients to be operated upon. The hospital has highly trained nurses and paramedic assistants to help the doctors. The hospital also, through informative videos on post-operative care involves the attendants of patients in caring for them and relieves its own manpower for other works. This information also helps in reducing post-operative complications that could result due to improper care of the patient after being discharged.

Doctors at Aravind Hospital perform around 2000 cataract operations in a year compared to the average ophthalmologist in India doing 400 cataract surgeries per year (Rangan & Thulasiraj, 2007). The hospital follows micro planning for scheduling surgeries throughout the day. The patient inflow is maintained due to regular health camps in villages and the flow during surgery is maintained to

optimum by minimizing the waiting time between surgeries. It readies several patients at the same time to avoid the possibility of making the doctors wait. Studies have shown how just by implementing parallel anesthesia processing the productivity of operating rooms can be increased significantly (Brown *et al.*, 2014). It is because of these efficient practices at Aravind Hospital that the hospital has brought down its cost of cataract surgery to \$18 per person as against around \$1,800 in the US (Rangan & Thulasiraj, 2007).

(e) Employee loyalty drives productivity:

At Aravind Hospital the nursing staff have a relatively low turnover – only 10% annually. And those who leave, do so mostly after getting married. Even these staff would have already worked at the hospital for around 3 to 5 years. Thus the hospital never feels a crunch for staff. The nursing staff constitutes mostly young women recruited from nearby villages. The hospital generally selects around 300 young women every year, whom it trains for various requirements (Rangan & Thulasiraj, 2007). Some of the doctors at Aravind Hospital do move out after gaining experience. But, as most of the doctors have gained expertise in a specific area, they may not move out simply because they may not get enough cases in that area of specialization at other places (Shah & Murty, 2004).

At Shouldice Hospital on the other hand, doctors learn a particular technique of operating hernia and thus if they have stayed for some time practicing that, and not left, they do not leave later. Also, the hospital management pays high salaries and bonuses based on profits to the staff. Even with all these incentives, the hospital management looks for good attitudinal fit while recruiting doctors and avoids prima donnas who may not follow the technique that all doctors are supposed to follow at the hospital (Heskett, 1983).

(f) Employee satisfaction drives loyalty:

At Aravind Hospital the nursing and paramedic staff are highly satisfied. This satisfaction results from the fact that they had been picked up from villages and trained to do the work they are doing. With having not completed even higher levels of schooling they were very unlikely to get comparable employment on their own. The hospital has thus changed their lives and provided them a total solution to their problems – free training and housing with stipend. Working at the hospital also gives them a sense of prestige in the society (Govindarajan & Ramamurti, 2013; Rangan & Thulasiraj, 2007). Doctors at the hospital realize that the learning value at the hospital is immense. The hospital encourages the doctors to take up research work and to learn new techniques. The doctors know that they are part of a group that is the quality and expertise leader in the field. Also, being a part of philanthropic mission may give more

meaning to their lives (Rangan & Thulasiraj, 2007; Rangan, 2004).

(g) Internal quality drives employee satisfaction:

Internal quality at workplace is a reflection of employees' feelings in relation to their work, co-workers and organization (Heskett *et al.*, 1994). Studies have also shown that the service climate at an organization plays an important role in employee satisfaction (Steinke, 2008). For the nursing staff at Aravind Hospital, their organization gives them their self-respect and prestige in society. Also as the co-workers are mostly from the same villages, there is better understanding between the employees. They act as a support to each other in dealing with the demanding work of a busy hospital. As for the doctors, the well-defined processes at the hospital and the support from a highly skilled nursing staff, provides them with an environment where they have to focus only on their work. The doctors are not made to do anything that is non-value added for them, and as such the sense of full utilization of their capabilities at the hospital will be satisfying.

(h) Top-management leadership underlies the chain's success:

All the three hospitals taken as example here have had a founder whose leadership has played a vital role in the success of the respective organizations. Taking the example of Aravind Hospital, Dr. Venkataswamy's motivation had been philanthropic with a desire to make a difference in the society by way of eliminating needless blindness. Heskett *et al.* (1994) state that when the top leadership has noble intentions, it is likely to motivate the employees to contribute meaningfully towards the organization's goal. Dr. Venkataswamy's vision actually got institutionalized in the organization through development of standard processes for treating patients. Similarly for Narayana Hrudayalaya, Dr. Shetty's motivation was to provide affordable healthcare to all. He focused on full utilization of the hospital assets and transferred the benefits of reduced cost to the patients.

It is the top management finally which would be responsible for setting the tone and culture of the organization. And for this a relationship marketing system in the organization may be effective (Joseph, 1996). This system may constitute of internal marketing, where the firm sells itself to its employees; interactive marketing, where the employees sell their services to customers during service encounters so that the customers are happy about their choice of buying the services of that particular organization; and external marketing, where the organization sells itself to potential customers, employees and other external parties that are likely to be influenced by the organization's work.

Conclusion

Service-profit chain analysis can help healthcare organizations to be customer focused. It can motivate organizations to develop attractive value propositions for customers. It can also provide a warning to organizations that are neglecting the interests of employees. Overall, the service-profit chain provides a useful framework for healthcare organizations in developing their strategy as well as implementing day-to-day operations. However, it should be kept in mind that healthcare services are unique in some sense compared to other services, as most of the customers are first time customers of the organization and they would most likely not want to be in a situation of repeat purchase.

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